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**Pacific
Northwest
Region**

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Land and Resource Management Plan

Mt. Baker-Snoqualmie National Forest

LAND AND RESOURCE MANAGEMENT PLAN

Final Environmental Impact Statement
Mt. Baker-Snoqualmie National Forest

PREFACE

This National Forest Land and Resource Management Plan (Forest Plan) guides all natural resource management activities and establishes management standards and guidelines for the Mt. Baker-Snoqualmie National Forest. It describes resource management practices, levels of resource production and management, and the availability and suitability of lands for resource management.

The Forest Plan will be reviewed, and updated if necessary, at least every five years. It will be revised on a ten-year cycle, or at least every 15 years.

This Forest Plan replaces previous land and resource management plans for the Mt. Baker-Snoqualmie National Forest, with the exception of the Alpine Lakes Area Land Management Plan and the Skagit Wild and Scenic River Management Plan, which are both incorporated. Upon approval, subsequent activities affecting the Mt. Baker-Snoqualmie National Forest must be in compliance with this Forest Plan. In addition, permits, contracts and other instruments for the use and occupancy of National Forest System land must be in conformance with this Forest Plan.

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

Information regarding this Plan can be obtained from:

Forest Supervisor
Mt. Baker-Snoqualmie National Forest
1022 First Avenue
Seattle, WA 98104
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TABLE OF CONTENTS

List of Tables

List of Figures

CHAPTER 1 - INTRODUCTION

A. PURPOSE OF THE FOREST PLAN

This Land and Resource Management Plan (Forest Plan) guides all natural resource management activities and establishes management standards and guidelines for the Mt. Baker-Snoqualmie National Forest. It describes resource management practices, levels of resource production and management, and the availability and suitability of lands for resource management.

The Forest Plan:

- o establishes Forest-wide multiple-use goals and objectives;
- o establishes Forest-wide standards and guidelines applying to future activities;
- o establishes management area direction, including management area prescriptions and standards and guidelines applying to future management activities in that management area;
- o establishes the allowable sale quantity for timber and identifies land suitable for timber management;
- o establishes monitoring and evaluation requirements;
- o recommends 30 rivers be added to the National Wild and Scenic River System.

The Forest Plan embodies the provisions of the National Forest Management Act of 1976 (NFMA), the implementing regulations, and other guiding documents. Land use determinations, standards and guidelines, and management prescriptions constitute a statement of the Forest Plan's management direction. However, the projected outputs, services, and rates of implementation are estimates and are dependent on the annual budgeting process. See Chapter 5, Budget Proposals for additional detail.

The Forest Plan will ordinarily be revised on a 10-year cycle, or at least every 15 years. It also may be revised whenever the Forest Supervisor determines that conditions or demands in the area covered by the Plan have changed significantly or when changes in Resource Planning Act policies, goals, or objectives would have a significant effect on Forest level programs. The Forest supervisor will review the conditions on the land covered by the Plan and the demands of the public at least every 5 years to determine whether either has changed significantly.

B. RELATIONSHIP OF THE FOREST PLAN TO OTHER DOCUMENTS

Relationship to the FEIS and Record of Decision

This Forest Plan sets forth the direction for managing the land and resources of the Mt. Baker-Snoqualmie National Forest. The plan results from extensive analysis and considerations addressed in the accompanying Environmental Impact

Statement (EIS) and Record of Decision (ROD). It is based on Alternative J as presented in the FEIS and in the Record of Decision. Many aspects of the Forest Plan reflect numerous suggestions from the public in response to the Draft Environmental Impact Statement and accompanying Proposed Land and Resource Management Plan. The planning process and the analysis procedures used to develop this Plan are described or referred to in the FEIS. The FEIS also describes and analyzes other alternatives considered in the planning process.

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

Relationship to the Regional Guide

The Regional Guide for the Pacific Northwest Region, as amended December 8, 1988, provides direction for National Forest Plans. It includes standards and guidelines addressing the major issues and management concerns considered at the Regional level, to facilitate Forest Planning.

Relationship to Special Area Plans

In recent years, the United States Congress has enacted legislation that affects the management of two areas on the Mt. Baker-Snoqualmie National Forest: Alpine Lakes Management Area and the Skagit Wild and Scenic River.

The regulations (36 CFR 219.2(b)) guiding the development of Forest Plans state that "if in a particular case, special area authorities require the preparation of a separate special area plan, the direction in any such plan may be incorporated without modification." For this reason the Alpine Lakes Area Management Plan and the Skagit Wild and Scenic River Management Plan will be incorporated unchanged in the Forest Plan.

<u>The Alpine Lakes Area Management Plan</u>

The Alpine Lakes Area Management Act of 1976 (PL 94-357) required that a separate plan be developed for the Alpine Lakes Area. This plan and its accompanying Environmental Impact Statement was developed with extensive public involvement, and implemented in early 1982.

The Alpine Lakes area has been managed under the above Plan for approximately eight years. The Forest Plan holds constant the land designations and management as presented in the Alpine Lakes Area Management Plan. Problems which surface will be handled administratively, or when the Forest Plan is revised, in approximately ten years.

Management direction for the Alpine Lakes Management Area will be as set forth in the Alpine Lakes Area Management Plan, Final Environmental Impact Statement and Record of Decision, dated November 2, 1981.

The Skagit Wild and Scenic River Management Plan

The Skagit Wild and Scenic River was designated in 1978 (PL 95-625) and is managed under the 1984 Final River Management Analysis and Plan. This plan was developed with extensive public involvement and implemented in 1984.

The Skagit River area has been managed under the above plan for approximately six years. To date, neither the Forest Service nor the public have identified any major problems with the implementation of the Skagit Wild and Scenic River Management Plan. The Forest Plan holds constant the management direction as presented in the River Management Analysis and Plan. Problems which surface will be handled administratively, or when the Forest Plan is revised, in approximately ten years.

Management direction for the Skagit Wild and Scenic River Management Area will be as set forth in the River Management Plan - Skagit River Record of Decision dated August 8, 1984.

Copies of both the Alpine Lakes Plan and the Skagit River Plan are available for review at the Mt. Baker-Snoqualmie National Forest Supervisors s Office, 1022 First Avenue, Seattle, Washington 98104.

Relationship to Project Planning

This Forest Plan serves as the single land management plan for the Mt. Baker-Snoqualmie National Forest. All other land management plans are replaced by the direction in this plan, including

Multiple Use Plan, Glacier Ranger District
Multiple Use Plan, Baker River Ranger District
Multiple Use Plan, Darrington Ranger District
Multiple Use Plan, Monte Cristo Ranger District
Multiple Use Plan, Skykomish Ranger District
Multiple Use Plan, North Bend Ranger District
Multiple Use Plan, White River Ranger District
Timber Management Plan, Mt. Baker National Forest
Timber Management Plan, Snoqualmie National Forest
Wilderness Management Plan, Glacier Peak Wilderness
Land Adjustment Plan, Snoqualmie National Forest
Land Adjustment Plan, Mt. Baker National Forest

This Forest Plan document is used primarily by Forest Service field personnel in the planning and implementation of natural resource management activities. Refer to the above discussion regarding project-level planning, environmental analysis required, and tiering to the FEIS.

The management direction provided by this Forest Plan provides the framework within which project planning and activities will take place. The Plan defines management area goals and management standards that guide project activities toward achieving a desired future condition for the management area and, collectively, for the Forest. The Plan specifies a schedule for project activities and management practices. It provides guidance concerning potential projects and project limitations, including assumptions about the appropriate vegetation management practices for timber sale projects. On-the-ground project analysis verifies the appropriateness of those assumptions.

Within this guidance, projects are developed to most efficiently and effectively accomplish management goals and objectives. All projects will comply with all National Environmental Policy Act (NEPA) requirements.

Project environmental analyses provide an essential source of information for Forest Plan monitoring: new or emerging issues or management concerns may be identified as project environmental analyses are completed; project analyses validate the management direction designed to achieve management area goals; and site-specific data may be used to update or correct data reported in the Forest Plan. All of this information is used, in the monitoring process, to determine when changes should be made in the Forest Plan.

C. PLAN ORGANIZATION

The Forest Plan contains five chapters, a brief references section, a glossary, and appendix material.

Chapter 1 - Introduction: includes a discussion of the purpose of the Plan, its relationship to other planning documents, and describes the planning area.

Chapter 2 - Summary of the Analysis of the Management Situation: summarizes the supply and demand conditions for significant market and non-market goods and services associated with the planning area. The focus is on those that relate to the major issues, concerns, and activities that are addressed in this Plan. Information and research needs identified during the planning process are listed at the end of the chapter.

Chapter 3 - Issues and Concerns: displays how the management plan addresses and responds to major public issues, management concerns, and resource opportunities identified during the planning process.

Chapter 4 - Forest Management Direction: is the heart of the Plan. It includes the management goals, objectives, and standards and guidelines that establish resource and project management direction for the next 10 to 15 years covered by this Plan. Also included is a general discussion of the desired future condition of the Forest in ten years, and - if the Plan were to remain unchanged - for fifty years. Chapter 4 contains the projected resource outputs, activities, and budget necessary to achieve the Forest Plan goals, and brief summaries of how the resource and activities will be managed under the Plan.

Chapter 4 also contains the Forest-wide standards and guidelines and the prescriptions for each Management Area (MA). These apply to all on-the-ground projects. The Forest-wide standards and guidelines generally apply to all areas of the Forest. The MA prescriptions define the types of activities that can occur within each Management Area.

The Forest Plan map (Preferred Alternative- J), published with the FEIS, shows the location of the various management areas discussed in Chapter 4.

Chapter 5 - Implementation of the Forest Plan: contains implementing direction for the Plan and the monitoring and evaluation program. Collectively, these sections explain how management direction will be Implemented, how implementation activities will be monitored and evaluated, and how the Plan can be kept current in light of changing conditions and other findings.

The remainder of the Plan contains a list of references, a glossary, and set of appendices - the projected activity schedules, by resource.

D. FOREST DESCRIPTION

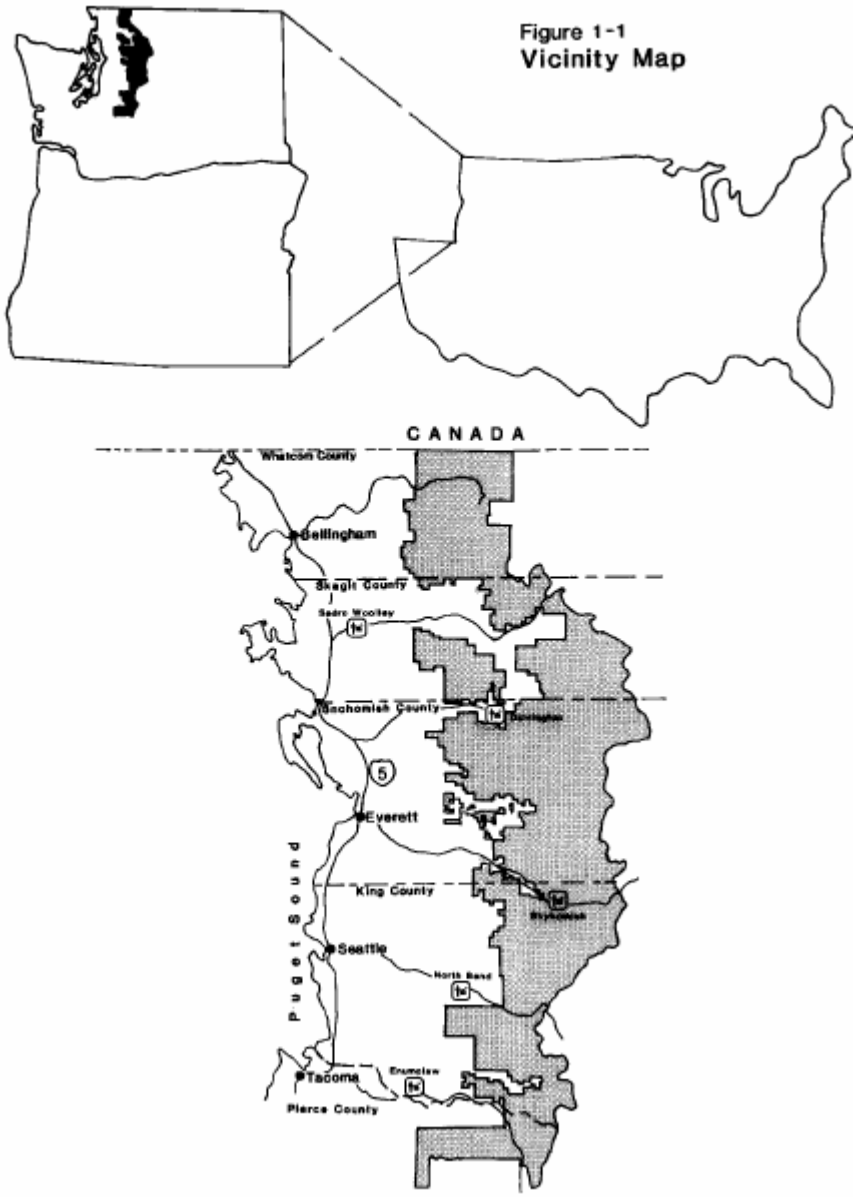
The Mt. Baker-Snoqualmie National Forest contains 1.7 million acres, located in Washington State, on the west side of the Cascade Mountains, within five counties of the Puget Sound area. The Forest includes land from the Canadian border to the northern boundary of Mt. Rainier National Park, and is also adjacent to the North Cascades National Park and the Wenatchee National Forest. Refer to Figure 1-1, the vicinity map on the following page.

Over half of the state's population live in the five-county area, a total of 2.5 million people in 1988. An additional 3.0 million reside in the Vancouver, Canada metropolitan area, just north of the Forest. The Puget Sound economy is quite diverse today, although the aerospace industry is still a major employer (Pascall and others 1989). The metropolitan area is a major center for finance, trade - especially to Pacific Rim nations - administration, and government. The forest products industry has experienced major changes over the last decade; wood products manufacturing outputs have been up the last three years, but with 25 percent fewer employees. In 1986, 47 out of 87 lumber mills in the Puget Sound area (which does not include the 35 export mills) were one-third to 100 percent dependent on National Forest logs for their operations. Nearly all the timber cut from the Mt. Baker-Snoqualmie is consumed in the local area.

The Forest contains some of the nation's most beautiful country, including much of the rugged and glaciated North Cascade Mountains. Annual precipitation near the Cascade Crest is 100-200 inches; above 2,500 feet, most winter precipitation falls as snow. The upper reaches of seven major river systems are located on the Forest and provide both seasonal and year-round spawning and rearing habitat for anadromous and resident fish. There are 18 municipal watersheds on the Forest. The vegetation of the Forest consists of dense stands of western hemlock, Douglas-fir, and western redcedar at lower elevations, blending into Pacific silver fir, mountain hemlock, and true firs at the higher elevations. Above 6,000 feet, the vegetation is composed almost entirely of low growing species. The diversity of plant and tree communities provides a variety of habitats for wildlife species. Four Federally listed threatened and endangered species may occur on the Forest.

The Forest is rich in recreation opportunities and receives over 5 million recreation visits annually. Dispersed day-use recreation is emphasized. There are over 1,380 miles of trails. Hiking, horse use, and motorized recreation, plus alpine skiing at seven ski areas are among the many uses. Nearly 42 percent of the Forest is designated wilderness. Other designated areas include the 158 mile long Skagit Wild and Scenic River System, the Mt. Baker National Recreation Area (8,700 acres), and the multiple use Alpine Lakes management unit (148,000 acres). The diversity of both the physical and social settings adds to the complexity of issues and concerns facing Forest managers.

Figure 1-1
Vicinity Map



CHAPTER 2 -
SUMMARY OF THE ANALYSIS OF THE MANAGEMENT SITUATION

A. INTRODUCTION

This chapter summarizes the management situation at the time these plan decisions were made. It focuses on the supply and expected future demand conditions for significant market and non-market goods and services, tied to the major issues and concerns. It also addresses the capability of the Forest to meet (or not meet) those demands. The benchmarks are revisited, to provide information about the the maximum and minimum biological and economic production opportunities of the Forest. Chapters II and III of the FEIS contain additional supply/demand data. The benchmarks are discussed in more detail in Chapter II, FEIS and Appendix B. Also, refer to the Mt. Baker-Snoqualmie National Forest, Analysis of the Management Situation, May
1985.

The last section of this chapter is a list of information and research needs, identified during this extensive planning process.

B. BENCHMARK ANALYSIS

The analysis of the current management situation includes, as part of the requirements of NFMA, a "benchmark" analysis. The benchmarks had several purposes: they helped define the maximum economic and biological resource production opportunities on the Mt. Baker-Snoqualmie; assisted in evaluating compatibilities and conflicts between market and nonmarket objectives; defined the range - or the "decision space" - within which integrated alternatives will be developed; and were used to analyze the implications and opportunity costs of legal and policy constraints.

Benchmarks, like alternatives, were a combination of land capability management practices, and schedules to achieve certain objectives. The benchmarks were "run" using FORPLAN, a linear' computer model ; the resource outputs or results were then reported and analyzed. Unlike alternatives, benchmarks are not designed to respond to all the ICO's. In addition, not all of the benchmarks were formulated to meet the management requirements (MR's) of 36 CFR 219.27. By comparing those benchmarks with and without 1411's, the opportunity costs of the MR's could be quantified.

Required Benchmarks

There are several benchmarks that were required by the regulations [36 CFR 219.12(e)] and National direction. They include:

Minimum Level. This benchmark specified the minimum level of management which would be needed to maintain the Mt. Baker-Snoqualmie National Forest as part of the National Forest System.

Maximum Present Net Value Based on Established Market Price. This benchmark specified the management of the Forest at a level which will maximize the present net value of those outputs that have an established market price.

Maximum Present Net Value Including Assigned Values. This benchmark specified the management which will maximize the present net value of those outputs that have either an established market price or assigned monetary value (such as dispersed recreation.)

Current Level. This benchmark specified the management of the Mt. Baker-Snoqualmie most likely to be implemented in the future if current direction is followed. This benchmark forms the basis for the "no action" alternative.

Maximum Resource Levels. Each of these benchmarks estimated the maximum capabilities of the Forest to provide a single resource emphasis level. On the Mt. Baker-Snoqualmie, the maximum resource benchmarks included Timber and Primitive and Semi-primitive Nonmotorized Recreation.

Summary of Benchmark Production Potentials

The production potentials determined by the benchmarks are compared with current management direction and Alternative A (No Action), as displayed in the accompanying FEIS, in Table 2-1. Outputs, effects, benefits and costs related to significant issues, concerns, and opportunities (ICO's - see Chapter 3, Forest Plan for more information on ICO's) are displayed for comparison. Benchmarks 1 and 3 did not include the MR's; therefore, they did not meet requirements of NFMA.

Present net value (PNV) is affected most by the discounted costs and benefits of timber activities. The discounted costs and benefits of recreation activities did not vary much between benchmarks. This reflects the rather narrow decision space for potential recreation use and capacity, especially in unroaded.

Table 2-1
Benchmark Outputs and Effects

	Minimum Level	Biological Tmbr Potent. without MR's (Run #1)	Max PNV w/out MR's (Run #3)	Max PNV with MR's (Run #7)	Max Timber with MR's	Max. Primitive Semi-Prim Rec. with MR's	Alt. A (No Act)
Discounted Benefits ($MM)							
Timber	Not	3057 6	2870.6	2189 5	2534.1	1191.1	1806.6
Recreation	Est	1792.9	1790.9	1787.6	1791.7	1761.7	1915.2
Other		not estimated					33.7
TOTAL		4850.5	4661.5	3977.1	4325.8	2953.5	3755 5
Discounted Costs ($MM)							
Timber	Not	1927.4	1719.1	1286.9	1689.9	684.9	1083 0
Roads	Est.	267 3	256 0	253 5	277.5	169.8	168.8
Recreation		33 7	33.7	33 7	33 7	33 5	34.8
Other		not estimated					
TOTAL		2228.3	2008.1	1574 1	2001.1	888.2	1444.2
PNV ($MM)	Not Est.	2599.7	2630.9	2254.0	2302 3	2050 5	2319.8
Budget ($MM)	3 0	25 1	23 4	28.2	33.4	19.0	22.0
Allowable Sale Quant. (MMCF)							
Decade 1	No Timber	68.4	63 9	37.5	57 2	26.7	31.0
Decade 2	Management	68.4	63 9	37 5	57 2	26.7	36.7
Decade 3	Activities	68.4	63.9	37.5	57.2	26.7	39.0
Decade 4		68.4	63.9	37.5	57.2	26.7	39.0
Decade 5		68.4	63.9	37.5	57.2	26.7	39.0
Long Term Sustained Yield Capacity (MMCF)	N/A	72 6	66 2	37 5	62.9	27.8	39.0
Acres Suitable for Timber Harvest Acres)	N/A	606.9	606 9	463.8	529 7	300.9	412.5
Recreation Use (MRVD/Year)							
Roaded	829	2177	2177	2177	2177	2099	2060
Unroaded	100	203	203	211	209	240	201
Wildlife Pop Levels 1/							
Bald Eagle (Pairs)	4	4	4	4	4	4	4
Elk (Summer Range Pop.)	Not Est	1080	1080	1080	1080	1080	1240
Deer (Summer Range Pop.)	Not Est	19660	19660	19660	19660	19660	19750

1/ Bald eagle numbers are derived from recovery plan population objectives for pairs in breeding territories. Deer and elk values are population estimates based on maximum habitat potential for each range type.

Discounted recreation benefits for Alternative A are higher than in any benchmark, but PNV is less than all the benchmarks except Max Recreation. The combination of MR constraints and allocation of tentatively suitable acres to other resource benefits in Alternative A (no such allocations were made in benchmarks), reduced the timber outputs in Alternative A and, thus, PNV.

The decision space for harvest levels that included MR's ranged from 57.2 MMCF (the Max Timber benchmark), to 26.7 MMCF (the Max Recreation benchmark). Alternative A harvest level falls in the lower portion of this benchmark decision space. Due to MR's and existing land use constraints (including Congressional designations), the practical upper limit for timber outputs was approximately 38 MMCF (Benchmark #7).

Long-term sustained yield capacity (LTSYC) was not reached until after Decade 5 in the benchmarks.

C. RESOURCE DEMAND PROJECTIONS

This section includes additional demand projections for selected resources. Some outputs and activities, while included in the RPA targets and reported in the output tables in the FEIS, do not have a true demand-supply relationship, and are not discussed here (such as precommercial thinning and road construction).

Demand is generally defined as the quantity of a good or service demanded at a certain price. A substantial change in price can result in a far different quantity demanded. This definition is appropriate for market commodities with a price (or user fee), such as timber and developed recreation.

Demand for non-market goods and services, such as wilderness and wildlife resources or facilities, do not fit the general definition. Although recreation costs are incurred by the visitor, the outdoor recreation resource or facility is generally available at zero or nominal charge. The thousands of days of outdoor recreation currently being consumed are those demanded at the prevailing zero or near zero-prices for these resources. If prices were raised substantially, a different quantity would be demanded or consumed.

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

Recreation Demand

Recreation demand was projected using regression analysis. This form of analysis uses historical trends and expected population growth to predict future recreation use. Demand is expressed as a range (±10% from the absolute figures developed in the analysis process) due to the uncertainty of projecting recreation demand so far into the future.

Currently, the demand for developed recreation (which is primarily alpine skiing and developed campgrounds) is well below the Forest capacity. Alpine ski areas currently have more than enough capacity, and are now expanding to meet a market demand for a higher quality skiing experience. Developed campgrounds are operating well below capacity except for selected summer weekends, and in certain geographic areas.

Current capacity for roaded dispersed recreation far exceeds the current demand. Future capacity will be able to accommodate expected demands on the Forest until the fourth decade, when population growth begins to affect all recreation sectors.

Unroaded dispersed recreation use currently exceeds the capacity of the Forest. The result, at present, is a reduction in the quality of the local experience, or a displacement to another location to satisfy current demand. With future population growth, this situation will not improve.

Wilderness on this Forest is nearing its practical capacity, due in large part, to its proximity to the Puget Sound metropolitan area. By the second decade, projected demand will have exceeded capacity.

Table 2—2

Summary of Projected Supply and Anticipated Demand

1/ Anticipated recreation demand is based on historical use figures projected into the future and Puget Sound population projections

2/ FORPLAN Alternative rums (1989) have undergone changes in recreation modeling since the Benchmarks were rum (Mar 85) to better reflect the spatial characteristics of the recreation opportunity spectrum (ROS) from a per acre to a per area basis.

3/ Projections indiate that demand for timber from the 1483 will remain sufficiently high to allow the Forest to sell all the timber it can produce from lands allowing harvest, with no downward effect on prices

Wildlife Demand

The demand for wildlife takes the form of hunting, wildlife study, viewing, and photography. Figure 2-1 shows past and projected demand for all types of hunting on the Forest.

Hunting, especially for big game, has been a dominant demand on the wildlife resource for the past 20 years. During recent years, non-consumptive use has accounted for a larger percent of the total wildlife-related demand. Estimates indicate that non-consumptive use exceeds consumptive use by about 33 percent on all lands and is growing at a faster rate (USDA 1980). The projections shown below are based on land area to support a given density of hunters, rather than the availability of animals to hunt. Future demand may be lower than indicated below if hunter success decreases drastically as a result of reaching the carrying capacity for hunted animals. Because of the large population growth in the Puget Sound area, the demand for non-consumptive fish and wildlife use will continue to increase at a fast rate.

Figure 2-1
Hunting Use
(All Types)

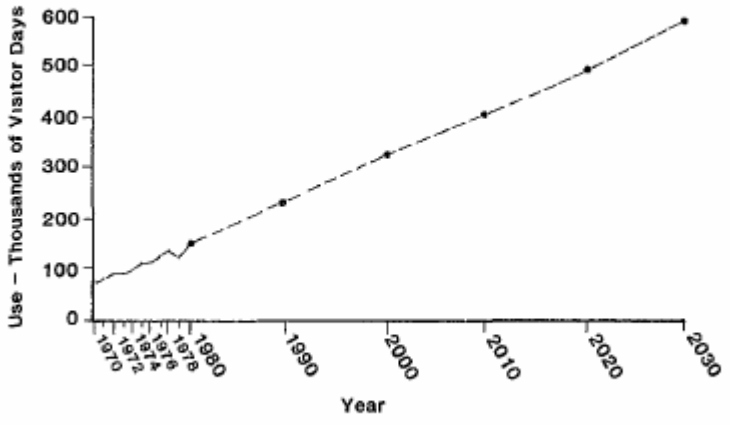
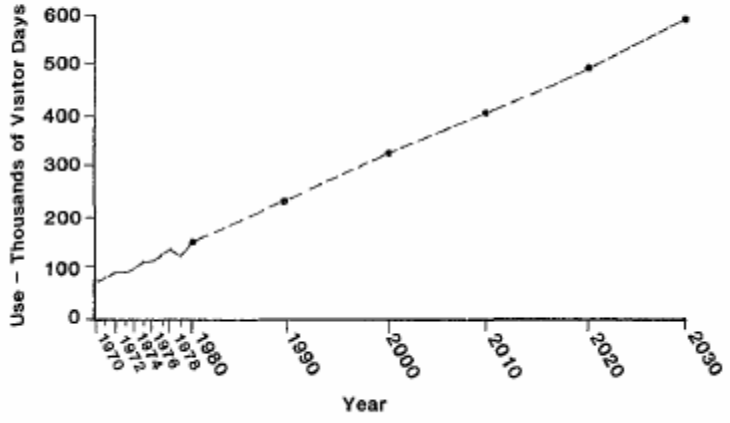


Figure 2-1
Hunting Use
(All Types)



Demand for Fish

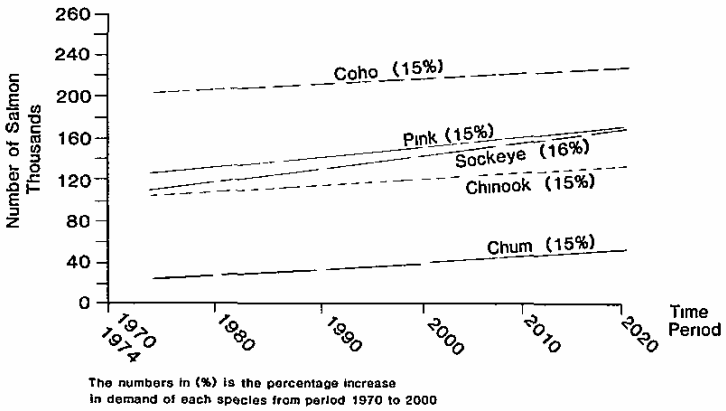
The demand for anadromous fish is twofold: commercial (non-treaty commercial ocean fishing and American Indian commercial harvest) and sport. The current demand for commercially caught fish is assumed to equal the current annual harvest (USDA and State of Washington 1981-85).

This estimate of demand is conservative. There are more commercial fishermen in the industry than there are fish. If more fish were produced, they could be harvested with little additional cost. Therefore, actual demand at current prices is probably higher than shown.

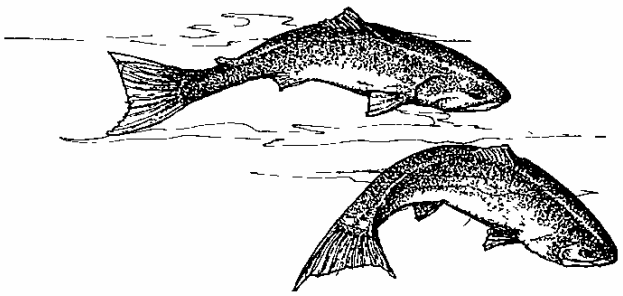
The National demand for edible fishery products increased 52 percent from 1967 to 1976. This increase was a result of a growing population and an increased per capita consumption rate. This increase is projected to continue nationally and worldwide (USDA 1980).
Figure 2-2 shows the estimated demand for salmon produced from all ownerships in the Statewide Comprehensive Plan's Area 1; this includes most of the western half of the state, north of the Cowlitz River and including all of the Olympic Peninsula. It is assumed that the projected increase in demand for fish produced on the Forest will be similar to that for Area 1, though the actual number of fish produced on the Forest is much smaller.

Figure 2-2

Demand For Salmon Produced in Area 1



The numbers in (%) is the percentage increase in demand of each species from period 1970 to 2000



Most of the salmon sport fishing in the Puget Sound area occurs in salt water. There is little salmon fishing on rivers and streams; exceptions include a small salmon sport fishery on the Nooksack and Skagit Rivers. There is also some incidental harvesting of salmon during the sea-run trout sport fishery.

Sea-run trout sport fishing occurs almost entirely in the stream and river systems. Steelhead, sea-run cutthroat, and Dolly Varden are caught almost exclusively in freshwater systems. The freshwater sport fishing demand for sea-run and resident fish produced on the Forest has steadily increased since the early 1970's. Projections indicate that this demand, measured in angler days, will increase by 25 percent by the year 2000. The demand for saltwater sport fishing for all anadromous fish produced on the Forest is likely to increase 25-50 percent over present demand.

Sport fishing demands are conservative. The Puget Sound region has more recreational sport fishermen than desirable fish. If more desirable sport fish were produced, they could be absorbed by the recreational sport fishery.

Timber Demand

The following is a brief summary of the timber demand discussion found in Chapter III of the FEIS.

Demand for lumber and wood products from the Puget Sound Economic Area followed the trends of the Pacific Northwest, with a drastic decline in the early 1980's compared to the highs during the 1970's. Production of wood products in the period 1980-84 was slightly less than 80 percent of that experienced during the 1970's. The structure of the wood products industry in the Puget Sound Area put it at a competitive disadvantage with imports from Canada and Southern U.S. production.

The pulp and paper industry avoided the deep declines in demand and production of the early 1980's. Strong demand for paper, domestically and abroad, helped pull that sector of the wood products industry through the recession in fairly good shape. Over the past decade, the number of pulp and paper mills in the Puget Sound area has dropped by almost 20%, but the installed capacity of the remaining mills has increased by about 10%. This is similar to the structural changes found in other sectors of the industry. As of 1986, about 5% of the Forest's annual harvest went to Puget Sound area pulp mills, which represented about 7% of the mills' roundwood consumption. Regionally, roundwood consumption represents only about 30% of the total fiber input for pulp production.

The restructuring of the timber industry in the Northwest during the early 1980's was a response to the declining market share and an attempt to regain market share. The projected future decline in production from Canada and a continuing growth in exports to the Pacific Rim Countries are likely to result in a shift in demand for Puget Sound Economic Area logs. The timing and magnitude of this shift in demand, however, are speculative. Increased production from Puget Sound Area mills during the past three years is an indication that the industry is improving the efficiency of its wood processing and thus improving its ability to compete for market share nationally and internationally.

The supply/demand situation in other economic areas around the state also influences the availability of timber in the Puget Sound area. The Puget Sound area mills (including export facilities) consume more logs than are harvested in the area. During the 1980's, approximately 66 percent of the logs consumed in Puget Sound originated from Puget Sound; approximately 26 percent came from the Olympic Peninsula; 5 percent from Central Washington; and 3 percent from other areas, including out of State. A similar pattern of imports into the area occurred during the 1970's.

While the Puget Sound area has historically imported approximately 35% of the logs needed for its mills, it has used about 95% of the wood harvested in the are within the region. Only about 5% of the harvest from the Puget Sound area is going to processing elsewhere. (Exporting logs overseas is considered part of the local processing industry.) So the Puget Sound area is a net importer of logs, which come from other parts of Western Washington, along with a minor amount from the east side of the Cascades.

Depending on markets, mill capacity, price and local harvest level fluctuations, one part of the State may have a greater demand for logs at any given time than another. The relative demand for logs among processing areas may change seasonally, or from year to year. Prices in the areas with a greater need for logs will tend to float upward, drawing more supply to that area. As that need is met and prices stabilize, a shift may occur to another region. Prices serve as the leveling agent to direct the log supply to the areas with greatest demand. In extreme cases, prices may not be able to go high enough to bring in the needed lumber and a structural shortage of logs may develop for an area. If that continues for any length of time, mills in that area will be faced with closure. Competitive mills will tend to survive such periods, but marginally efficient mills may drop out. The changing of prices to moderate log flows have to operate within limits, which are set primarily by the prices of finished wood products in the regional market.

Because of the local and regional interactions in the roundwood markets, it is difficult to make quantitative estimates of future demand for logs from the Puget Sound area. One can not really assume that the consumption by the Puget Sound mills is a measure of the demand for Puget Sound logs, when other regions may assert a need, as reflected through relative prices, for those logs as well. However, estimates of relative levels and trends in demand for timber can be made, given what is known about current consumption patterns, expected changes in regional, national and international demand for wood products, and projected physical/biological supply.

For the next 20 years, demand for wood products is expected to grow, but slowly. This is based on a continuing, though not rapidly expanding, need for wood for new construction and for remodeling and repair. Export markets will decline somewhat over that time period, but will still remain very active. Canadian wood imports will continue to decline from the high levels they held in the early 1980's because of decreased competitiveness and increasing restrictions on logging in Canada. In all, given no economic shocks, the demand for roundwood will stay at least at current, to somewhat higher, levels.

In the face of this demand, available inventory from private industrial forest lands will be declining, as will harvests from National Forest lands, particularly in Northwestern Washington. Other private land harvests may come up somewhat, but probably not enough to offset the declines in these two ownerships. And after the mid-1990's, almost all old growth timber that is still harvested will come from National Forest lands. Therefore, it appears the next 20 years will find fairly tight physical/biological supplies juxtaposed with demand that stays at least at current levels. The expected result will be fairly rapidly rising prices in the range of 1.5 to 4 percent per year (Adams, 1989), but no timber supply "crisis," as prices play a moderating effect - eliciting more supply from the private nonindustrial forest lands, and dampening final demand for wood products by consumers because of increased cost.

The declining inventory of sawtimber of harvestable age in the next two decades will have less effect on the pulp and paper sector than on the lumber and plywood sectors. Pulp mills can use much smaller material, chipped either in the woods or at the mill, than can sawmills. Thus, the age-class gap in the inventory will not be as limiting for pulpwood supply. Other economic factors, though, may combine to place an increasing squeeze on pulp prices. Better log utilization and on-site use of residues by the primary manufacturers leaves less low-cost residue available for pulp. Declining harvests region wide and in western Canada will also reduce residues available. If the export demand for chips remains strong, additional pressure will be placed on prices.

Over the next decade or two, these supply and demand factors may put the Northwest pulp producers at a greater cost disadvantage than East Coast or Southeast producers, who already produce the major portion of pulp and paper products in the country. Mitigating factors for the industry are likely to be continued technological changes, allowing more use of species little utilized to date, and greater use of recycled paper as feedstock. Supply changes from the Mt. Baker-Snoqualmie National Forest are expected to have little effect on the local area or regional pulp and paper sectors.

D. INFORMATION NEEDS

This section lists the information, inventory and research needs that have been identified during the planning process for the Mt. Baker-Snoqualmie National Forest. Information needs form the foundation for ongoing efforts by the research and planning communities (U.S. Forest Service Pacific Northwest Research Station, Pacific Northwest Region of the Forest Service, and the Mt. Baker-Snoqualmie National Forest) to identify management needs, and to build and implement the information and research programs necessary to support plan accomplishments. The concept used to organize and develop these needs recognizes that biological, physical and social ecosystems are the foundation for the planning process.

The remainder of this chapter is devoted to listing research, inventory and data needs identified during the planning process.

Recreation

1. Recreation *use* database to be brought *up to* date *and* should reflect accurate levels of use based on measurement rather than estimates. This should be tied to ROS.

2. A uniform method for determining and applying demand for various forms of recreation with ties to R0S needs to be developed.

3. Update Forest Existing Visual Condition mapping in the Forest Data Base every 5 years.

4. Review and update closure orders every 5 years.

5. Collect baseline vegetation and soil information using permanent transects in camps, trails, and other areas that currently appear to be well within acceptable standards but have potential for future degradation.

6. Complete Vegetation Management Plans for all developed recreation sites.

7. Develop Forest-wide inventory of sensitivity levels for trails, roads, and wild and scenic rivers.

Human Community

1. Prior to the update of the Forest Plan (in 10 to 15 years), complete an economic-base analysis (or the equivalent) for certain towns, including any or all of the following: Darrington, Granite Falls, Skykomish, and Enumclaw. Others may be studied if deemed necessary.

American Indian Religious and Cultural Uses

1. Work with Tribes and religious practitioners to update the inventory of religious use areas and predict future use trends.

2. Consult with Tribes and religious practitioners on specific projects and to develop more effective mitigation measures through consultation.

3. Examine integrated resource inventory to determine location and volume of old-growth cedar stands.

Archaeological and Historical Properties

1. Complete inventory of reported cultural resource sites. Use thematic or district approach. Conduct evaluations of National Register eligibility within this context.

2. Develop new techniques to identify prehistoric cultural resources. Take advantage of ground disturbance (road construction, timber harvest, trail use etc.) to discover new sites. Investigate new site discovery techniques (subsurface probing, soils testing, etc.) to identify previously unidentified sites. Use this new information to understand distribution of sites across the landscape and more effectively plan future surveys.

3. Develop cultural resource field sampling survey strategy based on Forest overview and land type analysis. Refine the strategy based on results of information needs of the above.

4. Identify how the Forest cultural resources can best contribute to general knowledge of prehistory and history. Coordinate with State and regional efforts to establish appropriate research goals.

5. Identify cultural resources best suited to interpretation. Consider accessibility and representation of major historic themes. As a start, improve interpretive information at the Public Service Centers, the Joint Information Center, and other public contact points.

6. Expand efforts to repair and rehabilitate historic resources listed on the National Register of Historic Places.

Wilderness

1. Verify and refine the limits of acceptable change through monitoring. Especially, need to refine data on social impacts in the wilderness, such as what are the ~realr implications of encounters and camps visible, to wilderness use levels and experiences.

2. Develop and maintain a database on wilderness use and impacts. Inventory wilderness campsites.

3. Further research is needed on what the appropriate level of outfitter-guide use should be in the wilderness.

4. Locate and define the wilderness boundary on the ground for both wilderness and other management activities outside of wilderness.

5. Collect vegetation, soil condition, and impact trend information in heavily-used camp areas near trails and other heavy-use areas (such as stock-hitching areas) that appear to be near the limit of acceptable change.

6. Identify air quality related values that would be potentially impacted by changes in air quality in Class I areas.

Air Quality

1. Complete inventories of baseline conditions for visibility, water chemistry, vegetation vigor, aquatic habitats and other identified air quality related values.

Wildlife

1. Complete bald eagle roosting, foraging and nesting habitat inventory and monitor these and other potential use sites. Validate the effectiveness of standards and guidelines for bald eagle habitat areas, and determine the need for changes or additional mitigation measures.

2. Delineate active and potential bald eagle nest sites in accordance with the recovery plan, and develop a management plan for these areas.

3. Determine the significance of recreational activities impacts on bald eagles feeding on salmon carcasses on the Skagit River, and any other area where both activities occur. Determine the best way to manage both resources.

4. Complete peregrine falcon *nesting habitat* survey and map potential *habitat* on the Forest. Determine whether there is any reproduction occurring on the Forest. Survey periodically for any nesting use.

5. Determine whether there are resident populations of gray wolves and whether breeding is occurring on the Forest. Develop inventory procedures which are reliable and cost-effective. While bald eagle inventory methods are currently reliable and relatively efficient, methods of inventorying for grizzly bear or gray wolf numbers are lacking. We do not currently have a good idea of how many individuals of these species are using the Forest, how they use the habitat, or whether they are successfully reproducing.

6. Determine whether there are resident grizzly bears on the Forest and whether they are breeding. Examine the effects of recreational uses, road traffic and other activities on any such bears. The U.S.D.I. Fish and Wildlife Service will be making a decision as to whether or not the North Cascades area will be a recovery zone. There is a need to develop information and educational means of teaching the public how to recreate and work safely in the presence of black bears, and potential presence of grizzly bears.

7. Determine baseline numbers for populations of bald eagles, gray wolves, peregrine falcons and grizzly bears.

8. Define potential habitat and habitat types on the Forest for grizzly bear and gray wolf. Determine what would constitute viable populations of these species.

9. Determine how to maintain and create usable dead and defective tree habitat (standing and down) in timber harvest units, while meeting State logging safety requirements. Determine whether created snags provide useful habitat, and how long it takes for them to do so.

10. Inventory current conditions for dead and defective, standing and down, tree habitat.

11. Inventory pileated woodpecker, pine marten and spotted owl populations.

12. Develop more accurate baseline inventories for deer, elk, goats, cavity excavators, and sensitive species.

13. Develop reliable and cost-effective techniques for inventorying indicator species and sensitive species.

14. Refine deer and elk winter, summer, and transition range habitat inventories, and identify critical wintering areas, fawning and calving areas, and migration and travel corridors.

15. The FSEIS and U.S.D.I. (1988) list a large number of information needs for the spotted owl. Refer to these documents. Needs described therein include defining habitat size, dispersal, reproductive, and feeding requirements, year-round habitat needs and information on mortality and survival of adults and young.

16. Validate wildlife ecological indicator species and identify the need for changes in species used. Validate MR habitat requirements for these species, and identify any need for changes in the MR habitat requirements.

17. Validate the critical nature of optimal thermal cover to maintain MR populations of mountain goats and desired levels of deer and elk.

18. Determine the effects of vehicular traffic on roads on species other than elk, which have been well-researched. Determine acceptable threshold levels of road densities for species sensitive to road disturbance. Validate road densities allowed in deer and elk winter range and goat MR areas, and determine whether there is a need to change the allowed density.

19. Determine habitat requirements of, and develop management guides for,sensitive animal species.

20. Determine the effects of forest fragmentation of habitat on wildlife species, particularly those which use mature and old growth habitats. Validate minimum block sizes for habitat pieces. Identify needs and requirements for connecting habitat between blocks of older forest habitats and develop methods for achieving these needs.

21. Revise and improve models for deer and elk habitat capability. Refine coefficients used for various habitat stages. Develop a nonlinear model which fully reflects needs for a balance of optimal cover and forage.

22. Complete and improve mountain goat inventory and goat habitat inventory. Identify critical habitats, and needs for revisions or additions to MR habitat areas. Identify kidding areas, and areas needing protection from human disturbance. Information is needed on the numbers of humans in critical goat habitat areas and the effects of their presence on goat--stress, avoidance, reproductive failure.

Continue to investigate, with the Washington Department of Wildlife, causes for the apparent decline in goat populations and current levels below calculated habitat capability. Areas to be further examined include the effects of parasites, genetic problems from small herd numbers, over-harvesting (legal and illegal hunting) and harassment from human recreational and other activities. Determine the need for additional mitigation measures for goat habitats.

23. Establish, with the State, population objectives for deer, elk and goats on the Forest. Currently, the Forest's shares of statewide species population objectives have not been established.

24. There is a need for a complete inventory of cave and cave-like habitats on the Forest. An extensive (rather than intensive) inventory of these sites was completed by Perkins (1988) under contract with the Forest Service. Inventories of use of these sites by sensitive bat species need to be continued.

25. Talus and cliff habitats on the Forest need to be inventoried and mapped.

26. There is a great need for information, and improved methods for measuring the use of, and demand for, appreciative and consumptive uses of wildlife. Current measures of WFUDS are probably inaccurate and underestimate appreciative (nonconsumptive) uses. There is the same need to improve the methods for, and accuracy of, valuing the economic benefits of wildlife uses on the Forest. In addition, other measures, such as what is called "existence value" of Forest wildlife resources needs to be measured. In short, there is a great need for accurate measures of the importance and values of the Forest's wildlife to the public.

Fish-Water-Riparian

1. Complete and update stream surveys for all fish bearing streams, to include an assessment for presence of fish migration barriers posed by natural and man-caused events.

2. Inventory all fish bearing streams for distribution and volume of large woody debris.

3. Determine the amount and composition of streamside vegetation required for bank and channel stability and its influence on fish habitat capability.

4. Determine what deviations, due to forest management activities, from the existing riparian vegetation types identified as critical riparian vegetation are acceptable for maintaining bank stability and fish habitat capability.

5. Determine what percentage of loss (of the previously established riparian area vegetation) within a project area has resulted in a reduction in the habitat capability to support wildlife dependant species (over a 5 year period).

6. Determine what deviations in baseline flow (high and low periods), resulting from forest management activities, impact fish populations, and/or fish habitat within, and downstream of the project areas.

7. Develop and maintain a data base on Forest lake surveys and fish stocking.

8. Validate the parameters that comprise the Anadromous Fish Habitat Capability Index. Correlate habitat capability parameters to fish use and abundance (numbers of smolts and pounds of fish).

9. Develop forest-wide values for estimating the number of fish that could be produced by implementing habitat improvements (structural and non-structural types). Use actual improvement sites and fish populations present to make these evaluations.

10. Inventory and map riparian areas (to include wetland areas) during project design; develop forest wide data base for this information/data.

11. Stream classification designations will require re-evaluation and possible reclassifications based on new information and additional data.

12. Validate the amounts of area identified in the forest plan's FORPLAN model as riparian acres (streamside class I, II, and III class streams). Also determine if the conceptual modeling of 25% non-harvest, 50% extended rotation yield, and 25% normal rotation is being accomplished and meeting other riparian resource objectives on the ground.

13. Determine what bird, mammal, reptile and amphibian species are dependant on riparian habitat, and what the necessary components of their habitat are.

14. Identify plant indicator species for riparian habitats.

15. Determine the effectiveness of all the stated mitigation measures addressing effects (direct, indirect and cumulative) on fish and water. If ineffective, determine what additional measures will be required.

16. Determine the extent of the transient snow zone and it probability of occurrence of rate of water delivery to soil during rain-on-snow conditions.

17. Determine the effects of different types of forest cover (new clearcut, mature forest, 15-year-old unthinned plantation, etc.) on rate of water delivery to soil during rain-on-snow conditions.

18. Determine under what site conditions forest roads collect and redirect subsurface water.

19. Determine the relative importance of sediment from valley glaciolacustrine deposits reworked by major streams and from Type 4 and 5 streams (as classified in Washington Forest Practices Rules and Regulations) in adversely affecting spawning gravels of anadromous fish.

20. Identify riparian wildlife indicator species.

21. Validate adequacy of riparian standards and guidelines for meeting riparian wildlife habitat needs. Determine effectiveness of riparian mitigation measures for wildlife, and whether additional measures will be required.

22. Determine appropriate widths of riparian travel corridors for wildlife. Determine needs for corridors connecting riparian habitats with upland habitats.

23. Develop improved understanding of seeps, bogs, wet meadows, forested wetlands, marshes, springs and other wetlands, and how they are impacted by project work. Validate the effectiveness of riparian standards and guidelines and mitigation measures in protecting these areas. Develop guidelines for addressing very small wetlands which occur interspersed with forested, suitable timberlands, where they are sometimes difficult to manage.

Sensitive Plants and Vegetative Diversity

1. Identify plant indicator species for riparian, special and unique communities.

2. Inventory entire Forest for threatened, endangered and sensitive plant species, with emphasis on all proposed project areas, RNA's, botanical Areas, wilderness and other areas where timber harvest is not emphasized. Determine management standards and guidelines needed for maintaining species viability, and develop management guides incorporating them. The new Sulphur Creek Botanical Area is a high priority for inventory.

3. Identify tree species whose gene pools are shrinking and develop plans to ensure that they continue to exist on the Forest in their natural range. Some of these species have special medicinal, religious or cultural uses. Identify potential cedar preserves.

4 Inventory the distribution, abundance and habitat requirements of forest plant products, other than trees, collected for commercial uses. These include mushrooms, salal, beargrass, mosses, ferns and other plants, and collection of seed. Determine the effects of harvesting these species, and need for, and means of regulating or restricting collection.

5. Information is needed on the role of the fungal flora in the ecosystems, and how to manage to preserve these elements--their viability, diversity and distributions. The role of fungi in maintaining forested ecosystems needs to be much better understood.

6. Identify future potential Botanical Areas and Research Natural Areas.

7. Determine the effects of using non-native, but already present, plant species for revegetating and stabilizing sites and for forage enhancement. Determine the appropriateness of using these species, and whether there is a need to restrict seeding to only native species.

8. Identify plant zones other than old growth which may need large, viable examples preserved in order to maintain species and community viability through time.

9. Determine prescriptions for reforesting timber harvest units, and subsequent timber management to maintain a diversity of tree species in these areas.

10. Identify effects of fragmentation on plant communities--their viability, diversity and composition.

11. Continue to inventory horizontal and vertical structural diversity of forest stands, to better understand structural differences among age classes, and to identify structural management goals for experimental silvicultural management, to produce desired stand structural components.

12. Complete a Forest inventory of mature and old growth forest communities which includes information on species composition, structure, and other ecological components. A new, more complete inventory of this type was begun in 1990.

Timber

1. Determine what portion of the Mountain Hemlock Area (Management Area 19) can be reclassified as tentatively suitab~1e for timber production.

2. Reinventory the timber resource. Stratify forest land by productive potential and other significant characteristics.

3. Inventory old growth forest land to determine area and location.

4. Develop managed yield tables to project timber growth and yield in forest stands that are predominately true fir, western hemlock, or mountain hemlock species.

5. Determine effects of logging damage on true firs and hemlock and whether or not to plan commercial thinning in these species.

6. Validate areas of J-8 and 5-8 suitability classification on the ground.

7. Complete inventory of riparian habitat on the Forest.

8. Conduct provenance testing of Pacific silver fir to determine the genetic variability of this species.

CHAPTER 3 - PLAN
RESPONSIVENESS TO ISSUES, CONCERNS, AND OPPORTUNITIES

This chapter is included to describe how this Forest Plan responds to the major issues, concerns, and opportunities identified during the planning process. The major ICO's and their development are discussed in detail in Chapter I, and Appendix A of the FEIS accompanying this Plan. The reader is encouraged to review those sections.

The major issues, concerns, and opportunities are:

- Development versus Nondevelopment of the Forest
- Timber Supply
- Old Growth Ecosystems and Fish, Wildlife, and Plant Diversity
- American Indian Religious and Cultural Use
- Recreation Opportunities
- Wild and Scenic Rivers
- Management of Municipal Watersheds
- Effects of Timber Management and Related Activities
- Adjacent and Intermingled Lands

Implementation of this Plan will result in rather subtle changes during the first 10 to 15 years (the planning period). The forest visitor will not observe drastic changes from the way the Forest is currently being managed; however, the issues and concerns have focused attention on past forest management practices. These practices have been reviewed and revised, as indicated on the following pages, to address the ICO's.

OVERALL EMPHASIS OF THE FOREST PLAN

The Land and Resource Management Plan reflects the importance of the Mt. Baker-Snoqualmie National Forest as a vital and major contributor of recreation opportunities, plant and animal diversity, and forest goods and services to the Puget Sound region, the Pacific Northwest, and the nation. The Plan recognizes the interrelationships of the many and varied resources of the Forest. It attempts to carefully balance the importance of the nonmarket resources such as dispersed recreation opportunities, scenic quality, fish, wildlife, water, and air quality with the continued use of the Forest to produce sustained yields of timber. As choices were made among individual resources, the tradeoffs and compromises between nonmarket values and market values were given careful consideration.

The Forest Plan emphasizes unroaded recreation; protection of scenery along major highway corridors; increased big game populations; an increase in the Wild and Scenic Rivers System; high quality water; and stable supplies of wood fiber. The Plan maintains roadless areas; provides wildlife habitat for game and nongame wildlife species to maintain viable populations; and provides for increased trail development.

PLAN RESPONSIVENESS TO THE ICO'S

Development versus Nondevelopment of the Forest

How should the released, unroaded areas be allocated and how will the resources be managed?

At what rate should the Forest Service enter those roadless areas that are allocated for development'

Background: There are approximately 403,000 acres of undeveloped, unroaded lands that were released from wilderness consideration by the Washington State Wilderness Act of 1984. Until the Forest Plan is revised, either at the 10-15 year update or during any earlier revisions, these acres are available for a full range of resource uses. The allocation and management of these acres continues to be a highly controversial issue. The areas contain a vide variety of resource values.

Response: In this Forest Plan, 309,214 acres (77 percent of the "released" acres) are maintained in a roadless character. The remaining 93,716 acres (23 percent) are allocated to various levels of development involving road construction and production of both market and nonmarket outputs.

The total Forest acres assigned to nondevelopment land allocations including wilderness, wildlife habitat areas, dispersed recreation areas, and research natural areas are about 1,132,000 acres or 66 percent of the entire Forest.

Management of the roadless areas on the Forest will proceed according to their land use allocations. Approximately 20,000 acres of the 94,000 acres of roadless area allocated to development will be affected by development (including timber sales) in the next 10 years and no longer meet the definition of roadless as used in RARE II. By the end of fifteen years, an additional 12,000 acres of roadless areas will be affected by development. Proposed development activities scheduled for roadless areas will receive appropriate environmental analysis and documentation before they are implemented.

Table 3-1 shows the general assignment of the unroaded areas, by parcel. This table refers to the acres allocated to development or nondevelopment prescriptions; the acres shown are those ultimately remaining either undeveloped or developed. Refer to Appendix C, FEIS, for more information.

Table 3-1
Roadless Area Disposition – Acres

Area	Developed	Undeveloped
Mt . Baker (Canyon Creek)	2,976	22,070
Mt . Baker (North Block)	5,612	9,688
Mt. Baker (West Block)	2,152	5,486
Mt. Baker (South Block)	10,813	17,130
Mt. Baker (Noisy-Diobsud)	4,223	44,899
Oakes Peak	654	1,752
Alma Copper	569	2,153
Hidden Lake	2,850	378
Glacier Peak H	11,373	695
Glacier Peak I	0	2,360
Glacier Peak G	3,482	6,776
Glacier Peak J	950	6,441
Glacier Peak M	6,083	5,786
Glacier Peak A	9,905	8,359
Glacier Peak L	14,598	360
Glacier Peak B	443	11,867
Glacier Peak K	15,164	38,733
Pressentin	7,157	7,517
Higgins Mountain	2,237	1,603
Prairie Mountain	5,465	1,625
White Chuck Mountain	274	4,092
Boulder River	42	1,244
Eagle Rock	105	3,417
Tolmie Creek	7,900	5,660
C1earwater	1,585	4,120
Lonesome Lake	26,842	31,551
Sun Top	0	4,711
Silver Creek	253	1,142
Norse Peak	950	6,676
TOTAL	93,716 (23 %)	309,214 (77 %)

Timber Supply

What is the capability and suitability of the Forest to produce timber? What should the timber harvest level be, considering all resources on the Forest and their relationship to social, economic, and environmental factors including local, regional, and national demands?

Background: A key public issue and management concern, and an area of great controversy. Additional facets are the amount of old growth remaining and jobs. While the timber industry is a small part of the overall Puget Sound economy, it is still important; lumber production provides just over 4% of the wage and salary jobs in Skagit County, 2-3% of wage jobs in Whatcom, Pierce, and Snohomish Counties, and less than 1% in King County (1988). About 35 percent of the total Mt. Baker-Snoqualmie acres were tentatively suitable.

Response: Timber production will occur at levels that are consistent with providing for increased emphasis on unroaded recreation; greater protection of scenic values on travel corridors; increased miles of trails; increased number of rivers recommended for Wild and Scenic River designation; and allocation of three Special Areas. Timber will be managed on about 346,000 acres, of which about 49 percent will be managed on long rotations of]0O years or more to meet nontimber resource objectives. About 2,900 acres are clearcut annually. Approximately 1,000 acres are precommercially thinned and 200 acres commercially thinned each year to improve stand density and species mix.

Timber is managed on a nondeclining flow harvest schedule. This harvest level reflects a balance between jobs, demand for wood products, income to the Treasury, and protection of the various nonmarket values desired by Forest users. The first decade ASQ is 108 MMBF. All of the ASQ assumes the use of even-aged silvicultural practices. Uneven-aged silviculture practices are considered in the project planning process, as individual stands are investigated for harvest opportunities.

The tentatively suitable acres not selected for timber production include those necessary to meet viable population levels for wildlife species dependent on mature and old-growth forest habitat, and portions of the riparian zone necessary to provide for the protection of riparian values. The tradeoffs are minimized through selection of most MR acres from lands that are not tentatively suitable and those that would be assigned to produce at reduced yield. Only those MR acres necessary for wildlife population dispersion requirements and those necessary to insure hydrologic cumulative effects do not result in unacceptable adverse effects are located on tentatively suitable lands. Annual timber outputs for Decades I and 5 of the Forest Plan are compared to the planned historic outputs in the table below.

Table 3-2
Planned Historic and Forest Plan Timber Outputs

	Historic	Plan Implementation	
	1979-88	Decade I	Decade 5
Long-term Sustained Yield Capacity 1/			
- Million Cubic Feet	Not	30.4	----
- Million Board Feet	Calculated	----	----
Allowable Sale Quantity			
- Million Cubic Feet	47.0 22.4	29.	
- Million Board Feet	229.8	108.0	----
Suitable Land			
- Thousand Acres	547.0	346.0	346.0

1 - Board foot volume not calculated for long-term sustained yield capacity.

Old Growth Ecosystems and Fish, Wildlife, and Plant Diversity

What management direction is needed and where should action be taken that will maintain and/or enhance old growth and diversity to meet multiple use objectives?

Background: Old-growth and maintenance of diversity is of particular concern and has become a significant and controversial agency and public issue. In the past, much of the focus for this issue has been spotted-owl habitat; the issue now has a much wider scope. Old growth contains a wide variety of resource values, including wildlife habitat, aesthetic, forest diversity, recreation, and commercial timber. These areas are also valued by American Indians for religious and cultural use. In addition, there is increasing recognition within the scientific community that ecosystem diversity is important. Nearly all of the old-growth forest that remains in the Puget Sound Area is located in the National Forests or National Parks.

The most recent (1976) vegetation inventory for the Forest, updated to reflect harvest through 1988, indicates there are about 643,500 acres of old growth (trees 2111 or greater DBH) within the Forest. Approximately 232,500 acres (36%) are located in wilderness and not available for harvest. An additional 134,400 acres outside wilderness are considered unsuited for timber production (either withdrawn from timber production or unsuited because of highly unstable soils and difficulty in reforesting the areas).

The northern spotted owl is closely related to the old-growth issue. About 500,000 acres of suitable spotted owl habitat have been identified on the Forest. Between 1980 and 1989, 55 pairs of spotted owls and 177 individuals have been sighted on the Forest. The FSEIS amending the Regional Guide estimated spotted owl habitat capability on the Forest at 121 pairs.

The Forest provides habitat for a variety of wildlife species, including four federally-listed threatened and endangered species. The variety of elevation, aspect, soil depth, climate, and vegetation create a naturally diverse mosaic of habitats within the Forest boundary. An important facet of this issue is the distribution and protection of suitable habitat to ensure species viability through genetic exchange.

There are approximately 1,500 stream miles and over 12,000 lake acres on the Forest that serve as both seasonal and year-round spawning and rearing habitat for anadromous and resident species. Indian tribes, sport and commercial fishing interests, and state and federal fishery agencies are increasingly concerned about the effects of water quality on the anadromous fish resource.

> **Response:** The Forest Plan maintains approximately 502,500 acres of old growth in allocations not suitable for timber production (e.g. wilderness, unstable soils, regeneration difficulties, dispersed recreation, special areas, spotted owl habitat, mountain goat habitat, Research Natural Areas, etc.). No areas are specifically allocated for old-growth management for amenity values. At the end of the first decade, 624,500 acres of the current 643,500 acres of inventoried old-growth is expected to remain.
>
> A spotted owl habitat network consisting of 76 habitat areas each containing 2,200 acres, if possible, is established. The network consists of dedicated SOHA's outside wilderness areas, habitat areas in

Wildernesses, and other habitat areas in management areas without scheduled timber harvests. Other spotted owl habitat outside the network remains available for the owl as a result of other allocation decisions that preclude development of those acres. Of the nearly 500,000 acres of suitable spotted owl habitat on the Forest, about 350,000 acres (71%) will be protected in SOHA's and through other allocation decisions.

Further changes in direction for protection of spotted owl habitat are likely. The recent release of the report of the Interagency Scientific Committee to Address the Conservation of the Northern Spotted Owl and the upcoming decision of the U.S. Fish and Wildlife Service on the listing of the species may require changes in the direction of the Forest Plan. As new national and regional direction is established, the Plan will be amended to incorporate that direction.

The Forest Plan allocates 174,000 acres specifically for the protection, maintenance, and/or improvement of wildlife habitat including the 54,200 acres specifically set aside for northern spotted owl habitat. Allocations made specifically for other wildlife habitat protection, improvement, and maintenance are:

19,300 acres for pine marten, pileated woodpecker, and associated species;
47,000 acres for riparian dependent species and fish habitats;
34,000 acres for deer and elk habitat;
17,100 acres for mountain goat habitat; and
2,800 acres for northern bald eagle habitat.

Land allocations and standards and guidelines are used to meet part of the riparian management requirements and fish habitat needs. To fully meet riparian and water quality management requirements, a constraint is established on the maximum number of acres that can be harvested in a given watershed in a decade. These limits on final harvest are incorporated as Forest Plan standards and guidelines. High levels of investments will be made in habitat improvement projects to benefit anadromous and resident fish.

Classification is recommended for five new Research Natural Areas, totaling 9,306 acres: the North Fork Nooksack Addition, Lily Lake, Perry Creek, Green Mountain, and Chowder Ridge. The three existing RNA' s are retained.

One botanic area is allocated - Sulphur Creek Botanic Area; it contains a unique, low-elevation vegetative community (silver fir and associated species) on a lava flow. Two other special areas are allocated: Mather Memorial and Heather Meadows.

American Indian Religious and Cultural Use

What policy and management direction is needed to comply with the Native American Religious Freedom Act and various treaties?

What are the effects of meeting this direction in terms of outputs, costs?

Background: At least 23 American Indian tribes have occupied or used territory within the National Forest boundary. Currently, about 15 tribal groups use the

Forest for religious, ceremonial, and/or cultural purposes. The Forest has inventoried 450,000 acres of use areas and sites. Of concern to a number of the Tribes are the effects of management activities on water quality and protection and enhancement of anadromous fisheries. Cedar is also an important resource.

Response: High protection of religious and cultural use areas for American Indians will be provided on lands where no timber harvest of road construction is planned and lands where the expected frequency of human contact is low. Moderate protection includes areas where no timber harvest or road construction is planned, but where human encounters are more likely. The Plan will afford a high to moderate degree of protection for the following acres, displayed in Table 3-3. Lands are not specifically allocated to "Indian Religious Use" nor are these acres shown on the map, to protect confidentiality. A total is not appropriate here, as there is overlap among acres protected.

The existing consultation process (with Tribes prior to any ground-disturbing project proposed in a use site or area) is continued.

Table 3-3
Religious and Cultural Use Areas With Moderate to High Protection From Development

	Approximate Acres		
	Type of Protection		Total Area Managed
Type of Sites/Area	Moderate	High	for Nondevelopment
Spirit Quest Sites	13,326	59,532	72,858
Legend Sites	1,288	3,083	4,371
Cedar Areas	15,543	50,262	65,805
Ceremonial Flora Areas	19,809	73,238	93,047
Cemeteries	0	317	317

In addition, the Plan will provide for a high level of investment for habitat enhancement for anadromous (and resident) fish. The hydrologic cumulative effects management requirement is designed to insure that effects of management activities prescribed by this Plan meet the intent of water quality laws and regulations.

A Forest-wide standard and guideline is included in this Plan to favor regeneration of western red cedar on sites where it now occurs or where it could successfully occur.

Recreation Opportunities

To what extent can the Mt. Baker-Snoqualmie provide recreation opportunities and how should they be managed.

Background: The Mt. Baker-Snoqualmie contains some of the most scenic areas in the State. Its proximity to the major metropolitan areas along Puget Sound and the variety of opportunities available is reflected in the continual growth of recreation use. Use is now approximately five million RVD's per year (1989). It is expected that the demand for recreation on the Forest will grow through the end of the century.

The Recreation Opportunities issue includes several sub-issues or facets. The more significant ones are: developed recreation needs and opportunities; dispersed recreation needs and opportunities, including roadless and undeveloped areas; wilderness use and management; and trail needs and opportunities.

The Forest has 38 campgrounds that can accommodate about 500,000 recreation visitor days use per year. There are seven alpine ski areas that can accommodate approximately 40,000 skiers at one time. Trail mileage on the Forest is made up of 849 miles outside wilderness and 545 miles within wilderness. A variety of types of trails are provided, but the majority are hiker and pack and saddle trails. The Forest contains all or parts of eight wilderness areas with a total of approximately 722,000 acres within the Forest. Developed recreation demand (primarily alpine skiing and developed campgrounds) is well below the Forest capacity. Roaded dispersed recreation capacity far exceeds current use. Unroaded dispersed recreation use outside wilderness currently exceeds the capacity of the Forest. Wilderness use is nearing the practical capacity of the Forest. It is likely that wilderness demand will exceed capacity in the near future.

> **Response**: In this Plan, the overall emphasis will continue to be on dispersed recreation; however, future demand for developed recreation is also addressed.
>
> Developed Recreation. Rehabilitation of existing sites would be a top priority; about 10% of existing units will be reconstructed each year for the next ten years. In the first decade, approximately 100 new units (500 people at one time) would be added to existing campgrounds to provide additional capacity if needed. Limited expansion of day use facilities will occur to meet projected increases in demand
>
> Dispersed Recreation and Trails. Land allocations in the Forest Plan result in approximately 27 percent (273,400 acres) of the Forest outside wilderness being available for nonwilderness, unroaded dispersed recreation. The majority of these opportunities will be in the semi-primitive nonmotorized recreation opportunity spectrum (ROS) class. This will provide alternatives to recreationists impacting wilderness, and help reduce conflict between different recreation uses groups in other areas.
>
> Approximately 200 miles of new, nonwilderness trail will be constructed in the first decade; 30.5 of these will be open to motorized use. Trail reconstruction, first decade, will be done on another 493 trail miles.

These trails will generally be constructed in the semi-primitive nonmotorized and roaded natural R0S areas. Trail system planning will become an integral part of all project planning to assure continuation of a top-quality trail program. Approximately 25 miles of existing roads will be closed to passenger vehicles to provide more opportunity for unroaded dispersed use and discourage access to over-used, fragile destination areas. Management direction in the Mt. Baker National Recreation Area will provide for motorized use (snowmobiles) during those months with adequate snow cover, and for nonmotorized use during the remainder of the year.

Wilderness. The physical, social, and managerial settings within wilderness would be managed to meet standards set under Limits of Acceptable Change (LAC's) in the wilderness recreation spectrum (WRS). Approximately 20 miles of new trail would be built. Within wilderness, General Trailless areas (457,000 acres) will usually remain trailless; Dedicated Trailless areas (191,600 acres) will be managed forever trailless.

Visual Quality. The public concern for the visual condition of the Forest is addressed in this Plan: 23,400 acres of scenic viewshed, foreground and 95,800 acres middleground, along heavily-used, scenic highways are managed for visual quality and other resource uses. Standards and guidelines provide for timber harvest at 65 percent of full yield on the suitable acres in the foreground, and 86 percent of full yield on suitable middleground acres.

Wild and Scenic Rivers

How should the potential wild and scenic rivers of the Forest be managed and their values protected?

Background: There is one designated Wild and Scenic River on the Mt.Baker Snoqualmie - the Skagit, designated in 1978. Portions of the Skykomish River are designated a State Scenic River (applicable to city, county, and state lands). There are 47 eligible rivers on the Forest; outstandingly remarkable values include fisheries, scenery, wildlife, recreation, and ecology. There is considerable public and agency interest in this issue.

Response: In this Forest Plan, 30 rivers - totaling 451.8 miles - are recommended for inclusion in the National Wild and Scenic River System. Until Congressional action, the values contributing to a river's particular classification (wild, scenic, or recreation) will be protected. Forest lands adjacent to the 30 suitable rivers will be managed to maintain their eligibility. Refer to Appendix E, FEIS for more detailed information.

Skagit Wild and Scenic River. Management direction for this Congressionally designated river system (158.5 miles and totaling 38,939 acres) will follow the River Management Plan, Skagit River Record of Decision, August 8, 1984, which is incorporated into the Forest Plan.

Management of Municipal Watersheds

What activities should be permitted within municipal watersheds?

What measures should be taken that will maintain or enhance water quality?

Background: The Forest contains a significant portion of the watersheds supplying the cities of Seattle, Bellingham, Everett, and Tacoma. A number of smaller municipalities also obtain water from the Forest. Maintaining high water quality is an objective of many agencies and individuals; there is concern about the effects of management activities, including recreation, on water quality. In the Cedar River Watershed, the management goals of the 1962 Agreement (between the City of Seattle and the Forest Service) have recently been modified for city-owned lands, by the City of Seattle's Secondary Use Policies.

Response: Best Management Practices for this Plan are described in Appendix I. In addition, the Plan responds to this issue by meeting water quality management requirements, which are expressed as a maximum number of acres available for final timber harvest, by watershed. Refer to Chapter 4 of this document, Forest-wide Standards and Guidelines for Water Resources and Riparian Areas. Water quality will be maintained or enhanced by adherence to Regional and Forest standards and guidelines. Maintenance of riparian values in riparian areas is emphasized and timber yields in those management areas will be approximately 63 percent of full yield. In all municipal watersheds, water and water quality are recognized as key resources.

In the Cedar River Watershed, the Forest Service will initiate negotiations on a new Cooperative Agreement between the City of Seattle and the Forest to re-establish goals and objectives for management of the watershed. Until a new agreement is negotiated, the Mt. Baker-Snoqualmie will not enter new land exchanges affecting National Forest land in the watershed. Pending a new agreement, the 1962 Agreement will remain in effect. When a new agreement is reached, the Forest Plan will be amended to incorporate its goals and direction.

The Green River Watershed will be managed under the terms of the 1984 Memorandum of Understanding with the City of Tacoma. As land exchanges are completed with the City, public use rights are relinquished on roads no longer needed to access National Forest land. Dispersed recreation is emphasized; overnight camping is allowed.

The Sultan River Watershed will be managed under the terms of the 1963 Memorandum of Understanding between the Forest Service, the City of Everett, and the Snohomish County Public Utility District. Management emphasizes watershed protection, recreation use at developed sites (no water contact sports),timber production, and maintenance of fish and wildlife habitat. Dispersed recreation is permitted, but not encouraged.

Other municipal watersheds will be managed for a full range of outputs, including timber harvest and recreation. Road construction/reconstruction and maintenance are permitted. Dispersed recreation, including overnight use and ORV use, is permitted in designated locations.

Effects of Timber Management and Related Activities

What management direction is needed for timber harvest and road construction activities to benefit or maintain the quality of other resources?

Background: Management for the commercial production of timber includes a number of activities: road construction and/or reconstruction, preparation of the land for planting seedlings, possible thinning, etc. These activities have direct and indirect effects on other resources, including: fish and wildlife habitat, soil, and water. Also, recreation opportunities and the visual condition of the Forest chang'e in response to these activities. For example, the visual impact of clear-cutting and loss of habitat for some wildlife species is a major concern of environmentalists, wildlife advocates, and some hunting interests.

Each step in the process of timber harvesting, including road construction, may have a number of short-term and long-term impacts. Timber harvesting may enhance elk habitat (increased forage in clearcuts) but reduce the visual quality and the amount of wildlife habitat available for species dependent on mature conifer forests.

> **Response:** Unacceptable adverse effects to Forest resources will be prevented or mitigated using the Regional, Forest-wide, and management area standards and guidelines. Best Management Practices will be selected and applied (site-specific) to achieve water quality regulations. Refer to Appendix I of the FEIS. To fully meet riparian and water quality management requirements, a constraint is established on the maximum number of acres that can be harvested in a given watershed in a decade. These limits on final harvest are incorporated as Forest-wide Standards and Guidelines.
>
> An environmental analysis will be prepared for each project to assess the impacts on other resources, unit size and dispersion requirements, logging methods and practices, road location, design and construction standards, silvicultural prescriptions, and other pertinent considerations. Analysis will include appropriate documentation, to meet the National Environmental Policy Act (NEPA) and implementing regulations.

Adjacent and Intermingled Lands

How should National Forest lands adjacent to lands of non-federal owners be managed?

What management activities should be conducted on National Forest lands that are located near private development?

Background: Thirteen percent of the lands within the Mt. Baker-Snoqualmie National Forest are non-Federal, located mostly in the south half of the Forest. In most cases, the objectives and subsequent land practices of the non-Federal owners differ from those of the Forest Service, yet directly affect management of National Forest lands. Concern and conflicts arise because of these different management practices. For example, it is not uncommon that old-growth National Forest lands are surrounded by harvested lands in other ownership.

Response: In this Forest Plan, Best Management Practices will be selected and applied for site-specific projects, to achieve water quality regulations. Refer to Appendix I of the FEIS. In addition, to fully meet riparian and water quality management requirements on National Forest lands, a constraint is established on the maximum number of acres that can be harvested in a given watershed in a decade. These limits on final harvest are incorporated as Forest-wide Standards and Guidelines. It is the intent of this Plan that the quality and quantity of these resources not be diminished, but maintained at current levels or improved, if possible. Specifically, this means that timber harvest activities on National Forest lands will be deferred if the MR's for wildlife, soil, and water cannot be met.

A Land Adjustment Plan has been developed and is included as Appendix G in this Forest Plan. The goal of landownership adjustment is to achieve an ownership pattern that best accommodates the land and resource objectives of this Forest Plan. There will be a continued need for road cost-share agreements until such time as ownership consolidation is achieved.

National Forest management adjacent to privately owned lands will be coordinated with approved County Plans and County Planning Departments.

CHAPTER 4 - FOREST MANAGEMENT DIRECTION

This chapter - Forest Management Direction - is the heart of the Plan. It has five major sections.

Part A includes the Forest Management Goals: multiple use and other goals established in the planning process and used to develop this Plan.

Part B, Desired Future Condition: this narrative is a brief description of what the Mt. Baker-Snoqualmie National Forest should look like at the end of ten years, and - if the Plan were to remain unchanged - for fifty years.

Part C, Forest Management Objectives: this section includes the levels of goods and services, outputs and activities, and necessary budget which are anticipated as this Plan is fully implemented. Included is a narrative Resource Summary of how each resource and its activities will be managed under the Plan.

Part C includes the Forest-wide Standards and Guidelines, which direct all resource management activities and uses on the Forest. The Forest-wide standards and guidelines generally apply to all areas of the Forest, (unless exceptions are noted in specific Management Area prescriptions. The Forest-wide standards and guidelines provide standards for performance, and establish bounds and constraints for these activities and uses.

Part E, Management Area Prescriptions: the prescriptions identify the management activities that can occur within each management area and the standards and guidelines that apply to each.

A. FOREST MANAGEMENT GOALS

Forest-wide management goals describe the state or condition of Forest resources and uses that the Plan is designed to achieve. Management objectives and standards and guidelines are then developed to guide the achievement of these goals.

The following factors aided in developing management goals:

- Capability, availability, and suitability of the Forest to produce goods and services
- Applicable Laws and Regulations
- National and Regional Goals
- Public Issues and Management Concerns

Goals

Recreation

1. Provide a broad spectrum of recreation opportunities, with an emphasis on those opportunities which require a natural setting.

2. The forest will be responsive to a greater diversity of forest customers by emphasizing the needs of the very young and old, the disabled, and those of culturally and economically diverse background.

3. Become more knowledgeable of the forest's customer. Embark on market research techniques to assure that recreation facilities, opportunities and services focus on the needs of our customers.

4. Encourage a sense of ownership through expanded Interpretation and Education activities; emphasize traditional values of "conservation", and market the "special places", special activities and special opportunities of the MBS.

5. Provide a full spectrum of recreation facilities (from full service resorts to trailheads) to serve all of the recreation users, providing amenities (hot water, showers, trailer dumps) where necessary and appropriate, that allow the recreating customer to enjoy the natural setting while creating a sense of quality, comfort and security.

6. Encourage partnerships of public and private suppliers of recreation services and facilities and administer the partnerships to ensure and enduring relationship of mutual gain.

7. Recreation is a co-equal partner in Multiple Use Management that is guided by the need to Regain Public Trust through Quality Management. This needs do serve as a tool to minimize conflicts between users and resources.

8. Professional recreation management flows from a work force with a full spectrum of career opportunities dedicated to the traditional values of conservation, demonstrating exceptional skills, providing quality service, and projecting a favorable image of the Forest Service.

Wilderness

1. Manage wilderness for the use and enjoyment of people in such a manner as will leave wilderness values unimpaired for future.

2. Wilderness is to be managed to prevent degradation. The non-degradation principle seeks to maintain each wilderness in at least as wild a condition as it was at the time of classification.

3. Provide for the protection of the area, preservation of its wilderness character through dissemination of information regarding proper use.

4. Manage wilderness using strategies that will facilitate natural ecosystems and processes, including prescribed burning.

Wildlife and Fish including Threatened and Endangered Species

1. Maintain the vitality, distribution and abundance of animal populations. At a minimum, maintain viable populations of existing native and desired non-native vertebrate species on National Forest lands. No species should be eliminated from an area. Maintain the longterm productivity of wildlife habitats.

2. Identify Threatened, Endangered, and Sensitive plant and animal species habitat. Protect, maintain and/or enhance this habitat in accordance with Recovery Plans. The overall goal is to prevent the Federal listing of Sensitive species and /or, to pursue the delisting of Federally listed species. Develop management guides for T & E species which carry out these goals.

3. Enhance habitat for all native and desired non-native vertebrate species on National Forest lands, with the goal of providing habitat, and a variety of consumptive and non-consumptive fish and wildlife related recreation opportunities.

4. Develop a KV program to accomplish fish and wildlife habitat improvement and/or mitigation needs within timber sale areas.

5. Encourage partnerships with the public and private entities to build rapport with consumptive and non-consumptive user groups and committees, as well as completing habitat enhancement, inventory, and monitoring projects.

6. Cooperate with Washington State Wildlife and Fisheries Agencies and American Indian Tribes to provide habitat for desired levels of resident and anadromous fish.

7. Provide designated habitat areas for Management of Indicator Species.

8. Develop complete inventories of threatened, endangered, and sensitive species. Develop reliable and accurate baseline indicies for other management indicator species, and monitoring procedures for accurately determining the responses of these species to management activities.

9. Provide opportunities for the public to enjoy wildlife through consumptive and non-consumptive activities. Emphasize informational and educational opportunities for Forest users to learn about wildlife and their habitats. Increase opportunities for wildlife viewing and photographing on the Forest.

10. Manage for the highest levels of populations of indicator species and other desired wildlife appropriate to an area and compatible with the Management Area allocation.

11. Protect special and unique habitats and ensure the maintenance of habitats which are fragile or uncommon.

Longterm Productivity and Diversity

1. Maintain native and desirable non-native plant and animal species and communities.

2. Provide for all seral stages of terrestrial and aquatic plant associations in a distribution and abundance to maintain the productivity of these communities.

3. Provide for wildlife diversity through genetic interchange by linking late seral stage areas with corridors of mid to late seral stage vegetation.

4. Conserve or enhance long-term site productivity. For example, maintain down large and fine woody material following timber harvest.

5. Provide diversity within forested stands by maintaining more than one horizontal vegetative layer.

Range

1. Develop opportunities, where needed, to utilize transitory range by domestic and recreation livestock where they don't conflict with other resource goals, including those for wildlife and riparian management.

Timber

1. Apply appropriate silvicultural systems to attain long-term sustained yield on all suitable lands assigned to timber production, either full or partial yield.

2. Utilize silvicultural systems which best meet needs of site, species, and other multiple use objectives.

3. Conduct mortality salvage harvest on all accessible, available, capable, and suitable lands in a timely manner compatible with other resources and uses.

4. Increase utilization of wood residues to minimize site preparation and hazard reduction costs when compatible with other resource objectives.

5. Utilize burning only as a last resort method of disposal or where site preparation through burning is needed.

6. Provide maximum opportunities for gathering of firewood commensurate with resource objectives.

7. Maintain prime forest lands in timber production.

8. Utilize genetically improved stock for reforestation.

9. Promptly reforest all capable, available, and suitable lands following harvest, fire, insects, etc.

10. Maintain or expand timber land base in land exchange actions.

11. Utilize appropriate logging systems to achieve multiple use and silvicultural objectives in a cost-efficient manner.

12. Use KV funds to enhance recreation, fish, wildlife where appropriate.

Soil, Water, Riparian and Air

1. Maintain soil and water resources and do not allow significant or permanent impairment of the productivity of the land.

2. Protect streams, lakes, wetlands, and other bodies of water. Protect soil and riparian vegetation by appropriate buffer zones or modified silvicultural prescriptions, reflecting local topographic, soil, and vegetative conditions.

3. Restrict or prohibit developments and require “flood proof” road crossings in flood plains and wetlands.

4. Maintain water quality by complying with State of Washington Water quality Management Plan developed pursuant to Federal Water Pollution Control Act. Provide high water quality to meet the needs of the users of that water, including fish populations.

5. Develop a KV program to provide for improvement and mitigation of soil and water resources in timber sale areas.

6. Manage municipal-supply watersheds to provide a level of water quality and quantity which, with adequate treatment by the purveyor, will result in a satisfactory and safe water supply.

7. Do not allow significant or permanent impairment to air quality or air quality related values.

8. Maintain the air quality over the Forest to meet Federal and State standards and protect air quality related values from pollutants generated within or downwind of the Forest.

9. Manage air pollutant generated activities to insure compliance with State and Federal Laws.

Minerals and Energy

1. Support orderly exploration and development of mineral and energy resources.

2. Include special stipulations in leases and permits, as necessary, to integrate exploration and development with the protection and management of other resources and uses.

3. Minimize adverse environmental effects of mineral and energy resource exploration, development, and extraction on other resources and uses.

Lands

1. Improve administration and management efficiency through appropriate land ownership adjustments. Give priority to land exchanges that maintain or improve the capability of the Forest to produce goods and services.

2. Give preference to use of purchase authorities to acquire lands important for wilderness, wildlife, or recreation resources.

3. Acquire road and trail easements which provide for public and commercial access to all National Forest lands.

4. Advocate that hydro-electric project license provide recreation opportunity development, operation, and maintenance to meet the recreation demand generated by the project, and protect and enhance affected fisheries.

5. Advocate land exchange and purchase which support recovery programs for threatened and endangered species.

Facilities

1. Build and maintain transportation system facilities to the minimum standard needed to support planned uses and activities.

2. Manage the transportation system at minimum standard necessary to provide for public safety.

3. Encourage the development and use of mass transit facilities to heavy public use areas, such as winter sports complexes.

4. Locate support facilities to provide for management efficiency, public service, and energy efficiency.

5. Utilize alternative energy sources for water and space heating.

6. Minimize adverse effects of vehicular traffic on wildlife.

Protection

1. Establish areas and conditions under which prescribed fire, through the use of planned and unplanned ignitions, will be used to meet management objectives.

2. Treat natural and created fuels to levels needed to meet resource needs.

3. Cooperate with the appropriate agencies in fire prevention, presuppression and suppression activities.

4. Cooperate with the appropriate agencies in law enforcement activities on National Forest lands.

4. Utilize integrated pest management processes in determining needed control actions.

Wild and Scenic Rivers

1. Utilize State, County, local and other Federal agency authorities for management of River segments on private lands.

2. Provide opportunities for public access and use of the rivers while providing for the rights of adjoining private owners.

3. Maintain a leadership role in protecting designated Wild and Scenic River values.

Visual Quality

1. Establish and implement visual quality objectives for all Forest lands.

2. Maintain the visual variety that is characteristic of the Northwest Cascades.

Archaeological and Historical Properties

1. Inventory, evaluate and protect cultural resources on all Forest lands. Give priority for inventory and evaluation to those areas where ground-disturbing activities are planned and where cultural resources are most likely to be found.

2. Work towards thematic evaluations in conjunction with Washington State Historic Preservation Officer.

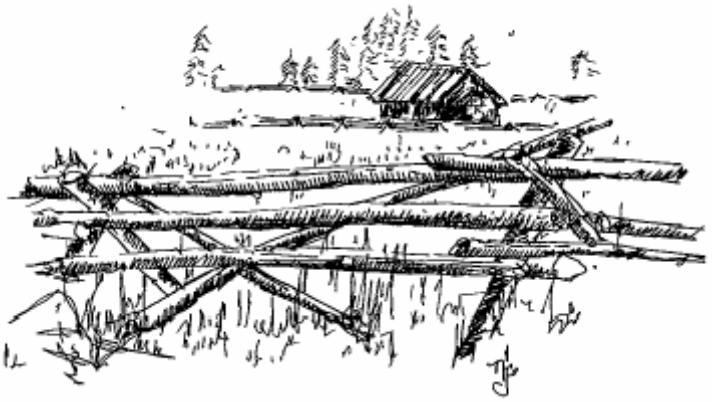
3. Protect and interpret resources representing the full range of cultural resource types present on the Forest. Priority in protection activities will be based on level of significance (National, State of local), and frequency of the resource type within the Forest. Protection will be explicitly considered for all significant resources.

4. Coordinate interpretive efforts with Federal, State and local Agencies, local historical societies, universities, businesses, volunteer associations and other interested groups.

American Indian Religious and Cultural Uses

I. Coordinate with American Indian tribal leaders to improve the inventory of religious and cultural use sites on National Forest lands.

2. Consult with American Indian tribal leaders during planning and design of proposed projects within inventoried sites.



B. DESIRED FUTURE CONDITION

Implementation of this Forest Plan is an incremental step in progressing from the current situation (Chapter 2) to the desired future condition of the Forest. In many instances this desired future condition cannot be attained during the life of this Plan (10-15 years) but will require several decades.

The incremental change in any particular decade can best be characterized as evolutionary as opposed to revolutionary.

The desired future condition of the Forest cannot be summarized in a single statement, as it differs between management areas. The long-term desired future condition for each of the management areas is discussed later in this chapter, in Part E, Management Prescriptions. A general discussion of some of the more significant changes on the Forest is presented below.

The Forest In Ten Years

The physical and biological changes in the structure of the Forest, as a result of carrying out the management practices contained in this plan, will be subtle on a Forest-wide basis, but may be more dramatic on an area-specific basis.

A spectrum of dispersed recreation opportunities from primitive to roaded modified will exist on the Forest. There will be a slight reduction in the availability of primitive and semi-primitive nonmotorized opportunities, as some areas currently providing these recreational opportunities become developed. Opportunities for large group activities in primitive and semi-primitive nonmotorized settings will have decreased to the point that they may be unavailable or restricted at the more popular destination points. Forest trails will have increased in mileage and will be in better condition, safe and well maintained. Summer ORV use will be limited to a few specific sites and trails.

Opportunities for a variety of developed recreation activities will exist. The condition of the physical facilities at developed sites will have improved to the point that all facilities in place will be safe, functional, and attractive.

Use at the more popular destination sites in wilderness will have increased to the point that physical, biological, and social changes have approached, or reached, the Limits of Acceptable Change (LAG). Management controls to limit use will have been implemented. Efforts to rehabilitate areas of overuse will have been implemented, but methods and techniques to accomplish needed rehabilitation will still be in the developmental stage. The effects of fire in wilderness may be more visible, as prescribed fire is used more frequently to alter vegetative patterns.

The roadless areas of the Forest will have decreased by 20,300 acres. This figure equates to 94% of the original roadless acres.

The foreground of scenic viewsheds will have changed very little from the condition they were in at the time this Plan was implemented. Occasional small clearcut harvest units will be visible, but will borrow from or repeat the form, line, color, and texture of the natural landscape. An exception will be in areas of intermingled ownership, where nearly all non-Federal lands will have undergone clearcut timber harvest.

Scenic viewshed, middleground, will have undergone more change than foreground, but the management activities will be subordinate to the natural landscape. An exception will be in areas of intermingled ownerships.

More than 50% of the Forest's acreage will be inventoried for cultural resources. All reported archaeological and historical sites have been recorded. Interpretation of these cultural resources is fully integrated into the recreation program, with a variety of established interpretative sites and programs.

Less inventoried use area will remain suitable for American Indian religious and cultural uses; however, such uses will continue. Some users may have to shift locations of spirit and vision questing activities, or find new localities for collecting ceremonial flora.

Habitat necessary for wildlife species that prefer or require old growth forests will have been reduced, but will still be well above that needed to maintain viable population levels and will be distributed so as to provide genetic viability. Wildlife preferring younger successional stages of forest habitat will show an increasing trend in populations. This trend may not be measurable except in areas of intermingled land ownership, where timber harvest on non-Federal lands has proceeded at a faster rate than on National Forest lands.

Deer and elk will increase, and mountain goat populations will remain essentially the same as they are currently. Vegetative manipulation on winter and summer range through timber harvest activities and forage improvement projects will have brought about short term increases in deer and elk popul ations.

Populations of bald eagles on winter feeding grounds will remain the same or show a slight increase. Populations of nesting bald eagles on National Forest lands will remain the same or show a slight increase. Populations of grizzly bear, American peregrine falcon, and gray wolf will be similar to current populations, although much more accurate census data will be available for these species.

Bald eagle nesting and roosting areas, and any known peregrine falcon nesting areas will be managed under approved site management plans. Management guides will have been developed for all sensitive species, and some species may have been removed from the sensitive list through management protection or enhancement.

The Forest will have developed opportunities for the public to view wildlife and to increase their understanding and appreciation of wildlife. Programs, displays and publications help the public learn to experience wildlife in ways that are least impactful to their habitat and populations.

Partnerships have been formed with a wide variety of users for habitat enhancement, protection and species inventories and monitoring.

Anadromous fish habitat will have improved significantly on National Forest lands, through habitat improvements and more refined management practices in riparian areas. Resident fish habitat will also have improved, through enhancement projects.

Progress towards reaching the desired future condition on that portion of the Forest managed for timber production will have been steady, but slow. A total of 28,650 acres will have been converted from older age classes to younger ages. Age class distribution will now favor the younger age classes of 110 years or less (204,000 acres out of 346,000), mortality will remain higher than desired, and growth will be lower than that possible when a fully managed condition is reached. Approximately one percent (2,865 acres) per year of the lands suitable for timber production will have been harvested. Approximately 66% (18,879 acres) of the total acres be old growth, and nearly all of the harvesting will be by clearcut harvest systems.

The quality of raw water flowing from municipal watersheds will continue to be of good quality. Increased requirements for public health will have resulted in some of the larger water purveyors having installed filtration equipment. Several of the smaller municipal watersheds will have been abandoned in favor of wells or alternative water sources.

There will be no significant change in activity related to locatable minerals. Minor increases will occur in leasable minerals area with increasing interest in geothermal resources. Anticipated downturn in use of common variety materials for forest development will be offset by increases in public demand for these minerals.

Opportunities for the Forest to help enhance the vitality of surrounding communities will occur through a Regional initiative called the Pacific Northwest Strategy. It is envisioned that the Pacific Northwest Strategy will be a new focus of operation for many people, one that empowers Forest Service people and local citizens to look and work beyond the traditional boundaries. At the same time, it reaffirms and emphasizes working with other government agencies, local businesses, and the communities themselves in a spirit of interdependency and cooperation that has always existed at the local Ranger District level. As the Strategy becomes an integral part of doing business, its central focus will be to foster and enhance communication, cooperation, and partnerships.

The Forest In Fifty Years

This Forest Plan will be reviewed every five years and revised every 10 to 15 years. The following describes the progress being made towards the desired future condition of the Forest if this Plan were to remain unchanged for 50 years. The desired future condition varies by management area and is included in the management area prescriptions, Part E in this chapter. The following is a general description of the Forest as a whole.

A wide range of dispersed recreation opportunities will exist on the Forest. Acres available by recreation opportunity spectrum (ROS) class will have stabilized. Competition for use of primitive and semi-primitive nonmotorized areas will be high and some form of use limitation will have been imposed to maintain the attributes of isolation, solitude, and an unmodified natural environment.

A wide variety of developed recreation opportunities will exist. New developments will have been added to meet an increased demand. Facilities will be well maintained, and attractive. New facilities will generally be set back from bodies of water to lessen the impacts on riparian resources.

Wilderness use will have stabilized at carrying capacity levels in all wilderness on the Forest. Use will be controlled through a variety of management techniques, but a permit system will have been implemented for at least the more popular areas of all wilderness. More of a mosaic of vegetative patterns will be evident as a result of the use of prescribed fire, although a large majority of the wilderness will still support vegetation in the later successional stages.

Scenic viewsheds will display more of a mosaic of differing age classes of vegetation than when the Plan was implemented. All age classes will still be represented. Desired visual quality levels will still be met and management activities will either not be evident or will be visually subordinate to the natural landscape. Viewsheds within areas of intermingled ownership will be more visually appealing than 10 years after implementation, when nearly all non-Federal lands had been recently clearcut harvested. Areas that were logged during the railroad era will be undergoing harvest of the second-growth stands.

The Forest will be completely inventoried for archaeological and historical properties. Protection and interpretation of a full range of cultural resources remains an integral component of the recreation program.

Acres available for American Indian religious and cultural uses will have stabilized.

On the portion of the Forest where vegetative manipulation occurs, habitat for wildlife species that prefer or require old-growth forests will have stabilized at the level necessary to maintain viable populations. Populations on a Forest wide basis will remain above viable population levels, due to additional available habitat in areas where no habitat manipulation occurs. Forest-wide distribution requirements are met. Wildlife species that prefer younger successional stages will still be increasing.

The implementation of habitat improvements over the past 50 years will have resulted in maintaining a high level of habitat capability for elk and deer. Mountain goat habitat capability may have decreased slightly.

Wintering populations of bald eagles on National Forest lands will have increased slowly over the past five decades. Bald eagle and American peregrine falcon nesting habitat on National Forest lands necessary to meet recovery objectives will be available. As recovery population objectives have not been developed, information is not available to suggest population trends for grizzly bear or gray wolf.

The public is provided with a variety of opportunities to view and photograph wildlife and to become informed on wildlife species, their habitat needs, and ways to enjoy them unobtrusively.

Anadromous fish habitat will be of high quality and little changed from that existing at the end of the first decade. Resident fish habitat will be of similar quality.

Age class distribution on lands suitable for timber production will have progressed towards a more even distribution, with a decrease in the older age classes (111,800 acres remaining), and an increase in those age classes younger than 100 years (234,600 acres). Mortality would have decreased and growth increased substantially, as a result of the younger age classes on the suitable lands.

The quality of raw water flowing from municipal watersheds will continue to be of good quality. All water purveyors will either be providing secondary treatment or have switched to sources other than surface water supplies.

Levels of mineral activity will increase in all areas.

Each community will have capitalized on its uniqueness and involved its citizens in the development of a desired future. The activities associated with the Pacific Northwest Strategy will continue to support the goals and plans of resource-dependent communities.

C. FOREST MANAGEMENT OBJECTIVES

This section describes Forest management objectives that support Forest management goals and set the Forest on a schedule toward achievement of desired future conditions. Plan objectives, expressed as average annual resource outputs and activities, are projected for the five-decade RPA planning period in the multi-page Table 4-1. The projected outputs are estimates of goods and services that should result as the Plan direction is fully implemented. Projected outputs and activities in the first RPA decade are averages for the first 10 years of Plan implementation. These projected resource outputs and activities tie directly to the data presented for Alternative J (Preferred) in the Final Environmental Impact Statement. Data comes directly from FORPLAN run reports or was estimated using data extracted from the FORPLAN run files.

Table 4-1 Page 1 of 5
Forest Plan Resource Outputs and Activities

Output/Activity	Unit of Measure	Decade 1	Decade 2	Decade 3	Decade 4	Decade 5
Developed Recreation Capacity	MRVD's/Year	5,598	6,098	6,654	7,210	7,238
Non-wilderness Dispersed Rec. Capacity						
Roaded	MRVD's/Year	3,277	3,730	3,817	3,904	3,991
Unroaded	MRVD's/Year	208	182	160	149	149
Wilderness Capacity	MRVD's/Year	539	539	539	539	539
Trail Construction	Miles/Year	22	22	1	3	1
Trail Reconstr.	Miles/Year	49	2	5	5	5
Developed Site Construction	PAOT/Year	130	100	0	0	100
Developed Site Reconstruction	PAOT/Year	220	900	900	900	1,000
Recommended Wild & Scenic River	Total Miles 1/	452.1	....>			
Recreation R.	Miles	168.9	....>			
Scenic River	Miles	149.6	....>			
Wild River	Miles	133.6	....>			
Future Visual Condition						
Preservation	M Acres	772.0	733.5	730.9	729.6	729.6
Retention	M Acres	395.4	284.2	255.9	241.8	242.0
Partial Retent.	M Acres	204.2	335.5	353.9	363.0	363.0
Modification & Max. Modif.	M Acres	257.0	275.3	287.9	294.1	294.0

1/ Includes 176 miles outside National Forest Boundary.

Output/Activity	Unit of Measure	Decade 1	Decade 2	Decade 3	Decade 4	Decade 5
Roadless Areas 2/	M Acres	402.9				>
Roadless Areas 2/ Assigned to Roaded Mgmt. Prescript. but not developed in next 15 years.	M Acres	93.1				
Roadless Areas Assigned to Unroaded Mgmt. Prescriptions	M Acres	298.8				
Wildlife and Fish Use 3/	Total M WFUD'S/ Year	825	876	947	1,002	1,052
Hunting	M WFUD's/Year	418	443	463	474	474
Non-consumptive	M WFUD's/Year	25	26	27	28	28
Resident Fish	M WFUD's/Year	382	407	457	500	550
Anadromous Fish 4/	M WFUD's/Year	864	864	864	1,070	1,070
Mgt. Indicator Species 5/						
Bald Eagle	HC for Pairs 6/	4 (one active, 3 potential)				
Amer. Peregrine Falcon & Grizzly Bear	[Occasional sightings of these species have been recorded. Standards and guidelines address habitat management if confirmed to be present.]					
N. Spotted Owl	HC for Pairs 6/	114	104	95	87	83
Pine Marten	No. of Animals	4,440	4,070	3,710	3,420	3,260
Pileated Woodpecker	HC for Pairs 6/	890	810	740	680	650
Primary Cavity Excavators	% of Potential Population	40	40	40	40	40

2/ RARE II unroaded areas released by the Washington State Wilderness Act of 1984. The total 402,930 acres includes about 160,000 acres tentatively suitable for timber production.

3/ Figures used in calculating WFUD's are based on preliminary data. There is currently additional data that shows trends towards larger increases in non-consumptive fish and wildlife, and consumptive fish use with a smaller increase in consumptive wildlife use.

4/ WFUD's for anadromous fish occuring off-Forest not included in totals above.

5/ Other than bald eagle and primary cavity excavators, values are population estimates based on maximum habitat potential. Bald eagle numbers are derived from recovery plan breeding population objectives. Primary cavity excavators are % of potential population on lands suitable for timber production only; outputs will be 80% in riparian areas & 100% in wilderness.

6/ Habitat Capability for Pairs.

Output/Activity	Unit of Measure	Decade 1	Decade 2	Decade 3	Decade 4	Decade 5
Roosevelt Elk						
Winter Range	HC for Indiv 7/	770	690	660	680	710
Summer Range	HC for Indiv 7/	1,240	1,250	1,270	1,280	1,280
Black-Tailed Deer						
Winter Range	HC for Indiv 7/	15,160	13,310	12,510	12,840	13,580
Summer Range	HC for Indiv 7/	19,720	19,640	19,480	19,580	19,650
Mountain Goat	HC for Indiv 7/	1,450	1,440	1,430	1,420	1,420
Wildlife Habitat Improvement	Structures/ Year	1,520	1,520	1,520	1,520	1,520
	Acres/Year	885	885	885	885	885
Anadromous Fish Commercial Harvest	Total M Pounds/ Year	8,874	9,000	9,000	9,000	10,000
Habitat Improvement Over Present	M Pounds/Year	1,065	1,200	1,200	1,200	1,300
Range-Permitted Grazing	M AUM's/Year	1.....				>
Old Growth Remaining 8/	M Acres	625	599	580	561	535
Lands Suitable for Timber Production	Acres	346,411.....				>
Timber Harvest						
Clearcut	Acres/Year	2,865	2,980	3,278	3,409	3,409
Commercial Thin 9/	Acres/Year	200	200	200	200	200
Allowable Sale Quantity	MMCF/Year	22.4	25.7	27.9	29.7	29.7
	MMBF/Year	110	N/A	N/A	N/A	N/A
TSPQ	MMCF/Year	25.5	28.5	30.5	31.9	31.6
	MMBF/Year	122	N/A	N/A	N/A	N/A
LTSYC	MMCF/Year	30.4				>
Fuelwood	MMCF/Year	1.234	1.238	1.149	0.817	0.408
Reforestation 10/	Acres/Year	2,865	2,980	3,278	3,409	3,409
Planting	Acres/Year	2,239	2,541	2,395	2,700	2,705
Natural Stocking	Acres/Year	626	439	883	709	704
Timber Std. Improv	Acres/Year	996	2,911	1,801	2,137	2,124

7/ Habitat Capability for Individuals
8/ Decade 1 old growth remaining at the end of the decade.
9/ Commercial thinning planned outside of FORPLAN model.
10/ Includes all areas harvested by clearcut.

Output/Activity	Unit of Measure	Decade 1	Decade 2	Decade 3	Decade 4	Decade 5
Fuel Treatment 11/	Acres/Year	2,865	2,980	3,278	3,409	3,409
Water Yield	M Ac-Feet/Year	15,616 ..... >				
Sediment						
Background	M Tons/Year	53.8 ..... >				
Activity Over Background	M Tons/Year	34.7	34.3	32.8	32.5	32.4
Improved Watershed Condition	Acres/Year	35 ..... >				
Energy Minerals	Billion BTU's Produced/Year	0	86	Unest.	Unest.	477
Non-energy Minerals	Cases/Year	115	Unest.	Unest.	Unest.	Unest.
Special Uses	Permits/Year	590	600	600	600	600
Road Construction						
Arterials and Collectors	Miles/Year	.8	.7	0	0	0
Timber Purchaser	Miles/Year	12.6	11.1	10.0	8.1	7.9
Timber Purchaser Road Reconstruct.	Miles/Year	40.1	46.0	50.0	54.0	53.4
Roads Suitable for Public Use by Passenger Car	Miles	1,039	1,204	1,271	1,317	1,353
Roads Suitable for Public Use, High Clearance Vehicle	Miles	1,483	1,719	1,816	1,881	1,932
Road Maintenance	Miles/Year	3,034	3,152	3,252	3,332	3,411
Local Roads Closed to Public Use 12/	Miles	512	229	165	34	126
Land Line Location	Miles/Year 13/	18	18	18	18	18

11/ Include's all types of treatment inc. broadcast burning, piling and burning, loping and scattering etc.

12/ These are local or timber purchaser roads that are closed but will be opened for timber sales in the future.

13/ Miles of land line marked and posted to standard.

Output/Activity	Unit of Measure	Decade 1	Decade 2	Decade 3	Decade 4	Decade 5
Human Resource Prog.	Person-Yrs/Yr	29.....>				
Jobs	M Jobs/Year	28.8	38.6	46.3	52.6	59.0
Income	MM $/Year	522	Unest	Unest.	Unest.	Unest.
Payments to Counties	MM $/Year	4.9	6.3	6.7	8.1	9.6
Operational Costs	MM $/Year	13.3	15.3	14.1	14.6	14.7
Capital Investment Costs	MM $/Year	4.7	4.0	1.4	1.2	1.1
Total Budget	MM $/Year	18.0	19.3	15.6	15.8	15.9
Returns to Treasury	MM $/Year	16.8	23.9	25.7	31.4	37.7

Resource Summaries

The following resource summaries include a brief description of the resource program, how the resource and activities will be managed, and a description of outputs and activities to achieve management objectives. Detailed schedules of activities to achieve management objectives are in the appendices. These planned activities will be the foundation for developing the Forest's annual budget and program of work.

Recreation

The following section describes the dispersed and developed recreation programs and resource outputs planned and expected as a result of management under the Plan.

Dispersed Recreation

The assignment of land in the Plan will result in 16% of the total Forest acres (273,400 acres) being available for nonwilderness, unroaded dispersed recreation. These acres will provide the opportunity for 165,105 RVD's. The majority of these opportunities will be in the semi-primitive nonmotorized recreation opportunity spectrum (ROS) class.

An additional 93,100 acres will remain unroaded during the first decade, although assigned to management prescriptions that project future development. This will result in an additional 51,205 RVD's of unroaded recreation, available through Decade 1.

The primary management activities in the assigned unroaded recreation areas over the next decade will: provide alternatives to impacting wilderness, and help reduce conflict between different recreation user groups in other areas. Increased trail construction, greatly increased reconstruction, and maintenance will aid in accomplishing this goal. Approximately 200 miles of new nonwilderness trail will be constructed in the first decade. Twenty miles of wilderness trail will be constructed. Another 493 trail miles will be reconstructed during the first decade. For further details on the trail program, see Appendix E of this document.

Dispersed winter sports activities, such as cross-country skiing and snowmobiling, will continue to be encouraged. Where opportunities exists, both winter and summer dispersed recreation will be enhanced through timber sale activity by providing use sites, parking, trail access, and vegetative improvement. Additional Sno-Park facilities will be encouraged where the need is demonstrated.

The "Trail Management Plan" in Appendix E will attempt to reduce recreational conflicts between user groups. Whenever practical, these different uses (trail bikes, horses, hikers and mountain bikes) will be separated if conflicts cannot be avoided or minimized thru public information and education.

Roaded recreation will ultimately occur on 37% of the Forest (630,550 acres). These figures represent the rural, roaded natural and roaded modified ROS classes combined. This will provide the opportunity for 3,277,000 RVD's of recreational opportunities in a roaded environment in the first decade, rising to 3,991,000 RVD's by the fifth decade.

Commercial outfitters and guides will continue to be utilized as a method of meeting public demand, but new permits will be limited to a level that permits a balance between the individual non-guided user and those availing themselves of guide services.

Developed Recreation

Developed recreation will continue to be an important program on the Forest. By the end of Decade 1, demand for developed recreation will likely range form 2.8 to 3.5 million RVD's; this range is still below the existing practical developed capacity of the Forest. By the end of the fifth decade, the demand range is 6.7 to 8.2. New construction to meet this demand is described below.

The emphasis for the first decade will be placed on improving existing popular campgrounds. Also, those campgrounds that are non-fee and capable of a favorable cost/revenue ratio will be converted to fee status by the installation of facilities required to meet the criteria as fee sites. Selection of sites to be converted to fee status will be selective and is not expected to have a substantial displacement on the users of non-fee facilities.

A top priority will be rehabilitation of existing sites that currently need heavy maintenance. In Decade 1, an average of 10% of the existing units per year will be reconstructed, rebuilding most of the sites within the next 10 years. This equates to about 170 units, or four campgrounds per year on the Forest. After the first decade, it is expected the facilities would be in good enough condition that reconstructive maintenance could be reduced to 5% per year.

As early as the latter years of Decade 1, some new construction of developed campgrounds is anticipated, as more capacity may be needed. As many as 100 units (500 PACT's) may be added. This will most likely be expansion of existing campgrounds rather than new site development, but several new sites are proposed late in the first decade. Refer to Appendix D for the lists of specific sites for reconstruction or improvement.

An additional emphasis will be construction/reconstruction of developed recreation facilities for the day user. Picnic sites, vistas, interpretation and nature walks are the types of recreation experiences anticipated to be in the highest demand. Planned construction for Decade I includes the completion of the Heather Meadows Day Use project. To increase day-use capacity, 8 to 12 day-use sites averaging 20 units each will be added in the next few decades (see Appendix D). This will result in an 800-1200 PAOT increase in capacity.

All ski areas that have expansion capacity under approved Ski Area Master Plans are expected to add development facilities. Expansion should be commensurate with expected improvements in service, and permitted on the basis of actual public need. It is anticipated that some ski areas will have base-area expansion, particularly to enhance overnight and mid-week resort opportunities.

Public information and interpretative services will be expanded in the first decade of the Plan and thereafter to respond to public demand. Expansion will encompass staffing as well as facilities, displays, equipment, and published materials. Emphasis will continue towards sharing of information services with other agencies and partnerships with private outlets where possible. Emphasis will also be given to intensifying the Forest's public outreach programs to allow certain segments of the public to become more familiar with recreation opportunities on the National Forest.

Trails

The System Trail Inventory, in Appendix E, provides direction for the management of the Forest's approximately 1383 miles of system trails.

Generally, trails will be constructed or reconstructed as needed for resource protection and to complement the objectives of the management prescriptions. When possible, through-trails will be routed away from areas of concentrated use, such as lakes and popular focal-points, to avoid unnecessary visitor encounters and environmental impacts.

Each trail will have a "primary objective" for management. While there may be other users allowed on any given trail, the trail standards and maintenance activities will reflect the standards for that primary objective and difficulty level that the trail is to be managed for (see FSH 2309.18 for standards)

The Forest policy is to restore trail mileage disrupted by management activities or to replace them with equal miles in the same general location. The intent is to not diminish the trail miles in the local area. The cost of this will be charged to the management program causing the dislocation. Loop trails will be favored. Special emphasis will be given to the planning and construction of low-elevation, snow-free trails.

The reconstruction of existing trails will be emphasized over the construction of new trails, if budgetary constraints force prioritization.

The following sections briefly discuss specific types of trails. For further information on trails refer to the Trail Management Plan, Appendix E.

Pacific Crest National Scenic Trail. There are 96 miles of this trail located within the Mt. Baker-Snoqualmie, along the crest of the Cascade Mountains. The trail will be maintained to the standards established and meet the objectives of the "Pacific Crest National Scenic Trail (PCNST) Comprehensive Plan." Where the trail passes through wilderness, location, design, construction, and maintenance standards will be modified to the extent needed to meet the intent of the WRS class through which the trail passes.

National Recreation Trails. recognition for outstanding recreation trails are shown
The Forest has four trails given national recreational values. The designated national in Table 4-2.

Table 4-2
National Recreation Trails

Trail Name and Number	Ranger District	Miles
Shadow of the Sentinels #623	Mt. Baker	0.5
Ice Caves Trail #723	Darrington	1.2
Deception Falls Nature #1078	Skykomish	0.5
Skookum Flats Trail #1194	White River	7.6

The trails listed in Table 4-3 will be proposed for National Recreation Trail status by this Plan when they are brought to a maintenance standard appropriate for this designation.

Table 4-3
Proposed National Recreation Trails

Trail Name and Number	Ranger District	Miles
Artist Ridge Trail #669	Mt. Baker	0.7
Fire and Ice Trail #684	Mt. Baker	1.0
Picture Lake Trail #735	Mt. Baker	1.0
Table Mountain #681	Mt. Baker	2.7
Heliotrope Ridge #677	Mt. Baker	3.0
Sulphur Moraine #603.1	Mt. Baker	8.0
Sauk Mountain #613	Mt. Baker	2.0
Iron Goat Trail #1074	Skykomish	7.6
Lake Serene Trail #1068	Skykomish	3.0
Franklin Falls Trail #1036	North Bend	1.0
Granite Mountain Trail #1016	North Bend	2.0
Snoqualmie Pass Wagon Rd. #1021	North Bend	1.0
Annette Lake Trail #1019	North Bend	3.6

Wilderness Trails. There are currently 580 miles of system trails in wilderness; this represents 42 percent of the total trail mileage on the Forest.

Approximately 20 miles of new trail will be constructed within wilderness during the first decade of the Plan. This construction will be for the purpose of protecting wilderness from further resource damage. The trails to be constructed are listed in Appendix E of this Plan.

Reconstruction of existing trails within wilderness is a much higher priority than new construction. Approximately 130 miles will be rebuilt in the first decade of the Plan. Trails will be reconstructed to protect the wilderness resource and to meet the objectives of the WRS class through which it passes. The second highest priority for reconstruction will be those trails where use is causing resource damage. The highest priority will be those short trail segments posing hazards to users.

Third priority for reconstruction will be relocation of long trail sections where current use is causing resource damage to adjacent areas away from the trail itself (i.e., trails routed near fragile lake shores, or through the middle of alpine meadows). Fourth priority will be reconstruction of long segments as needed to change existing trail standards to meet the objectives of the Plan (i.e., upgrading a trail for use by horses).

As user demands on wilderness continue to increase and as cross-country travel becomes more popular, user-travel routes are expected to appear within the general trailless WRS class. Upgrading will take place only if it has been determined, based on LAC standards, that a travel route is causing unacceptable resource damage, and when user awareness and other reasonable measures have failed to prevent the unacceptable impacts of the travel route.

Nonwilderness Trails. There are 803 miles of nonwilderness trails on the Forest. Of these, 425 miles are closed to motorized use. The current emphasis on hiker-only and horse trails will remain in effect.

The Plan calls for the construction of 134 miles of new trail outside of wilderness to provide alternative recreation opportunities. These trails will generally be constructed in the semi-primitive nonmotorized and roaded natural ROS areas and will meet the management objectives of those classes. Trail system planning will become an integral part of all project planning to assure continuation of a top quality trail program.

Cross-country Ski Trails. Cross-country ski trails have been developed and maintained over the years by the Forest Service and volunteers. There are approximately 129 miles of these trails. Many additional miles of skiing opportunities exist on snow-covered Forest roads. Expansion of ski touring trails is anticipated in the first decade. Groomed trails (with a pre-set track) will also expand as demand grows and funds become available.

Snowmobile Routes. The miles of roads and trails available for snowmobile use will vary from year to year based on weather conditions, wildlife habitat management, and logging activities. Over 200 miles of Forest roads and trails will be available for this use. In addition, certain areas of the Forest, such as Easton Glacier, have been identified as unroaded snowmobile areas.

0ff-road Vehicle and 4x4 Routes. Four-wheel driveways are very low standard travel-ways to be used by short wheelbase vehicles. There are approximately 25.7 miles of this type of route available on the Forest. The most popular areas for this type of use are Naches Pass Wagon Road, Evans Creek ORV Area, and the Greenwater Drainage.

The Off-Road Vehicle Plan in Appendix H identifies specific road, trail, and area closures for ORV use. The ORV Plan will be updated periodically and will indicate which trails are open or closed to motorized use and any seasonal variations. Coordination with wildlife habitat management, such as seasonal closures, will be included.

Scenery

The Mt. Baker-Snoqualmie National Forest contains some of the nation's most scenic forest landscapes. Management under the Plan will help assure maintenance of this scenic resource. This subsection describes visual resource guidelines and plans, and the visual resource program.

Visual Resource Guidelines and Plans

The principles are contained in "National Forest Landscape Management, Volumes 1 and 2" and handbooks in the "Visual Management System" are to be used in managing the visual resource.

Application of visual management principles in wilderness administration is necessary for the continued maintenance of high quality scenery. Construction, rehabilitation, or reconstruction of trails or campsites require application of the "visual absorption capacity" concept to protect and maintain scenic values.

The Mather Memorial Parkway and Stevens Pass viewshed plans are available to provide further direction for management of the visual resource in those areas. Additional viewshed plans will be completed during the next decade for such areas as the Mt. Baker Highway, Baker Lake Highway, Mountain Loop Highway, and others.

Visual Resource Program

Scenic quality will be maintained and gradually improved within seven scenic viewsheds: Mather Memorial Parkway, Mountain Loop Highway, Stevens Pass Highway, North Cascades Highway, Mt. Baker Highway, Baker Lake Highway, and Snoqualmie Pass Highway. Lands within these scenic corridors will be managed at a high visual quality level in both the foreground and middleground. A total of 25,300 acres are to be managed at the retention level, and an additional 83,600 acres will be managed under the partial retention classification. On the 42,400 acres where inventoried deer and elk winter range overlaps with these scenic viewsheds, the objectives for both scenic and winter range will be met. Refer to Figures 4-la and 4-lb for the location of these scenic corridors.

Within wilderness, 721,718 acres will be managed at the preservation VQO, while 726,000 acres outside of wilderness will be managed for a VQO of partial retention or higher. Of the 444,840 acres suitable for timber management, approximately 120,000 acres will have retention or partial retention VQO's to protect visual quality.

Outside of specified viewsheds, wilderness, and unroaded areas, scenic quality will moderately decline. Moderately to heavily altered landscapes will exist in many of the Forest's viewsheds, among them: Cascade River, Illabot Creek, Rapid River, Crystal Mountain, and Corral Pass. Table 4-4 shows the complete summary of visual management by viewshed. A total of 275,035 acres of the Forest will be managed under modification or maximum modification VQO. These lands will appear as altered or heavily altered when viewed from Forest roads. Even though alteration of the natural appearance of these lands is allowed, visual management principles will be applied, to blend alterations with natural 1 andforms.

With the proper application of the visual management direction contained in the management prescriptions and standards and guidelines (this chapter), and visual management handbooks, the predicted visual appearance of the inventoried viewsheds is as indicated in Table 4-4.

Table 4-4
Visual Resource Summary (Viewsheds)

Viewshed Name	Acres	EVC 2/	VMS 3/	Expected Visual Condition 1/ Year 10	Year 50
North Fork Nooksack River	10,707	S	S	S	S
Ruth Creek	1,035	S	S	M(-)4/	M(-)
Galena Creek	1,858	M	S	S(+)	S(+)
Canyon Creek	4,076	H	M	H	H
Swamp Creek	1,521	M	M	M	S(+)
Wells Creek	3,527	H	M	H	N(+)
Deadhorse/Cascade Creeks	1,288	H	M	N(+)	N(+)
Glacier Creek	2,935	S	N	M(-)	H(--)
Sulphur Creek	4,414	H	S	H	M(+)
Baker Lake	19,851	S	S	S	S
Anderson Creek	1,837	H	S	M(+)	N(+)
Middle Fork Nooksack River	1,330	H	N	M(+)	M(+)
Loomis Mountain	5,026	H	M	H	H
Shannon Creek	1,858	M	M	N	M
Sauk Mountain	465	H	S	H	H
Skagit River	802	M	S	S(+)	S(+)
Bacon Creek	2,386	H	M	H	N(+)
Cascade River	4,878	S	S	M(-)	M(-)
North Fork Cascade River	253	N	S	N	N
Sibley Creek	676	M	M	S(+)	S (+)
Vee Creek	718	M	M	H(-)	H(-)
Illabot Creek	4,794	H	M	H	H
Hilt Creek	443	H	N	M(+)	M(+)
North Fork Stillaguamish River	1,943	M	S	M(-)	H(-)
Sauk River	12,967	5	S	S	S
Whitechuck River	3,780	N	S	H(-)	H(-)
Suiattle River	8,025	M	S	M	N
French Creek	443	N	M	N(--)	M(--)
Green Mountain Pasture	1,056	H	M	M(+)	M(+)
South Fork Stillaguamish River	9,672	N	S	S(+)	S (+)
Green Mountain	10,749	H	M	H	H
Bear Lake	1,457	H	N	M(+)	M(+)
Deer Creek	1,035	M	N	S(+)	S(+)
Beaver Creek	1,183	H	M	N(+)	S(++)

Viewshed Name	Acres	EVC 2/	VMS 3	Expected Visual Condition 1/ Year 10	Year 50
North Fork Sauk River	2,386	S	N	S	S(+)
North Fork Skykomish River	6,167	M	S	N(+)	M(+)
Skykomish River (Highway 2)	25,616	N	S	N	M
Barclay Creek	739	H	N	M(+)	M(+)
Upper North Fork Skykomish River	2,893	M	S	S(+)	N(+)
Rapid River	2,851	H	N	H	H
Beckler River	7,117	H	N	H	H
Money Creek	2,661	M	S	S(+)	S(+)
East Fork Miller River	2,788	M	S	S(+)	S(+)
Foss River	2,344	S	M	N(-)	M(-)
Lennox Creek	2,745	N	M	N	M
Maloney/Evans Creek	781	H	M	H	M(+)
Tonga Ridge	1,837	H	N	H	M(+)
Taylor River	2,893	N	S	S(-)	S(-)
Middle Fork Snoqualmie River	8,701	M	S	S(+)	S(+)
South Fork Snoqualmie River	8,468	H	S	H	N(+)
White River	5,660	M	S	S(+)	S(+)
Crystal Mountain	3,104	N	S	H(-)	H(-)
Greenwater River	2,576	M	M	H(-)	H(-)
Suntop	1,077	H	M	M(+)	N(+)
Cayada Creek	1,732	M	N	H(-)	H(-)
Corral Pass	887	N	N	H(-)	IN-)

1/ Visual Condition Codes:

N = Naturally Appearing. Area appears untouched by humans; changes are not visually evident; corresponds to VQO of preservation or retention.

S = Slightly Altered. Changes may be noticed by the average visitor but do not attract attention; natural appearance dominates. Corresponds to VQO's of retention and partial retention.

N = Moderately Altered. Changes easily noticed by average visitor and may attract attention; disturbances are apparent. Corresponds to VQO's of partial retention and modification.

H = Heavily Altered. Changes strong, obvious to average visitor; changes dominate landscape but may resemble natural patterns when viewed from 3-5 miles; disturbances are major. Corresponds to VQO's of modification and maximum modification.

2/ EVC = Existing Visual Condition. Many of the acres currently in a heavily altered condition will remain that way for several decades. A viewshed's EVC rating or future visual condition (FVC) is an average for the seen area.

3/ VMS — Visual Management System. The expected visual condition if attempts to achieve the inventoried VQ0's were implemented.

4/ The (+) and *(-)* indicate positive or negative change in visual quality compared to the existing visual condition (EVC).

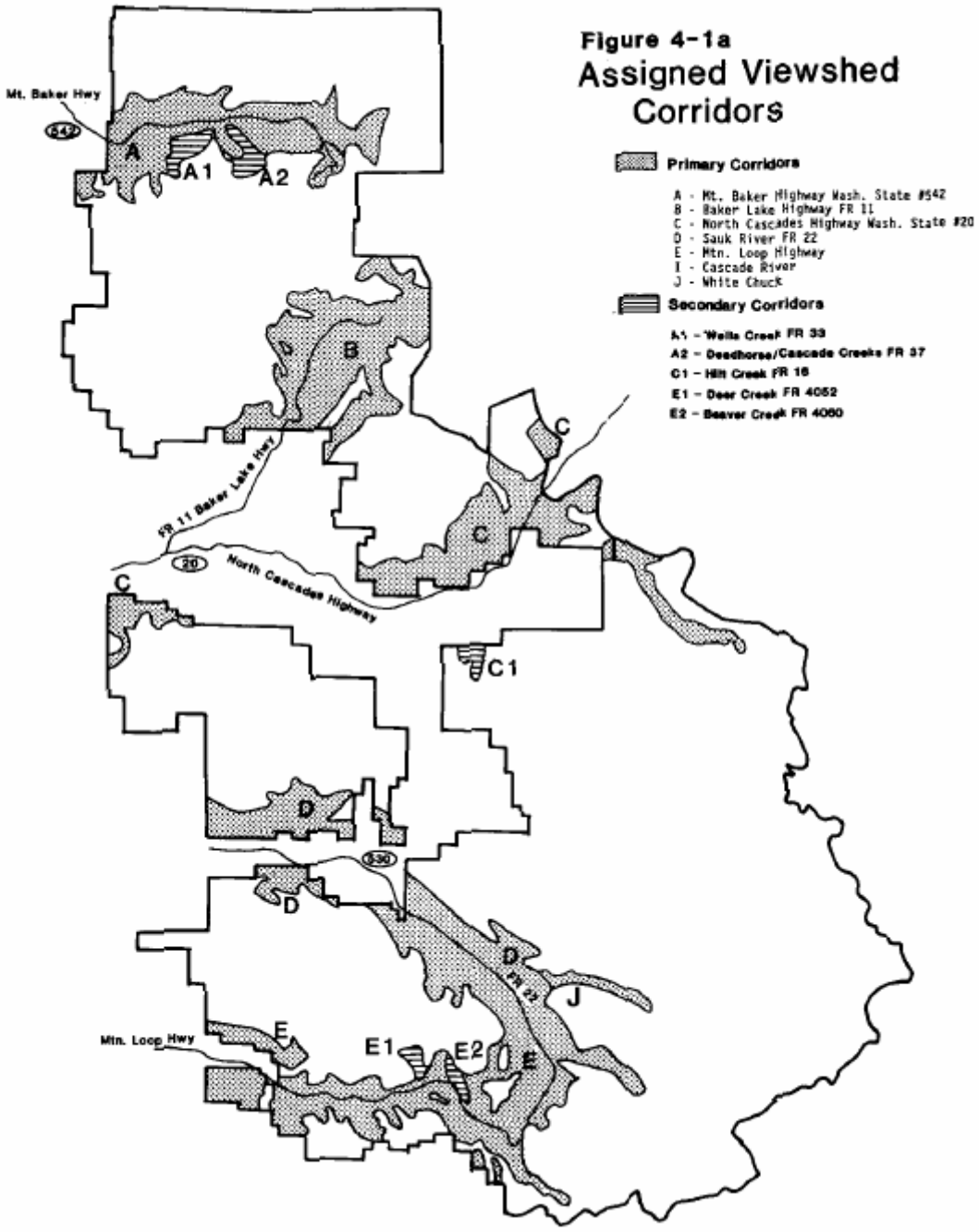
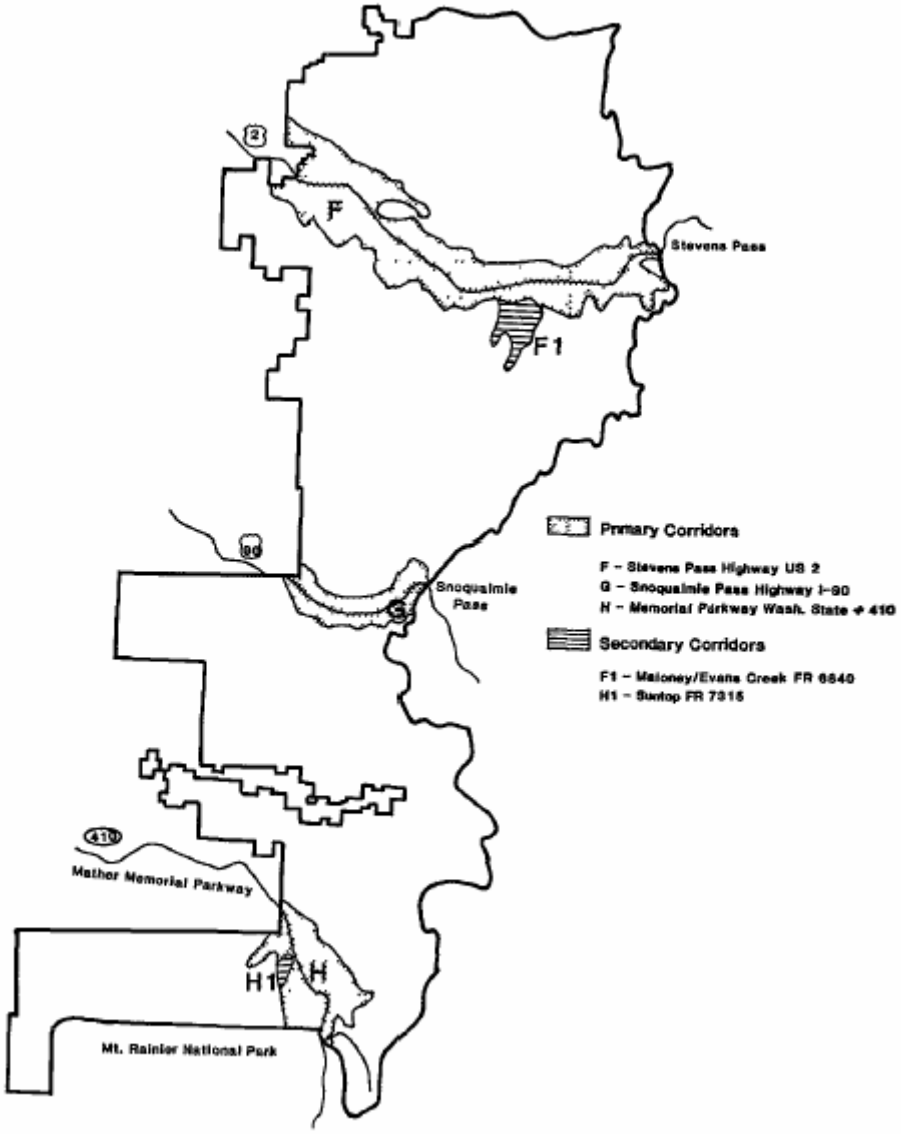

Mt. Baker Hwy
542
A
A1
A2
B
C
C
C
C1
D
D
D
D
20
North Cascades Highway
SR 11 Baker Lake Hwy
530
Mtn. Loop Hwy
E
E1
E2
E
J
Figure 4-1a
Assigned Viewshed Corridors
Primary Corridors
A - Mt. Baker Highway Wash. State #542
B - Baker Lake Highway FR 11
C - North Cascades Highway Wash. State #20
D - Sauk River FR 22
E - Mtn. Loop Highway
I - Cascade River
J - White Chuck
Secondary Corridors
A1 - Wells Creek FR 33
A2 - Deadhorse/Cascade Creeks FR 37
C1 - Hilt Creek FR 16
E1 - Deer Creek FR 4052
E2 - Beaver Creek FR 4060

Figure 4-1b

Assigned Viewshed Corridors



National Recreation Area

Management of the Mt. Baker National Recreation Area will focus on providing snowmobile and cross-country skiing opportunities during the winter, and non-motorized recreational uses during the summer season.

During the winter, snowmobile access will be provided on road #13 to Schrieber's Meadow, into upper Rocky and upper Sulphur Creeks, the upper Railroad Grade, Metcalfe Moraine, and lower Easton Glacier. A new road being developed by a Federal Regulatory Commission (FERC) applicant will also access this area. The Forest will work with the Washington State Sno-Park Program and various user groups to manage the winter use in this area. Snowmobile and cross-country ski traffic will be separated where possible, by such methods as providing an alternate access route to Schrieber's Meadow and surrounding alpine- areas.

Summer use will focus on hiker and horse use. Construction of the Easton Crossing trail segment will complete a loop trail system for overnight use. Horse use will be permitted on the western edge of the area.

Wild and Scenic Rivers

During implementation of the Plan, steps will be taken to recommend for formal designation the river segments shown below, to the recommended classifications. This recommendation is a preliminary administrative recommendation that will receive further review and possible modification by the Chief of the Forest Service, Secretary of Agriculture, and the President of the United States. The Congress has reserved the authority to make final decisions on designation of rivers as part of the National Wild and Scenic Rivers System. Until Congressional action, the values contributing to a rivers particular classification will be protected.

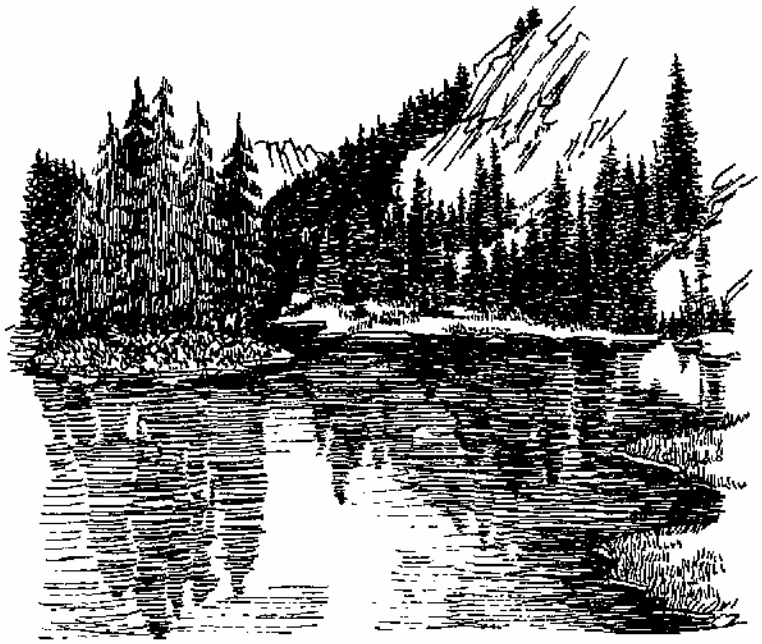


Table 4-5 Page 1 of 3

Recommended Wild and Scenic Rivers

River	Segment	Recommended Classification	Miles
North Fork Nooksack	* Headwaters in the North Cascades National Park to the Mt. Baker Wilderness boundary.	Wild	3.5
	* Mt. Baker Wilderness Boundary to Nooksack Falls diversion dam.	Scenic	9.9
	* Nooksack Falls diversion dam to Nooksack Falls power plant.	Recreation	1.6
	* Nooksack Falls power plant to the fish hatchery near Kendall.	Scenic	18.8
	* Fish hatchery to the confluence with the South Fork Nooksack.	Recreation	9.5
South Fork Nooksack	* Headwaters of the South Fork Nooksack to Bell Creek.	Wild	2.3
	* Bell Creek to the Mt. Baker-Snoqualmie National Forest boundary.	Scenic	4.3
Bell Creek	* Bell Creek headwaters on Loomis Mtn to confluence with South Fork Nooksack.	Scenic	3.0
Baker River	* Headwaters in North Cascades National Park near Perfect Pass to Blum Creek.	Wild	11.2
	* Blum Creek to Baker Lake.	Scenic	2.1
Noisy Creek	* Headwaters on Bacon Creek to Baker Lake.	Wild	6.1
Diobsud Creek	* Headwaters on Mt. Watson to the south section line of Section 24.	Wild	8.3
	* South section line of Section 24 to the confluence with the Skagit River.	Recreation	2.2
Illabot Creek	* Headwaters to Glacier Peak Wilderness boundary.	Wild	4.3
	* Glacier Peak Wilderness boundary to confluence with Skagit River.	Recreation	11.0
Buck Creek	* Headwaters to Glacier Peak Wilderness boundary.	Wild	10.1
	* Glacier Peak Wilderness boundary to the confluence with the Suiattle River.	Scenic	1.0

Downey Creek	* Headwaters on Lizard Mtn. to Glacier Peak Wilderness boundary.	Wild	10.0
	* Glacier Peak Wilderness boundary to the confluence with the Suiattle River.	Scenic	.8
White Chuck River	* Headwaters to Glacier Peak Wilderness boundary.	Wild	10.5
	* Glacier Peak Wilderness boundary to confluence with Sauk River.	Recreation	12.0
North Fork Sauk River	* Headwaters to the boundary of the designated Skagit Wild and Scenic River.	Wild	9.2
Boulder River	* Headwaters to Boulder River Wilderness boundary.	Wild	9.0
	* Boulder River Wilderness boundary to confluence with NF Stillaguamish River.	Recreation	4.0
South Fork Stillaguamish	* Headwaters between Morning Star and Lewis Peaks to Canyon Creek.	Scenic	36.6
	* Canyon Creek to the confluence with North Fork Stillaguamish River.	Recreation	15.9
North Fork Skykomish	* Headwaters to the end of FS Road #63.	Wild	8.2
	* Road end to Troublesome Creek.	Scenic	8.4
	* Troublesome Creek to confluence with South Fork Skykomish River.	Recreation	12.0
Troublesome Creek	* Headwaters at Blanca Lake to FS Rd #63.	Wild	4.4
	* FS Road #63 to the confluence with the North Fork Skykomish River.	Scenic	0.1
West Cady Creek	* Headwaters to bridge in Sec. 21.	Wild	4.8
	* Bridge to confluence with North Fork Skykomish River.	Recreation	2.7
South Fork Skykomish	* Confluence with Tye and Foss Rivers to the confluence with the Snohomish.	Recreation	28.3
Tye River	* Headwaters of the Tye River to the confluence with the South Fork Skykomish and Foss River.	Recreation	14.5
Miller River (to fork)	* Miller River from the confluence of the East and West Forks of the Miller River to the confluence with the South Fork Skykomish River.	Scenic	3.7
West Fork Miller River	* Headwaters to the Alpine Lakes Wilderness boundary.	Wild	2.1
	* Alpine Lakes Wilderness boundary to the confluence with the East Fork Miller River.	Scenic	4.2

East Fork Miller River	* Lake Dorothy to the Alpine Lakes Wilderness boundary.	Wild	0.8
	* Alpine Lakes Wilderness boundary to the confluence with the West Fork Miller River.	Scenic	6.0
Foss River (to fork)	* Confluence of East and West forks of Foss River to confluence with Tye River.	Recreation	4.4
West Fork Foss River	* Headwaters at Delta Lake to the Alpine Lakes Wilderness boundary.	Wild	3.1
	* Alpine Lakes Wilderness boundary to the confluence with the East Fork Foss River.	Recreation	1.5
East Fork Foss River	* Headwaters at Lynch Glacier to the Alpine Lakes Wilderness boundary.	Wild	6.7
	* Alpine Lakes Wilderness boundary to the confluence with the West Fork Foss River.	Recreation	1.2
Deception Creek	* Headwaters at Trico Lake to the Alpine Lakes Wilderness boundary.	Wild	9.8
	* Alpine Lakes Wilderness boundary to the confluence with the Tye River.	Recreation	0.5
NF Snoqualmie River	* Wagner Bridge to confluence with Middle Fork Snoqualmie River.	Scenic	12.1
MF Snoqualmie River	* Headwaters near La Bohn Gap to the Alpine Lakes Wilderness boundary.	Wild	6.4
	* Alpine Lakes Wilderness boundary to the confluence with the Taylor River.	Scenic	13.2
	* Taylor River confluence to near the community of Tanner.	Recreation	15.9
	* Tanner to the confluence with the North Fork Snoqualmie River.	Recreation	4.2
Taylor River	* Snoqualmie Lake to the Alpine Lakes Wilderness boundary.	Wild	1.2
	* Alpine Lakes Wilderness boundary to Quartz Creek Road.	Scenic	5.4
	* Quartz Creek Road to the confluence with Middle Fork Snoqualmie River.	Recreation	1.6
Pratt River	* Headwaters at Melakwa Lake to the Alpine Lakes Wilderness boundary.	Wild	1.6
	* Alpine Lakes Wilderness boundary to confluence with MF Snoqualmie River.	Recreation	7.9
White River	* Headwaters at Emmons Glacier to Huckleberry Creek.	Scenic	20.0
	* Huckleberry Creek to the confluence with the Clearwater River.	Recreation	17.7

It is also the responsibility of the Forest to protect the "outstandingly remarkable" values on those rivers which where eligible for designation but not selected as suitable in the preferred alternative. Refer to Appendix E of the FEIS for further details.

Sensitivity Levels of Wild and Scenic River Corridors:

Table 4-6, shows the sensitivity levels for the wild and scenic river corridors. This table is use,d in conjunction with the guidelines contained under Forest Wide Standards and Guidelines for Visual Resources, and guides visual resource management in designated wild and scenic river corridors

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Table 4-6
SENSITIVITY LEVEL - WILD AND SCENIC RIVERS

River Name	Sensitivity Level	Suitable for Designation
Silesia Creek	2/3	No
North Fork Nooksack	1	Yes
Wells Creek	2/3	No
Middle Fork Nooksack	2/3	No
South Fork Nooksack	2/3	Yes
Bell Creek	2/3	Yes
Baker River	1	Yes
Noisy Creek	2/3	Yes
Diobsud Creek	1	Yes
Illabot Creek	2/3	Yes
Buck Creek	2/3	Yes
Downey Creek	2/3	Yes
White Chuck River	I	Yes
North Fork Sauk River Extension	2/3	Yes
South Fork Sauk River	1	No
North Fork Stillaguamish	2/3	No
North Branch	2/3	No
Deer Creek	2/3	No
Boulder River	2/3	Yes
South Fork Stillaguamish	1	Yes
Canyon Creek (to fork)	2/3	No
South Fork Canyon Creek	2/3	No
South Fork Skykomish	1	Yes
North Fork Skykomish	I	Yes
Troublesome Creek	2/3	Yes
West Cady Creek	2/3	Yes
Tye River	1	Yes
Miller River (to fork)	I	Yes
West Fork Miller River	1	Yes
East Fork Miller River	I	Yes
Foss River (to fork)	1	Yes
West Fork Foss River	1	Yes
East Fork Foss River	1	Yes
Beckler River	2/3	No

Table 4-6
SENSITIVITY LEVEL - WILD AND SCENIC RIVERS

River Name	Sensitivity Level	Suitable for Designation
Rapid River	2/3	No
Deception Creek	2/3	Yes
South Fork Tolt River	2/3	No
North Fork Snoqualmie River	1	Yes
Lennox Creek	2/3	No
Middle Fork Snoqualmie	1	Yes
Taylor River	I	Yes
Pratt River	I	Yes
South Fork Snoqualmie River	1	No
Carbon River	2/3	No
White River	1	Yes
Clearwater River	2/3	No
Greenwater River	2/3	No

American Indian Religious and Cultural Uses

The 1981 “Inventory of Native American Religious Use, Practices, Localities and Resources” (Blukis Onat and Hollenbeck 1981) resulted in the identification of over 300 sites and approximately 450,000 acres of significance to 15 different Indian tribes. Five categories of use areas and sites were mapped and described in the Inventory: (1) spirit quest sites; (2) legend sites; (3) cedar areas; (4) ceremonial flora areas; and (5) archaeological sites and cemeteries.

Archaeological sites and cemeteries are addressed in the following resource summary, “Archaeological and Historic Properties.” All cemeteries will be protected from development impacts.

As a minimum, the Forest will consult with affected Tribes when proposed ground-disturbing projects fall within inventoried use areas or sites, as noted in the Forest-wide Standards and Guidelines. Appropriate mitigation measures will be developed by the Forest Service and Tribal religious leaders.

While over 450,000 acres were identified as sites and areas important for religious and cultural practices, the Inventory stressed that religious and cultural significance was not limited to the identified areas. Additional areas, yet to be specifically identified, contain the potential environmental conditions suitable for religious practices and use. Suitable environmental conditions include unmodified streams, old-growth forest, cedar, ceremonial plants, the qualities of isolation, privacy, and purity of the environment. Scheduled studies will refine the data in the 1981 Inventory.

Archaeological and Historic Properties

The emphasis of the cultural resource program will be 1) continued support of Forest development activities in compliance with historic preservation law; 2) improvement of the data base for management of the resources; and 3) increasing the protection and interpretation of archaeological and historical sites.

Together with areas used by American Indians for religious purposes, these sites are called "cultural resources". A "Cultural Resources Overview" has recently been completed for the Forest. It summarizes knowledge of the prehistoric, ethnographic, and historic resources and is the basis for planning *future* management actions. These fall into two categories: inventory/evaluation and protection/interpretation.

The prehistory of the forested uplands of western Washington is little known; much is merely an extrapolation from adjacent geographic areas. Within the Forest, only 20 sites have been adequately recorded, although at least 80 more have been reported. A major obstacle to the discovery of prehistoric sites on the Forest is the heavy vegetative cover, the low visibility of the ground surface, and the ephemeral nature of many of the prehistoric remains. New approaches must be developed to effectively and reliably inventory the Forest for prehistoric sites.

The ethnographic use of the Forest provides some clues as to expected land and resource use patterns, site locations, and interpretations of sites. It also provides some background on the history of the local Indian groups, many of whom still use the Forest for religious and cultural purposes.

Through records searches, historic sites can be more easily predicted and located. About 250 have been formally recorded, and another 750 have been reported on the Forest. The historic overview sets forth major themes of Forest history including: transportation development, mining, logging, Forest Service administration, recreation, and water development. This historic context provides for the identification of many areas which could be targeted for inventory based on a thematic or district approach.

The historic district approach has been used for the Stevens Pass Historic District and may be appropriate for 14 distinct mining areas, 6 transportation areas, and 8 logging areas. Specific examples include the Snoqualmie Pass Wagon Road, the Northern Pacific Railroad corridor, the Mt. Baker, Silverton, or Index Mining Districts, and logging in the Stillaguamish and Sauk River drainages. Thematic studies already exist for Depression-era administrative buildings and fire lookouts, and may be appropriate for timber claim cabins, native allotments, and water developments.

<u>Inventory and Evaluation</u>

Cultural resource inventories will continue to be undertaken in compliance with historic preservation law and regulations; that is, to allow assessment of the effects of other activities (e.g. timber harvest) on cultural resources. In addition, it will be necessary to undertake inventories not tied to these activities. In both cases, it will be necessary to develop techniques to reliably identify prehistoric sites. This may require more intensive monitoring during road construction and timber harvest. It may also require more systemized use of subsurface probing to test for prehistoric site areas.

The Forest is currently developing an inventory plan which will outline recommendations for survey of prehistoric sites. All sites located during project-related survey will be documented to Regional standards.

Approximately 12,000 acres of the Forest will be inventoried each year, in the course of compliance inventories. In addition, about 15,000 acres of inventory will be necessary on the areas of the Forest not affected by other activities during the life of this Plan. Such inventory is needed to adequately understand the nature and distribution of the resource and eventually obtain a complete cultural resource inventory of the Forest.

There is a backlog of 750 known sites which have not yet been adequately recorded. These sites will be recorded and evaluated using a thematic or district approach. Highest priority will be assigned to those areas targeted for timber harvest and road construction over the next 10 years. However, other forces which cause deterioration to cultural resources, such as natural weathering or vandalism, cannot be ignored. For instance, in some of the heavily used wilderness areas such as Alpine Lakes and Mt. Baker, specific mining districts will be targeted for inventory. The goal will be to record and evaluate 70 sites or 2 districts or thematic groups per year.

There will be an evaluation of significance (determination of eligibility) of all cultural resources before the implementation of any activity may affect them. The evaluation of significance is the basis on which sites are selected for further investigation, preservation and protection, or interpretation. Evaluations are also critical in making decisions to permit alteration or destruction of the cultural resource. Sites will be treated as individual properties, thematic groups, or historic districts. The program emphasis will be away from evaluation of single sites and toward evaluation within a broader historic context and geographic area.

Of the 25 known prehistoric archeological sites most, if not all, are likely to be eligible to the National Register. Those located in project areas or experiencing deterioration will require test excavations as part of formal evaluations. In some cases, full-scale data recovery in the form of extensive excavations may be necessary. The need for this level of cultural resource work is expected to be greatest on the White River Ranger District.

There are 15 historic sites and buildings on the Forest which have already been determined eligible to the National Register. At this time, management plans have not been developed for many of these resources. Such management plans should identify maintenance needs and provide for appropriate use and interpretation. Top priorities for management plans include the Stevens Pass Historic District, Naches Pass Trail, and fire lookouts. The Stevens Pass Historic District and the Naches Pass Trail are shared with the Wenatchee National Forest and these plans are expected to be joint efforts.

Protection and Interpretation

As in the past, action will be taken to avoid or mitigate any adverse effects on cultural resources resulting from other Forest activities. All actions affecting cultural resources will be implemented only after consultation with the State Historic Preservation Officer and Advisory Council on Historic Preservation and other interested parties such as American Indian tribes. As determined in the consultation process, projects may be re-designed to avoid sites, important data may be recovered, or the sites recorded to the standards of the Historic American Buildings Survey.

As a result of performing inventories not tied to specific projects, implementation of the Plan will result in an assessment of the effects of such impacts as erosion, structural decay, and vandalism on cultural resources. Measures such as stabilization or patrol will be instituted to protect the resources from these impacts.

Implementation of this Plan will result in an increase in interpretation of cultural resources. Interpretation makes their scientific, historical, aesthetic, and social values more accessible to the public. Interpretive opportunities will be identified during the process of evaluating the significance of cultural resources. Several resources, including the Stevens Pass Historic District, administrative sites and lookouts are already known to have high interpretive potential. Interpretive facilities, publications, and videos will be developed for the resources judged to have the highest level of interpretive potential.

Wilderness

The 721,718 acres of wilderness on the Mt. Baker-Snoqualmie National Forest will be managed to preserve the areas' wilderness character for the use and enjoyment of visitors, and administered in a manner consistent with the Wilderness Act of 1964.

The physical, social, and managerial settings within wilderness will be managed to meet standards set under Limits of Acceptable Change (LAC's) in the wilderness recreation spectrum (WRS). Five zones are established under the WRS, listed in the table below. Using this system, an average capacity for wilderness visitor use has been estimated. Refer to Chapter II, Chapter III, and Appendix B of the FEIS for more discussion on capacity. The acres and capacity of each zone are shown in Table 4-7.

Table 4-7
Wilderness Recreation Spectrum

Zone	Acres	RVD's
Transition	15,078	226,170
Trailed	49,015	183,806
General Trailless	457,000	114,250
Dedicated Trailless	207,930	14,945
Special Area	9,017	Not Estimated
Total	721,716	539,171

During Plan implementation, wilderness managers must seek to gain a better understanding of factors affecting the wilderness resource and the users' experience. This requires that the capacity of specific sites within the WRS classes to absorb use, be monitored to adjust capacities to meet the objectives of the Plan, and to use indirect management tools (user education) and direct management tools (mandatory permits or road closures outside wilderness) to regulate use.

Specific wilderness management direction is contained in the Forest-wide Standards and Guidelines, and NA prescriptions. The overall wilderness management goal will be to reduce or eliminate the adverse effects associated with human use, when use approaches or exceeds the established LAC. Specific management actions will be undertaken at overused sites where LAC's are now exceeded, or where the level of use or impacts is approaching levels specified for that WRS class. The Wilderness Rehabilitation Schedule is in Appendix F.

Several areas within wilderness presenting unique management problems, such as the existence of structures, RNA's, and a popular climbing route, are assigned to the special area WRS class. The intent of this class is to allow changes in management guidelines for unique situations; areas do not qualify for this class for administrative convenience in dealing with overuse. The historic lookouts at Winchester Mountain, Park Butte, Miners Ridge, Three Fingers, Green Mountain and Granite Mountain will be allowed to remain as non-conforming uses. The Coleman Glacier Climbing Route on Mt. Baker and will have special LAC's in recognition of the unique opportunities present. An interdisciplinary team will examine the recreational use of Mt. Baker and recommend further refinements in these guidelines. The USGS Glacial Research Station in the Glacier Peak Wilderness and authorized electronic sites in wilderness will continue to operate under special use permit.

Approximately 20 miles of new trail will be built within wilderness in the first decade of the Plan. This construction will be to protect the wilderness resource where overuse is occurring. In total 73 miles of new trails are proposed within the wilderness. In addition, necessary trail access will be reconstructed. Refer to the Trail resource summary in this chapter and to the Trail Management Plan in Appendix E.

There are several large areas without trail access where cross-country trips, as long as a week, are possible. They provide for a pristine wilderness experience but generally occur in extremely fragile alpine areas that are vulnerable to overuse. The intent is to manage these dedicated trailless areas to prevent overuse. Already, hiker-created trails are appearing, favorite campspots are being denuded and the opportunities for solitude are diminishing. If not managed, these cross-country routes will lead to the establishment of new trails, greatly reducing the trailless opportunity. This will be the most difficult of the wilderness classes to manage, for the manager must attempt to allow continued use in these areas without any resulting physical impacts.

Standards and Guidelines permit using some naturally occurring fires (i.e. lightning caused) to accomplish wilderness vegetation management objectives such as maintaining vegetation diversity and allowing natural processes to prevail. The parameters under which these fires will be permitted to burn will be closely monitored and suppression actions will be taken immediately on those fires that exceed prescriptions. Under these guidelines it is expected that most fires will be less than 10 acres in size through it is possible that once every 20 years or so an individual fire may approach 1000 acres in size. It is expected that approximately 75 acres per year will be burned where naturally occurring fires are used to accomplish wilderness vegetation management objectives. No areas have been identified where planned, human induced, prescribed burning is needed to modify fuel accumulations to meet wilderness fire protection needs.

The LAC's will act as monitoring guidelines for the physical and social settings within the wilderness. Periodic monitoring of these indicators will assist in preservation of the pristine attributes of wilderness.

Watershed

The watershed program on the Mt. Baker-Snoqualmie National Forest provides the means to obtain protection, maintenance, and rehabilitation of soil and water resources. It provides leadership in defining the allowable level of manipulation of the watershed environment. The watershed program provides support to other functional areas. It initiates and is responsive to changes in Forest needs, goals, and direction, and public issues. This program will be carried out through various activities that have been determined to have a high priority for accomplishment. These activities are described below.

Close involvement to provide support and advice to ground-disturbing resource management will be done to help protect the soil and water resources. The primary involvement will be with the timber program. Timing of support will be tied to the development of individual timber sales. The program will involve initial consultation on inventory and needs of the soil and water resources, through evaluation of management practices as the timber sale is completed. The level of involvement will vary depending upon the complexity of the project, with the greatest involvement occurring with complex sales that have potential for resource damage.

Consultation and involvement will also occur with management activities other than timber sales when ground-disturbing activities are proposed. These would include, but are not limited to: fisheries, fuels, recreation development, engineering, and seed orchard and fertilizer trials. Schedules for many of these resource projects are found in the appendices.

The application of Forest-wide Standards and Guidelines, Best Management Practices (site-specific), and meeting management requirements for water quality and riparian areas will ensure at least minimal protection over the entire Forest, with increased protection in some areas and within several Management Areas, such as (MA 5) Potential Wild and Scenic River, (NA 6) Skagit Wild and Scenic River, and (NA 13) Watershed, Wildlife, and Fisheries Emphasis in Riparian Areas.

Emphasis *will* be placed on the protection of riparian areas so that their integrity is maintained. This involves working with other resource personnel in the design and application of riparian area protection techniques. Training will be provided to resource personnel in riparian area design.

Inventories for watershed rehabilitation needs will be conducted first in the sensitive watersheds. Identified projects will be funded by available sources including P&M and Ky. It is expected that about 35 acres per year will be rehabilitated.

Monitoring of the effects of the Plan will be done to determine if changes are occurring to the soil and water resources. Details of the "Monitoring and Evaluation Plan" can be found in Chapter 5. The objectives of soil and water monitoring are to determine if standards and guidelines have been met, and to assess their adequacy and make changes if necessary. Monitoring will be done at several levels of intensity; the most common method will be end-product reviews, which are highly cost and time effective. More intensive monitoring will be done as needs arise. A feedback loop will be utilized to help improve the design and implementation of future projects.

Coordination regarding management concerns will continue with the involved municipalities of the municipal watersheds on the Forest. Coordination will also continue with the public basin groups, especially for the large sensitive watersheds, where there is a high potential for resource impact and serious political implications.

Air

Application of standards and guidelines, and management prescriptions (this chapter) associated with the programs and activities included in the Plan will assure that the effects on long-term air quality are positive and supportive of State and national goals to improve air quality of the Region. All management activities that generate smoke will be executed in strict conformance with the Washington State Implementation Plan, which restricts the quantity and timing of activities to minimize impacts on human health and quality of life.

The overall objective of the prescribed burning program is to limit it's application to accomplishment of those objectives that can be accomplished no other way. As an example, on-site burning of logging residue should be the last choice as a fuel treatment method. The Forest will reduce emissions from prescribed burning consistent with State goals for 1990.

The effects of the various management activities involving prescribed burning on localized air quality will be monitored based on the production of total suspended particulates (TSP) emissions. The level of TSP emission produced will be calculated annually (refer to the monitoring plan, Chapter 5) based on the fuel moisture, time of year, and total tons of available fuel consumed at the time of burning.

In addition to the forest management activities that may cause air quality impacts over the forest, the Federal Clean Air Act requires that Air Quality Related Values (AQRV's) of the forest be protected from all off Forest sources of air pollution. Monitoring activities will establish baseline conditions for these values and the Prevention of Significant Deterioration provisions of the Clean Air Act provide the mechanism for the forest to review and evaluate all planned activities that have potential to impact the AQRV's of the forest.

Wildlife

This section contains two parts: a brief description of the wildlife program; and a summary of how the wildlife resource and activities will be managed under the Plan, including descriptions of the estimated outputs.

Wildlife Program

Primary emphasis of the wildlife program will be habitat improvement and coordination with other resource management, especially timber, road, and recreation, to improve or maintain wildlife habitat.

Standards, guidelines, and prescriptions for wildlife reflect the integration of wildlife habitat requirements and other Forest activities, assuring that at least minimum acceptable habitat conditions are provided for Management Indicator Species (MIS) and their represented species. Forest-wide standards and guidelines address general wildlife management as well as protection of special habitats, particularly breeding and wintering areas, from ground-disturbing activities. Animals using these special habitats are protected from disturbance during breeding seasons and wintering periods.

The Forest Management Indicator Species are:

- Bald eagle, American peregrine falcon, gray wolf and grizzly bear (T&E wildlife habitat MIS);
- Mountain goat (mountain goat habitat MIS);
- Northern spotted owl (old-growth habitat MIS);
- Pine Marten and pileated woodpecker (mature and old-growth habitat MIS);
- Primary cavity excavators (snag and downed log MIS).

Management prescriptions with major emphasis on meeting wildlife objectives are:

- MA 11 - with emphasis on old-growth wildlife habitat, using the northern spotted owl as the MIS;
- MA 12 - with emphasis on mature and old-growth wildlife habitats, using the pine marten and pileated woodpecker as MIS;
- NA 14 - with emphasis on deer and elk winter range;
- MA 15 - with emphasis on mountain goat habitat; and

- MA 16A, 16B, 16C, and 16D - with emphasis on T&E wildlife habitat for bald eagle, grizzly bear, American peregrine falcon, and gray wolf.

The habitat and wildlife characteristics and habitat relationships described in the Management of Wildlife and Fish Habitats in Forests of Western Oregon and Washington (Brown 1985) and other available literature will be used in evaluating habitat, identifying opportunities, developing and testing habitat and use assumptions, and assessing direct, indirect, and cumulative effects.

Inventories and data gathering will be carried out to update existing information, provide baseline data for monitoring, and develop habitat relationship models. Habitat inventories, wildlife use surveys, and development of habitat analysis systems will be coordinated with WDW, USFWS, and other agencies or studies. A list of information and research needs is found at the end of Chapter 2.

Monitoring is a major part of implementing the Plan. Details of the monitoring actions for wildlife are in Chapter 5. Management indicator species and all T&E wildlife will be monitored to ensure that assumptions concerning the effects of management activities on wildlife habitat and populations are appropriate. Evaluation of estimated outputs and expected conditions in the FEIS will determine if wildlife habitat and population trends are as planned, and will form the basis for adjusting Plan direction when appropriate.

The Forest will coordinate with State, local, and other Federal agencies, basin planning groups, and other concerned groups regarding management programs and activities. Activities involving Federally threatened or endangered wildlife species will be coordinated with the USFWS.

Wildlife Activities and Outputs

The goals and objectives of the wildlife program will be carried out through various activities to provide and manage habitat, resulting in the estimated Forest-wide wildlife population levels shown in Table 4-1. The production of Wildlife-Fish User Days (WFUD's) is a secondary output related to both wildlife populations and demand for consumptive (hunting/trapping) and nonconsumptive (viewing, nature study, etc.) wildlife uses.

The following activities, described below, have a high priority for accomplishment: (1) coordination; (2) T&E wildlife habitat management; (3) big game habitat management; (4) mature and old-growth habitat, snag, and riparian area management; (5) habitat improvement; and (6) education.

Coordination. Coordination will be an on-going process to ensure that wildlife habitat needs are incorporated as appropriate into all projects. Extensive coordination of wildlife objectives and standards and guidelines with other resources will be emphasized, especially for ground-disturbing activities such as timber harvest, road construction, mining, small hydroelectric developments, and recreation developments. This includes evaluating habitat condition, quantity, and arrangement and the opportunities, effects, and mitigations relating to the proposed management activity. Coordination of wildlife Standards and Guidelines with recreational use management will be an important and growing priority, as high recreational use levels increase even further. Pre-project coordination and planning will be done as well as utilizing KV funds for post-project mitigation measures and habitat improvement.

T&E Wildlife Habitat Management. The Forest will participate in maintaining or reestablishing four nesting pairs of bald eagles (Federally threatened) to meet the "Final Pacific States Bald Eagle Recovery Plan" (1988) objectives. Assigned habitat (with the associated standards and guidelines) and improvements (where appropriate) will be carried out for one existing nest site, three recovery nest sites, communal roosts, and foraging areas. Recovery nest sites, and communal roost and foraging areas will be identified and the use of all existing and recovery areas will be monitored.

Habitat inventories will be completed for the American peregrine falcon (Federally endangered) and for the grizzly bear (Federally threatened). All important or critical habitat will be protected or improved to meet recovery objectives of the "Pacific Coast Recovery Plan for the American Peregrine Falcon" (1982) and the "Grizzly Bear Recovery Plan" (1982). Occasional and/or transient use of Forest lands by peregrine falcon and grizzly bear will be documented. Gray wolf (Federally endangered) sightings will be evaluated and consulted on with the USFWS. The Forest Plan will be modified as needed to support new recovery objectives in revisions of these recovery plans, or as new recovery plans become available.

The Forest has initiated consultation on the Forest Plan with the USD1 Fish and Wildlife Service. A biological evaluation of the effects of the Plan on threatened and endangered species is on file at the Supervisor's Office.

Big Game Habitat Management. Selected big game winter ranges will be managed to provide high quality cover and forage conditions.

The habitat capability of deer and elk winter range will increase as a result of improved winter range where it is assigned to MA 14, and where inventoried winter range overlaps with compatible MA's, particularly MA's ID, 2AB, 4, 5AB, 6, 15, and 27. In these areas, timber harvest methods will be used to develop the desired cover and forage relationships (ratio, size, and arrangement) where appropriate. About 240 acres/year of seeding and fertilization will be done to improve forage during the first decade. Road density will average no more than two miles per square mile in winter range areas. Thermal and optimal cover will be retained in MA 14.

Mountain goat populations will benefit from improved winter range where it is assigned to MA 15. In these areas, about 200 acres/year of seeding and fertilization for forage production may be done in the first decade. Prescribed burning may be used if determined to be ecologically acceptable to the specific site, beneficial to goat forage production, and compatible with the areas management prescription. Road density will average no more than two miles per square mile and no new roads will be built in Goat MR areas. Thermal and optimal cover will be retained in MA 15. Overall mountain goat habitat capability and populations are expected to decrease due to decreased thermal cover during this same period. Emphasis will be placed on inventory of actual goat use areas, determining goat populations, and investigating causes for the apparent decline in goat numbers. These activities will be done in conjunction with the Washington Department of Wildlife.

Deer, elk, and mountain goat summer ranges overlap with winter ranges in some cases, or are assigned to other resource management areas, with protection for special areas, e.g., fawning, calving, and kidding areas. A minimal level of big game summer range maintenance is provided through application of Regional harvest dispersion constraints. Summering populations of deer and elk fluctuate slightly due to the effect of Forest management activities as well as habitat conditions on off-Forest winter ranges that support 50% or more of the summering populations.

The primary emphasis of big game habitat inventories will be to update deer and elk winter range boundaries and to complete mountain goat habitat boundaries. Secondary emphasis will be on identifying summer and transition ranges and special areas, i.e., fawning, calving, and kidding areas, wallows, and travel corridors.

Mature and Old-growth Habitat, Snag, and Riparian Area Management. Old-growth and mature forests can provide habitat for the northern spotted owl, pine marten, pileated woodpecker, deer, elk, and mountain goat, depending on each wildlife species' specific old-growth habitat needs or preferences. Big game old-growth needs (thermal and optimal cover) are discussed above. Elevational requirements and vegetative type affect how much of the old growth may be suitable habitat for spotted owls. Fragmentation of the mature and old-growth habitats by timber harvest units is expected to reduce use by these animals, especially the spotted owl

At the end of the first decade, there will be about 624,660 acres of old growth habitat remaining, including large areas of old-growth in wilderness, research natural areas, dispersed recreation areas of the Alpine Lakes Area management unit, and unsuited timber lands. This acreage will decrease overall, to 535,100 acres, by the end of the fifth decade.

Spotted owl, pine marten, and pileated woodpecker populations will decline in the next five decades, due to the continuous decrease in old-growth habitat from harvesting and environmental factors such as windthrow. Populations will remain viable during this period.

Where green trees are left in timber harvest units, without dead trees also being retained, snags will be created on suitable lands to maintain at least 40 percent of the population potential of primary cavity excavators. Dead and down logs will be left in project areas, using the guides from Management of Wildlife and Fish Habitats in Forests of Western Oregon and Washington (Brown 1985) to meet Forest wide Standards and Guidelines for diversity. Existing snags and down logs and future, naturally occurring snags and logs, will be retained in MA's without timber harvest.

Management Area 13 protects and manages riparian areas important to a large number and variety of wildlife and fish species. Deer and elk habitat often occurs in these areas, as well as habitat for many mature and old-growth wildlife species. Habitat for primary cavity excavators will be managed at or above the 80% population potential level in riparian areas. Nest boxes and platforms for such species as wood duck, common loon, and osprey will be installed in riparian areas.

Habitat Improvement. Habitat improvement includes developments and habitat manipulation that improve the quantity, quality, and/or arrangement of wildlife habitat. Improvement projects to benefit wildlife are listed and scheduled in Appendix C. Habitat improvement will be designed to maintain or increase wildlife populations such as The wildlife, big game, and others. Also, habitat improvement will be used to mitigate those management activities incompatible with the wildlife species of concern in specific areas. Some projects are dependent on additional surveys and inventories to better define how and where to apply needed habitat improvement. Examples are mountain goat projects, where site-specific surveys are needed first.

Improvements include those mentioned above as well as road closures for T&E wildlife and MIS, and other appropriate developments or habitat manipulation.

Education. A relatively new and growing emphasis for the wildlife program will be the development of a public education program; its emphasis will be educating the public about opportunities on the Forest for viewing, studying and photographing wildlife and their habitats. Public interest in these activities is high and growing at a rapid rate. Cooperative efforts aimed at inventories, monitoring, and habitat enhancement and protection will be forged with a wide variety of citizen user groups.

Fish

This section summarizes the fisheries program and how the fisheries resource and activities will be managed under the Plan, including descriptions of the resulting outputs.

Fisheries Program

Maintenance, protection, mitigation or restoration, and enhancement of the fishery habitat capability will be objectives in the fishery resource area. This will be accomplished by a mixture of land allocations and standards and guidelines at the Forest Plan level, and by best management practices (BMP's) and habitat improvement capitol investment at the project level.

Anadromous fish management indicator species include chinook, coho, pink, and chum salmon, as well as steelhead and sea-run cutthroat trout. Resident fish NIS include rainbow, cutthroat, and bull trout.

One emphasis of the fishery program will be the coordination with other resource management. Of all the Forest resource activities, timber management activities and road construction, reconstruction, and operation potentially have the greatest effect (direct and cumulative) on fish and fish habitat (on and off the Forest). This fact was recognized and was addressed in the cumulative effects analysis (refer to Appendix H, in the accompanying FEIS). This analysis resulted in a method to meet water quality and riparian management requirements (MR's), expressed as a set maximum number of acres available for timber harvest, by decade, by watershed. See Table 4-18, Forest-wide Standards and Guidelines for Water and Riparian Areas, later in this chapter.

Protection, mitigation, and restoration of habitat will be a primary emphasis in the fishery program. This would include pre-project coordination and planning as well as utilizing KV funds for post-project mitigation measures and monitoring. Also, Forest Roads and Trail (FR&T) funds will be used to correct road-related damage to fish habitat.

Another resource area where the fishery program will coordinate closely with other resource management is developed recreation. Developed recreation sites on the forest are usually located close to aquatic systems; many of these systems contain one or more anadromous or resident fish species. Certain developed recreation sites or activities can impact or affect these fish populations or their habitats. Most of the impact ,or the potential for impact, is alterations or modifications of the in-channel or the adjacent riparian area conditions. Existing and potential campgrounds, boating and swimming sites, alpine ski resorts, organizational camps, and recreational residences are examples of developed recreation sites or activities that can impact the Forest fishery resources.

Another emphasis area is habitat capitol investment for anadromous and resident fish. Opportunities exist in the seven major river basins located within the Forest boundary to improve or restore either spawning or rearing habitat for salmon, sea-run trout or resident trout. Habitat improvement projects to benefit these species are listed and scheduled in Appendix C. Some of these projects improve spawning and rearing habitat, while others provide fish passage to presently unused or inaccessible areas. Most projects will benefit more than one species. Most projects require additional survey work or design before they can be implemented. To be effective (to increase the capability of Forest habitat to produce more fish), this anadromous and resident fish habitat improvement program must be a stable, multi-year program.

Under the USFS nation-wide initiative, Rise to the Future, the Forest has developed a 5 year action plan called “Catch-the-Action”. This action plan will be the major document to guide the Forest’s fishery program in implementing the fishery management portion of the Forest Plan.

Additional inventories and data information needs will be carried out to update and complete existing (baseline) data. A list of fishery data needs is found at the end of Chapter 2.

Monitoring is a major part of implementing the Plan. Details of the monitoring needs for fish and water are in Chapter 5.

The Forest will coordinate with State, local, and other Federal agencies and with the various Puget Sound Indian tribes regarding management programs, projects, and activities.

Fishery Activities and Outputs

The Forest will provide and manage habitat for anadromous and resident fish species.

Habitat capability for anadromous fish will be managed at a high production and capitol investment level. The resident fish program will also be managed at the highest capitol investment level. This is management intensity 13D.

The present estimated annual anadromous fish production (escapement and harvested fish) resulting from the habitat within the Forest boundaries is 1,093,000 adult fish. The estimated annual production of anadromous juveniles (smolts) is approximately 16,000,000. With a high capital investment in habitat restoration and/or improvement this annual value could be increased to approximately 18,000,000 smolts. It would take 5-10 years of high capital investment to reach this production level. The present annual value of the anadromous fish produced from the Forest (commercial and sport fish value) is approximately $18.9 million dollars.

The present estimated public demand on the resident fishery from within the Forest boundaries is a little over 1.1 million angler days. This use has a present annual value of a little over $4.25 million dollars.

Three fishery outputs (as mentioned in Table 4-1) will be monitored:

1. Pounds of anadromous fish commercially harvested;

2. Smolts produced (anadromous) as a result of habitat improvement;

3. WFUD's from resident sport fishery (this value is added to the wildlife WFUD value).

Vegetation

The diverse vegetative communities, successional vegetative change process and current vegetation conditions on the Forest are described in Chapter III of the FEIS associated with this Plan. In this section, brief summaries are included for the timber, vegetative diversity, forage, old growth, and threatened, endangered, and sensitive plant resources. Included are tabular and graphic displays with narrative explanation of how planned management activities will change the resource from the present to future conditions.

Timber Program

The timber program is described for the following areas:

- Timber resource land suitability classification;
- Mountain hemlock study;
- Timber program output objective;
- Potential increase in the ASQ;
- Vegetative management practices;
- Insects and disease;
- Long term sustained yield capacity;
- Timber productivity classification; and
- Present and future Forest conditions.

Timber Resource Land Suitability Classification. Table 4-8 lists land classification acres resulting from the timber resource land suitability classification process. This process is required by NFMA, 36 CFR 219.14. Appendix B in the FEIS describes, in detail, the process on this Forest. Refer to the glossary for definitions of technical terms.

Table 4-8
Land Classification 1/

Classification		Acres
1. Non-Forest land (includes water) 2/		422,086
2. Forest land		1,301,399
3. Forest land withdrawn from timber production		442,204
4. Forest land not capable of producing crops of industrial wood		0
5. Forest land physically unsuitable:		
- irreversible damage likely to occur		95,476
- not restockable within 5 years		159,739
6. Forest land - inadequate information 3/		6,700
7. Tentatively suitable forest land (item 2 minus items 3, 4, 5 and 6)		597,280
8. Forest land not appropriate for timber production 4/		250,869
- Management Requirements	81,168	
- multiple-use objectives	93,335	
- cost efficiency scheduling	76,366	
9. Unsuitable forest land (items 3, 4, 5, 6, and 8)		954,988
10. Total suitable forest land (item 2 minus item 9)		346,411
11. Total National Forest land (items 1 and 2)		1,723,485

1/ 36 CFR 219.14; or see Timber Resource Land Suitability Classification in Glossary.

2/ Includes water (17,356 acres) and forest lands developed for non-forest use (22,513 acres).

3/ Lands for which current information is inadequate to project growth or yield responses to timber management.

4/ Includes uneconomical, and not scheduled lands.

Federal regulations require that all forested lands designated not suited for timber production in the Plan be reviewed for suitability at least every ten years. Unsuitable lands may be reviewed and designated suitable for timber production due to changed conditions at any time. Such designation would require an amendment to the Plan.

Mountain Hemlock Study. Approximately 76,000 acres of forested land in the Mountain Hemlock association were classified unsuitable because of regeneration difficulty: not restockable within five years. The "Study Plan for the Determination of Suitability for Timber Management of the Mountain Hemlock Zone of the Mt. Baker-Snoqualmie National Forest" (available at the Forest or Regional Office) prescribes a study to determine what portion of these lands could be designated suitable for timber production. The study will collect information on 25 sale units of 6 to 12 acres each, with varying combinations of applied silvicultural regeneration systems and management practices. To facilitate the study, timber sale contracts will require completion of the purchaser's on-the-ground obligations within one year.

Timber Program Output Objective. Adherence to Forest management direction should assure that Plan timber production output objectives and coordination of timber management activities with other resource management objectives are achieved. Timber production areas should provide the highest levels of other desired resource values possible within timber production objectives. Forest wide Standards and Guidelines will be followed. The monitoring and evaluation process described in Chapter 5 requires reports and evaluation of how well the timber management program is meeting management direction and projected activities and outputs. Evaluation reports may include recommendations to change direction, adjust projected outputs, or amend the Plan.

The allowable sale quantity (ASQ) of 22.4 MMCF is the output objective driving the timber program for achievement of planned levels; see Tables 4-1 and the following table, 4-9. The ASQ is a limit on the quantity of timber planned for sale from suitable land for the ten-year time period specified for the Plan. The ASQ is usually expressed on an average annual basis for the Plan period, yearly amounts may be above or below the annual average limit established for the decade, as long as the decadal limit is not exceeded. Timber volume chargeable to the ASQ is specified in Forest-wide Standards and Guidelines. The timber sale volume chargeable to the ASQ must be stated in the final sale preparation package.

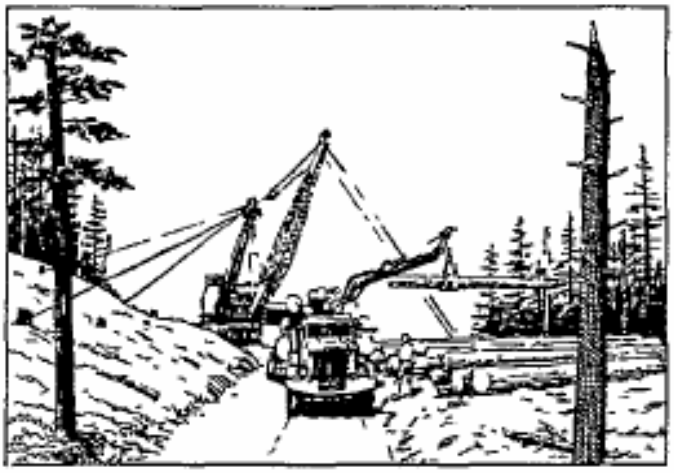


Table 4-9
Allowable Sale Quantity and Timber Sale Program Quantity
(Annual Average for First Decade)

	Allowable Sale Quantity (MNCF)	
	Sawtimber	Other Products
Regeneration harvest:		
Clearcut	22.0	
Shelterwood and seed tree		
-Preparatory cut	0	
-Seed cut	0	
-Removal cut	0	
Selection	0	
Intermediate harvest:		
Commercial thinning	0.4	
Salvage/sanitation	0	
Total	22.4	

	Additional Sales 1/ (MMCF)	
	Sawtimber	Other Products
Total for All Harvest Methods	1.3	1.8

Timber Program Output Objectives		
	MMCF	MMBF 2/
Allowable Sale Quantity	22.4	108
Timber Sale Program Quantity 3/	25.5	122.1

1/ Includes nonchargeable volumes from suitable and/or unsuitable lands. Other products is an estimate of fuelwood based on a percentage of unutilized material associated with regeneration harvest.

2/ Scribner Decimal C Board Foot Measure.

3/ Total of allowable sale quantity and additional sales.

The ASQ may be estimated 1/ as 96.2 percent of the total net timber volume meeting Forest utilization standards to be sold from suitable land within the boundary of a regeneration harvested clearcut, or within the boundary where all timber is removed in other activities, e.g. clearing for road construction. All live or green volume in commercial thinning sales and salvage sales outside regeneration harvest units are in management areas allowing scheduled timber harvest. This volume is also chargeable to the ASQ.

Control of the ASQ timber quantity is expressed in cubic foot measure, and harvested acres, for the total Plan period and may vary from year to year. Conversion to board feet measure in this Plan is 4.79 board feet per cubic foot unless otherwise specified.

Projected annual outputs and activities necessary to meet the ASQ planned level are included in Table 4-1; included are miles of road construction and reconstruction, acres of timber harvested by clearcut and commercial thinning, acres of reforestation, and acres of timber stand improvement. Table 4-10 lists average annual acres of vegetation management practices scheduled in the first decade. Road and bridge construction and reconstruction schedules appear in Appendices A and B. The latter includes capital improvements in arterial and collector roads and bridges. Appendix A, Timber Program Activity Schedule, lists timber purchaser road construction and reconstruction scheduled for each timber sale.

Approximately 30% of the planned ASQ of 22.4 MMCF/yr (107.5 MMBF/yr) is produced from Management Areas other than MA 17, where the production of wood fiber is not the primary objective of management. The acres receiving vegetative management, and the amount of wood fiber produced, by management and other identifiers, will be tracked in Forest Plan monitoring (see Chapter 5, Monitoring Plan).

The ASQ output requires a substantial investment in precommercial thinning, 996 acres per year, as shown in Table 4-10. If full achievement of this intensive forestry practice is not possible due to lack of funding or other reasons, or if a higher level of achievement occurs, it may be necessary to adjust the ASQ accordingly. Approximately 2,800 acres of precommercial thinning per year has been accomplished in recent years. The first two decades of the Plan average 1,993 acres per year.

1/ This estimate was calculated as follows: (0.301 NCF per acre of net salvable dead volume per acre determined in 1976 Forest inventory) divided by (mean net live or green MCF volume per acre of existing pole and larger timber condition classes in suitable lands plus 0.301 MCF per acre of net salvable dead volume per acre) x 100 = 3.8%; 100% - 3.8% = 96.2% net live or green volume per acre. “Timber to be sold is significant in this estimating guideline; any net timber volume meeting Forest utilization standards left to benefit wildlife, or for other purposes would be excluded from the 96.2% multiplier.

Table 4-10
Vegetation Management Practices
(Annual Average in First Decade for Suitable Lands)

Practice 1/	Acres
Regeneration Harvest	
Clearcut	2,865
Shelterwood and seed tree: 2/	
-Preparatory cut	0
-Seed cut	0
-Removal cut	0
Selection 2/	0
Intermediate Harvest	
Commercial thinning	200
Salvage/sanitation	84
Timber Stand Improvement	996
Reforestation	
Planting	2,239
Natural Stocking	626

1/ Regeneration and Intermediate Harvest acres by sale and Ranger District are listed in the Ten-Year Timber Sale Schedule, Appendix A of this document.

2/ Miscellaneous amounts of these regeneration harvests may occur.

If annual monitoring determines that the precommercial thinning acres are plus or minus 10 percent from 996 acres per year, the ASQ may be adjusted based on additional analysis. The Plan would be amended to portray the new ASQ.

The average annual ASQ and additional sales (including fuelwood) planned for annual sale in the first decade is the timber sale program quantity (TSPQ),
25.5 NMCF (122.1 NMBF) as shown in Table 4-9. The timber program activity schedule in Appendix A lists, by each Ranger District, the proposed timber sales for the first three years (FY 1990-92) and a proposed pool of projects thereafter. Listed for each scheduled sale are: 1) sale name, 2) description of legal location, 3) total acres for each harvest method, 4) total volume, 5) miles of road construction and reconstruction, 6) the Management Areas in which the sale is located, and 7) other pertinent remarks.

Some sales require five or more years of preparation between a probable sale area and the sale date. The ten-year timber sale schedule is based on current conditions and information available. Conditions and new information at any time may eliminate, delay, or revise a scheduled sale. The timber sale schedule may be modified during the implementation of this Plan. The degree of modification will determine whether the Plan needs amendment, in accordance with the required processes. (Refer to Chapter 5, Amendment and Revision.) Final section locations are undetermined for some of these sales.

Vegetative Management Practices. Table 4-10 lists the average annual acres of vegetation management practices scheduled for Decade 1. Planning projections in FORPLAN were made using clearcutting as the only regeneration harvest cutting method. Clearcutting is the most commonly appropriate harvest cutting method in this Forest. Appendix F of the FEIS describes the criteria and rationale for selection of the harvest cutting method.

Miscellaneous amounts of suitable acres (less than 50 per year) may be harvested using the shelterwood or selection system. When this occurs, it will reduce the number of acres being harvested via clearcuts. Salvage sales are scheduled on 84 acres per year. Regeneration harvest clearcut acres calculated by FORPLAN are 2,865 acres per year.

Scheduled sales average more volume per acre than projected regeneration harvest acres.

This difference in volume per acre is attributable to specific sale areas versus Forest-wide average yield tables; the latter are net green timber volume versus net green and dead timber volume in scheduled sale estimates. Deductions of 3% were made from FORPLAN timber yield tables to aid in maintaining primary cavity excavator populations at 40% of their biological potential. In addition, the clearcut acres scheduled for a sale are those shown on the sale area map, while the volume shown for those clearcut acres includes volume from acres of road construction and reconstruction clearing (and as noted above, miles of scheduled road construction are almost twice the miles projected). The timber sale contract differentiates between acres of harvest in clearcuts and road construction.

Commercial thinning harvest (HTH) is a prescribed practice in Forest-wide and management area standards and guidelines. A total of 200 acres per year of HTH sales have been scheduled in the first decade (Table 4-11). The structure of the Forest's model precluded HTH outputs from FORPLAN until later decades. First decade HTH acres scheduled were planned outside the FORPLAN model. The number of acres of HTH were estimated for Decades 2, 3, 4, and 5. Dead and defective, standing and down tree habitat needs will be provided for in commercial timber harvest areas.

Annual reforestation of 2,865 acres (Table 4-11) will be required to restock regeneration cuts. Planting will average 2,239 acres per year and natural stocking 626 acres per year in the first decade.

Planned acres of precommercial thinning (timber stand improvement) and the relationship of accomplishment to the ASQ has been reviewed above. Other timber stand improvement practices prescribed in standards and guidelines will be conducted as necessary to meet the timber management objectives of the applicable management area.

Fertilization to increase timber yield is one practice that will be used to the extent practical. The yield increase will not be an "earned" harvest, as in the case of precommercial thinning. As more field projects are conducted and research continues, the gain from fertilization may be included in yield tables used in the next Plan revision.

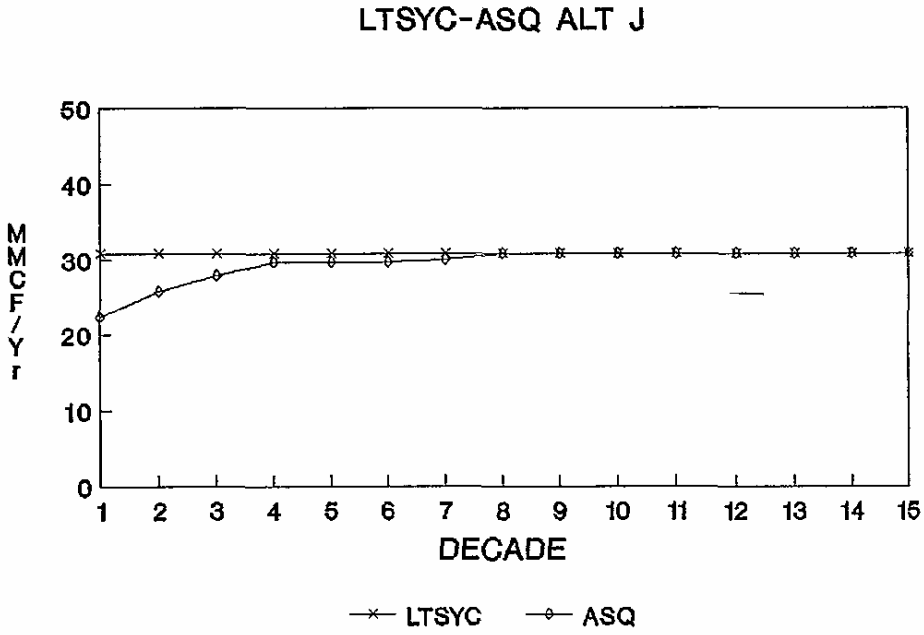
All of the above vegetative management practices may also occur on acres identified as unsuitable for timber production unless otherwise noted in the management area standards and guidelines. Trees may be cut or removed for the following reasons, provided that Forest-wide Standards and Guidelines, and the management direction for the area are achieved:

- Salvage trees or stands killed or substantially damaged by fire, windthrow, or other catastrophe;
- Control the spread of insect or disease outbreaks;
- Conduct research;
- Provide for the safety of Forest users (this includes hazard tree removal in camp and picnic grounds, in administrative sites, and along roads open to the public;
- Maintain or enhance fish and wildlife habitats;
- Improve the visual resource by opening scenic vistas or by improving visual variety;
- Construct new facilities such as roads, trails, administrative facilities, recreation facilities, and so forth.

Insects and Disease. Insects and disease on this Forest have all been associated with the vegetation resource. During the interdisciplinary review process used for developing project plans for timber sales or other vegetation-disturbing activities, insects and diseases are considered. The review process identifies specific actions that must be taken to minimize their effect on the vegetative resource or their effects on other resources or
resource issues.

Long Term Sustained Yield Capacity (LTSYC). LTSVC was calculated by the FORPLAN model using beginning inventory volume, 1,805.6 MMCF, existing timber condition classes, and managed timber yield intensities assigned to analysis areas in suitable lands, producing a LTSYC of 30.4 NMCF/Year. Figure 4-2 displays LTSYC and ASQ over the 15-decade planning horizon.

Figure 4-2
ASQ and LTSYC - 15 Decades



LTSYC - 30.4 MMCF

Timber Productivity Classification. Table 4-11 shows suitable and unsuitable forested lands by potential growth productivity classes. Sixty-six percent of suitable lands fall into the 85-119 and 119-164 CF/ac/yr potential growth classes. The Max Timber Benchmark LTSYC (119 CF/ac/yr) and Biological Potential Benchmark LTSYC (120 CF/ac/yr) reflect the approximate mean productivity of these two classes. The Plan produces an estimated ASQ in the fifth decade of 85.9 CF/ac/yr, and LTSYC of 87.8 CF/ac/yr (beginning in the sixth decade) from suitable lands. This difference in yield reflects timber production foregone to provide multiple-use opportunities and outputs for other resources and resource uses.

Present and Future Forest Conditions. Table 4-12 shows a tabular history of volume, growth, mortality, rotation age, and age class acres of forested land at the present time and projected into the 15th. decade.

The footnotes clarify acres used and sources of volume estimates. Growing stock volume is live timber 9 inches DBH and greater at present, and live timber 7 inches DBH and greater in the future. Live cull is volume from live trees that were less than 25% sound when inventoried. Rotation ages include two years of lag time to reforest regeneration harvest areas, except four years lag time is included in the natural final harvest intensity (MA 17A) rotations.

Table 4-11
Timber Productivity Classification 1/

Potential Growth (CF/Ac/Yr)	Suitable Lands	Unsuitable Lands
	..…..……..Thousand Acres……..	
Less than 20	0	238
20-49	15	32
50-84	65	133
85-119	118	248
120-164	109	226
165-224	38	76
225+	1	2
Total	346	955

1/ Includes all forest land (See Item 2, Table 4-8).

Timber productivity classification calculated from the 1976 Forest Inventory measurements was unsatisfactory. The above productivity classification was calculated using Forest Inventory plot data and following the process used to calculate the site index of productivity used in developing managed timber yield tables (1984). This process is documented in Forest Planning Records.

By Decade 15, the suitable lands are well distributed in age classes 10 to 200+. There are acres in the present 30-, 40-, 50-, and 60-year age classes but they are not shown because of the age class grouping in mapping and modeling. These acres are grouped into the 20- and 70-year age classes, mostly in the former. Future Forest inventories should better define the younger age classes. The most striking change is the reduction in the 200+ age class. The future growing stock volume is sufficient to continue the LTSYC on beyond the 15-decade horizon indefinitely.

Table 4-12
Present and Future Forest Conditions

Forest Component	Unit of Measure	Forested Land: Suitable	Forested Land: Unsuitable 1/
Present Forest			
Growing Stock 2/	MMCF	1,859.0	4664.56
	MMBF	8,908.4	22,343.0
Live Cull 3/	MMCF	54.3	104.3
	MMBF	260.1	672.0
Salvable Dead 4/	MMCF	79.7	206.0
	MMBF	381.7	986.0
Annual Net Growth 5/	MMCF	16.2	42.2
	MMBF	77.6	202.0
Annual Mortality 6/	MMCF	10.9	28.2
	MMBF	52.4	135.3
Future Forest			
Growing Stock	MMCF	1,612.1 7/	
Annual Net Growth	MMCF	34.8 7/	
Rotation Age	Years	60 8/ to 120	

Age Class Distribution Acres On Suitable Lands 9/	Suitable Forested Land: Age Class	Present (acres)	Future (acres)
	10	46,049	32,310
	20	49,810	32,310
	30	0	32,310
	40	0	32,310
	50	0	32,310
	60	0	32,310
	70	17,560	34,091
	80	20,594	27,512
	90	0	27,839
	100	47,322	24,265
	110	0	11,296
	120	0	10,412
	130	0	4,264
	140	9,932	7,320
	150	14,326	688
	200+	140,817	4,865

Footnotes for Table 4-12 are listed on the following page.

1/ Volume estimates were made for 684,273 acres having a productivity of 20 CF or more per acre per year, and acres of poles and larger size t4mber; this includes pole and larger material from table 4-8, items 3,5,and 8.

2/ Suitable volume: Calculated at the midpoint of Decade 1 before harvest using empirical yield tables for existing forest condition classes selected as suitable acres. In FORPLAN report F10.6, this growing stock volume in suitable acres is 1,805.6 NMCF which is 3% less than shown above; the yield tables in FORPLAN are reduced 3% to maintain the population of primary cavity excavators at 40% of potential.

3/ Suitable and unsuitable volume: Used National Forest Inventory Statistics for the Mt. Baker-Snoqualmie National Forest, 1976 Forest Inventory, Table 4, Nay 20, 1978, unpublished. Sound cull plus rotten cull per acre for acres of pole and larger timber.

4/ Suitable and unsuitable volume: Used 1,441 board feet/acre determined from reference cited in 3/ above, Table 3 (corrected), and multiplied times acres of pole and larger timber. A conversion of 4.79 board feet per CF was used.

5/ Suitable and unsuitable volume: Used the first decade growth from FORPLAN Report F1OA for suitable volume. Unsuitable volume used average growth rate of 61.64 CF/ac/yr (poles and larger material) from FORPLAN report F1OA, multiplied by forested acres, pole and larger material.

6/ Suitable and unsuitable volume: Used 41.284 CF/acre/year determined from reference cited in 3/ above, Table 5 (corrected), and multiplied times acres of pole arid larger timber.

7/ Growing stock volume is at the midpoint of Decade IS before harvest and growth is from Decade 14 to 15 of the planning horizon as reported in FORPLAN.

8/ A range of rotation ages for regenerated stands on lands with timber emphasis, Management Area 17.

9/ From FORPLAN run; present and future are at the start of the first decade and the mid-point of the 15th decade, before harvest.

Forage

Forage for grazing animals is available, to some degree, in all vegetation types. Forage for wildlife is included in the wildlife resource summary. The range-permitted grazing projection in Table 4-1 is 1,000 animal unit months per year. This projection reflects portions of two sheep grazing allotments on the Forest; neither permit has been used in the past five years. Transitory range is available - the grass-forb plant succession stage lasts two to five years -in clearcut harvest units. The demand for transitory range has been low to nonexistent since an unsuccessful temporary permit to graze sheep in 1978.

Old Growth

Old growth existing on the Forest has been functionally defined for analysis purposes in this plan as existing mature large sawtimber (51 in the R2MAP Forest Planning Data Base) before harvest in Decade 1. Existing old growth averages 240 years of age on the northern end of the Forest, and 260 years on the southern end of the Forest. Old growth as defined here may or may not meet the definition in the Region 6 Regional Guide. An old growth inventory is necessary to determine this relationship. This inventory is scheduled to begin in 1990.

Old growth on the Forest presently totals 643,538 acres. There are 232,500 acres of old growth in wilderness; 134,400 acres in other Forest lands unsuitable for timber production;]35,821 acres in Forest lands not appropriate for timber production; and 140,817 acres in lands suitable for timber production.

There are 140,817 acres of old growth *in* suitable acres in the Plan. In the first decade, 18,879 acres of this suitable old growth will be harvested. By the end of Decade 5 (50 years), only 32,373 acres will remain in suitable lands; however, a total of 535,094 acres will remain Forest-wide.

The management of old growth on the Forest will focus on the protection and maintenance of older forest stands allocated for MR wildlife habitat areas, and in other compatible management areas. Research and development of management guidelines for old growth will be an emphasis in the research branch of the Forest Service, and in cooperative Forest Service - Washington State Department of Wildlife studies. Experimental silvicultural treatments may be developed from this research. A major question posed will be whether it is possible to manage for old-growth forest, of for the habitat components required by certain mature and old-growth forest dependant species.

An up-to-date inventory of older forest stands, with data on horizontal and vertical structure, plant composition, longterm productivity, and special habitat components will be completed. Information on fungal, invertebrate, and herptile components, neglected areas of old-growth forest emphasis, will be collected.

Needs and methods for connecting “islands” of old-growth habitat with each other via travel corridors containing protective cover and feeding habitat will be identified and better defined.

Diversity Management and Long-term Productivity

Diversity will be approached from the perspective of long-term forest productivity, rather than as an issue related to individual resource areas. Silviculturalists, fuels managers, ecologists, botanists, wildlife biologists and others will work in concert to achieve mutual objectives for diversity and long-term productivity. Prescriptions will be integrated resource plans for maintaining diversity and achieving the management objectives assigned to an area.

Diversity management will begin with maintaining soil productivity over time, include management of dead and down large and small woody materials, standing dead and defective trees, maintaining viable populations and distributions of native and desired non-native plant and animal species, and maintaining all natural communities on the Forest. Special emphasis will be placed on management of threatened, endangered and sensitive species and fragile and scarce communities. Minimum levels of these types of diversity will be maintained in all parts of the Forest. Diversity will be maintained at the highest possible levels compatible with other resource objectives in all areas.

The effects of fragmentation of natural communities, and means of maintaining fully viable areas of these communities, particularly old growth, and connecting habitat areas will be explored and management guidelines validated and improved.

Threatened, Endangered, and Sensitive Plants

No federally-listed threatened or endangered plant species have been found on the Forest. Two plant species, suspected but not known to occur on the Forest, are Category 2 candidates for Federal listing. They are Calamagrostis crassiglumis and Castilleja cryptantha.

Twenty-six species from the Region 6 Forest Service list of Sensitive Plants are known to occur on the Forest, and another fourteen are suspected to occur (See Table 4-13). Sensitive species are not protected under the Endangered Species Act. However, Forest Service policy requires that these plants be managed to maintain viable populations and avoid a need for placing them on the Federal list.

The list of plant species will continue to change, as inventories produce more information on the occurrence, numbers, and distributions of species. Species may be removed from the list if additional information shows that they are not as rare as once thought, or as management plans are developed to ensure their viability. Species may also be added to the list as they are discovered to occur on the Forest, or if they are more rare than presently thought.

Table 4-13

Region 6 Forest Service
Sensitive Plant Species On The
Mt. Baker-Snoqualmie National Forest
(June 1989)

Species Known to Occur on the Forest:

Scientific Name	State Category
ASTER SIBIRICUS VAR MERITUS	Sensitive
BOTRYCHIUM LANCEOLATUM	Sensitive
BOTRYCHIUM LUNARIA	Sensitive
BOTRYCHIUM MINGANENSE	Sensitive
BOTRYCHIUM MONTANUM	Sensitive
BOTRYCHIUM PINNATUM	Sensitive
CAMPANULA LASIOCARPA	Sensitive
CAREX BUXBAUMII	Sensitive
CAREX PAUCIFLORA	Sensitive
CAREX SCIRPOIDEA VAR SCIRPOIDEA	Sensitive
CAREX STYLOSA	Sensitive
CHAENACTIS THOMPSONII	Sensitive
COPTIS ASPLENIFOLIA	Sensitive
DODECATHEON PULCHELLUM VAR WATSONII	Sensitive
DRYAS DRUMMONDII	Sensitive
FRITILLARIA CAMSCHATCENSIS	Sensitive
GENTIANA DOUGLASIANA	Sensitive
GENTIANA GLAUCA	Sensitive
LYCOPODIUM DENDROIDEUM	Sensitive
PEDICULARIS RAINIERENSIS	Sensitive
PLATANTHERA CHORISIANA	Threatened
PLATANTHERA OBTUSATA	Sensitive
PLEURICOSPORA FIMBRIOLATA	Sensitive
RANUNCULUS COOLEYAE	Sensitive
SAXIFRAGA DEBILIS	Sensitive
SAXIFRAGA INTEGRIFOLIA VAR APETALA	Sensitive

Species Suspected to Occur on the Forest:

Scientific Name	State Status
AGOSERIS ELATA (Nutt) Greene	Sensitive
CALAMAGRSTIS CRASSIGLUMUS Thrub	Threatened
CAREX COMOSA Boott	Sensitive
CAREX MACROCHAETA C.A. Meyer	Sensitive
CAREX SAXATILIS L. Var. Major Olney	Sensitive
CASSIOPE LYCOPODIOIDES (Pall) D. Don SSP. CRISTAPILOSA Calder and Taylor	Sensitive
CASTILLEJA CRYPTANTHA Pennell & G. N. Jones	Threatened
CIMICIFUGA ELATA Nutt in T&G	Sensitive
DRABA AUREA Vahl in Hornem	Sensitive
LOBELLA DORTMANNA L.	Sensitive
LOISELEURIA PROCUMBENS (L.) Desv.	Sensitive
LUZULA ARCUATA (Wahlenb.) WahlenB	Sensitive
MICROSERIS BOREALIS (Bong.) Schultz-Bip.	Sensitive
SAXIFRAGA CERNUA L.	Sensitive

The emphasis of this program will be on the inventory of proposed project areas, reserved areas, and areas where vegetative management is precluded or minimal for threatened, endangered and sensitive (T&E&S) plants. A data base of sensitive plant locations will be developed, and information on habitat requirements, range, and distribution of these plants will be developed.

This information will be used to develop species management guides for all of these species over the decade, with priority given to those plants which are federally-listed, candidates for federal listing, or likely to occur in areas where management activities which remove or affect vegetation are proposed. Threats to species survival will be identified in these plans. Protected populations or subpopulations will be identified, across a species range on the Forest, and, where appropriate, experimental populations will be identified. These experimental populations will be used to increase our understanding of the effects of management activities on a species. Permitted and restricted activities at sites of protected populations will be identified in the management guides, as will plans for monitoring protected and experimental populations.

All areas where projects or activities are proposed which may affect T&E&S plants will be inventoried prior to management decisions. Botanical areas, RNA's, wilderness areas, MR mature and old-growth areas and other "protected" habitats will also be inventoried, to identify T&E&S plant populations.

Inventories, management guides and monitoring plans will all be coordinated with the Washington Department of Natural Resources Natural Heritage Plant Program, the Forest Service Regional Office, and adjacent Forests. Where federally-listed plants are involved, activities will be coordinated with the 1.3.5.0.1. Fish and Wildlife Service.

Research Natural Areas

Research natural areas (RNA's) are tracts of land set aside as examples of typical or unique natural ecosystems or habitats. They are preserved in as near a natural state as possible. Their main purposes are to provide: baseline areas against which effects of human activities in similar areas can be measured; sites for study of natural processes in undisturbed ecosystems; and gene pool reserves for plant and animal species, especially those that are classified as threatened, endangered, and sensitive.

This section describes the established and recommended RNA's on the Forest. Established RNA's

The Mt. Baker-Snoqualmie National Forest has three established RNA's. Lake Twenty-two RNA, on the Darrington Ranger District, is 790 acres in size and represents a western redcedar/western hemlock forest with subalpine lake. It was established in 1947. Heavy recreation use is well established and will be allowed to continue as long as it does not degrade the RNA quality for which it was established. However, while recreation use will be allowed, it will not be encouraged. Only minor reconstruction or rerouting of existing trails will be permitted, provided it does not compromise the purposes of the RNA.

The Long Creek RNA is located two miles northeast of Lake Twenty-Two RNA, within the Boulder River Wilderness on the Darrington Ranger District. It is 640 acres in size and was established in 1947 to represent western hemlock forests and climax red alder forest.

The North Fork of the Nooksack River RNA on the Mt. Baker Ranger District is 1,407 acres in size and represents Douglas-fir and western hemlock forests. It was established in 1937.

All three existing RNA's have been proposed as potential National Nature Landmarks.

No new trail or facility construction will be allowed in any of these areas. Recreation use will be allowed, but not encouraged.

Recommended RNA's

Five candidate areas, identified by the Regional Research Natural Area Committee, are recommended for designation as RNA's in this Plan. Designation occurs after an establishment report is prepared and approved by the Chief of the Forest Service.

Table 4-14 is a summary description of the recommended RNA's. Four of these are located partially or totally within wilderness. In these cases, the most restrictive management prescription (wilderness intensity or RNA) shall be applied in those portions of the RNA that fall within wilderness.

Table 4-14
Recommended Research Natural Areas

Area Name	Acres	Location	Ecosystem
North Fork Nooksack Addition	2,460	Mt. Baker Wilderness, Mt. Baker Ranger District	Douglas-fir with 75-year-old burn, wide array of sub-alpine communities.
Lily Lake	800	Clearwater Wilderness, White River Ranger District	High elevation mountain hemlock/ Pacific silver fir forest, typical mid- to high-elevation subalpine lake.
Perry Creek	2,066	Darrington Ranger District	Unique assemblage of rare fern species, also has Alaska cedar (in stand with mountain hemlock and sub-alpine fir, and heather/huckleberry community).
Green Mountain	2,060	80% within Glacier Peak Wilderness, Darrington Ranger District	Subalpine parkland mosaic, heather/ huckleberry community, and sub-alpine lush herb-aceous communities.
Chowder Ridge	1,920	Mt. Baker Wilderness, Mt. Baker Ranger District	Alpine community mosaic with Krummholz tree groups.

Minerals

This section contains: (1) a brief description of the minerals management program; and (2) a summary of how the mineral resources and activities will be managed under the Plan.

Minerals Management Program

Management of mineral resource activities will continue to be largely responsive in nature. The Forest will use the Plan's standards and guidelines to direct mineral activities to insure they are conducted to the extent possible in a manner that is as compatible with other resource objectives. Even though the Forest Service's objective is to ensure that no unnecessary or undue degradation of the environment occurs, extreme care will be used to ensure that environmental protective stipulations and reclamation objectives are reasonable, enforceable, cost effective, and successful.

At times, mineral activities will be incompatible with management objectives identified in this Plan. In these situations, reasonable reclamation objectives will be established and ensured by adequate bonding, but the activity will be encouraged.

Within withdrawn areas, valid existing rights must be confirmed before approving any mineral development activities. However, once confirmed, the Forest will facilitate and encourage any mineral development activities authorized by those rights. In many withdrawn areas, prospecting activities can be conducted in a manner compatible with the purposes of the withdrawal. Such activities provide no rights to develop the mineral resources; when proposed, they will be encouraged. The results of any such prospecting will be used when reviewing withdrawals as required by the Federal Land Policy and Management Act of 1976 (FLPMA). If mineral resources are discovered and mineral development is determined to be the highest and best use for an area that is presently withdrawn, the withdrawal may be revoked.

As with other resources, monitoring actions will be an important part of the minerals management program. Through monitoring, the processing of mineral management activities can be made more efficient; reclamation techniques can be made more successful; and objectives can be made more achievable. The actual effects that mineral activities have on sensitive resources will also be monitored and evaluated.

As industry's ability to conduct activities in sensitive areas increases, management objectives which tend to restrict mineral-related activities may be modified. In addition, the mineral supply and demand situation will be monitored and newly acquired mineral resource information will be evaluated. If this information justifies changes, the Forest Plan will be appropriately modified or amended.

Mineral Resource Activities

The Plan provides for mineral resource activities to occur, with minimal to moderate restrictions, on 506,923 acres or 29% of the total Forest acres. Under this Plan, the amount of area designated as wilderness will not be changed; however, 85,613 acres (less than 5% of the total Forest area) will be recommended for withdrawl from mineral entry for reasons other than wilderness. An additional 409,230 acres (24% of the total Forest area) will be managed under highly sensitive management prescriptions.

Table 4-15 shows more specifically how these prescriptions affect areas identified as having potential for the occurrence of locatable, nonenergy mineral resources, and areas identified as being "prospectively valuable" for energy mineral resources.

Table 4-15
Effects of Withdrawal and Highly Restrictive Management
On Mineral Resource Potential Areas

Identified Mineral Resource Potential Area	Portion of That Area Withdrawn from Mineral Entry by Prescription 1/	Portion of That Area Managed by Highly Restrictive Management Prescriptions
Area identified as having a "high" and "moderate" locatable mineral potential	Less than 1% (1,774 acres)	35% (51,613 acres)
Area identified as being "prospectively valuable" for oil and gas resources	Less than 0.5% (84 acres)	36% (6,547 acres)
Area identified as being "prospectively valuable" for geothermal resources	Less than 6% (68,613 acres)	25% (301,358 acres)
Area identified as being "prospectively valuable" for coal resources	Less than 5% (5,491 acres)	34% (36,999 acres)

1/ Does not include wilderness.

It is assumed that there will be at least a continuing interest and possibly an increasing interest in the mineral resources on the Mt. Baker-Snoqualmie National Forest. Because of all the variables having influence on mineral activity, the actual amount of activity may significantly vary from that which has been predicted.

Landownership and Uses

Land Classification and Adjustment

The goal of landownership adjustment is to achieve an ownership pattern that best accommodates the land and resource objectives of the Plan. To meet these goals, the Forest will engage in approximately 221,000 acres of land exchange in the first decade. Of this, 67,000 acres is scheduled to occur in the next three years in six exchanges: (1) DNR #3; (2) City of Tacoma; (3) Snohomish PUD; (4) Champion International; (5) Weyerhaeuser; and (6) Murray Pacific.

Landownership guidance is provided in each management prescription. Overall priorities for landownership adjustments are: (1) those that make possible improved resource management; and (2) those that increase management efficiency and reduce management costs.

Additional guidance is in the "Alpine Lakes Management Plan" and "Skagit River Management Plan"

The "Landownership Classification and Adjustment Plan," based on the guidance in the prescriptions, may be found in Appendix G.

Special Land Uses

The major special land uses on the Forest are utility corridors and small hydroelectric proposals.

Existing utility corridors would be continued. Capacity would be increased to the degree feasible to accommodate increased energy needs (e.g., 115 kv line might be increased to 230 kv). One potential new corridor is identified. This corridor would be located in the area of Tacoma Pass to Pyramid Peak running northwesterly toward the Puget Sound area.

The number of small hydroelectric proposals for the Plan are estimated at about 109. Of these proposals, 16 appear to be precluded from development by the management prescriptions. Another 64 proposals have the potential to be compatible with management prescriptions, and 29 proposals will be further evaluated for development potential and the ability to meet management prescriptions and standards and guidelines. Five to ten of these proposals could be expected to reach the Federal Energy Regulatory Commission (FERC) license stage.

Roads

The goal of road management in the Plan is to provide and manage the road system to serve the long-term resource needs and objectives of the management areas. The prescriptions involved in the Plan are intended to maintain a viable transportation system in accordance with road management objectives, which will include identification of anticipated traffic needs, road closures needed for resource management, and identification and correction of road and bridge deficiencies. As funding levels vary, primary priority will be given to resource management and protection, with secondary priority given to user convenience.

The proposed management for all existing Forest Development Roads is documented in the "Forest Road Management Plan," located in the Forest Supervisor's Office. This includes the road management objective for each arterial and collector road, and for individual, or categories of local roads. The road management objective defines the anticipated use of the road, the existing and future road standards, the traffic service and road maintenance level, and any planned closures. This document, along with the bridge inventory and base map of all existing roads comprise the Forest Development Transportation Plan required by NFMA.

The road design, construction, and reconstruction process found in Forest Service Handbook (FSH) 7709 ensures that all new roads are designed and operated to standards that are responsive to the prescribed resource objectives.

Ultimately, the road system will total 3,411 miles, a 18% increase over the present mileage. A total of 134 miles or 26 percent of this new mileage will be completed within the first decade. Of the 511 miles of new road expected to result from the implementation of the Plan, 496 miles will be locals, and 15 miles will be arterials/collectors. The average annual construction rate will be 12.6 miles for locals, and 0.8 miles for arterials/collectors through the first decade.

About 25 miles of existing roads, located in areas assigned to unroaded dispersed recreation, will be permanently closed. Roads permanently closed by the Plan include Elliot Creek, Deer Creek Pass, the end of North Fork Skykomish River, Crystal Creek, and others.

Approximately 34% of the road system will be open to passenger vehicles (maintenance levels 3-5), and 49% will be available for high clearance vehicles (maintenance level 2). The remaining 17% will be temporarily closed (maintenance level 1) during the first decade.

Some roads in deer, elk, and goat wintering habitat and T & E species habitat will be closed during the use season to reduce harassment. Needs for roads to be open will be examined closely to minimize open road density and wildlife harassment whenever possible.

Road construction and reconstruction miles scheduled (Appendices A and B) differ significantly from miles projected in Table 4-1. Timber purchaser road construction projected, 12.6 miles per year, is approximately 44 percent of the scheduled 28.8 miles per year. Possible explanations are: the Ranger Districts are scheduling more sales in roadless areas than FORPLAN projected in the first decade; the model coefficients used to project road construction miles are in error; or the Ranger Districts are overestimating the miles of road construction that will actually be necessary to service the sales.

Road reconstruction projected at 57.7 miles per year, is approximately 144 percent of the scheduled 40.1 miles per year in the first decade. This difference is understandable because reconstruction is dependent on road condition from road use and damage from unpredictable weather events, resulting in flooding and "washout" of roadbeds and drainage structures. Also, road reconstruction projects vary from minor improvements to major road relocation.

Road maintenance will be accomplished on all National Forest system roads each year to the prescribed service level (see Traffic Service Levels on Table 4-16).

It is estimated that 3,034 miles of National Forest roads will be maintained each year during the first decade.

During the first Decade, approximately 70 miles of road will be built into unroaded areas released by the Washington State Wilderness Act of 1984. Refer to Appendix A, “Ten-Year Timber Sale Action Plan,” for further information.

While the majority of the arterial/collector road system is established, roads and bridges do periodically wear out and require reconstruction. See Appendix B for the proposed road construction/reconstruction schedules.

The Plan will not preclude the construction of the Naches Pass Road. This project would be subject to a site-specific environmental analysis, should it be proposed.

A summary of the service levels for the arterial/collector system on each Ranger District is shown below, Table 4-16. The service levels are defined on the first page of the table.

Traffic Service Levels

	Service Level A	Service level B	Service Level C	Service Level D
Flow	Free flowing with adeovate passing facilities.	Congested during heavy traffic such as during logging *or* recreation activities.	Interrupted by limited passing facilities, or slowed by the road condition. backing to pass.	Flow is Slow or may be blocked by an activity. Two-way traffic is difficult, may require
Volumes	Uncontrolled. Will accommodate the experted traffic volumes.	Occasionally controlled during heavy use periods.	Erractic. Frequently controlled as capacity is reached. associated with the single purpose.	Intermittent and usually controlled. Volume limited to that
Vehicle Types	Mixed. Includes the critical vehicle and all vehicles normally found on public roads.	Mixed. Includes the critical vehicle and all vehicles normally found on public roads. use may be controlled to minimize conflicts between vehicle types.	Controlled mix. Accommodates all vehicle types including the critical vehicle. Some use by commercial and other traffic is restricted.	Single use. Not designed for mixed traffic. Some vehicles may not be able to negotiate. Concurrent
Critical Vehicle	Clearances are adeovate to allow free travel. Overload permits are required. mits are required.	Traffic controls needed where clearances are marginal. Overload per- negotiating some	Special provisions may be needed. Some vehicles will have difficulty off-loaded and walked segments.	Some vehicles may not be able to negotiate. Loads may have to be in.
Safety	Safety features are a part of the design.	High priority in design. Some protection is accomplished by traffic management.	Host protection is provided by traffic management.	Need for protection is minimized by low speeds and strict traffic controls.
Traffic Management	Normally limited to regulatory, warning, and guide signs and premits.	Employed to reduce traffic volume and conflicts.	Traffic controls frequently needed during periods of high use by the dominant resource	Used to discourage or prohibit traffic other than that associated with the single purpose.
User Costs	Minimize. Transportation efficiency is important.	Generally higher than A because of slower speed and increased delays.	Not Important. Efficiency of travel may be traded for lower construction costs.	Not considered.
Alignaet	Design speed is the predominant factor within feasible topographic limitations.	Influenced more strongly by topography than by speed and efficiency.	Generally dictated by topography and environmental factors. Design speeds are generally	Dictated by topography, environmental factors, and the design and critical vehicle limitations. Speed is not important.
Road Surface	Stable and smooth with little or no dust, considering the normal season of use.	Stable for the predominant traffic for the normal use season. Periodic dust control for heavy use or environmental reasons. Smoothness is commensurate with the design speed.	May not be stable under a1l traffic or weather conditions during the normal use season. Surface rutting, roughness, and dust may be present, but controlled for environmental or investment protection.	Rough and irregular. Travel with low clearance vehicles is difficult. Stable during dry conditions. Rutting and dusting controlled only for soil and water protection.

Arterial/Collector Road System Service Levels

Road Number	Road Name	Type	Current Service Level	Future Service Level
Mt. Baker Ranger District				
1030	Sauk Mountain	C	C	C
1040	Olson Creek	C	C	C
1050	Diobsud Creek	C	C	C
1060	Bacon Creek	C	C	C
11	Baker Lake Hwy	A	A/B	A/B
1106	East Bank	C	A	A
1107	Anderson Creek	C	C	C
1118	Dry Creek	C	B	B
1124	Sandy Creek	C	C	C
1127	Sandy Ridge	C	C	C
1130	Marten Lake	C	C	C
1131	Boulder Ridge	C	C	C
1144	Morovitz Creek	C	C	C
1152	Shuksan Creek	C	C	C
12	Loomis Nooksack	A	B	B
1230	Blue Lake	C	C	C
13	Schrieber’ s Meadow	A	C	C
14	Jackman Thunder	A	C	C
1420	Thunder Lakes	C	C	C
1540	Sibley Creek	C	C	C
1550	Irene Creek	C	C	C
1570	Found Creek	C	C	C

Table 4-16
Arterial/Collector Road System

Road Number	Road Name	Type	Current Service Level	Future Service Level
Mt. Baker Ranger District, cont.				
16	Illabot Creek	A	B/C	B/C
1610	West Boundary	C	C	C
1620	Illabot Peak	C	C	C
17	Finney-Cumberland	A	B/C	B/C
1705	Gee Creek	C	C	C
1720	Gee Pt-Pressentin	C	C	C
1730	Clendenen Creek	C	C	C
1731	Alder Pass	C	D	D
1735	Finney Peak	C	C	C
1750	DeForest Creek	C	C	C
1755	Little Deer Peak	C	C	C
1770	Claims	C	C	C
18	Segel son	A	B	B
1810	East Big Deer	C	C	C
1820	Westside Higgins	C	C	C
3071	Anderson Creek	C	C	C
31	Canyon Creek	A/C	B/C	B/C
3120	West Church	C	C	C
3130	Kidney Creek	C	C	C
3140	Canyon Ridge	C	C	C
34	Hannegan	A	B	B
33	Wells Creek	A	B	B

Table 4-16
Arterial/Collector Road System Service Levels

Road Number	Road Name	Type	Current Service Level	Future Service Level
Mt. Baker Ranger District, Cont.				
36	Grouse Butte	C	C	C
37	Dead Horse	A	C	C
38	Middle Fk Nooksack	A	C	C
39	Glacier Creek	A	A/C	A/C
3910	Thompson Creek	C	C/D	C/D
Darrington Ranger District				
18	Segelson	A	B	B
20	Mtn. Loop, NP 0.0-6.4	A	A	A
20	Mtn. Loop, NP 6.4-20.4	A	B	A
2010	French Cr, NP 0.0-1.0	C	B	B
2010	French Cr, NP 1.0-2.1	C	C	C
2010	French Cr, NP 2.1-8.3	C	D	D
2060	Clear Creek	C	C	C
2070	Murphy Creek	C	C	C
2080	Falls Creek	C	C	C
2081	Goodman Creek	C	C	C
2083	Peekaboo	C	D	D
2140	Prairie Mountain	C	B	C
22	N.Side Sauk River	A	C	C
2210	Gold Hill (4 Mile)	C	D	D
23	White Chuck	A	B	B
2311	Pugh Ridge	C	C	C

Table 4-16
Arterial/Collector Road System Service Levels

Road Number	Road Name	Type	Current Service Level	Future Service Level
Darrington Ranger District Cont.				
24	Dans Creek	A	C	C
2420	Dans Creek Divide	C	C	C
25	So. Side Suiattle	A	B	B
2510	Conrad Creek	C	C	C
26	Suiattle, NP 0.0-9.8	A	A	A
26	Suiattle, NP 9.8-24.2	A	B	B
2640	Grade Creek	C	C	C
2642	West Grade Creek	C	C	C
2660	Tenas Creek	C	C	C
27	Straight Creek	C	C	C
28	N.F. Stillaguamish	A	B/C	B/C
2810	North Mountain	C	C	C
2811	Texas Pond	C	C	C
29	Rinker Ridge	A	B/C	B/C
4020	Schweitzer Creek	C	B	B
4030	Mallardy Creek	C	B/C	B/C
4037	River	C	C	C
4052	Deer Creek	C	B	B
4060	Coal Lake	C	B	B
41	Tupso Pass	A	B	B
4110	Green Mountain	C	C	C
42	Pilchuck	C	B	B

Table 4-16
Arterial/Collector Road System Service Levels

Road Number	Road Name	Type	Current Service Level	Future Service Level
Darnington Ranger District, Cont.				
49	Curry Gap	A	C	C
North Bend Ranger District				
50	Cedar River/ Snow Creek	A	B/C	B/C
5040	Five Hundred	C	C	C
5040-110	Five Hundred 30	C	C/D	C/D
5060	Snow Creek	C	C	C
5062	Rooster Comb	C	C	C
5066	Six-0-Two	C	C	C
5078	Upper Snow Creek	C	C	C
51	Two Hundred	A	B	B
5134	Three Hundred	C	C	C
5140	Two 10/Two 11	C	D	D
52	Twin Camp	A	C	C
5210	Intake Creek	C	C	C
5220	Twin Camp Creek	C	C	C
54	Green River	A	B/C	B/C
5403	Tunnel	C	C	C
55	Tinkham	A	B/C	B
5510	Hansen	C	C	C
56	Middle Fork	A	C	B
5620	Goldmeyer	C	C/D	C/D
5640	Quartz Creek	C	D	C/D

Table 4-16
Arterial/Collector Road System Service Levels

Road Number	Road Name	Type	Current Service Level	Future Service Level
North Bend Ranger District,				
5630	Taylor River	C	C	C
57	Lennox Creek	C	C	C
58	Denny Creek	C	B	B
5730	North Fork	C	C	C
9020	Garcia	C	C/D	C/D
7034	Sawmill Rdg	C	C	C/D
Skykomish Ranger District				
6022	Heybrook LO	C	D	D
6024	Barclay Creek	C	B	B
61	Sultan Basin	A	B	B
6120	Williamson Creek	C	B/C	B/C
62	No Name Creek	A	C	C
63	N. Fk. Skykomish	A/C	B	B
6320	Trout Creek	D	D	D
6330	Salmon Creek	C	C	C/D
6412	E. Fk. Miller River	C	B	B/D
65	Beckler River	A	A/B	A
6510	Bolt Creek	C	C/D	C/D
6514	Eagle Creek	C	C	C/D
6520	Johnson Creek	C	B	C/D
6522	County Line	C	D	D
6530	Rapid River	C	C	C/D

Table 4-16
Arterial/Collector Road System Service Levels

Road Number	Road Name	Type	Service Level	Service Level
Skykomish Ranger District, Cont.				
6546	Fourth of July Creek	C	C	C/D
6548	Boulder Creek	C	C/D	C/D
6550	East Beckler River	C	D	D
6554	Evergreen Creek	C	B	C/D
6570	San Juan Hill	C	C/D	C/D
6580	West Cady	C	C	C/D
66	Beckler Peak	C	C	C/D
6710	Martin Creek	C	C	D
68	Foss River	A/C	A/B	A/B
6830	Tonga Ridge	C	B	B
6840	Maloney Ridge	C	B	B
White River Ranger District				
70	Greenwater	A	A/B	A/B
7010	Midnight Creek	C	C	C
7012	Divide Ridge	C	C	C
7030	Whistler Creek	C	C	C
7032	Williams Hole	C	C	C
7036	Green Divide	C	C	C
7060	Lower Pyramid	C	C	C
7120	Lido	C	C	C
7125	Slippery Creek	C	C	C
7130	Christoff	C	C	C

Table 4-16
Arterial/Collector Road System Service Levels

Road Number	Road Name	Type	Service Level	Service Level
White River Ranger District, Cont.				
7160	Buck Creek	C	C	C
7174	Corral Pass	C	C	C
72	28 Nile/Lightning Cr	A	C	C
7220	Echo Lake	C	C	C
7222	Forest Lake	C	C	C
7250	28 Nile Creek	C	C	C
73	Huckleberry Creek/ Eleanor Creek	A	C	C
7315	Suntop	C	C	C
7320	W.Huckleberry	C	C	C
74	W. Fk. White River/ Martin Gap	A/C	A/C	C
7415	West Valley	C	C	C
7430	Viola Creek	C	C	C
75	Jim Creek	A	C	C
7550	East Valley	C	D	D
7710	South Prairie	C	C	C
7810	Cayada Creek	C	C	C
7920	Poch Peak	C	C/D	C/D
7930	Poch Ridge	C	C	C
7530	Lonesome Lake	C	C	C

Fire

The fire protection and use program on the Mt. Baker-Snoqualmie is a service program which supports the other resource management programs identified in the Plan. The program includes all activities for: (1) the protection of resources and other values from wildfire; and (2) the use of prescribed fire to meet land and resource management goals and objectives. Fire management's role is to coordinate, plan and implement fire protection and use programs consistent with the standards and guidelines and management prescriptions.

Fire protection and use activities have a direct effect on the physical and biological environment, including air quality. Monitoring the effects of the fire management program will help determine if management practices are changing the physical and biological environment and if the cost of the program activities meet the "cost plus net value change" criteria associated with the implementation of the Forest's fire protection and use program (refer to Chapter 5, Monitoring and Evaluation Program.) The fire protection and use programs are described below.

Fire Protection Program

The fire protection program includes fire prevention, presuppression (i.e. detection, dispatching, fire danger rating, fire weather forecasting, and training), suppression, and fire management analysis and planning activities. The collective application of all fire activities required to meet the fire management direction for each management area, including fuels management, will be documented in a detailed fire management action plan to be completed within one year after approval of the Plan.

An appropriate suppression response (i.e., containment, confinement, or control) based on location, conditions, and resource values will be taken on all wildfires. Natural ignitions occurring in wilderness areas will be treated as prescribed fires until declared a wildfire. Human-caused fires in wilderness are wildfires and will receive an appropriate suppression response. The standards and guidelines outlined in the Plan are estimated to result in no increase in the number of wildfires on the forest. The acreage burned from wildfires will average no more than 150 acres per year. Fires sizes will typically be less than 5 acres though a fire in the 25-30 acre size range can be expected each year. Guidelines for the selection of appropriate suppression response for each management area will be included in the fire management action plan.

Implementation of the fire protection program involves considerable external coordination. The majority of this coordination involves formal fire protection agreements with neighboring fire suppression organizations. The Forest has reciprocal agreements with the State of Washington, Department of Natural Resources, Bureau of Indian Affairs, Puget Sound Agency, and National Park Service (North Cascades and Mt. Rainier National Parks). The Forest also cooperatively protects lands administered by the Bureau of Land Management located within and adjacent to the Forest.

Fire Use Program

The fire use program involves the planning, administration and direct implementation of prescribed fire activities for the protection, maintenance and enhancement of resource productivity.

D. FOREST-WIDE STANDARDS AND GUIDELINES

Standards and guidelines state the bounds or constraints within which all practices will be carried out in achieving the resource objectives of the alternatives. The management of the Mt. Baker-Snoqualmie is subject to all applicable laws and regulations. Standards and guidelines are intended to help the manager achieve the goals and objectives, while staying within constraints prescribed by law.

There are two categories of standards and guidelines: Forest-wide, applying to all management areas (discussed in Part D, below); and standards and guidelines specific to individual management areas (Part E of this chapter).

Development of Standards and Guidelines

The Forest-wide standards and guidelines and management prescriptions were developed according to Regional Direction, for the purpose of: 1) identifying anticipated potential direction for activities on the MBS, and 2) assist in directing formulation of the Forest's planning model and alternatives. The Forest-wide standards and guidelines contain management requirements (MR's) and other important direction.

Both the Forest-wide standards and guidelines and the individual management area (MA) prescriptions contain a goal statement, reflecting the expected results for a forest resource, activity, or land area. They provide direction emphasis for the Mt. Baker-Snoqualmie, supplementing Forest Service manuals, handbooks, and the Regional Guide. Both respond to Forest ICO's, appropriate laws, regulations, and existing direction, land capabilities, and professional judgement.

Forest-wide Standards and Guidelines and Management Area Prescriptions

Management direction for the Mt. Baker-Snoqualmie is defined by bath the Forest-Wide Standards and Guidelines and the individual Management Prescriptions. The Forest-Wide Standards and Guidelines are applicable to all areas of the Forest, unless exceptions are specifically noted in an individual management prescription. The Management Prescriptions are sets of management practices scheduled for application on a specific Management Area.

<u>Definitions</u>

To understand the intent of the Forest-wide and MA standards and guidelines, the interpretations of the terms used are critical.

> The first intent is conveyed by the word shall (also, "must" and "will").
> The action is mandatory in all cases.
>
> The second is conveyed by the word should. With this degree of restriction, action is required unless justifiable reason exists for not taking action. This direction is intended to require a practice unless it entails unacceptable hardship or expense. Exceptions to "should" are expected to occur infrequently.
>
> The third type of direction uses the word practicable and acknowledges that a given practice is not always feasible and practical in every situation. It is intended to encourage, but not require, a practice.

The fourth uses the word “may” and has to do with activities which may or may not be appropriate, depending on circumstances. This direction is intended to allow for taking advantage of compatible opportunities, or to provide for exceptions when the objectives of a particular standard can be met through alternate methods.

The following is a list of the contents of this section of Chapter 4, Part D, The Forest-wide Standards and Guidelines.

Contents for Forest-wide Standards and Guidelines

GENERAL PROCEDURES

Goal: Meet identified land, resource, and support activity goals.

1. Activities affecting forest system lands and resources will be analyzed through NEPA analysis.

2. Economic efficiency will be a consideration in forest and project level planning and development.

3. Improve net benefits of all resources by reducing unit costs through improved management efficiency and new and emerging technology.

4. Management of forest system lands, resources, and activities will be coordinated with appropriate local, State, Federal agencies, private landowners, Indian tribes, and interest and user groups.

RECREATION

Goal: Provide a broad spectrum of recreation opportunities and experiences on the Mt. Baker-Snoqualmie National Forest.

General

1. Encourage public and other agency participation in recreation planning.

2. Implement practices that will reduce costs of recreation operation and increase revenues from recreation use where cost effective to accomplish.
3. Whenever possible, other resource activity planning such as road and timber sale developments should incorporate plans to provide or improve compatible recreation facilities or services.

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

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

Dispersed

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

2. Inventory, evaluate, and manage dispersed occupancy sites.

3. Manage public use as necessary to protect resource values, provide a quality experience and provide for public health and safety.

4. Identify the potential change of any proposed activity on Recreation Opportunity Spectrum (ROS) classes in all project environmental analysis.

5. Evaluate opportunities to allow for expanded public recreation service through commercial outfitter-guide operations.

Developed

1. Provide public information that informs the user about recreation opportunities and how to care for forest resources.

2. Appropriate recreation facilities will be evaluated for recreation mitigation for all proposed hydroelectric projects.

3. Developed facilities will be administered and maintained to provide visitor safety and sanitation, protect facility and site resources, and provide for visitor recreation needs and convenience; while reducing unit costs. Work towards concentrating developed campground facilities in high use zones where cost and service efficiency is highest.

4. Developed facilities will be kept in a satisfactory condition, otherwise they should be closed to use, or removed.

5. The minimum level of management for any developed site will be determined by Forest Service monitoring for health and safety. The public will be expected to provide self service or to pay a user fee where such measures will help reduce net federal expenditures.

6. Evaluate opportunities for private operation of Mt. Baker-Snoqualmie recreation facilities.

7. Developments operated under Special Use Permit shall be administered to assure the permittee is following the terms of the permit.

8. Encourage year-round recreation use at winter-sports sites. Permit summer facilities that are compatible with or enhance natural resource-based recreation opportunities and in keeping with the Recreation Opportunity Spectrum (ROS).

9. No additional recreation residence tracts will be created. As the renewal date approaches on each permit, the permit will be reviewed in terms of the highest public use for land. If a determination is made that the permit site is needed for a higher public use, the permit shall be terminated and the improvements removed after appropriate notification.

   Existing permits will have the following clause included: “Where existing improvements are destroyed by fire, flood, etc., the permit may be considered for termination.”

Trails

Overall Objectives Applicable to the Entire Forest.

1. To provide a system of trails with routes, construction standards and maintenance standards that compliment the resource capabilities and management objectives of the area served. The system will also provide for necessary administrative access, provide for safe use on various difficulty levels of trails, and have minimum impact on soil, water, visual and other sensitive values.

2. To provide on a Forest-wide basis (not necessarily on each Ranger District) a broad spectrum of trail travel opportunities including: trails at various elevations, trails in diverse settings, and trails suitable to various kinds of users and modes of travel.

3. To proceed from the present trail system to an optimum future system as rapidly as is practicable through reconstruction, relocation, new construction, and the rehabilitation of unneeded trails to a natural condition.

4. To achieve a unified trail system, on and adjacent to the Forest, and assure that the Forest trail system complements management of adjacent land and vice-versa.

5. To assure that the trail system meets the needs of trail users, while remaining consistent with resource capabilities and land allocations.

6. To apply available funds to the highest priority trail reconstruction, construction, and maintenance projects.

7 Trails shall assume the visual quality level of the management area they pass through.

Specific Policies Applicable to the Entire Forest.

1. A broad spectrum of trails will be provided, varying in degree of ease and convenience. Trails will meet the primary objective and difficulty level standards as described in FSH 2309.18.

2. Trails may be provided where soil and vegetation, on and adjacent to the trail route, are suitable for such uses.

3. Each trail shall be managed to a particular “primary objective” (user type). If conflicts arise they will be minimized thru information and education, or as a last resort, closed to users other than the primary objective user.

4. Motorized and/or pack and saddle use of existing trails will be allowed only where the trail, as presently constructed (and soils and vegetation adjacent to the trail), can absorb such use without unacceptable damage.

In some cases the long range “primary objective” may not exist until the trail is reconstructed to that standard. Closures may exist until the trail meets the planned “primary objective” standard.

5. Existing and potential heavy use areas (focal areas) will receive special attention in planning so that necessary facilities are provided, and trails do not introduce undesirable use. Such planning will be completed prior to major construction and/or reconstruction affecting such focal areas.

6. Hiker-only trails shall, when feasible, be separated from trails open to other kinds of users. Trails open to other kinds of users should not dead-end at a hiker-only trail.

7. Trails for pack and saddle use should, when topographically possible, by-pass focal areas, such as alpine lakes, by at least 200 feet in elevation or 500 yards horizontally.

8. Trail systems should provide for loop trails and interconnecting links where consistent with other needs, constraints, and land allocations.

9. Special emphasis will be given to identification and planning for trails at elevations where the ground is usually snow free for at least half of the year.

10. Seasonal use restrictions will be used where appropriate to protect soil, vegetation, wildlife, and to manage conflicts in use.

11. Maps showing restrictions on the use of trails will be developed and made available to the public.

12. Only system trails are considered safe for use. Only system trails will be signed on the ground and shown on maps. Publishers of guidebooks will be encouraged to follow a similar policy.

13. Priority for use of trail funds will generally be as follows:

    a) Maintenance of the existing system.

    b) Reconstruction and relocation of existing trails to protect the resources.

    c) Reconstruction and relocation of existing trails for user safety and convenience.

Within these priority levels, individual projects will be prioritized based on such factors as environmental protection concerns, user safety, volume of use, and length of season of use.

14. The use of volunteers for trail maintenance will be encouraged.

15. Wheeled motorized vehicles will be prohibited on groomed snowmobile and cross-country ski trails.

Specific Policies Applicable to Certain Management Areas on the Forest.

1. Wilderness.

   a. Management objectives will be aimed toward providing a primitive recreational experience in a natural wilderness setting.

   b. Trail management objectives will be closely related and coordinated with the WROS zone to' be served.

   c. A diverse spectrum of opportunities and experiences by difficulty level, mode of travel, distance and kind of destination will be sought.

   d. Visitors will be discouraged from establishing additional informal trails.

   e. Normally, no new trail construction or major reconstruction will be undertaken until an environmental analysis has been completed for the site specific project.

   f. The major objective in trail planning is to minimize the impact of trails on soils, vegetation, visual and other resource values.

   g. Trail construction and maintenance in wilderness areas using motorized equipment may be allowed only with approval of the Regional Forester. Approval will be on a one-time, case-by-case basis.

   h. Bridges will be provided only when:

   - The most suitable and logical crossings cannot be safely negotiated during primary periods of use.

   - When less formal devices (i.e., footlogs) are likely to be frequently destroyed by flood waters.

   1. Native materials (wood, local rock, bank-run gravel) that blend with the trails environment will be used where such materials are necessary as a part of trail construction.

   j. Signing will be held to a minimum and consist of rustic white oak signs showing trail destination.

2. Unroaded Management Areas Outside of Wilderness. This includes all areas of sufficient size to constitute a manageable entity that, based on classification, resource capability, and/or land use planning recommendations, will continue to be managed in a roadless condition for the foreseeable future. The following specific policies will apply to each such area:

   a. The trail system will be based on, and consistent with, the resource capability and management objectives of the area.

   b. In most areas, management objectives will aim at providing a primitive recreational experience in a near-natural setting.

c. Compared to wilderness, a greater degree of modification of the natural environment will be allowed in trail construction and maintenance, if necessary to achieve standards consistent with management objectives. Non-native materials and motorized equipment may be used.

3. Roaded Management Areas. This includes all areas that are presently roaded or that, based on classification, resource capability and/or land use planning recommendations, will be roaded in the foreseeable future. The following specific policies will apply to such areas:

a. This Trail Plan and Trail System planning will be an integral part of project planning.

b. Significant trail opportunities will be identified and managed as the road systems are developed. Examples of "significant trail opportunities" include:

- Trails from a road to a significant feature or attraction such as a fishing stream or viewpoint.

- Trails that will be snow-free for at least half the period from November through April.

- Trails of historical significance.

- Trails that are part of a continuous route from low to high elevations.

c. Trails interrupted by logging or road construction will be restored or substitute trails with the same primary objective and difficulty level provided so that the mileage of trails in the same general area is not diminished. Trails will be kept open, and clear directions for users provided during interrupting activities.

d. Where resource capabilities and management objectives permit, consideration will be given to the development of trails suitable for motorized use.

e. Abandoned or closed portions of the road system will be considered for management as trails.

f. Hiker & interpretative trails should be provided near most large campgrounds to provide for visitor use and enjoyment. Some of these should be suitable for barrier free access.

g. Trails suitable for barrier free users will be provided so as to make recreation opportunities more available to them.

4. Pacific Crest National Scenic Trail. This is a part of the National Trail system by Act of Congress. It is managed for hiker and pack/ saddle use. Standards for construction and maintenance have been established for its entire length. The following specific policies will apply:

a. Where the trail passes through wilderness; location, design, construction and maintenance standards will be modified to the extent needed to meet the intent of WROS zone through which it passes.

b. In non-wilderness areas manage to meet standards of ROS zone that the trail passes through.

c. Management will be fully coordinated with the Wenatchee National Forest and the National Park Service.

d. Motorized use will not be allowed on any trail or segment of trail that terminates at the Pacific Crest Trail, unless there is a logical destination point of attraction prior to the PCNST.

e. Mountain bikes are not allowed on the Pacific Crest Trail, as per Regional Forester closure notice, August 31, 1988.

5. National Recreation Trails. The National Recreation Trails System highlights certain trails that provide outstanding opportunities for recreational use located near centers of population.

a. Potential National Recreation Trails will be identified that meet the established criteria.

b. Priority will be given to bringing existing and potential NRT trails to standard.

c. As they are brought to standard, they will be formally proposed for designation.

6. Areas Where Public Use is Prohibited or Not Encouraged. This includes some municipal watersheds and the Research Natural Areas. The following specific policies will apply to such areas:

a. In Research Natural Areas, research personnel will be consulted about any trail plans or proposals.

b. Public use of existing trails in Research Natural Areas may be allowed to continue, but increases in such use or off-trail use will not be encouraged.

c. Trails in, or on the border of municipal watersheds will not be constructed or reconstructed before local officials have been contacted.

7. Trailhead Policy. A trailhead is the place where a trail connects with a road or a navigable body of water. Trailhead use, and therefore trailhead development, varies greatly. The following specific policies will apply to trailheads:

a. Trailheads are part of the transportation system and will be developed and maintained with Forest Roads Program funds.

b. As a minimum, a trailhead will provide adequate parking for an average peak season weekend day's use. This may be provided by turnouts located within 1/4 mile of the trail. Signs and posters needed to inform the trail user should be provided.

c. Heavier use situations may include off-road parking, horse-handling facilities, toilets and garbage containers. Only under unusual circumstances will such facilities as potable water and camping facilities be provided at trailheads.

d. When a trail will be intersected by new road construction, the needed trailhead facilities should be part of the road construction "package".

8. Maintenance.

a. Annual trail management plans list the total requirements for maintaining the trail system. The following criteria are normally used in establishing priority for trail maintenance work:

Generally, the first priority for maintenance activities would be the correction of unsafe conditions relative to the management objectives. Following this, maintenance activities (see section 4.23 of FSH 2309.18) are based on the primary objective and difficulty level (See Trail Maintenance Activity Matrix, MBS Trails Handbook).

Winter Recreation

1. Each major winter recreation activity (Alpine and Nordic skiing, snowmobiling, and snow play) will have areas designated and managed to accommodate them. Other activities occurring within these areas should be limited or prohibited if they conflict with the primary activity, or if overcrowding develops.

2. Ranger District Mountain Weather/Avalanche Advisory Systems will be coordinated with the R6, NW Avalanche Center System. The Forest will provide public information and education on avalanche conditions and safety.

3. Patrol and safety may be provided through a combination of permittee and/or volunteer ski patrols. The Forest Service may provide leadership and training in such patrol activity.

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

5. National Forest managers will coordinate with and support the Sno-Park and Snowmobile programs. Normally, provision for plowed parking will be made through these programs.

6. Alpine ski permittees will be encouraged to integrate winter dispersed recreation into their operations if and when the opportunity and demand exists.

7. Where a need for groomed trails is identified, such facilities will normally be provided through special use permits. The permittee may be allowed to charge user fees.

8. Winter recreation facilities, such as parking lots, groomed ski trails, motorized use zones, and cross country ski trails, should attempt to avoid south-facing aspects where significant wildlife winter use occurs.

Motorized Vehicle Use

1. Ensure that motorized use, including over snow type is managed to mitigate their impacts on other resources, promote safety of users, and minimize conflict. (Executive Order 11644, as amended by EO 11989).

2. Provide a diverse system of maintained trails for the enjoyment of all users and to meet the needs for administrative and resource management purposes.

3. Use ORV closures only when needed to minimize disturbance of wildlife, minimize recreation use conflicts, or to protect soil and water resources.

VISUAL RESOURCE MANAGEMENT

Goal: Provide an attractive forest setting, emphasizing the natural appearance of areas seen from major roads and recreation sites.

1. The minimum visual quality objective is maximum modification.

   a. Maximum modification provides that vegetation and land form alterations resulting from management activities may dominate the characteristic landscape. However, when viewed as background, cut blocks, patches, or strips are shaped and blended to the extent practicable with the natural terrain.

   b. When viewed as foreground or middleground, management treatments may not appear to completely borrow from naturally established form, line color, or texture. Alterations may also be out of scale or contain detail which is incongruent with natural occurrences, as seen in foreground or middleground.

   c. The introduction of structures, roads, slash, and other project-related debris must remain visually subordinate to the proposed composition when viewed as background.

   d. For this level of management, the reduction in visual contrast of activities and treatments with their surroundings should be accomplished within 5 years (Agriculture Handbook Numbers 462 and 559).

2. Management of the foreground of the Pacific Crest Scenic Trail will meet at least the level of the ROS environment that the trail passes through.

3. In evaluating management activities within the viewsheds (including outside the river corridors) of designated "wild", "scenic" and "recreation" rivers the following visual conditions shall apply.

River Classification	**Visual Quality Objectives**		
	Classified Corridor (1/4 mile foreground)	Viewshed Beyond Classified Foreground Sensitivity Level 1	Sensitivity Level 2&3
Wild	**Preservation** Retention may be used for necessary recreation facilities	**Retention** middleground **Partial Retention** background	**Partial Retention** middleground **Modification** background
Scenic	**Retention** Partial retention may be used for necessary structural facilities	**Partial Retention** middleground **Partial Retention** background	**Modification** middleground **Modification** background
Recreation	**Partial Retention** Modification may be used for necessary structural facilities background	**Partial Retention** middleground **Partial Retention** background	**Modification** middleground **Modification**

4. Update Forest Existing Visual Condition (EVC) and Visual Quality Objective (VQO) mapping every five years, in the Forest data base or in Geographic Information System (GIS).

5. The Scenic Byway designation applies to the following scenic drives:

   Mt. Baker Highway Scenic Byway, and Proposed Scenic Byways on the Mt. Loop Highway and Stevens Pass Highway when designated.

   a. Recreation facilities will be planned in the roaded natural and rural recreation opportunity spectrums. Facilities will accommodate families, the elderly and will be barrier free where possible.

   b. Interpretive plans shall be prepared. Wayside exhibits and interpretive trails will be added to enhance the publics knowledge of cultural and natural features and resource management.

   c. Trails with an “easiest” hiking standard shall be planned where appropriate.

WILD AND SCENIC RIVERS

Goal: Maintain recommended rivers and streams to protect their highest classification level until Congress takes actions on preliminary administrative recommendation.

1. Recommend to Congress 30 rivers for addition to the National Wild and Scenic Rivers System. Refer to Chapter 4, Resource Summaries for a listing of these rivers.

2. Maintain or enhance the recreation, visual, wildlife, fisheries and water quality values of the existing and recommended wild, scenic, and recreation rivers.

3. Recommended wild and scenic rivers shall be managed to protect those characteristics that contribute to the eligibility of these rivers at their highest potential classification until Congress formally determines their status.

4. Encourage participation and cooperation of public and private landholders in the study and implementation of river classification on non-national forest lands.

5. In the recommended wild, scenic, or recreational river corridors, a no-surface occupancy stipulation shall be required in mineral leases.

6. Commercial outfitting and guide permits should be allowed where there is a demonstrated management and public need compatible with general public use and Limits of Acceptable Change.

7. In recommended and existing wild, scenic, and recreation river corridors, new dams, diversions, or hydroelectric power facilities shall be prohibited to the extent of Forest Service authority. Existing facilities may be maintained.

8. Each River Management Plan shall include an estimated capacity for the river using the Limits of Acceptable Change (LAC) process.

COMMUNITY AND HUMAN RESOURCES MANAGEMENT

Goal: Promote human resources, civil rights, and community development within the zone of influence of the Mt. Baker-Snoqualmie National Forest.

Management

1. Conduct compliance reviews as required by Title VI of the Civil Rights Act of 1964 and the established Forest Service standards.

2. The Forest will actively pursue the employment of the handicapped and ensure that the needs of the handicapped are considered in the design of forest facilities.

3. The Forest will participate in human resource programs that support community and economic development.

4. Provide employment opportunities for senior citizens.

5. Utilize volunteers in various activities such as in trail work, wildlife inventories, campground hosts, and other projects.

AMERICAN INDIAN RELIGIOUS AND CULTURAL USES

Goal: To assure the availability of sites and areas for religious and ceremonial use by American Indian tribes within the planning area. (Any areas and sites which contain artifacts or features will be considered cultural resources. These will undergo inventory, evaluation, protection, and enhancement as previously described.)

1. Maintain and update the "Inventory of American Indian Religious and Cultural Use, Practices, Localities, and Resources

2. Protect confidentiality of American Indian religious and cultural use areas.

3. Identify specific sites and areas according to the nature of the religious use or ceremonial practice:
    a. Spirit Quest and legendary sites
    b. Cedar area
    c. Ceremonial flora and plant areas
    d. Cemeteries

4. Protect a portion of religious and cultural use areas as a result of allocation to management areas which maintain conditions suitable for religious and cultural use.

5. Review the "Inventory of American Indian Religious and Cultural Use, Practices, Localities, and Resources" during the scoping phase of environmental analyses.

6. Present information about planned project activities in all management areas (i.e., protected and otherwise) to religious and political leaders of tribal groups whose traditional practices might be affected.

7. Where projects will affect American Indian religious and cultural use sites, protection and mitigation measures shall be worked out with the leaders of the affected tribal groups on a project specific basis or through Memoranda of Agreement.

8. Project level protection and mitigation measures shall consider the nature of the religious site, type, and duration of use and other factors of concern to tribal leaders in determining what appropriate measures can be designed to protect site values. They shall maximize retention of purity, privacy, and isolation, consistent with overall Plan objectives.

9. In the event that religious artifacts or features are discovered during implementation of a project, follow the procedures of 36 CFR 800.11. Notify the affected tribe(s).

10. National Forest lands shall be managed to recognize and reduce social and administrative barriers to religious uses of the forest by American Indians.

ARCHAEOLOGICAL AND HISTORICAL PROPERTIES

Goal: To provide for management and protection of cultural resource values through a program which integrates inventory, evaluation, protection, and enhancement.

Inventory

1. Maintain a cultural resource overview of the Forest. The overview should summarize all previously recorded cultural resource information for the Forest, provide a framework for evaluating cultural resources identified through the inventory process, develop a research design to guide future surveys, inventories, and scientific investigations, and identify opportunities for interpretation of a range of cultural properties.

2. A professionally supervised cultural resource inventory program will be conducted, on a project specific level, for all activities which might affect resources eligible for the National Register of Historic Places, including land exchanges and facility maintenance. A systematic program of inventory of areas not affected by projects will be implemented, in order that a complete inventory of Forest cultural resources be assembled.

3. A Cultural Resource Inventory Plan will be developed to guide all inventory activities, specifying types and intensity of survey by geographic area within the Forest.

4. Results of project level cultural resource inventories shall be documented through environmental analysis for the project. Cultural resource compliance shall be documented according to the current Memorandum of Understanding between the Washington State Historic Preservation Office (SHPO) and the Mt. Baker-Snoqualmie National Forest.

5. The Forest Cultural Resource Overview site list shall be updated regularly to reflect additions to the data base. The backlog of sites that lack complete records will be reduced through a systematic program of recordation.

Evaluation

1. Evaluate the significance of inventoried sites by applying the criteria for eligibility to the National Register of Historic Places. This will be accomplished by a professional cultural resource specialist. Sites may be treated as individual properties, thematic groups, or historic districts. Give priority to those properties that may be affected by project activities. Evaluations will be coordinated with the criteria contained in the Cultural Resource Overview and State Historic Preservation Plan.

2. Consider the effects of all National Forest undertakings on significant cultural resources.

3. Develop management plans, in consultation with the Washington SHPO, Advisory Council and other interested parties as defined in 36 CFR 800, for National Register-eligible sites. Plans are to specify measures to protect and maintain the cultural integrity of the sites, objectives for management

of the setting, identify levels and types of other resource uses compatible with the cultural values of the sites, an interpretive design if appropriate, and a schedule to carry out the objectives of the plan. Adaptive or compatible modern uses of historic properties, such as use as Forest Service administrative facilities, should be encouraged. Priorities will be established based on the significance of the resource and the level of on-going impacts.

4. Develop Programmatic Memoranda of Agreement and/or management plans (in consultation with the SHPO) for the evaluation of classes of prehistoric and historic resource properties found on the National Forest. Examples include mining improvements, timber claim cabins, prehistoric lithic scatters, stripped cedar trees, railroad logging sites.

5. Initiate a systematic program to nominate cultural resources that meet the criteria for eligibility to the National Register of Historic Places.

Protection

1. Until proper evaluation occurs, all known cultural resource properties shall be protected.

2. Develop measures, in consultation with the Washington SHPO, Advisory Council, and other interested parties as defined in 36 CFR BOO to protect significant sites from adverse effects due to Forest development or management practices. Avoidance of impacts (leaving resources undisturbed) shall be explicitly considered for all significant resources. Other measures may range from avoidance of the site and protection of its environmental setting to data recovery or recordation to Historic American Buildings Survey or Historic American Engineering Record standards. Actual measures will be determined through Programmatic Memoranda of Agreement or during consultation for specific projects.

3. Confidentiality of cultural resource site location shall be maintained as required by Section 304 of the National Historic Preservation Act.

4. Based on management plans, protect eligible cultural resources from degradation due to public use and natural deterioration. Protection activities may include, but are not limited to, scientific study and collection (as outlined in a data recovery plan), the use of fences and barriers, proper use or removal of signs, stabilization techniques, closure orders, patrol and site monitoring, maintaining site anonymity, and gaining public understanding and support through education.

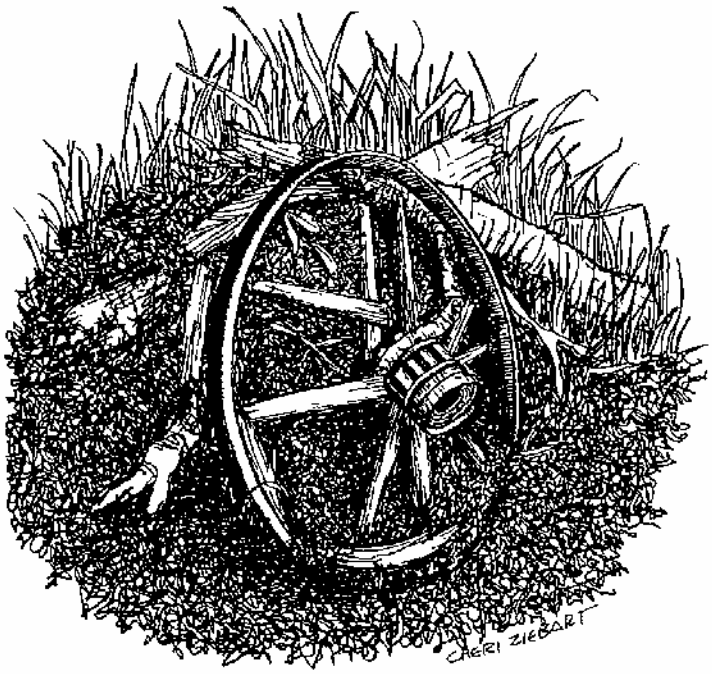
5. Decisions on the maintenance level for eligible historic structures will be based on an analysis of utility, interpretive value, public interest, existing site or area allocation, funding sources, and existing agreements.

6. Wildfire suppression plans and prescribed burning prescriptions to be applied in areas of known or potential cultural resource properties shall comply with 36 CFR 800. A cultural resource inventory and consultation with the State Historic Preservation Officer may be required.

Enhancement

1. The Forest shall foster active programs of research through permits to, and cooperative agreements with, qualified institutions, organizations, and individuals; and by identifying opportunities for research. Such research should meet Forest Service, State, and/or scientific needs.

2. In preparing cultural resource management plans (Evaluation # 3 above), consider the interpretation of properties for the recreational use and educational benefit of the general public. The measure of suitability should be based on accessibility to the public, feasibility for protection, condition of the property, compatibility with other resource management activities within or adjacent to the area, thematic representation, and value to public groups. Preferred methods include brochures, signs, and self-guided tours.



WILDERNESS

Goal: The goal of wilderness management is to feature naturalness, provide opportunities for solitude, challenge, and inspiration, and within these constraints to allow for recreational, scenic, scientific, educational, conservation, and historical uses. Permitted but non-conforming uses specified in the Wilderness Act will be carried out under restrictions designed to minimize their impact on the wilderness. The criteria used for conflict resolution will be to preserve and protect the wilderness resource.

Wilderness exemplifies freedom, but is defined more by the absence of human impact than by an absence of human control. Management therefore shall seek to minimize the impact of use rather than use per se. A high priority, however, shall be placed on spontaneity of use and as much freedom from regimentation as possible while preserving the naturalness of the wilderness resource and the opportunity for solitude, primitive recreation, scenic, scientific, and historical values.

In carrying out this goal, a policy of nondegradation management shall be followed. The nondegradation policy recognizes that in wilderness one can find a range of natural and social settings from the most pristine to those where naturalness and opportunities for solitude have been diminished by established uses. It is the intent of this policy to assure that appropriate diversity and existing wilderness character are maintained. Further intent is to ensure that all of the most pristine areas will not be reduced to the minimum acceptable standard of naturalness simply to disperse and accommodate more use.

Managers shall administer the wilderness using five wilderness Recreation Spectrum classes: Transition, Trailed, General Trailless, Dedicated Trailless, and Special Areas. This classification is a refinement of the primitive and semi-primitive nonmotorized ROS classes. Within each of these is described the character of activities expected within the class and standards to guide management.

Recreation - To provide a spectrum of opportunities for wilderness recreation featuring a natural environment, solitude, physical and mental challenge, and inspiration consistent with preservation of wilderness values.

Wilderness provides unique and highly favored recreational experiences, however, recreational use of wilderness must be closely managed and monitored to assure that degradation of resource values does not occur. The following standards and guidelines are established to help achieve this end.

1. If monitoring of on-site conditions indicates that wilderness resource values are being degraded or changed to a point that limits of acceptable change are being closely approached, management actions must be implemented to reverse the declining trend. Recreational visitor activities may be regulated, reduced, or excluded from specific sites or areas. Management actions designed to solve user impact problems will generally be fully implemented before entry quota systems are employed.

2. Manage use within the limits of acceptable change for the five Wilderness ROS classes. Set specific site and area carrying capacities for heavy use areas to meet established standards.

3. Regulations limiting the number of visitors to maintain established Limits of Acceptable Change should be put into effect only after other reasonable measures to minimize impacts have been considered. Non-regulatory management measures may include: improve, maintain, or lower standards for access roads, trailhead facilities, and trails; advertise special attributes of selected areas; identify the range of recreation opportunities in surrounding areas; educate users about basic concepts of protecting wilderness ecosystems; advise users of little-used areas and general patterns of use, and etc. Limitations on numbers of users should be applied to particular heavy use locations where carrying capacity levels are exceeded before they are applied to the entire wilderness.

4. If it becomes necessary to establish priorities for wilderness visitation, highest priority should be given uses which (1) least alter the wilderness environment, and (2) are dependent upon the wilderness environment. Other users should be encouraged to visit areas outside the wilderness.

5. Proposed temporary improvements must be necessary for the protection of the wilderness resource and not for the convenience of users. Authorized improvements shall be constructed of natural materials, and designed to harmonize with the environment.

6. Commercial outfitting and guide permits should be allowed where there is a demonstrated management and public need compatible with general public use and limits of acceptable change.

   The number of permits issued and the amount of use allocated to permit holders should be evaluated periodically to assure an appropriate balance is maintained between general public use and outfitter use. Outfitter guides should not be allowed to dominate the use of an area or occupy favored campsites to the point that use by the general public is limited or constrained.

   a. Outfitter-guide camps should be located away from other popular visitor campsites to reduce social resource impacts.

   b. Outfitter-guide permittees should actively assist in the education of wilderness visitors, within the scope of their operations.

   c. Outfitter-guide operations will generally be required to adhere to established party size limitations and use conditions specified for each wilderness. Any deviation from catching or party size limitations must be documented in the annual operating plan and approved by the District Ranger.

7. Recreation visitors should not be permitted to cache or store equipment, personal property, or supplies in wilderness. Caching is defined as leaving equipment unattended for more than 48 hours.

   The following criteria should be used when considering waivers to allow caching of equipment in wilderness for a period longer than 48 hours.

1. Granting of the waiver is part of a managed corrective action aimed at getting control of historical occupancy and use problems.

2. The requested area is not highly controversial with the public.

3. The requested area is not located where there is frequent competition for available sites.

4. The site can accommodate the planned use.

5. The waiver will not exceed a length of stay prohibited by another order, ie: 14 day limit.

6. The site is not located in high visibility areas such as trail foregrounds, Mountain passes, meadows, or lake shores.

7. The waiver can be monitored for compliance.

8. The waiver will facilitate an important wilderness enjoyment purpose, for which reasonable alternatives are lacking.

8. A range of management tools may be used to reduce conflicts and impacts. Possible Management Actions:

When analysis of visitor use levels and monitoring results indicate management action is necessary to solve resource impact problems, a process will be followed to select the appropriate management actions.

Areas will be field checked when inventory or monitoring data show that resource standards are being approached and the trend is downward toward greater deterioration. The field review will determine if the indicators were properly measured and if the indicators accurately reflect the resource conditions.

Tables 4-17 list a range of potential management action depending on the specific circumstances that may be successful in reversing deteriorating conditions. The actions are listed in order of descending priority.

The emphasis in selecting management actions will focus on choosing actions which will be least intrusive to wilderness visitors, yet effective in resolving problems. In cases where problems are extensive, complex, and very visible, management actions will be required that will have some effect on visitors freedom to use certain areas.

In areas where resource impact has been severe, rehabilitation and restoration work will be accomplished to speed up the natural recovery process.

Should the management actions implemented not result in improving conditions, more restrictive and intensive management actions will be instituted. This progression will continue down through the sequence of management actions until the problems are resolved.

Management actions selected, or the extent to which an action is implemented, should also be in accord with the appropriate WROS Class of the area involved.

Table 4-17
Potential Management Actions to Improve Campsite Conditions
Descending Order of Implementation

1. Education of users outside wilderness
2. Information outside wilderness, at trailheads
3. Contact repeat users such as organized groups, clubs and associations, etc.
4. Wilderness Ranger contacts
5. Reroute trails away from lakes
6. Prohibit stock in campsites
7. Restrict camping near lakes, streams, and meadows
8. Prohibit campfires in specific areas
9. Equipment requirements
10. Install resource protection facilities on durable sites
11. Limit party group size
12. Length of stay limit in problem areas
13. Close campsites to specific users
14. Rehabilitate damaged areas
I5. Special law enforcement efforts
16. Campsite closure
17. Campsite permits
18 Entry quota permit system

Reduce Campsite Density

1. Education of users outside wilderness
2. Information outside wilderness, at trailheads
3. Contact repeat users such as organized groups, clubs and associations, etc.
4. Campsite obliteration and rehabilitation
5. Prohibit camping within prescribed distances of trails, lakes, streams, and meadows
6. Make access to problem areas more difficult
7. Campsite closures, may be seasonal
8. Closure of large areas to camping

Reduce Trail and Campsite Encounters

1. Education of users outside wilderness
2. Information outside wilderness, at trailheads
3. Encourage use outside peak periods
4. Limit group size
5. Seasonal campsite closures
6. Restrict camping near trails
7. Close campsites to certain users
8. Close specific areas to camping
9. Change trailhead and access conditions
10. Length of stay limits
11. Allow only one-way travel on some trails
12. Campsite permits
13. Entry quota permit system

Improve Vegetative Conditions Impacted by Recreation Stock/Pack Animal

1. Education of users outside wilderness
2. Information outside wilderness, at trailheads
3. Allow no hay or unprocessed grain
4. Require use of supplemental feed
5. Limit total number of stock per party
6. Limit group size
7. Prohibit stock in specific areas
8. Prohibit stock in campsites
9. Eliminate facilities that are attractions
10. Provide facilities where impacts should be concentrated on durable sites
11. Allow no stock to feed within specified distance of lakes, streams, and wet areas
12. Seasonal closures
13. Close drainages to stock on a rotating basis
14. Length of stay limits
15. Closure of large ares to stock

Wild and Scenic Rivers - Sections of rivers within wilderness are being recommended for designation as Wild Rivers under the Wild and Scenic Rivers Act. The classification of river segments as "Wild" rivers is compatible with wilderness designation. Management decisions regarding land use or appropriate recreation activities will be directed by the act which has the most restrictive language regarding a specific question. For example, impoundment of rivers, which could be approved by the President under the Wilderness Act, Section 4(d)(4), would not be authorized on a river in wilderness designated "Wild" under the Wild and Scenic River Act, Section 7. Recreation use of a designated "Wild" River in wilderness may be regulated, if such use is creating impacts on wilderness resources that is not in keeping with the Wilderness Act. Management activities and recreation use impacts that occur on wild river segments within wilderness will be monitored for compliance with both Acts.

Visual Quality - To develop facilities and conduct management activities to create acceptable visual conditions in keeping with preservation of the wilderness character.

Natural events and processes such as rock slides, avalanches, tree mortality due to insects and disease, or fire, will change the visual conditions present. These natural occurrences will not be considered as detrimental to Visual qualities. Special management actions would not be taken to mitigate or repair visual damage.

Signing - Provide signs only where necessary to protect the wilderness resource and for basic visitor protection and orientation. The objective is to install and maintain the <u>least</u> possible number of signs.

I. Rough cut, chamfered edge, unfinished white oak shall be the standard sign material in the wilderness. Lettering may be routed and lightly scorched. Pacific Crest National Scenic Trail logo will be branded on white oak.

2. To facilitate long-term mounting and to minimize the visual impact, white oak signs should be placed on trees wherever possible. Where posts are necessary, use untreated native materials that will weather over time.

3. All existing signs should be individually evaluated to determine if they meet the sign management objective. Signs that are needed to meet management objective, but are not of the current design, should be replaced when the existing sign is no longer serviceable. The need for signs should be minimized by developing accurate map brochures and other user information systems.

4. Mileages shall not be placed on signs within the wilderness.

5. Signs needed for management and regulation of use (including site restoration areas, trail closures, and directions to toilets) shall be the minimum size possible to be easily seen, and shall be installed to minimize both physical impact upon the wilderness resource and psychological impact on the user. Whenever possible, universal symbols should be used on signs and signs should be worded to have positive psychological tone (i.e., “Please Camp Elsewhere” rather than “No Camping”). Signs shall be removed when their purpose has been accomplished.

6. Signing at wilderness trailheads may consist of trail direction signs, wilderness boundary signs, and essential official information or interpretive displays such as fire prevention, regulations governing use of the wilderness, and suggested wilderness behavior. Trailhead signs may include destination mileages.

7. Provide the minimum number of directional signs possible. These signs should be limited to one directional or destination indicator per leg of the trails at a junction.

8. Signs should not be used for directions to or within “General” or “Dedicated Trailless” areas.

9. Wilderness boundary signs should be placed at sufficient locations and distances so that outside activities will not encroach upon the wilderness. In the case of other management activities, project planning should include boundary posting.

10. Signs should not be provided for on-site interpretation within the Wilderness.

Administration - Preserve the integrity of the wilderness resource; provide uniform and consistent administration by all Ranger Districts; conduct necessary administrative activities most protective of the wilderness resource.

1. Wilderness Management implementation schedules shall be prepared yearly for each individual wilderness. These plans shall state specific local actions (prioritized pending yearly budget allocations). Action plans shall be approved by the District Ranger.

2. Coordination between adjoining National Forest and National Park Service units is expected to insure reasonable uniformity where necessary.

3. All administrative activity shall be conducted to minimize impacts on the social and biological resource. Installation of equipment for monitoring aerosol chemistry, precipitation, etc., necessary to assess air pollution impacts on AQRV's shall only be located inside wilderness areas when no representative locations can be found outside the wilderness. Permanent sample plots will be located away from commonly used areas. Field projects should be closely supervised to insure consistency with the goal and objectives of this plan.

4. Facilities such as cabins, trail shelters, or corrals, shall not be constructed or maintained for administrative purposes. The wildernesses of the Forest are not of sufficient size or of sufficient logistical complexity to warrant these structures in wilderness.

5. Coordination should be maintained with all state, county, and federal agencies as well as private landowners that use, or influence use of the wilderness, to promote understanding of the purposes of wilderness.

6. Entrance self registration or monitoring devices should be operated at wilderness trailheads.

7. Forest management activities outside of wilderness that influence the administration and visitor use of wilderness, shall carefully consider potential negative impacts on wilderness resources in the planning phases.

8. There will be one trained wilderness ranger per 30,000 acres or 20,000 visitor days of use.

Trails and Travel - To provide a range of challenges to wilderness users through a spectrum of access opportunities, including cross-country travel and trails of varying difficulty for horse and foot travel; to minimize physical and visual impacts upon the land, conflicts between users, and concentrations of use harmful to the wilderness resource.

1. Trails shall be designed, built, relocated, reconstructed, and maintained to provide a service appropriate for the planned use (as shown on the Wilderness WROS map). These trails shall comply with objectives of this plan.

2. Trails shall be managed to maintain a balanced spectrum of travel opportunities according to difficulty, mode of travel, distance, and type of destination. Standards for trail encounters within each of the five Wilderness WROS classes shall be adhered to. Segments that currently do not comply with the standards shall be identified. These segments should be listed in order of priority for meeting standards.

3. Trails should be reconstructed, rerouted or eliminated as needed to protect the wilderness resource and meet the objectives of each WROS class. Priorities should be identified in the trail plan and implementation schedule, Appendix E.

4. The practice of placing temporary plastic ribbons, cairns (not including summit carins), or other devices by visitors to mark informal trails shall be discouraged through visitor information. Such markers shall be removed as they are found. Climbing wands (when in use) are an exception. Wands should be removed after use by the climbing party.

5. Where other means are not practical to protect the wilderness, cairns may be located and maintained by the Forest Service.

6. Trail and trailhead construction and maintenance activities shall be accomplished with minimum impact on the wilderness resource and on the experience of wilderness users. Trailhead facilities shall be compatible with use and character of the area served.

7. Stakes and ribbons used to identify trail construction or reconstruction locations or other administrative activity shall be temporary and removed immediately after project completion. Tree blazes may not be used for pro-construction trail location. They shall be avoided to mark existing trail locations except where they are absolutely necessary in difficult to locate situations where other means of marking a trail are not possible.

8. Bridges and footlogs may be provided only when no other route or crossing is reasonably available for essential user safety. Bridges should not be installed for user convenience or installed to extend use season unless necessary to meet wilderness management objectives. Natural materials shall be preferred.

9. Trail locations and relocations should avoid wet areas and meadows. New trail drainage structures should be constructed of natural materials and designed to minimize their visual obtrusiveness. Drainage structures of non-native material will be replaced when trail reconstruction becomes necessary and will be hidden from view until replaced. Natural materials should be used whenever feasible.

10. Existing trails no longer compatible with the objectives of this plan should be abandoned and returned to as near a natural state as possible. Abandoned trails should be monitored periodically.

11. When possible, through-trails should be routed away from areas of concentrated use, such as lakes and popular campsites, to avoid unnecessary visitor contacts and environmental impacts.

Vegetation - Maintain the system of natural processes that governs the distribution of plant communities and ensure that natural biotic communities remain undisturbed except by those natural processes.

1. Non-native plant species should not be introduced. The possibility of accidental introduction through the use of pack and saddle stock should be minimized by prohibiting the use of hay and unprocessed grain as supplemental feed and encouraging the use of processed, weed-free feeds (i.e., pelletized rations).

2. Campfires should be prohibited at heavily used locations if analysis indicates that firewood is being used faster than natural accumulation. The supply of firewood shall be monitored at sites identified in yearly operating plans. If the amount is declining, use should be prohibited altogether.

3. The thrift, density and vigor of natural vegetation shall be monitored to determine the extent of alteration of the natural biotic communities by off site sources of air pollution. If confirmed changes are measured, pollution sources shall be identified and corrective actions initiated through provisions of the Federal Clean Air Act.

Collection of Resource and Use Information - Make collection of data in a non-obtrusive manner consistent with the preservation of the wilderness resource, (a) gain information needed to achieve and monitor the attainment of the objectives of this plan; and (b) acquire baseline knowledge needed to assess long-range natural changes, and direct and indirect human influence on the wilderness ecosystem.

1. The collection of resource and use information should be annually coordinated between Ranger Districts.

2. Site specific information concerning the location and amount of impacts on soil properties, water quality, vegetation, visibility and other physical characteristics of the areas resulting from recreational use or off-site pollution sources should be collected, maintained, and used in making future management decisions. The following are priorities and locations for assembling resource information in descending order of importance.

    a. Vegetation, soil condition, and trend information in heavily used camp areas near trails and at other impact areas, such as stock hitching areas, that appear to be near the limits of acceptable change.

    b. Baseline visibility conditions within those wilderness areas designated as Class I areas.

    c. Baseline conditions of water chemistry, vegetation condition, and aquatic ecosystems within those areas designated as Class I areas.

    d Baseline conditions of visibility, water chemistry, vegetation condition, and aquatic ecosystems within those areas designated as Class II areas.

    e. Vegetation and soil condition information in areas having high potential for resource degradation in the future.

    f. Baseline vegetation and soil information should be collected using permanent transects in camps, trails, and other areas that currently appear to be well within acceptable standards, but have some potential for future degradation.

3. Quantifiable information concerning the amount, season, and pattern of recreation use should be collected and maintained (including information necessary for RIM reporting) for use in making future management decisions. The following are priorities for obtaining use information:

    overall statistics required for annual RIM reporting; trails accessing the heavily impacted sites; and Transition Class areas.

4. University and other government researchers should be encouraged to conduct studies and collect additional data to assess recreation impacts and aid in establishing and revising carrying capacities.

Scientific Study - To provide for, and encourage scientific study dependent on a natural setting, that seeks to explain wilderness phenomena, and conducted in an unobtrusive manner consistent with preservation of the wilderness resource.

1. Research projects require Chief of the Forest Service or Regional Forester approval. Only those applications for research that are wilderness dependent and compatible with the goals and objectives of this plan shall be recommended for approval. Research activities that adversely affect the wilderness resource, the experience of users, or conflict with other wilderness objectives shall not be recommended.

2. Research that helps resolve wilderness management problems or basic research on wilderness shall be given highest priority, encouragement, and cooperation as administrative time and funding permit.

3. Data collected for management purposes, such as use figures and ecological data, should be made available to scientists for research purposes.

4. All research projects which require public contact, specimen collecting, ground reference marking or exemption from any regulations shall be conducted under a special-use permit.

Public Information - Make information about the wilderness, including management goals and objectives, available to the public to provide for and foster understanding of the natural processes which occur in the wilderness.

Actively attempt to direct use incompatible with wilderness to alternative areas by orienting the public, Forest Service employees, and users to the wilderness philosophy.

Encourage user behavior (No Trace ethic) which minimizes resource impacts and emphasize compliance with requirements or regulations.

1. Wilderness rangers, receptionists, and other Forest Service personnel who have contact with the public concerning the wilderness should be acquainted with wilderness philosophies, management goals, and current conditions within the wilderness. In contacts, they will direct non-wilderness activities to alternative areas, encourage suitable wilderness behavior, and create additional awareness, understanding, and appreciation of wilderness. While visitor contact may range from frequent to rare (depending on WROS class), the effect of contacts on user solitude or adventure should be minor.

2. Printed materials should contain information on wilderness management goals. Publishers and authors of trail, climbing, and other informational books should be encouraged to include minimum impact and other wilderness management messages in publications. Media contacts should be informed of new management goals and decisions as well as wilderness philosophies pertaining to the wilderness.

3. A wilderness map/brochure may be developed as needed. Supplemental publications may be developed and existing publications revised periodically to keep them current with management decisions and conditions.

4. Only trails that appear on the system trail inventory should be shown on Forest Service publications. Publishers of maps and guidebooks should be encouraged to follow a similar policy. All trails on trail inventories do not need to be shown on, or in guidebook publications.

5. Public involvement and user awareness programs should be used in solving management problems and to help gain acceptance of solutions among users, not to promote use per se.

6. Schools, colleges, and organized groups should continue to be involved in volunteer programs. Cooperating volunteers should be encouraged to assist managers in monitoring use, collecting and evaluating data, educating visitors and performing trail or revegetation projects.

Archaeological and Historical Properties - To recognize that cultural resources within and relating to the wilderness are a valuable, nonrenewable resource. To identify, evaluate, preserve, protect, and enhance these resources in compliance with federal and state laws and Forest Service policy.

1. All structures shall be evaluated for their historical significance, in accordance with 36 CFR 60.

2. Decisions to maintain, abandon, or remove structures which meet the criteria for the National Register shall be made in consultation with the State Historic Preservation Office, Advisory Council on Historic Preservation and other interested parties as outlined in 36 CFR 800. Abandoned structures should be allowed to deteriorate naturally. Retained or maintained structure shall be managed to have a minimum impact on the wilderness resource.

3. Decisions to remove structures shall be documented in an Environmental Assessment. Removal shall be by a practical method compatible with the goals of this plan and the site shall be restored to as natural a condition as is practical.

Fish and Wildlife - To provide habitat most conducive to a natural distribution and abundance of native species of fish and wildlife by allowing natural processes to shape habitat and interactions among species, and to encourage hunting and fishing practices in a manner consistent with the preservation of wilderness values under the Wilderness Act [Section 4(d8)].

1. The Forest Service should continue to work closely with the Washington Departments of Wildlife and Fisheries in all aspects of fish and wildlife management. Ranger District action plans shall address any specific coordination needs. Forest recommendations will be predicated on need for protection and maintenance of the wilderness resource, including fish and wildlife and their respective habitats. Hunting, fishing, and trapping shall be permitted in accordance with State Law under the same restrictions as other recreation use of the wilderness.

2. Manage to allow natural ecological succession, including natural infestations of insects, to operate freely in so far as they do not endanger significant resources outside of the wilderness.

3. Native species shall be maintained, with special emphasis on the preservation of threatened or endangered species, plus designated management indicator species and their habitats. Fish or wildlife indigenous to an area, may be re-established if previously eliminated by the influence of man.

4. Discarding of food or garbage that tends to alter the natural feeding behavior of wildlife should be discouraged through visitor education or regulation.

5. Fish stocking shall be allowed to continue where it is an established practice , however fish stocking may be reduced or stopped as one of a series of management steps designed to bring use within limits of acceptable change. Stocking should emphasize native species. Those water bodies that are naturally fish free, and where fish stocking is not an established practice, shall not be stocked.

6. Fish stocking of individual water bodies shall be limited to those methods used prior to establishment of the wilderness. Aerial stocking may be by fixed wing or helicopters. A record of fish stocking shall be developed and maintained, including an inventory of stocking dates, species and methods used.

7. Native species of fish should be favored in waters with a history of supporting such species. Waters known to contain native species should be identified in a stocking inventory.

8. Fire shall be allowed to play a more natural role in maintaining habitat diversity to insure a natural abundance and distribution of native wildlife species.

9. Improvements including habitat manipulation necessary for fish/wildlife management and in existence prior to designation are permitted, provided work is performed in a manner exerting the minimum impact on wilderness naturalness and solitude. Chief's approval is necessary.

10. Trails and camping areas shall avoid known habitat components including escape and thermal cover, goat kidding areas, travel corridors, mineral licks and others where human activities have been identified as disrupting use of the habitat. Existing trails and camps should be relocated to avoid harassment in these areas.

Livestock Use - To allow utilization of forage by recreation pack and saddle stock to the extent it does not jeopardize wilderness values.

1. Livestock use shall be managed so that native plant species will be maintained with special emphasis on the preservation of threatened or endangered species.

2. Available forage shall be used according to the following order of priority: wildlife, administrative livestock, recreation livestock, commercial packers, and commercial grazing allotments.

3. Pack and saddle stock shall be required to rely on processed hay or grain, or livestock feed (certified weed free).

4. Recreational livestock use on trails shall be limited to those identified as open and maintained for livestock use. The public should be made clearly aware of trails open and closed to livestock use. Information shall be available from administrative offices, trailheads, information brochures and all maps. Llama's will be considered as stock or pack animals, although requiring different management than horses.

5. Permanent corrals shall not be permitted for either public or commercial livestock. Hitch rails, ropes, and hobbles are the recommended methods.

6. Develop setback standards from lakes for grazing, hitching, tethering or hobbling of any pack or saddle stock.

Commercial Use - To allow utilization of forage for commercial allotments to the extent it does not jeopardize resource values and is in accordance with existing rights.

1. Because of vegetative changes, grazing allotments shall be evaluated to determine if they are capable of being continued as a viable commercial grazing allotment. If they are no longer capable, the allotment shall be terminated when the permittee no longer desires to use the area and/or relinquishes his permit. The available forage shall be allocated to wildlife and recreation livestock needs.

2. With respect to WROS Class, commercial stock should not be permitted to travel through Dedicated Trailless to reach permit areas.

Water - To preserve water bodies and stream courses in a natural state with *minimal* modification or human and animal caused contaminants.

1. Except as provided for in Section 4(d)(4) of the Wilderness Act, watersheds shall not be altered or managed to provide increased water quantity, quality, or timing of discharge.

2. Short-term weather modification activities which will produce only occasional, incidental, temporary, or transitory changes in the weather with carry-over effects on the ground lasting only a few days beyond the actual seeding period may be permitted. Long-term weather modification programs producing repeated or prolonged changes in the weather during any part of successive years and having substantial impacts on the wilderness resource shall not be permitted.

   Prior to any weather modification within the wilderness, formal application must be filed and be approved by the Chief of the Forest Service. The proponents must, through an environmental analysis accompanying their application, provide reasonable, scientifically supportable assurance that their activities will not produce permanent or substantial changes in natural conditions, nor will they include any feature that might reasonably be expected to produce conditions incompatible in appearance with the environment or reduce the values for which the wilderness was created.

3. Water yield measurements (including snow survey) shall continue to be read from the air or from the ground by primitive means, except as provided in for in the FSM.

4. Livestock and human use shall be regulated to maintain existing water quality levels equal to or exceeding Washington State Class AA and lake water quality standards. Any water body found to be below standard should be restored to the prescribed quality. See WAC 173-201-045 for standards.

5. Human activity should not influence the natural quality of any waters within wilderness beyond temporary changes that return to normal when activity ceases.

6. Constructed facilities such as trails or high-use campsites have high potential to result in accelerated erosion rates that are detrimental to water quality. Areas used by recreation visitors will be closely observed for evidence of accelerated erosion. Water sources and water bodies near campsites should be observed for evidence of soap, other chemicals, and biological contaminants that may be introduced by human activity.

7. Wilderness Action Plans will identify management actions to be implemented to correct water quality problems. Methods will be developed in the future to monitor physical, chemical, and biological changes in water quality.

Soils - To ensure that the physical properties of the soils and rate of erosion will not noticeably be altered from conditions naturally occurring and to allow processes of soil formation to operate unaltered by human activity.

Air - Maintain aerosol concentrations and particulate levels over the wilderness areas at levels that do not adversely effect identified Air Quality Related Values for each area.

1. Maintain an active role in the review of Prevention of Significant Deterioration Permit applications that have potential to impact wilderness areas.

2. Impacts on visibility and other AQRV's will be considered as a prescription perimeter when permitting natural ignitions to be used to accomplish prescribed fire objectives.

3. For further direction see the Air Resource section on page 4-XXX.

Mining and Minerals - To assure the rights of mineral claimants as specified in the Wilderness Act, while insuring that their activities create the least possible impact upon the wilderness resource.

When proposed mineral-related activities require the use of mechanized or motorized equipment or will cause impacts to the wilderness characteristics, a plan of operation must be submitted, processed and approved. During the evaluation of such a proposal not only will the environmental consequences be assessed and valid existing rights to conduct such activity confirmed prior to approval, but a determination will be made as whether the use of such equipment is reasonably necessary for and incidental to the level of exploration or development activity being proposed.

Management objectives for the administration of mineral activity in wilderness are as follows:

1. Mineral-related activities will be administered in compliance with all appropriate laws, regulations and Forest Service policy concerning wilderness management and the mining and mineral leasing laws.

2. Those conducting mineral related activities will be required to meet all Federal and State water quality standards, and will be required to reasonably minimize any adverse impacts to wildlife habitat and the wilderness characteristics of the area.

3. In keeping with any valid existing rights to operate mining claims or mineral leases, administrative efforts will be made to minimize any conflict between the mineral and the recreation users of wilderness areas.

4. When mineral-related valid existing rights have been confirmed, they will be recognized; and our policy will be to encourage and facilitate those activities while ensuring any adverse impacts to wilderness are minimized. In meeting this objective the technological feasibility and the cost of implementing any enforceable controls will be considered and kept to a reasonable level.

5. As-time permits or as wilderness-impacting activities are proposed, valid existing rights on all unpatented mining claims located within wilderness areas will be evaluated. As part of the validity determination process, mining claimants will be contacted and given an opportunity to participate in that process.

6. Rockhounding shall be treated as are other recreational activities within wilderness, and be regulated or restricted should damage to wilderness values occur.

Land Occupancy and Structures - Maintain the wilderness free from facilities and structures, except those necessary to protect the wilderness resource. Management objectives set forth in this plan and those exceptions permitted by Section 4(d) of the Wilderness Act shall be met.

1. All drift fences should be removed and less obtrusive methods for constraining livestock, including hitch rails, hitch ropes, or picketing methods used.

2. No roads, powerlines, telephone lines, water flow maintenance structures, reservoirs, or other improvements shall be permitted; except as authorized under Section 4(d) and 5(a) of the Wilderness Act.

3. Current water diversions should not be expanded. They should continue to be maintained by primitive means, unless NEPA analysis indicates that the work would cause unacceptable resource damage.

4. Occupancy, structures and use of motorized or mechanized equipment related to legitimate mining prospects shall be permitted to the extent allowed by law and regulations. Every reasonable effort should be made through the operating plan to minimize their effect on the wilderness resource.

5. Lands classified in ownership Group 1 should be retained or acquired as directed.

Fire Management - To permit natural fires to exert their effects on the vegetative patterns within the wilderness without endangering public safety or values outside the wilderness; to use suppression techniques which result in the least possible evidence of human activity; and to provide for a fire protection strategy which achieves the resource management objectives at least cost.

1. Naturally occurring fires shall be permitted to burn in specific areas, if they meet the prescription parameters for the zone. All naturally occurring ignitions are considered prescribed until declared wildfire.

2. A suppression decision matrix shall be used to determine appropriate suppression actions on fires. These decisions should be documented when the fire starts and should be reviewed by the District Ranger periodically throughout the duration of the fire. The most cost-efficient tactics within the goals and objectives of this plan should be utilized.

3. A prevention program, consisting of education and enforcement activities, shall be directed at maintaining a level of accidental fire occurrence not to exceed the current level of fires per year measured by a 10 year mean.

4. A public education program should be undertaken to explain the natural role of the fire in the wilderness ecosystems. The program should be undertaken before any prescribed fire is allowed within the wilderness.

5. Retardant may be used to contain any fire which exceeds the prescribed intensity levels and threatens acreage limitations or adjacent management areas.

6. Retardants with “fugative” color are preferred when available. These products begin with an orange-brown color and then become colorless in three to five days.

Aircraft

1. Private and commercial aircraft shall be discouraged below 2,000 feet above ground level.
2. Military aircraft shall be discouraged from overflight training missions.

3. The landing of aircraft within the wilderness is prohibited. Air dropping supplies is also prohibited. Exceptions may be granted for emergencies, significant administrative purposes, and fish stocking.

Search and Rescue - Search and rescue activities on National Forest Lands come under the jurisdiction of the County Sheriff in the county where an incident has occurred. The role of the Forest Service is to provide assistance, when requested, within the scope of the 1962 Memorandum of Understanding between the Forest Service and the Washington State Sheriff’s Association. A supplement to this agreement applies to winter search and rescue situations at Stevens and Snoqualmie Passes. Specific District procedures should be included in Annual Wilderness Action Plans.

Requests for use of motorized equipment or helicopters in search and rescue activities in wilderness, must be approved by the Forest Supervisor.

SOIL, AIR, WATER, AND RIPARIAN AREAS

Soil Resource

Goal: Maintain or enhance soil and land productivity.

1. Plan and conduct land management activities so that reductions of soil productivity potentially caused by detrimental compaction, displacement, puddling, and severe burning are minimized. Nutrient capital on forest and rangelands is to be maintained at acceptable levels as determined by state of the art technology.

2. Plan and conduct land management activities so that soil loss from surface erosion and mass wasting, caused by these activities, will not result in an unacceptable reduction in soil productivity and water quality (as stated in FSM 2500 R-6 Supp. 45 or as revised).

3. No more than 20% of an activity area may be severely burned, compacted, puddled, or displaced as a result of the activity. Only permanent features of the transportation system will remain in a detrimentally compacted, puddled, and/or displaced condition.

4. Surface erosion will be minimized by maintaining effective ground cover after cessation of any soil disturbing activity:

Erosion Hazard Class	Minimum Percent Effective Ground Cover	
	1st Year	2nd Year
Low	20-30	30-40
Medium	30-45	40-60
Severe	45-60	60-75
Very severe	60-75	75-90

5. Plan and accomplish rehabilitation projects as necessary to meet soil and water objectives and standards.

6. Areas classified as irreversible soils (S-8) will generally be considered as unavailable for road construction and timber harvest.

7. An area approximately 1/8 mile wide surrounding a confirmed 5-8 classification should be evaluated during project planning to determine if special management considerations may be required due to unstable soils and/or possible adverse effects caused to adjacent 5-8 soils. These special considerations might include practices such as: avoidance by roads, reduced unit size, scheduling to reduce frequency of harvest, and use of suspension. Refer to Forest Supervisor's 2550 memos of June 10, 1988, and January 2, 1990.

8. Other soils that are known to be unstable, but which are not sufficiently unstable to be classified as 5-8, will require special transportation planning, design, layout, preconstruction, construction, and maintenance techniques. Refer to Forest Supervisor's 2550 memos of June 10, 1988, and January 2, 1990.

9. Utilize soil surveys and/or soil scientists in project planning work that involves activities that affect or are affected by the soil resource.

Air Resource

Goal: Protect Air Quality Related Values of the forest to the extent necessary to achieve Plan goals and to execute management activities within the constraints of existing air quality laws and regulations.

1. New Source Review procedures of the Prevention of Significant Deterioration provisions of the Clean Air Act requires the Forest Service, as a Federal Land Manager, review the impacts of all proposals to construct or modify pollutant emitting facilities that may impact federal lands. Federal Land Manager acknowledgement of acceptable impacts is required before permit issuance by the Department of Ecology. The forest will maintain a line of communication with the Department of Ecology and other regulatory agencies to insure that permit reviews are accomplished.

2. All wildfires or prescribed fires that exceed applicable air quality regulatory standards will receive appropriate suppression action to minimize the impact to air quality.

3. The Forest Service will comply with all applicable air quality laws and regulations, and coordinate with appropriate air quality regulatory agencies.

4. The Forest must demonstrate reasonable progress in reducing Total Suspended Particulates (TSP) from prescribed burning activities. The State of Washington has defined “reasonable further progress” as a 35% reduction in the emission of TSP from prescribed burning by 1990 in western Washington.

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

Water Resources and Riparian Areas

Goal: Maintain or enhance water quality and riparian areas.

1. Limit acres of final harvest to meet the water quality and riparian management requirement. The management requirement, expressed as the maximum number of final harvest acres per FORPLAN Allocation Zone (watershed) per decade, is shown in Table 4-18.

2. Meet or exceed Water quality Regulations for waters of the State (Washington Administrative Code, Chapter 173-201) through application of Best Management Practices (see Glossary). The key beneficial uses which BMP’s are designed to protect are fish and water for domestic use.

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

4. Geographical boundaries of riparian areas will be determined by on-site characteristics. They are lands adjacent to perennial and intermittent streams, lakes, wetlands, ponds, springs (seeps), floodplains, or other wet areas.

5. Maintain the bank, flood plain, and shore stability of all wetlands, streams, lakes, and other bodies of water. (This standard applies above the high waterline on reservoirs.) Implicit in this standard are actions to prevent all forms of accelerated soil erosion and soil compaction, and the retention of the live root mat to the maximum practicable extent.

6. Riparian areas should be maintained in accordance with FSM 2526 MBS Supp. 01/81 or as revised.

7. Large woody material (plus trees) needed to meet the desired future condition shall be maintained and managed to: (1) maintain water quality in streamside management units of all streams at existing levels, and (2) maintain fish habitat at existing levels.

8. Maintain in-channel and streambank stability maintained for upper and lower channels in the Forest watersheds in order to provide stable, high-quality habitat for salmon and trout, and provide high quality water for other in-stream beneficial uses.

9. Maintain pool conditions in both upper and lower channels in the Forest watersheds to: (1) provide high quality habitat for salmon and trout, and (2) provide in-stream flow regulation.

10. Along perennial streams and fish bearing intermittent streams, vegetation should be maintained to provide cover and/or root strength so as to maintain streambank stability and fish habitat capability at existing levels.

11. Highly incised Class III streams shall be evaluated during the project planning process to determine if special measures may be required to protect significant riparian and/or associated riparian values.

    a. The evaluation should include an analysis of such factors as: soil stability, stream size and gradient, steepness and height of the inner gorge, and vegetative types. Depending upon these factors, special measures may be required which would include one or more of the following; stream clean out, intermediate tree marking, topping, directional falling away from the stream, yarding away from both sides, and full suspension across the stream. In all cases existing non-merchantable riparian vegetation should be maintained to the extent practicable.

b. In some cases, the lightly incised Class III streams have existing fish usage (anadromous and/or resident) that make potential fish habitat enhancement investments worthwhile. In the original stream classification done on the Forest, this potential was not known or recognized. For these Class III streams, fish habitat enhancement intensities from Management Prescription 13 may be applied.

c. As new information or additional data become known on a Forest stream (e.g. stream surveys, habitat improvement project data, other agency data), stream classification status may or may not require reclassification.

12. For class I, II, and fish bearing class III streams, the maximum daily temperature shall not exceed 65ºF. and the average 7 day maximum temperature shall not exceed 60ºF.. Exceptions must be based on scientific rationale, and must maintain the existing level of beneficial uses of the water, and be approved through NEPA analysis and documentation.

13. The Forest shall inventory and map riparian areas during project design and enter information and data into Forest-wide data base.

14. Consult with a hydrologist if the activity being planned involves riparian areas, wet lands, flood plains, or probable cumulative impacts on water resources.

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

Table 4-18
Maximum Number of Acres that can be Final Harvested
by Allocation Zone (Watershed) by Decade

ALLOCATION ZONE No.	Name	DECADE 1	DECADE 2
Mt. Baker Ranger District			
2	ILLABOT CK	425	425
3	CHILLMUNRD	250	250
4	CANYON CK	100	200
5	LRNOFKNOOK	400	400
6	GLAMFNOOKN	280	280
8	MDFKNOOKUR	250	250
9	URNOFKNOOK	980	980
10	MDFKNOOKSO	200	200
11	SOFORKNOOK	325	325
14	SWIFT-PARK	250	250
15	BAKER	650	1025
16	BKLKUNRD	350	350
17	LKSHANNON	300	300
18	LKSHANUNRD	200	300
20	JACKCRMUR	200	325
22	MRSKRVMR	625	625
23	URSKAGITRV	330	330
26	CASCADE RV	1100	1100
27	LRSKAGITRV	75	75
28	LRSKRVMUR	550	550
29	DEER CK NW	100	200
30	FINNEY CR	100	100
31	DEER CR SE	0	0
32	DEERCRUNRD	110	110
38	SAUK RV NE	100	100
North Bend Ranger District			
70	TLTRVMUMUR	250	250
71	NFKSNQALMU	700	700
72	TAYLORALMR	250	250
73	MFKSNQALMU	350	350
74	URMFKSNQMU	800	800
75	PRATT-ALMU	650	650
77	SFKSNOQMU	200	200
81	URGREENRV	500	500
82	GREENRVNO	300	300
83	GREENRVSO	1000	1000

ALLOCATION ZONE No.	Name	DECADE 1	DECADE 2
Darrington Ranger District			
34	MRNOFKSTNO		
35	MRNOFKSTSO		
37	URNOFKSTIL		
39	SAUK RV SE		
40	SUIATTLERV		
41	SU-RVMUNRD		
42	WHITECHUCK		
44	CANYON CR		
45	SAUDRVUNRD		
46	LRSOFKSTLL		
48	URSOFKSTLL		
49	SAUKRVFORK		
Skykomish Ranger District			
47	SULRVUNRDN	200	200
51	SULRVURSE	300	300
52	SULTAN RV	100	100
53	NFSKYURSO	650	650
54	NFKSKYURNO	500	500
55	NOFKSKYRV	1060	1060
56	NFKSKYURW	310	310
57	SKYRVMUNRD	350	350
59	TYE RIVER	100	150
60	BECK-RAPID	3600	4000
61	SOFKSKYUR	240	240
62	SOPKSKYRV	270	270
63	SKY-TOLT	300	200
65	SFKSKYALMR	430	430
67	TY-BEC-MU	700	1000
68	FOSSRVALMU	500	500
69	MILLERALMU	200	200
White River Ranger District			
84	GREENWATER	650	880
85	LRWHITERV	250	250
86	CLEARWATER	407	407
90	HUCKLBRYCK	1300	1300
91	WFWHITERV	2000	2000
93	CARB-PUYAL	1150	1150

DIVERSITY AND LONG-TERN PRODUCTIVITY

Goal: Maintain native and desirable non-native plant and animal species and communities. Provide for all seral stages of terrestrial and aquatic plant. associations in a distribution and abundance to maintain the productivity of these biological communities.

General

1. Maintain or enhance plant and animal diversity by providing or developing an ecologically sound distribution and abundance of plant and animal communities and species at the forest stand, sub-drainage, and Forest level. This distribution must contribute to the goal of maintaining or enhancing all native and desirable introduced species and communities. Management Standards and Guidelines for all resources serve as a foundation for this distribution.

2. In addition, evaluate opportunities to maintain or enhance stand, sub-drainage, and Forest level components of biological diversity on an area-by-area basis as commensurate with management area direction. Specific opportunities include the following:

    a. Retain contiguous forest stands of later seral stages within drainages. Link patches of later seral stages with corridors of mid to late seral stages, such as riparian or visual corridors.

    b. Identify sub-drainage specific management objectives for fish and wildlife habitat and plants. These sub-drainage objectives should maintain or develop the habitat sizes, patterns, and spacing essential for allowing genetic interchange and movement of species.

    c. Where mature and old-growth forest stands are managed for wildlife habitat, select and manage for stand size, characteristics and spatial locations that will help support all plant and animal species closely associated with those habitats.

3. During project planning, develop site-specific management prescriptions that meet objectives for biological diversity and ecosystem function. In addition to other management direction, consider the following guidelines for maintenance of species diversity through commercial forest management:

    a. Conserve or enhance long-term site productivity, including wildlife habitat productivity, by maintaining, throughout the rotation, levels of large woody, as well as small fine materials, on the ground which are similar to those typically encountered in natural ecosystems of the appropriate type.

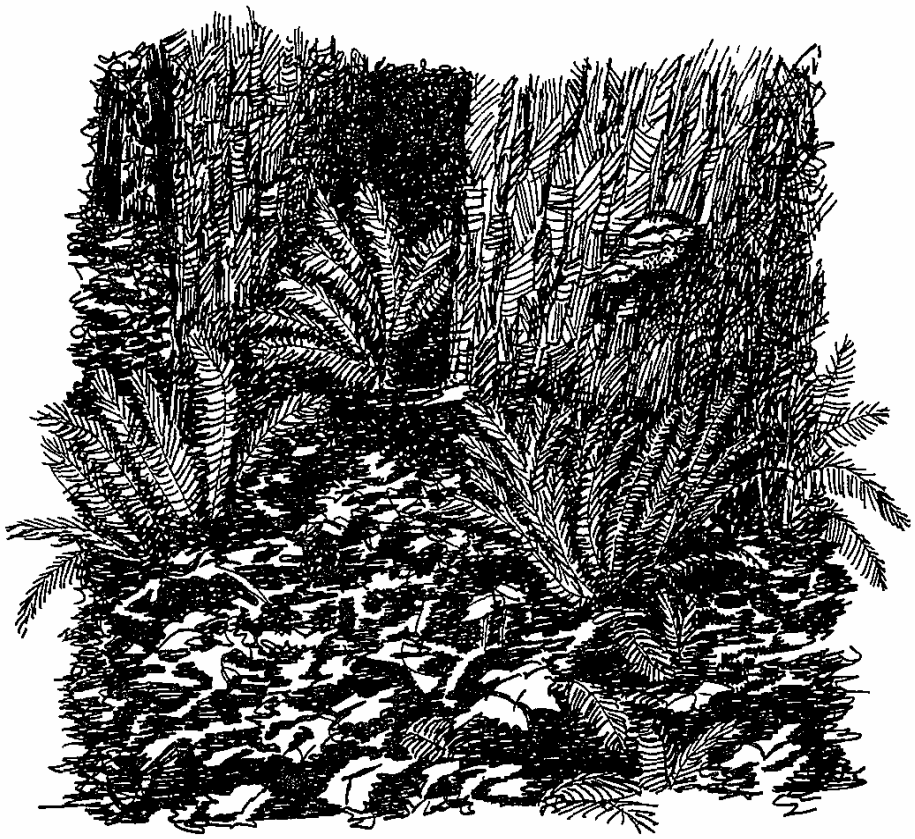
    b. Retain standing dead and standing green trees sufficient to maintain cavity nester habitat at or above 40% of minimum potential population levels, throughout the managed forest (80% in riparian areas). Retention trees and snags should be of the largest size class available in the stand, and should be selected considering safety regulations. Minimum numbers of desired species of retention trees should be determined by modeling the stand through its rotation, and

should be designed to meet current and future habitat needs. Where possible, leave wildlife trees at levels which will be similar to those typically found in natural ecosystems of the appropriate type.

c. Tree species used in planting harvest units should be based on the potential of the site as indicated by plant associations. Consideration should be given to regenerating and maintaining a mixture of species, where appropriate for the site.

d. Guidelines for commercial and noncommercial thinning should retain a diversity of species based on site potential.

e. Vegetation management should allow for all natural species to function. None should be eliminated from the site.



WILDLIFE HABITAT MANAGEMENT

Goal: Maintain a viable population of all native and desired non-native vertebrate species and maintain, protect, and improve habitat of management indicator species. The indicator species for this Forest are the American peregrine falcon, bald eagle, grizzly bear, northern spotted owl, pileated woodpecker, pine marten, mountain goat, and primary cavity excavators.

Management

1. As a minimum, provide sufficient numbers and sizes of live and dead trees throughout the Forest to maintain primary cavity excavators at the 40% population level using guides from Management of Wildlife and Fish Habitats in Forests of Western Oregon and Washington (Brown, 1985).

2. In addition to snags, large dead and down logs will be left. The number of logs and size specifications will be determined on a case-by-case basis using guides from Management of Wildlife and Fish Habitats in Forests of Western Oregon and Washington (Brown, 1985).

3. Nest sites actively being used by raptors or other bird species of special concern (ie; great blue heron) will be protected from human disturbance until nesting and fledging is completed. Protection of nest sites or areas will be sufficient for species involved. In project design, roost areas will be evaluated for the need for additional protection. Determination of protection area and seasons should involve consultation with a Wildlife Biologist.

4. Cliffs, talus, and caves are recognized as relatively unique habitats of the Forest and all potentially disturbing or altering management activities shall be carefully evaluated on the ground during the planning process to insure their protection and/or proper management.

5. Programmed activities in calving, fawning, and kidding areas should be discouraged. They shall be timed to minimize disturbance to the animals. This may require restricting access and operations during certain times of the year.

6. Provide a sufficient amount of available forage and optimal thermal cover to maintain viable populations of mountain goat.

7. Maintain a mix and distribution of successional stages that will support maintaining or enhancing diversity.

8. Provide highest levels of deer and elk habitat capability possible while still meeting other primary resource objectives.

9. Introduction of fish and wildlife species shall be carefully coordinated with the various State and Federal wildlife agencies and considered on a case-by-case basis through NEPA analysis.

10. During project design, surveys shall be made to determine the presence of or absence of mountain goat winter range. When identified, the area shall be maintained until an analysis can be completed and the need for a Plan amendment determined. Once the amendment is completed, the standards and guidelines for MA 15 shall apply.

11. Activities that adversely affect mountain goats on their spring and summer range shall be identified and mitigated.

12. Pileated woodpecker foraging areas shall be maintained by providing a sustained minimum average of two hard snags per acre > 10 inches d.b.h. on an additional 300 acres around each pileated woodpecker habitat management area.

13. Seed areas in identified winter range with big game preferred seed.

14. Maintain areas which serve as connecting habitat or travel corridors for indicator species. Future timber management of connecting habitat is not precluded as long as there are blocks of similar quality and age stands serving as connecting habitat in the adjacent area. These areas will be provided at intervals of 1/2 to 3 miles along a drainage, depending on the land forms, forest structure, and wildlife use of the area. Connecting habitat is defined as areas which serve as travel corridors or habitat connections, provide for the dispersal and interaction of indicator species, and avoid the isolation of habitat into geographic islands. These areas provide species access across drainages and elevation gradients (ridgeline to valley floor.)

    Connecting habitat can be provided by:

    a. Utilizing natural land forms when possible, such as riparian areas along creek drainages, or the areas adjacent to avalanche chutes.

    b. Maintaining areas in blocks of land that are generally one or more logical harvest units in size. This will provide the option of rotating the designation of connecting habitat to adjacent areas, as the adjacent harvested areas mature and develop the desired habitat structure.

15. For spotted owl pairs occupying non-network sites, protect the nest tree and an area around it. Disturbance will be minimized or eliminated adjacent to the nest during the nesting period. Seek technical assistance of the U.S. Fish and Wildlife Service and Washington Department of Wildlife in developing management strategies for these sites.

16. Areas proposed for timber harvest which contain habitat suitable for spotted owls will be surveyed according to standard inventory procedure. Maintain survey results in the Ranger District office and forward to the Forest Coordinator periodically.

FISH HABITAT MANAGEMENT

Goal: Provide a diversity of terrestrial and aquatic communities while maintaining water quality. This goal applies to all areas dominated by riparian vegetation, including areas containing anadromous and resident fish habitat, perennial and intermittent stream courses, lakes, wet lands, and flood plains.

Note: the Forest-wide Standards and Guidelines for Water and Riparian Areas also apply.

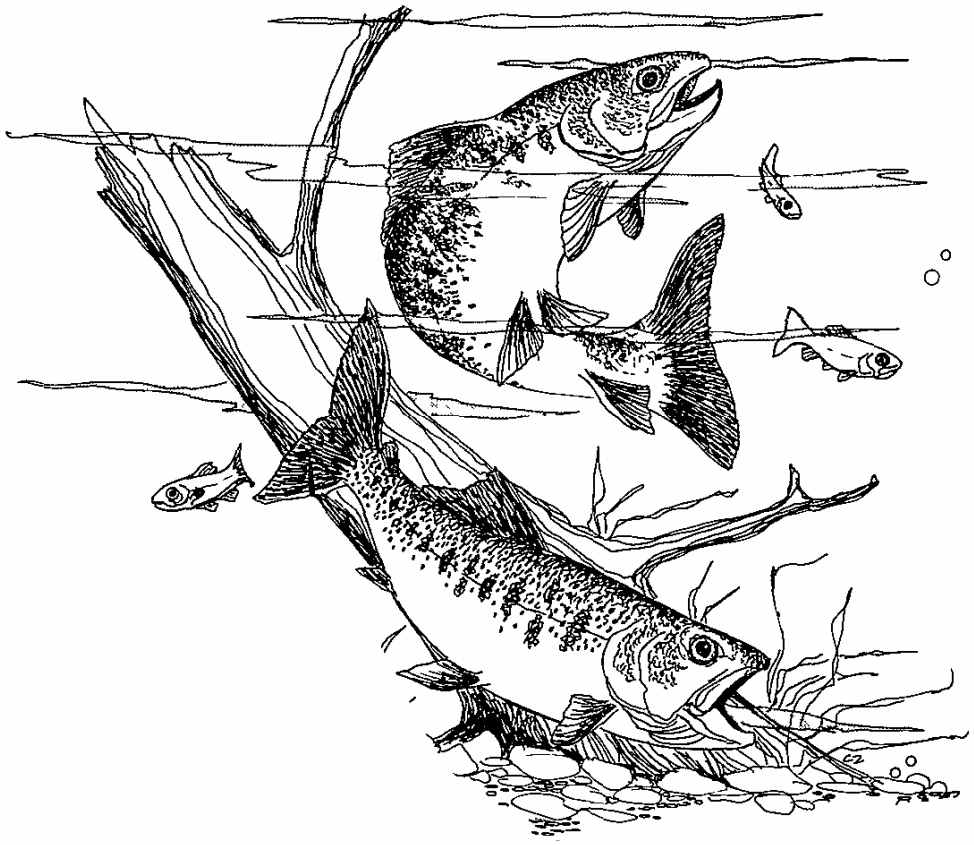
Management

1. Water quality shall be maintained or enhanced through application of Best Management Practices. This meets the requirements of the Clean Water Act and State Water Quality Standards (includes temperature, turbidity, and sediment).

2. Develop fish habitat restoration projects to rehabilitate lost or deteriorated habitat.

3. Cooperate with Washington Department of Fisheries and Department of Wildlife in providing a fish stocking program on the Forest (anadromous and resident fish).

4. All forest management activities should provide for unobstructed fish passage to historically accessible fish habitat.



THREATENED, ENDANGERED, AND SENSITIVE SPECIES

Goal: Maintain or improve habitat for all threatened or endangered (T&E) plant and animal species on the Forest, and manage habitats for all sensitive (5) species to prevent their becoming threatened or endangered. Management of threatened, endangered, and sensitive species habitats is addressed below and under Management Area 16, Threatened and Endangered Species. These Forest-wide standards and guidelines describe typical management practices in T&E habitats. The Forest will consult with the USD1 Fish and Wildlife Service in determining protection, enhancement, and mitigation measures for specific T&E habitat areas.

Overall Management

1. All proposed management actions which have the potential to affect habitat of endangered, threatened, or sensitive species will be evaluated to determine if any of these species are present.

   Biological evaluations will be completed for all proposed management activities which could affect T & E species. Management actions that may affect T&E habitat in any Management Area shall be guided by a Recovery Plan if one exists, and may only proceed after consultation with the USD1 Fish and Wildlife Service as outlined in Section 7 of the Endangered Species Act (ESA). Biological evaluations, when necessary, shall be prepared as described in Forest Service Manual 2670.

   When sensitive species are present, a Biological Evaluation shall be completed as described in Forest Service Manual 2670. Habitat for sensitive plants and animals shall be managed to ensure that management activities do not contribute to these species becoming threatened or endangered.

2. The Forest will initiate, support and cooperate with State and Federal fish and wildlife agencies in developing recovery plans for Federally listed threatened or endangered species. Where such plans conflict with other Management Area direction, the recovery plans will take precedence.

3. The Forest and Districts will cooperate in conducting inventories and keeping records of essential and/or critical habitat and its distribution for all T&E and sensitive species. Occupied habitats of threatened, endangered, and sensitive species will be monitored on a regular basis.

4. Collection of Federally listed threatened and endangered and R-6 listed sensitive plant species should only be allowed under permit. The issuance of permits must be preceded by the same degree of assessment required for other projects.

5. Before project decisions are made, consult with Federal, State, other agencies, groups, and individuals concerned with the management of T&E and sensitive species. In the design of projects for implementation where such species, areas, or habitats are known to occur, insure that appropriate action is taken to protect these species, areas, and habitats.

USD1 Fish and Wildlife Service will be consulted for technical information and ESA Section 7 consultation when a management activity may affect a threatened or endangered species.

The Washington Department of Wildlife will be consulted for technical information in development of species management guides, and in determinations of viable population levels of sensitive species. The Washington Natural Heritage Program will be consulted for technical information regarding sensitive plant species or unique plant communities.

6. The Forest shall develop site specific management plans for threatened and endangered species in accordance with recovery plans.

   Species management guides shall be developed for each sensitive species. These plans should be developed on a regular basis and in order of highest priority so that all guides are completed by the end of the tenth year after approval of the Forest Plan. Following the development of a management guide for a sensitive species, projects will follow the objectives of the management guide.

7. Known bald eagle nests and roost sites are managed under standards and guidelines in Management Area 16A, Bald Eagle. Additional bald eagle nests or roost sites identified in the future will also be managed under that prescription.

   If habitats for peregrine falcons, resident gray wolves or grizzly bear are identified in the future, the standards and guidelines for these species in Management Area 16, Threatened and Endangered Species, will supersede the existing management prescription for these habitat areas.

8. The following standards and guidelines apply to bald eagle feeding areas. They indicate the typical management practices for these areas and typical sizes for the management areas. However, protection and mitigation needs will vary depending on the individual habitat site and will be determined in each case in consultation with the USD1 Fish and Wildlife Service.

   a. The Forest will determine whether human activities are adversely affecting bald eagle use of feeding areas. Where these adverse effects are occurring, protection or mitigation measures will be identified arid implemented. These may include restrictions or controls on human uses of these habitat areas at certain times.

   b. Existing developed sites will not be expanded and increased human use will be discouraged when monitoring identifies a potential conflict with bald eagle use of feeding areas.

   c. Roads shall not be planned within 1/4 mile of known feeding areas. Reconstruction activities will be prohibited when feeding areas are in use.

   d. Construction of development projects near feeding areas should not be conducted during the time of bald eagle use.

e. Development of new commercial or private homesites is prohibited within 1/4 mile of shorelines used as part of feeding areas.

f. Require air space restrictions for low level aircraft in the vicinity of feeding areas during the season of habitat use.

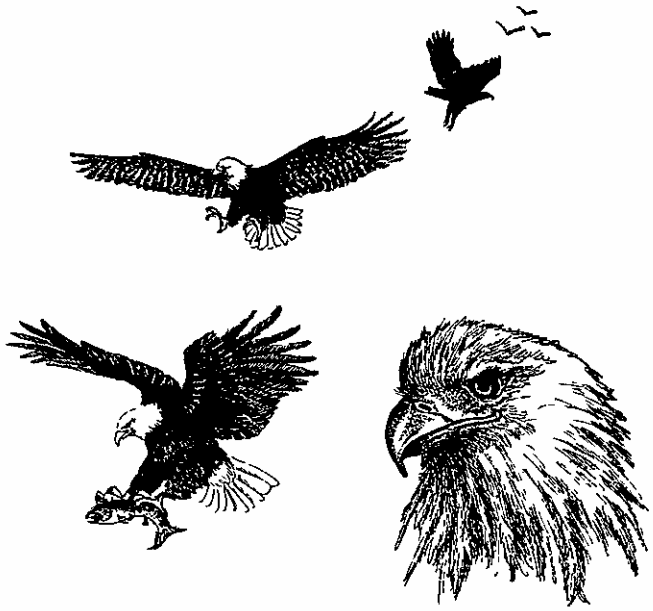
g. Timber management activities should be restricted within 1/4 mile of feeding areas during their season of use. There should be no treatment of fuels in feeding areas when in use.

h. Mineral activity shall be prohibited within 1/4 mile of shorelines used for bald eagle feeding.

i. In known feeding areas, perch trees within 200 feet of shorelines should be preserved.

9. Threatened, Endangered and Sensitive species of plants and animals are identified as important Air Quality Related Values. All permit applications to the Department of Ecology under the requirements of the Prevention of Significant Deterioration provisions of the Clean Air Act for modification or construction of pollution emitting facilities will be evaluated by the Forest for their potential impacts on AQRV's. Mitigating and monitoring requirements necessary for protection will be recommended for inclusion in any permits issued by the Department of Ecology.

10. All habitat improvement projects for Threatened, Endangered, or Sensitive species will be small-scale and experimental in nature until such time as species responses are better understood. When species response to a specific improvement project can be predicted, projects can be larger in scale and practical in nature.



TIMBER MANAGEMENT

Goal: Provide for the production of timber on lands classified as suitable for timber production consistent with various resource objectives, environmental constraints, and considering cost efficiency.

Suitable Forest Lands - Allowable sale quantity shall be programmed and harvested only on those lands classified as suitable for timber production.

Non-Declining Flow - The harvest schedule for any decade will be equal to or greater than the planned sale and harvest for the preceding decade of the planning period provided that the planned harvest is not greater than the long-term sustained-yield capacity consistent with the management objectives of the alternative (36 CFR 219.16(a) (2) (iv)).

Management Practices, Intensities, and Utilization Standards - The management intensities and utilization standards used in determining harvest levels are as follows:

1. Management Practices. Management intensities will vary with site productivity, timber species, other resource management objectives, and timing of implementation. Each of the following timber management practices may be used singly or in combination to determine the appropriate management intensity.

    a. Site preparation - chemical, mechanical, and prescribed fire.
    b. Genetic Tree Improvement.
    c. Reforestation by planting, seeding, or natural.
    d. Growing stock protection from animals, insects, and diseases.
    e. Release and weeding - chemical, mechanical, and prescribed fire.
    f. Precommercial thinning.
    g. Commercial thinning.
    h. Salvage harvest.
    i. Final harvest.
    j. Fertilization

2. Utilization Standards. Separate utilization standards are to be used in determining harvest levels for the first decade and future decades to the planning horizon. The standards displayed in the table below shall apply on the Forest, except where individual market areas or specific products present opportunities for standards specifying utilization of a higher proportion of the tree resource.

Table 4-19
Timber Utilization Standards

	Minimum DBH (Inches)	Minimum Top DIB (Inches)
Existing Timber Stands		
Final Harvest Size	9	6
Commercial Thinning Size	7	4
Regenerated Future Timber Stands	7	4

Culmination of Mean Annual Increment - Minimum rotation lengths will be based upon the length of time required to achieve volume production equivalent to at least 95 percent of culmination of mean annual increment. Exceptions are permitted for the use of sound silvicultural practices, for salvage or sanitation harvesting, or for the removal or a particular species of trees after considering the multiple objectives of the area.

Regeneration Assurance - When trees are cut to achieve timber production objectives, the cutting will be made so as to assure that lands can be adequately restocked within 5 years after final harvest [36 CFR 219.27(c) (3)]. Research and experience indicate that the harvest and regeneration practices planned can be expected to result in adequate restocking.

Adequate restocking for the Mt. Baker-Snoqualmie will meet the minimum stocking level for regeneration, as defined by a site-specific silvicultural prescription. Minimum stocking levels will generally be no lower than 190, well distributed established trees per acre. Five years after final harvest is defined as: 5 years after clearcutting, 5 years after final overstory removal in shelterwood cutting, 5 years after the seed tree removal harvest in seed tree cutting, or 5 years after selection cutting.

Created Openings

1. Forest openings created by the application of even-aged harvest cutting methods shall be limited to a maximum size of 60 acres in the Douglas-fir type of the coastal Douglas-fir zone, and to a maximum size of 40 acres for all other forest types in the Pacific Northwest Region. Exceptions are permitted for natural catastrophic events (such as fires, windstorms, or insect and disease attacks) or on an individual basis after a 60-day public notice period and review by the Regional Forester. In addition, the limits may be exceeded by as much as 50 percent without necessitating review by the Regional Forester, or 60 days public notice, when exceeding the limit will produce a more desirable combination of net public benefits.

   Created openings will be prescribed by the Silviculturist based on site objectives, site indicators and other site factors.

   These size restrictions may be increased 50 percent if any one of the following four criteria are met:

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

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

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

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

2. A harvested area of commercial forest land will no longer be considered a created opening for silvicultural purposes when stocking surveys, carried out in accordance with Regional instructions, indicate prescribed tree stocking that is at least 4-1/2 feet high and free to grow (USDA, 1984b). When other resource management considerations (such as wildlife habitat, watershed needs, or visual requirements) prevail, a created opening will no longer be considered an opening when the vegetation in it meets a particular management objective stated in the Forest Plan.

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

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

Silvicultural System - Even-aged silvicultural management has been determined, by experience and research, to be the optimum system for timber production on the Mt. Baker-Snoqualmie National Forest. (Refer to Appendix F in the FEIS.) Uneven-aged silvicultural system may be used, if necessary, to meet established requirements of other resources. Selection of a silvicultural system will be made with a site-specific analysis. Selection of the appropriate silvicultural systems will be guided by the following criteria and the land management allocation.

1. The selected silvicultural system must permit the production of sufficient volume of marketable trees to permit utilization of all trees which meet utilization standards and are designated for harvest.

2. The selected silvicultural system must permit the use of an available and acceptable logging method that has the capability to remove logs and other products without excessive damage to the identified desirable residual vegetation.

3. The selected silvicultural system must be capable of providing special conditions, such as a continuous canopy or continuous high density live root mats when required by critical soil conditions or needed to achieve management objectives such as streamside protection, wildlife needs, and visual resources.

4. The selected silvicultural system must permit control of existing or potential vegetation to a degree that establishment of number of trees, other desirable vegetation, and rates of growth as identified in site specific silviculture prescriptions for harvest areas can be achieved.

5. The silvicultural system selected must promote stand structure and species composition which avoids serious risk of damage from mammals, insects, disease, or wildfire and will allow treatment of existing insect, disease, or fuel conditions. Monoculture is to be avoided.

6. The silvicultural system selected must meet resource allocation and vegetation management objectives identified in the Forest Plan. Silvicultural systems for specific areas may be identified during the NEPA process.

7. Salvage harvest practices may be employed on suitable lands unless stated otherwise in a strategy.

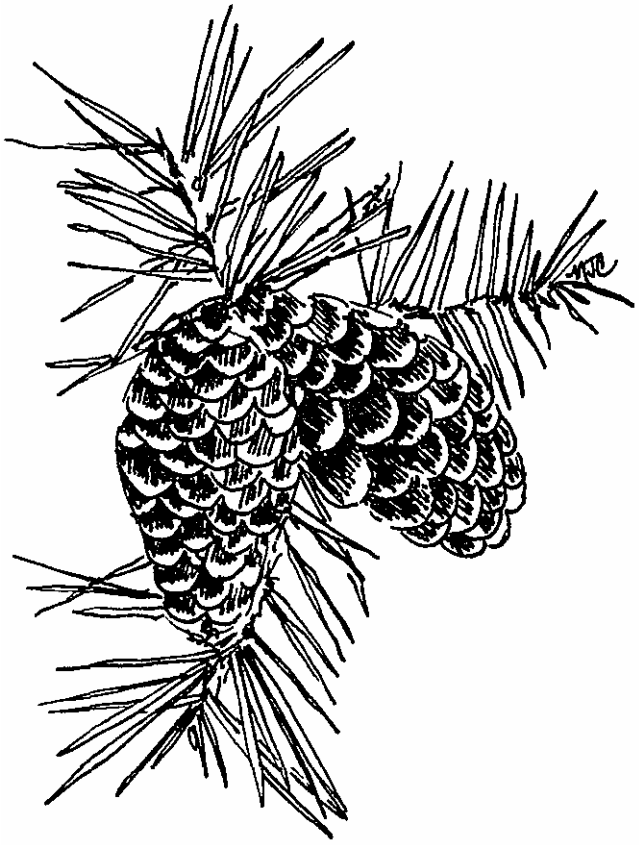
Vegetative Manipulation Activities - All vegetative manipulation activities related to timber management will be prescribed for or approved by a certified silviculturist.

Timber Volume Chargeable to Allowable Sale Quantity (ASQ) - The timber sale preparation final package must state the volume of timber in MMCF that is chargeable to the ASQ. All volume included in the growth and yield projections to calculate the ASQ is net live timber volume meeting Forest Utilization Standards, and is chargeable to the ASQ. All other timber not meeting these Standards, including most dead and down, shall be nonchargeable.

Catastrophically killed stands of timber which were included in ASQ calculations would normally be sold as chargeable.

Western redcedar

Favor the regeneration and management of' Western redcedar on those sites where it now occurs and on sites where environmental conditions are such that successful establishment and management would occur.

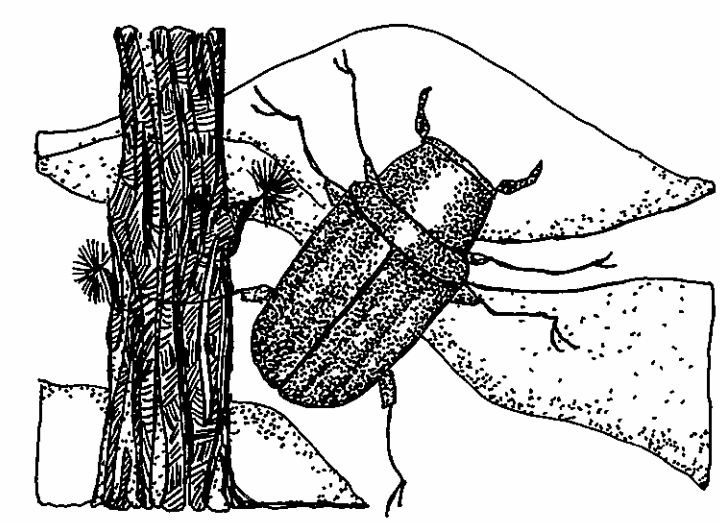


VEGETATION MANAGEMENT

Goal: Vegetation management and/or manipulation to meet objectives of the management areas.

1. Vegetation management and/or manipulation will follow the Record of Decision, Managing Competing and Unwanted Vegetation, Final EIS, Pacific Northwest Region, December 1988 (or as amended), the Mediated Agreement, and implementation direction.

2. Control noxious weeds to the extent practical. The following methods for control shall be used: mechanical, biological, access restrictions to prevent spread, seeding disturbed sails and use of herbicides. Small infestations of new noxious weeds (e.g. tansy ragwort should be eradicated as quickly as possible.



MINERALS AND ENERGY

Goal: Provide for exploration, development, and production of mineral and energy resources while minimizing effects on the surface resources.

Management

1. An appropriate environmental analysis and documentation will be used as a basis for making recommendations in leasing or licensing and in determining necessary stipulations for the protection of other resources.

2. Processing and administration of all mineral, oil and gas and geothermal leases, exploration proposals, and development proposals will be in accordance with State and Federal rules, regulations, and standards.

3. Mineral exploration and mineral removal are permitted throughout the Forest, except withdrawn areas.

4. All activities which involve significant disturbance of the surface resources require a notice of intent and/or an operating plan be submitted and processed in accordance with 36 CFR 228.

5. Reclamation standards will be developed to insure land restoration to a productive condition to the extent practicable. Opportunities to enhance other resources will be considered. Concurrent reclamation will be required and bonded.

6. Withdrawal of lands from appropriation or entry under the mining or mineral leasing laws will be in accordance with Section 204 of the Federal Land Policy and Management Act of 1976 (FLPMA). Areas with mineral potential will be recommended for withdrawal from mineral entry when mitigation measures would not adequately protect other resource values which are of greater public benefit. Review of existing withdrawals will be made by 1991 as required by FLPMA.

7. For mineral lease applications submitted by USD1 Bureau of Land Management, appropriate stipulations will be required for leases as necessary to achieve Management Area prescriptions. “No surface occupancy” stipulations will be incorporated in lease recommendations when: (a) surface occupancy would cause significant resource disturbance which cannot be mitigated by other means; (b) where resource impacts would be irreversible or irretrievable; or (c) the activity proposed is incompatible with the surface management prescription.

8. Common variety materials (including gravel pit sources) will be managed by lease, sale, or permit in accordance with the following criteria:

    a. Priority will be given to utilization of existing sources over development of new sources.

    b. Use will not be authorized where removal will conflict or interfere with prior authorization or Management Area prescriptions.

    c. Requests for use of common variety minerals will be processed as stipulated in 36 CFR 228, Subpart C.

    d. A development plan and appropriate NEPA documentation will be prepared prior to development of new common variety mineral sources.

LAND USES

Goal: To be responsive in the consideration of the use and occupancy of the Forest by private individuals, Federal, State, and local governments when such use is consistent with Forest management objectives, is in the public interest, and cannot be reasonably served by development on private land.

General

1. Special use evaluation, permit issuance, fees and administration will be in accordance with Forest Service Manual 2700 or as revised, and 36 CFR 251.
2. In considering special use applications, the needs of the general public will be given priority over the applicant.
3. Land to be used will be suitable for the proposed use and kept as small as is consistent with the intended use. National Forest land will not be made available for private development when suitable private land is available to support needs.

4. Provisions will be made to protect land and resources of the National Forest. Forest Service will approve location of all developments, designs, and plans for construction of facilities.

5. Applicants should be required to furnish necessary environmental analysis, other required studies, plats, etc., and provide funds for administration of the permit.

6. New resort activities, plus recreation and concession proposals will be selected through a competitive process if interest is shown by several parties.

7. Applicants for sites and facilities will be directed toward use of sites in the following order:

    a. Utilizing capacity of existing approved sites.

    b. Utilizing new sites through and following an environmental analysis. Site plans should be prepared prior to installing facilities.

Right-of-Way Grants and Acquisition

1. Grant needed easements to State and local governments for existing and relocated roads and highways. Follow 36 CFR 212.8, 9, 10, and 11 in granting and acquiring access across lands and easements administered by the Forest Service.

2. Acquire road and trail rights-of-way across non-National Forest land to implement and support resource management activities. Coordinate with intermingled and adjacent landowners, plus State and local government in developing roads or road systems that serve the needs of all parties.

3. Where appropriate, the Forest will enter into and continue existing cost share agreements. The Forest Cost Share program will be managed according to principles established in FSM 5467 and the deeds.

4. Grant access to private property in accordance with Federal rules, regulations and standards.

Landlines - Survey and mark boundaries to accomplish the following priorities:
(1) protect present corners or references when the possibility of disturbance exists, (2) resolve or prevent encroachment, (3) assist forest users in identifying public lands, and (4) to help assure full utilization of National Forest resources.

Utility and Transportation Corridors

1. Future memoranda of understandings, project maintenance and construction plan will meet Forest Standards and Guidelines and Management Area 25 management direction.

2. When applications for rights-of-way for utilities and highways are received, the Forests' first priority will be to utilize residual capacity (within or contiguous) in existing corridors. The corridors will be planned and located to minimize ground and air disturbance.

3. The Forest will consider only that area between Pyramid Peak and Tacoma Pass as a potential new major cross Cascade utility corridor. This corridor will only be considered after the existing corridors have been utilized to their maximum.

4. Potential utility and transportation rights-of-way will be examined in relation to issues and concerns and resource management objectives.

5. Routes through wilderness are excluded from consideration as utility or transportation corridors. Routes through Management Areas 1A, 1B, 1C, 3A, 3C, 3D, 4, 5A, 58, SC, 7, 11, 12, 13D, 15, and 18 shall be avoided during consideration of utility or transportation corridors.

Other Uses - Applications for licenses or grants associated with dams and reservoirs shall be recommended for approval when they are consistent with the Management Area goals and objectives.

LAND ADJUSTMENTS

Goal: To provide an optimum pattern of landownership within the Mt. Baker-Snoqualmie National Forest considering resource goals and efficiency of managing the Forest.

Landownership Classification

1. All National Forest land and land in other ownerships within the forest boundary will be classified into one of five landownership classification groups. This classification system identifies opportunities to acquire, retain, exchange, or relinquish lands to facilitate administration of the Forest.

   Group Definitions.

   a. Group I - This group includes those lands where Congress has either directly or indirectly instructed the Forest Service to retain ownership and acquire non-Federal lands for a designated purpose.

   b. Group II - Landownership direction for Group II lands is to retain National Forest ownership and acquire private land as the opportunity and/or need occurs.

   c. Group III - These lands will be available for land adjustment and usually will provide most of the land considered in exchange projects.

   d. Group IV - Lands in this group are normally made available to acquire private land in Groups I, II, or III areas.

   e. Group V - This group includes situations where it is determined that a more intensive study and planning are necessary before landownership decisions are made.

FACILITIES

Goal: Provide and manage roads, facilities, and utility systems required to protect and manage the Mt. Baker-Snoqualmie National Forest.

Roads

1. Planning.

    a. The Forest Transportation System will be planned to serve long-term multiple resource needs as provided in Management Area direction.
    b. Maintain the Forest Road Management Plan.

2. Construction. Roads will be designed, constructed, and/or reconstructed according to standards appropriate to planned uses, activities, safety, economics, and impacts on lands and resources using criteria in FSM 7700 and 7720 or as revised.

3. Operations and Maintenance.

    a. Operate, maintain, and/or close roads to meet established road management objectives and safety.
    b. Where appropriate, the Forest will enter into and continue existing cost share agreements.
    c. Close and return to the planned resource use all roads not on the Forest Development System or authorized by permit, lease, or easement. Measures will be taken to prevent excessive resource damage.

    d. Develop and implement projects to correct road related water quality, anadromous fish habitat, and other resource problems.

Facilities

1. Facilities will be managed to support Forest Management Objectives.

2. Barrier free access will be provided in facilities when mandated by Washington State Law or by Forest Service policy.

3. Facility alterations will be accomplished in conformance with the cultural management requirements of the site.

4. All new facilities on the Forest should employ the Cascadian architectural style. The Cascadian style is a variety of rustic architecture. It's character-defining elements are described in Appendix A of the Internal Management Guidelines for Depression-Era Buildings.

    a. Design shall borrow from, but not duplicate, the elements of Cascadian design.

    b. Design shall emphasize the use of wood and other Forest resources.

    c. Use wood frame designs in administrative sites, except in the immediate vicinity of existing log buildings.

d. Use contemporary wood products in public interior spaces where they will be dominant and seen.

e. Vary interior and exterior textures. Shake roofs, alternation of direction and pattern of siding, rough-sawn wood textures and occasional stone treatments on prominent walls will create visual interest.

f. Use heavy posts of wood or stone for porticos and interior columns.

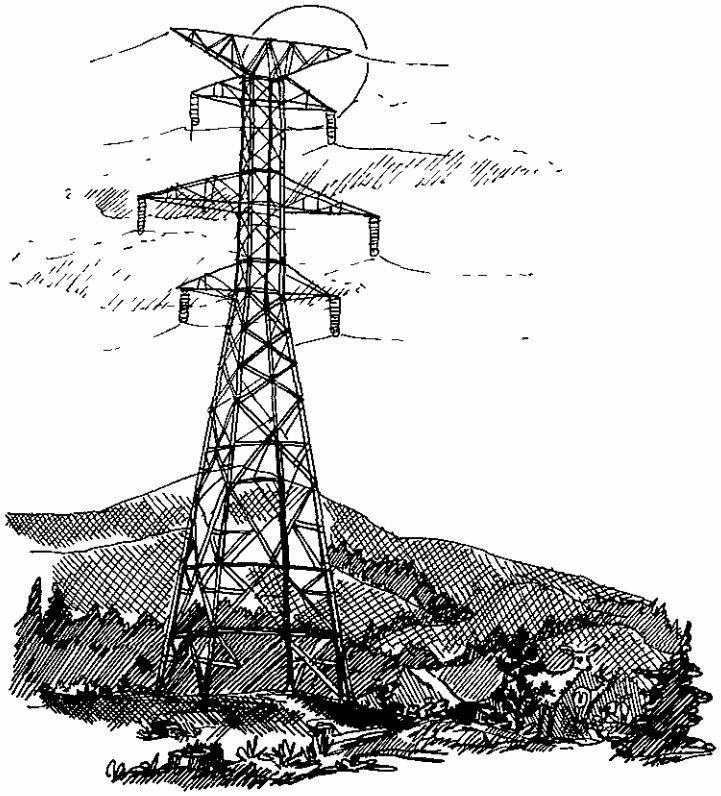
g. Windows can be aluminum, but should be darkly anodized. Consider using snap-in mullions.

h. Establish an integrated paint scheme for building groups. Use earth tones. All buildings on a site need not be the same color (for example, office, residential and service buildings might each have a distinct color treatment, within an integrated scheme).

1. Design steep roof pitches of gable and hipped gable structure.

j. Proportion and align floors, windows, eaves, roof heights, building setbacks and building axes to adjoining buildings.

k. Match the scale of adjoining buildings.



PROTECTION

Pest Management

Goal: Protect forest and range resources from unacceptable losses due to destructive forest pests.

1. Develop and practice the use of Integrated Pest Management (1PM) prevention and suppression strategies. Methods may include management practices (cultural or silvicultural), biological, mechanical, manual, prescribed fire and/or chemical treatments, and regulatory measures. Prevention and suppression methods will be based on environmental analysis.

Fire

Goal: Provide and execute a fire protection and fire use program that is cost efficient and responsive to land and resource management goals and objectives.

1. All wildfire will receive an appropriate suppression response utilizing a strategy of confine, contain, or control.

2. Wildfires that threaten life, property, public safety, improvements, or investments will receive aggressive suppression action using a control strategy.

3. Prescribed fire will be considered for use in meeting management objectives in areas where ecological studies show that fire has played a significant role in ecosystem development.

4. Prescribed fire will be utilized only when careful analysis indicates that it will be cost effective and practical. This analysis will include consideration of measures to mitigate impacts on air quality, such as increased removal of slash from the site, reduction of acres to be burned for hazard reduction, and ignition and burning techniques that reduce fuel consumption.

5. Maintenance of air quality will be a key factor in planning prescribed fire use. Consideration will be given to mitigation measures, such as burning during a longer season to spread emissions throughout the year, avoidance of burning near recreational units during times of peak use, and coordination with State smoke management plans.

Fire Management Direction

Fire Protection: GROUP A Area: 315,000 acres

Applicable Management Areas: 2A, 2B, 3A, 3B, 3C, 3D, 7, 8, 11,12,16A, 23A, 25A, 25B

Recommended Fire Prevention Intensity: Moderate

Recommended Fire Suppression Strategy: Control

Fire Suppression Direction:

Appropriate suppression action will be taken on all wildfires within the area these allocations apply. A contain or control strategy will be utilized on human caused fires and other wildfires which threaten cultural resources, capital investments, or other areas where preservation of existing vegetation is desired.

Prescribed Fire Direction:

Prescribed fire may be used to accomplish specific resource management objectives if it is the most cost effective method to use. All projects will recognize air quality *and* smoke management constraints. Unplanned ignitions may be used if they occur when prescription parameters needed to accomplish the prescribed fire objectives for the area can be met.

Operational Constraints:

Economic efficiency, guided by the maximum fire size constraint, will control the intensity of fire suppression efforts. The full range of suppression tactics and tools are available, although those with the least impact on the ground are preferred. Control or contain actions will be taken on any fire which has the potential to exceed the maximum fire size constraint for these allocations. Mop-up actions will be consistent with and insure the success of the suppression actions taken.

Fuel Management Objectives:

Activity fuels will be treated to the level necessary to achieve the expected resource objectives of the area. Normally this will be to return the area to as near natural appearance as possible. Natural fuels will not be treated except where necessary to meet specific resource or activity objectives.

Fire Management Direction

Fire Protection: GROUP B Area: 730,000 acres
Applicable Management Areas: 4, 10A, 10B, 10C, 10D, 10E

Recommended Fire Prevention Intensity: Low

Recommended Fire Suppression Strategy: Confine Natural Ignition.
Contain or Control Human Caused Ignitions

Fire Suppression Direction:

All wildfires will receive appropriate suppression action. Contain or control strategies will be used when wildfires threaten identified cultural sites or improvements or has the potential to leave the wilderness area and result in unacceptable damages. A confine strategy will be used elsewhere.

Prescribed Fire Direction:

Natural ignitions occurring under conditions that satisfy specific prescription parameters for the area may be used to accomplish wilderness objectives that are achievable through prescribed fire. Accidental human caused fires will not be used to accomplish prescribed fire objectives and will be suppressed. Planned ignitions may be used where necessary to meet wilderness management objectives.

Operational Constraints:

Containment or control actions will be in accordance with wilderness suppression guidelines (FSM.) Indirect attack utilizing natural barriers and changes in vegetation and topography will be utilized whenever possible. All actions will minimize disturbance to vegetation and soil. Helicopters may be utilized if they are the most cost efficient method of accomplishing the job. Natural openings will be utilized as helispots whenever possible. Clearing will be held to a minimum. Power saws and other mechanized equipment will be used only after Forest Supervisor approval. Air tankers will be used only on wildfires which threaten non-wilderness values. Mop-up will be limited to that necessary to maintain the integrity of contain or control objectives when applied.

Fuel Management Objectives:

Treatment of activity fuels will be consistent with wilderness management objectives.
As with other activities, the method least impacting on the land and vegetation will be the preferred method if disposal is necessary.

Fire Management Direction

Fire Protection: GROUP C Area: 288,000 acres

Applicable Management Areas: 1A, 1B, 1C, 10

Recommended Fire Prevention Intensity: Low

Recommended Fire Suppression Strategy: Confine, Contain, or Control

Fire Suppression Direction:

Appropriate suppression action will be taken on all wildfires within the area this allocation applies. The contain or control strategies will be utilized when wildfires threaten cultural resources, capital investments or other areas with more constrained fire management direction.

Prescribed Fire Direction:

Prescribed fire may be utilized to accomplish specific resource management objectives if it is the most cost efficient method. All projects will recognize air quality and smoke management constraints. Unplanned ignitions may be used if they occur when prescription perimeters needed to accomplish the prescribed fire objectives for the area can be met.

Operational Constraints:

Economic efficiency rather than a specified acreage constraint will control the intensity of fire suppression efforts. The full range of suppression tactics and tools are available, though those with the least impact on the ground are preferred. Contain or control actions will be taken on any fire which has the potential to exceed the annual maximum allowable burned acreage for this allocation. Mop-up actions will be consistent with insuring success of contain or control actions where deployed.

Fuel Management Objectives:

Activity fuels will be treated to the level necessary to achieve the expected resource objectives of the area. Normally this will be to return the area to as near natural appearance as possible. Natural fuels will not be treated except where necessary to meet a specific resource or activity objective.

Fire Management Direction

Fire Protection: GROUP D Area: 68,000 acres
Applicable Management Areas: 5A ,5B, 5C, 6, 13
Recommended Fire Prevention Intensity: Low

Recommended Fire Suppression Strategy: Control

Fire Suppression Direction:

Control all wildfires at 5 acres or less.

Prescribed Fire Direction:

Prescribed fire has limited application in this allocation. Maintenance of total vegetation cover is critical to meeting resource objectives. Some burning of piled debris may be utilized.

Operational Constraints:

Avoid the use of ground disturbing equipment within 100 ft of water courses. Avoid the use of retardant within 200 ft of water courses. Firelines should be located away from stream courses. If possible maintain at least 50 ft between the stream course and firelines. Tactics which maintain the greatest proportion of riparian vegetation are preferred. Mop-up should be aggressive and directed at retaining as much riparian vegetation as possible.

Fuel Management Objectives:

Natural fuels shall be left in place for soil stability. Activity fuels
shall be treated to (1) a level that results in a fire intensity of no more than Class 3 (Flame Length 4 to 6 Ft) when measured 3 years from creation under median summertime weather conditions or (2) meet specific resource need, whichever is lower.

Fire Management Direction

Fire Protection: GROUP E (1) Area: 143,000 acres

Applicable Management Areas: 14, 15A, 17, 19, 21

Recommended Fire Prevention Intensity: Low

Recommended Fire Suppression Strategy: Control or Contain

Fire Suppression Direction:

Suppress all wildfires at 50 acres or less using the most cost efficient suppression tactics. An exception to this would be in those areas where this allocation abuts one with a more stringent objective or when private land boundaries are threatened. In these situations a 10 acre control objective is appropriate.

Prescribed Fire Direction:

Prescribed fire may be utilized to accomplish specific resource management objectives. Plans must be accompanied by an evaluation which indicates it to be the most environmentally and cost effective method to meet the objectives. Only planned ignitions will be utilized. All projects will be executed in accordance with air quality and smoke management guidelines.

Operational Constraints:

Direct attack will normally be used under Fire Intensity Level (FIL) I and 2 conditions and indirect attack methods used under FIL 3+. Mop-up will be of sufficient intensity to maintain the control integrity. The full range of suppression techniques is available.

Fuel Management Objectives:

Natural fuels will be treated only when necessary to meet a specific resource or activity objective. Treatment of activity fuels to meet specific resource or activity objectives will in most cases achieve residue loadings compatible with protection needs of this area. Except where environmental constraints prohibit it, the projected fire intensity caused by the presence of activity fuels should not exceed FIL 3 when evaluated at a point in time three years after creation under median weather conditions for the area.

Fire Management Direction

Fire Protection: GROUP E (2) Area: 103,000 acres

Applicable Management Areas: 17, 21, 22

Recommended Fire Prevention Intensity: High

Recommended Fire Suppression Strategy: Control or Contain

Fire Suppression Direction:

Suppress all wildfires at 25 acres or less using the most cost efficient suppression tactics. An exception to this would be in those areas where this allocation abuts one with a more stringent objective or when private land boundaries are threatened. In these situations a 10 acre control objective is appropriate.

Prescribed Fire Direction:

Prescribed fire may be utilized to accomplish specific resource management objectives. Plans must be accompanied by an evaluation which indicates it to be the most environmentally and cost effective method to meet the objectives. Only planned ignitions will be utilized. All projects will be executed in accordance with air quality and smoke management guidelines.

Operational Constraints:

Direct attack will normally be used under Fire Intensity Level (FIL) I and 2 conditions and indirect attack methods used under FIL 3+. Mop-up will be of sufficient intensity to maintain the control integrity. A full range of suppression techniques are available.

Fuel Management Objectives:

Natural fuels will be treated only when necessary to meet a specific resource or activity objective such as wildlife habitat, site prep, etc. Treatment of activity fuels to meet specific resource or activity objectives will in most cases achieve residue loadings compatible with protection needs of this area. Except where environmental constraints prohibit it, the projected fire intensity caused by the presence of activity fuels should not exceed FIL 3 when evaluated at a point in time three years after creation under median weather conditions for the area.

Fire Management Direction

Fire Protection: GROUP E (3) Area: 37,000 acres

Applicable Management Areas: 17,21,

Recommended Fire Prevention Intensity: High

Recommended Fire Suppression Strategy: Control or Contain

Fire Suppression Direction:

Contain all wildfires to essentially the cutover area within which they start except those fires which threaten private property or equipment will be controlled at the least practical acreage, usually 10 acres or less.

Prescribed Fire Direction:

Prescribed fire may be utilized to accomplish specific resource management objectives. Plans must be accompanied by an evaluation which indicates it to be the most environmentally and cost effective method to meet the objectives. Only planned ignitions will be utilized. All projects will be executed in accordance with air quality and smoke management guidelines.

Operational Constraints:

Indirect attack utilizing vegetation type changes, i.e. leave strips or mature timber, should be used whenever practical Mop-up will be of sufficient intensity to maintain the contain integrity. A full range of suppression techniques are available except that air tankers will normally only be used along unit boundaries except where private land or equipment is involved.

Fuel Management Objectives:

Natural fuels will be treated only when necessary to meet a specific resource or activity objective such as wildlife habitat, site prep, etc. Treatment of activity fuels to meet specific resource or activity objectives will, in most cases, achieve residue loadings compatible with the protection needs of these areas.

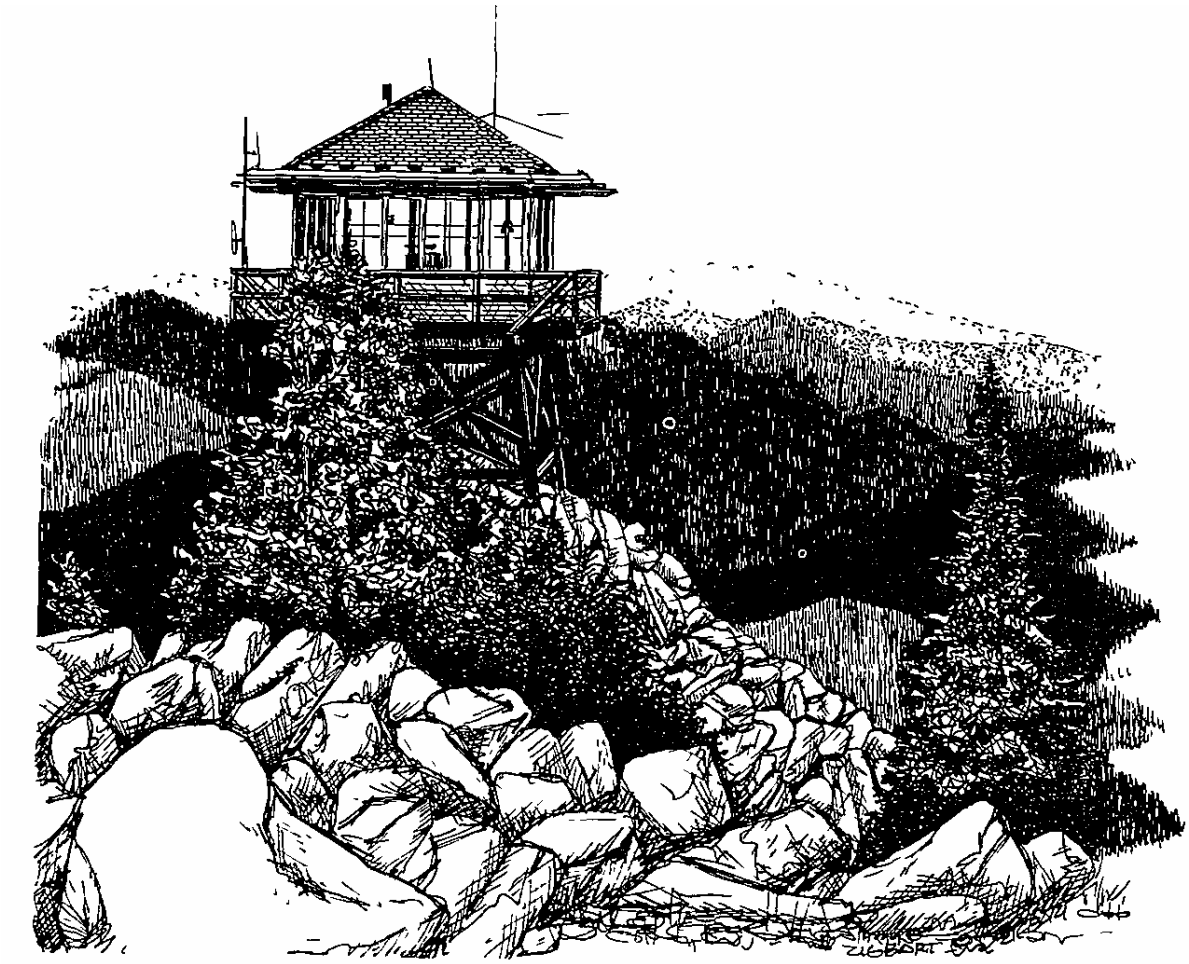
Except where environmental constraints prohibit achievement, the projected fire intensity caused by the presence of activity fuels should not exceed FIL 3 when evaluated at a point in time three years after creation under median weather conditions for the area.

Fire Prevention Plan

The achievement of the expected outputs from the various prescription and land allocations is affected by many variables. Maintaining losses from wildfire at or below the levels for each allocation is one of these. The protection objectives anticipated are met through a combination of prevention, detection, presuppression, preparedness, fuels management, and fire suppression activities. This plan details the prevention actions proposed as part of the total protection program needed to meet the land management objectives.

The various land management prescriptions and allocations have different risks of human-caused fires associated with them. They also have different constraints to the extent that wildfire can be tolerated without adversely impacting the expected outputs. In order to recognize these differences and to maintain a cost effective program, we have developed a graduated program which varies the level of prevention emphasis with the need to insure that expected outputs are met.

Three levels of prevention emphasis have been developed. Each prescription and/or land allocation has one of the three prevention levels associated with it. The individual levels contain specific direction relative to personal contacts, regulation of uses, signing, inspections and law enforcement and mass media programs. The specific action under each vary as the prevention intensity increases.



Prevention Levels

METHOD	I LOW	II MODERATE	III HIGH
Public Contacts	1. Incidental-done as a part of other contacts. Message content designed to maintain general fire awareness. 2. Fewer than 10% of the users will have direct contact during the fire season.	1. Contacts are secondary to other purposes but have a specifically designed message and target. 2. Message should emphasize the damaging effects of wildfires. 3. Fewer than 25% of the users should be contacted during the fire season.	1. Contacts are specifically for conveying fire prevention messages or the enforcement of regulations. 2. Messages should emphasize the costs of wildfires as well as the damaging effects. 3. Individual messages should be targeted to specific problems, areas, or users. 4. A minimum of 50% of the industrial users should be contacted during the fire season, and 20% of the non-industrial users.
Regulation of Fire Use	1. Normal CFR's, state laws and contracts or permit provisions are sufficient to control starts. 2. Restriction on specific uses or activity will be limited to periods of critical fire risk.	1. Normal CFR's. 2. Restrictions on specific uses may be initiated during portions of the fire season.	1. Specific restrictions on use of fire and spark omitting equipment may be initiated during the fire season. 2. Restrictions will be designed to address specific groups of users or types of activities.

Prevention Levels, continued

METHOD	I LOW	II MODERATE	III HIGH
Signing	1. Conducted as part of the general information signing for the area.	1. A limited amount of general information and motivational signing should occur.	1. The actions in Level I and II should occur.
	2. Prevention messages should be both general and positive. Main theme should be motivational in nature.	2. Special prevention messages posted along travel routes and at destinations.	2. Additional signing should include fire restriction emphasis.
		3. Messages should be informational in nature but directed to specifically identified problems.	3. Emphasis should be made at high use/ high risk areas.
Inspection and Law Enforcement	1. Done as part of the regular monitoring job.	1. Done as part of user contact programs.	1. Specific inspection contacts will be made in heavy use areas during the fire season.
	2. Flagrant violations will be processed as they are discovered.	2. Emphasis will be correction of violations.	2. Violations will be processed as discovered.
	3. Emphasis will be educational.	3. Flagrant violations will be processed as discovered.	3. Media program will emphasize violations or convictions.
Mass Media Programs (Radio/TV)	1. No specific programs.	1. Message will be directed to specific problem or groups.	1. Messages will be targeted to specific problems or groups.
	2. Any message will be general and incidental to principle messages being conveyed.	2. Messages will usually be combined with other subject matter.	2. Messages will be single purpose.

E. MANAGEMENT AREA PRESCRIPTIONS

Each acre of National Forest land within the Mt. Baker-Snoqualmie has been assigned to one of the following management areas. This section of Chapter 4 shows the individual management area prescriptions which apply to projects, activities, and uses on the Forest. The standards and guidelines for each management area must be used in conjunction with the Forest-wide Standards and Guidelines.

Refer to Table 4-20 for the acres allocated to each MA in this Forest Plan. The Alternative J (Preferred) maps accompanying this document show the on-the-ground location of all the management areas. A Forest Plan control map will be developed; it will be the authoritative reference for interpreting and implementing the spatially-related direction in this Forest Plan. A master copy of the Forest Plan Control map, updated to reflect any amendments or revisions, will be maintained in the Forest Supervisor's Office.

Table 4-20
Management Area Acreages

Management Area	J (Preferred)
Lands Suitable for Timber Production	346,411
1 Dispersed Recreation	
1A Primitive	45,278
1B Semi-Primitive Nonmotorized	225,104
1C Semi-Primitive Motorized	2,981
1D Roaded Natural Recreation	14,926
1E General Dispersed Recreation	0
1F 1926 Mt. Baker Recreation	0
Subtotal	288,289
2 Scenic Viewshed	
2A Foreground	23,406
2B Middleground	95,795
Subtotal	119,201
3 Developed Recreation	
3A Public Sector Sites	1,819
3B Potential Recreation Sites	0
3C Winter Sports Resorts	6,041
3D Private Sector Sites	558
Subtotal	8,418
4 Mt. Baker National Recreation Area	8,740
5 Potential Wild & Scenic River	20,865
6 Skagit Wild & Scenic River	17,037
7 Amer Indian Religious/Cultural Use 4/	0
8 Special Areas 5/	6,321
10 Wilderness	
10A Transition	15,078
10B Trailed	49,015
10C General Trailless	457,000
10D Dedicated Trailless	191,606
10E Special Area	9,017
Subtotal	721,716
11 Old Growth Habitat	54,191
12 Mature & Old Growth Habitat	19,282
13 Watershed, Wildlife and Fisheries Emphasis in Riparian Areas 6/	
13D Level III Anadromous, Potential Resident Fish Habitat Capability	47,048
14 Deer and Elk Winter Range	33,587
15 Mountain Goat Habitat	
15A Management Requirements	17,110
15B Habitat Improvement	0
Subtotal	17,110
16 Threatened & Endangered Species	
16A Northern Bald Eagle	2,808

Table 4-20
Management Area Acreages

Management Area	J (Preferred)
17 Timber Management Emphasis	166,611
18 Research Natural Areas 8/	5,233
19 Mtn Hemlock Zone	31,965
20 Cedar River Municipal Watershed	
20A Current Direction, Exchange NF Lands to City	0
20B Exchange NF Lands, City Maintains Old Growth	0
20C Retain NF Land, Maintain Old Growth Habitat	0
20D Negotiate new Cooperative Agreement	11,724
21 Green River Municipal Watershed	
21A Current Direction, Timber Harvest, Disp Rec. OK	24,935
21B Timber Harvest OK, Most Public Rec. Prohibited	0
22 Sultan River Municipal Water	
22A Closed Except Protect Watershed & Hydropower Production, Exchange NF Lands	0
22B Current Situation, Exchange NF Lands, Moderate Timber Harvest, Restricted Recreation	8,399
22C Retain NF Lands, Full Multiple Use	0
23 Other Municipal Watersheds	
23A Timber Harvest, Moderate Recreation	13,138
23B No Harvest, Limited Recreation	0
25 Special Uses - Utilities	
25A Utility Corridors 9/	[1500]
25B Electronic Sites	1,014
26 Administrative Sites	143
27 Alpine Lakes Mgt. Area 10/	95,305

1/ Total acres in each alt. vary due to rounding. MA 9 not used, MA 24 Min. Mgt. not assigned in any alternative.
2/ Applies only to Alt. A; includes mostly unroaded, but some roaded recreation, from exisitng Multiple Use Plans.
3/ Parcels of the 1926 area that remain outside of wilderness and the Mt. Baker NRA are included here.
4/ Acres are protected, at varying levels, in the alternatives, but not shown to protect confidential nature.
5/ Includes: Cultural-Historic, Geologic, Biologic, Botanic, and Scenic Special Areas.
6/ Many acres of riparian zone fall within other MA's and are protected through those management prescritptions.
7/ Management Areas 16B Grizzly Bear, 16C American Peregrin Falcon, and 16D Gray Wolf have no acres assigned at this time, because no specific habitat has been identified or evaluated.
8/ Acres of existing or proposed RNA located within wilderness are included in MA 10, not here.
9/ These acres overlap other MA's.
10/ Includes acres within the congressionally designated Alpine Lakes Management Unit that are not otherwise assigned to other, compatible management areas. (Compatible MA's include: 5, 11, 12, 14, 15, and 16.)

Management Area Prescriptions

Table of Contents

1 DISPERSED RECREATION

Goal: To provide for a spectrum of dispersed recreation opportunities in a predominately natural or naturally appearing environment through the management of user activities and natural resource settings.

Description of Lands Where Prescription Applicable This prescription is applied to selected acres throughout the forest. It does not occur in wilderness or existing developed recreation sites.

Desired Future condition: Varies by Intensity.

Intensities In Management Area 1:

1A Primitive
1B Semi-Primitive Nonmotorized
1C Semi-Primitive Motorized
1D Roaded Natural

INTENSITY 1A: PRIMITIVE

Desired Future condition: Unmodified natural environment has been maintained with a high probability of isolation. Evidence of human activities would be unnoticed by most users. Primitive recreation opportunities are available with a high degree of risk and challenge On-site controls, facilities, or modifications are unlikely and would be provided only for resource protection and users safety. Timber harvest is not appropriate and is not scheduled. Because of the distances involved, most use is overnight in character. concentration of users is very low, generally under 0.1 RVD's/acre/year. Roads will be generally three miles fton these zones and normally one would expect to hike one to three hours to access these areas.

Program Element	Standards and Guidelines
A. Recreation	
1. Trail Planning	
	a. Trails should be located to take advantage of viewing opportunities in high Visual Absorption capability terrain, and to enhance primitive opportunities.
	b. Trails will generally be constructed and managed to a standard of "more difficult" and most difficult."
2. Visual Quality	
	a. Visual Quality objective of preservation should be maintained, lower standards are acceptable in the event of unregulated harvest necessary for catastrophic events, Practices should be employed in a manner that best achieves the objectives of primitive intensity
3. American Indian Religious and a Cultural Use	a. Meet Forest-wide Standards and Guidelines.

4. Facility and Site Management	a. None provided, except at sites where needed to respond to primitive recreation need. Existing sites not needed, will be removed following cultural resource evaluation
	b. On-site signs will be permitted
5. Use Administration	a. Issue entry permits or group size limitations where necessary to meet goals for area management or resource protection.
	b. Dispersed campsites should not have user-built improvements such as. shelters, drainage controls, drift fences, etc
	c. Mange according to Primitive ROS goals and standards.
	d. Campfires may he limited to designated sites. or prohibited, as needed for resource protection
	e. Recreational stock should be held overnight outside of the foreground areas of lakes. streams, camp areas and trailsides.
	f. Dispersed camp areas located to take advantage of topographic and vegetative screening.
	g. Area is closed to motorized ORS.T use
	h. Use of power tools allowed.
	i. Multiple trails at focal points should be discouraged with management practices aimed at halting the spread of these trails. Generally trails will be constructed and maintained to standards of “most difficult.”
B. Wilderness	a. Not applicable.
C. Wildlife and Fish 1. Planning	a. Trails and camping areas should avoid known essential habitat components including escape and thermal cover, goat kidding areas, travel corridors. mineral licks and raptor neat sites where user activity may be expected to disturb or jeopardize these areas.
2. Non-structural Habitat Improvement	a. Fish stocking is allowed to improve or re-establish anadromous or resident species

		b. Vegetative manipulation to enhance wildlife habitat is allowed within the constraints of a Primitive setting.
	3. Structural Habitat Improvement	a. Habitat improvement projects are generally acceptable, but they shall be unnoticed and blend into the natural landscape.
D. Range		a. Meet Forest-wide Standards and Guidelines
E. Timber		
	1. Timber Management Planning	a No scheduled harvest. Harvest may take place in the preventing further losses or protecting other resources or adjacent lands, and not for recovery of merchantable timber, Preference given to those systems having the least effect on primitive values.
		b. Replant in native species.
F. Water, Soil, and Air		a. Mast Forest-wide Standards and Guidelines; where applicable use endemic or native species for erosion control.
G. Minerals and Geology		a. Meet Forest-wide Standards and Guidelines
H. Rural community and Human Resources		a. Volunteers and other human resource programs will be used to augment site and facility maintenance work where applicable.
J. Lands		
	1. Special Use Management	a. Do not locate utility corridors, dams and diversions in these areas.
	2. FERC License and Permits	a. Recommend against FERC license or permits
	3. Land Ownership Planning	b. Place all these lands in Group II - retain or acquire when possible
	4. Rights of Way Cost Share	a Do not share cost on roads accessing private inholdings
L. Facilities		
	1. Transportation System Planning Road	a. development is not permitted, except where access to manage catastrophic timber loss is not practicable by aerial means. In such cases roads will be temporary and returned to a near natural condition when harvest project is complete.
		b. Any existing roads are closed to motorized use end access, such primitive roads will be allowed to naturally revegetate.
P. Protection		
	1. Fire Management Planning	a. Forest-wide Fire Protection Group C applies
	2. Forest Pest Management	a. Meet Forest-wide Standards and Guidelines.

INTENSITY 1B: SEMI-PRIMITIVE NONMOTORIZED

Desired Future condition: Areas are characterized by a predominately natural or naturally appearing environment generally free from evidence of sights and sounds of human activities. Opportunity exists for isolation. Recreational experiences carry a

moderate degree of risk and challenge Concentration of users is low, generally under 0 6 RVD's/acre/yr. Timber harvest is not appropriate and is not scheduled. Roads will generally be a quarter mile to three miles from these areas.

Program Element	Standards and Guidelines
A Recreation	
1. Trail Planning	a. Trails located to take advantage of viewing opportunities located in high Visual Absorption capability terrain, and serve to disperse users.
	b Generally trails will be constructed and managed to the standard no higher than 'more difficult." If. however the demand exists for a particular recreation opportunity a higher standard trail may be constructed.
2. Visual Quality	a. Visual quality objective of retention should be maintained.
3. American Indian Religious and cultural Use	a. Meet Forest-wide Standards and Guidelines.
4. Facility and Site Management	a. Limited facilities allowed to achieve signing. sanitary, safety needs, resource protection, and recreation enhancement.
	b Facilities allowed for resource protection and enhancement, and for the purposes of health and safety. Should use rustic materials. maintaining a natural appearance
	c Signs may be provided at all major trail junctions and trailheads indicating routes. distances, and destinations. Additional signing may be provided for user safety and resource protection.
	d Experience level 2 campgrounds may be constructed for nonmotorized uses.
	e. Some interpretation through self-discovery or on-site interpretation
5. Use Administration	a. Group size restriction may be employed where needed for resource protection.
	b. Isaac entry permits if necessary to meet goals for area management or resource protection.
	c. Campsites are typically informal, fire rings and user built improvements are allowed.
	d. In overused areas, campsites may be designated and open fires restricted.

		e. Manage according to Semi-Primitive Nonmotorized SOS goals and standards.
		f. Recreational stock should be held overnight outside of the foreground areas of lakes, streams, camp areas, trailsides.
		g. Dispersed camp areas located to take advantage of topographic and vegetative screening.
		h. Area is closed to ORV use, snowmobile use is allowed, except where posted as closed.
		i. Use of power tools allowed
		j. User built trails are allowed, within the constraints of protecting resources from damage.
B. Wilderness		a. Not applicable.
C. Wildlife and Fish		
	1. Planning	a. Trails and camping areas should avoid known essential habitat components including escape and thermal cover, goat kidding areas, travel corridors, mineral licks and others where user activity may be expected to disturb or jeopardize these areas.
	2. Non-Structural Habitat Improvement	a. Fish stocking allowed to improve or or resident species.
		b Vegetative manipulation to enhance wildlife habitat is allowed within the constraints of a Semi-Primitive Nonmotorized setting
	3. Structural Habitat Improvement	a. Habitat improvement projects acceptable if they meet foreground retention visuals and other standards of the Semi-Primitive Nonmotorized ROS class
D. Range		a Nest Forest-wide Standards and Guidelines
E. Timber		
	1. Timber Management Planning	a. No scheduled harvest. Harvest may take place in the event of a catastrophic event such as fire, insects, disease, or blowdown. The intent of such harvest ia to prevent further losses or protect other resources or adjacent lands end not for recovery of merchantable timber. Preference given to those systems having the least effect on Semi—Primitive values.
		b Replant in native species.
F. Water. Soil, and Air		a. Meet Forest-wide Standards and Guidelines.
G. Minerals and Geology		a. Meet Forest-wide Standards and Guidelines.
H. Rural Community and Human Resources		a. Volunteers and other human resource programs will be used to augment site and facility maintenance work where applicable.
J. Lands		
	1. Special Use Management	a. Avoid locating utility corridors in these areas.

	b. Avoid locating special uses in this area which are incompatible with the management prescription and desired future condition
2. Land ownership Planning	a. Place all these lands in Group II - retain or acquire when possible.
3. Rights of Way Cost Share	a. Do not share cost on roads accessing private inholdings.
L. Facilities	
1. Transportation System Planning	a. Road development should not be permitted, except where access to managed catastrophic timber loss is not practicable by aerial means. In such cases roads will be temporary and returned to a near natural condition when harvest project is complete.
	b. Any existing roads are closed to motorized use and access, such primitive roads will be allowed to naturally revegetate, and return to a naturally appearing condition
P. Protection	
1. Fire Management Planning	a. Forest—wide Fire Protection Group c applies.
2. Forest Pest Management	a. Meet Forest—wide Standards and Guidelines

INTENSITY 1C SEMI—PRIMITIVE MOTORIZED

Desired Future Condition: This is an area where alterations to the natural landscape may be moderately dominant and may exist, but not draw the attention of motorized users within the area. offers the opportunity to experience a moderate degree of isolation from the sights and sounds of human activity, allows one to establish some sense of independence and closeness to nature. Develops a moderate feeling of self—reliance through the use of outdoor skills. Area is managed to minimize the presence of on—site controls and use restrictions. There will often be the evidence of other users, but the concentration of these users is low, generally under 3.5 RVD's/acre/year. Motorized use is allowed, but may be seasonal in nature in some areas. Timber harvest is not appropriate.

Program Element	Standards and Guidelines
A. Recreation	
1. Trail Planning	a. Trails located to take advantage of viewing opportunities, high Visual Absorption Capability (V.A.C.) terrain, travel loops and motorized recreation challenge. Generally trails will be designed and maintained to the standard of "more and most difficult."
2. Visual Quality	a. A range of Visual Quality Objective from retention to partial retention should be maintained.
3. American Indian Religious and Cultural Use	a. Meet Forest-wide Standards and Guidelines.
4. Facility and Site Management	a. Limit facilities to tables, tire placss. sanitary and safety needs; built in rustic materials (level 2 scale of development). b. Signs provided at all major trail junctions and trailheads. indicating routes, distances. and destinations. Additional signing may be provided for user safety end resource protection c. On-site interpretation may be present.
5. Use Administration	a. Issue entry permits or group size limitations if necessary to meet goals for area management end resource protection b. Recreational stock and ORV's should be held overnight outside of the foreground areas of lakes, streams, camp areas, trailsides c. Campsites are typically informal, user built improvements are allowed. d. In overused areas, campsites may be designated and open fires restricted. e. Manage according to Semi-Primitive Motorized ROS class. f. Dispersed camp areas are located to take advantage of topographic and vegetative screening.

		g. General areas is open to ORV use, although some closures may be used to respond to wildlife and/or resource management concerns.
	6. Use Administration	a. Motorized use should be routed sway from essential forage production and wildlife protection areas through trail relocation.
B. Wilderness		a. Not applicable.
C. Wildlife and Fish		
	1. Planning	a. Trails and camping areas shall avoid known critical habitat components including escape and thermal cover, goat kidding areas, travel corridors, mineral licks and others where user activity may be expected to disturb or jeopardize these areas.
		b. prevent wildlife harassment in calving. fawning, and nesting areas. Close roads and trails to motorized use from March 15 - July 15 (or as necessary) when identified disturbance occurs.
		c. prevent wildlife harassment in Goat Winter Range by seasonally closing roads and trails to motorized use from November 15 to May 15 (or as necessary).
	2. Non-Structural Habitat Improvement	a. Fish stocking is allowed to improve or re-establish anadromous or resident species.
		b. Vegetative manipulation to enhance wildlife habitat is allowed within the constraints of the Semi-Primitive motorized intensity
	3. Structural Habitat Improvement	a Habitat improvement projects should be designed to meet Visual Quality Objectives.
D. Range		a. Meet Forest-wide Standards and Guidelines
E. Timber		
	1. Silvicultural Examination	a. No scheduled harvest. Harvest may take place in the event of a catastrophic event such as fire, insects, disease, or blowdown. The intent of such harvest is to prevent further losses or protecting other resources or adjacent lands, and not for recovery of merchantable timber Preference given to those systems having the least effect on Semi-Primitive values.
		b. Replant in native species.
F. Water. Soil, and Air		a. Meet Forest-wide Standards and Guidelines.
G. Minerals and Geology		a. Meet Forest-wide Standards and Guidelines.
H. Rural Community and Human Resources		a. Volunteers and other human resource programs will be used to augment site and facility maintenance work where applicable.
J. Lands		
	1. Special Use Management	a. Avoid locating utility corridors in these areas.
		b. Avoid locating special uses in this area that are incompatible with the management prescription and desired future condition.

2. Land Ownership Planning	b. Place all these lands in Group II - retain or acquire when possible.
3. Rights of Way Cost Share	a. Do not share cost on roads accessing private inholdings.
L. Facilities	
1. Transportation System Planning	a Road development should not be permitted. except where access to managed catastrophic timber loss is not practical by aerial means. In such cases roads will be temporary and returned to a near natural condition when harvest project is complete.
P. Protection	
1 Fire Management Planning	a. Forest-wide Fire Protection Group C applies
2. Forest Pest Management	a. Meet Forest-wide Standards and Guidelines.

INTENSITY 1D ROADED NATURAL

Desired Future condition: Provides the users an equal opportunity to experience recreational contact with other user groups or isolation from the sights and sounds of human activity. Allows users to establish an interest in the natural environment and to develop and test outdoor skills associated with either motorized or non—motorized recreation use with little challenge or risk. The setting for this class of recreation is characterized by an environment where modifications of the natural landscape range from being easily noticed to obviously dominant to users. However, from sensitive travel routes and use areas, these alterations will appear subordinate to the surrounding areas Timber harvest is permitted

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Program Element	Standards and Guidelines
A. Recreation	
1. Recreation Planning	a Emphasis will be given to day use recreation and facilities.
2. Visual Quality	a. visual quality objectives in the area are partial retention along sensitive travel routes; elsewhere. may range from partial retention to modification
3. American Indian Religious and Cultural Use	a . Meet Forest-wide Standards and Guidelines.
4. Facility and Site Management	a. Development level 2 and 3 sites are permitted.
	b. Wayside exhibits for interpretation may be used
5. Use Administration	a. Manage according to Roaded Natural ROS standards.
	b. Campfires may be limited to designated sites.
	c. Recreational stock shall be held outside of the foreground areas of lakes, streams, camp areas end trail sides.
	d Closures may be used to respond to wildlife and/or resource management concerns.
	e. camping located to take advantage of topographic and vegetative screening.

6. Trail Planning

a. Trails located to take advantage of viewing opportunities, terrain, destination points. and challenge.

7. Use Administration

a Meet Forest-wide Standards and Guidelines

B Wilderness

a. Not applicable.

C. Wildlife end Fish

1. Planning

a. Trails and camping areas should avoid known essential habitat components including escape and thermal cover, goat kidding areas, travel corridors, mineral licks and others where user activity may be expected to disturb or jeopardize these areas.

b prevent wildlife harassment in calving. fawning, and nesting areas. Close roads and trails to motorized use from March 15 - July 15 (or as necessary) when identified disturbance occurs.

c Prevent wildlife harassment in Goat Winter Range by seasonally closing roads and trails to motorized use from November 1.5 to May 1.6 (or as necessary).

d. When inventoried deer and elk winter range occurs within this management area, the following standards will be incorporated

(1) Diversity and juxtaposition of habitat shall consist of forage, hiding/thermal cover end optimal cover (OC) See glossary for definition of habitat types

(2) Range of habitat types is as follows

Seral Stage	% of Range
1-20years	10-15% forage
21-90years	4O-45% Thermal/hiding cover
90+ years	37-45% optimal Cover

(3) As a general rule, maintain above range of habitat types for every 2.000 acres (approx) of contiguous winter range

(4) Methods such as sequential, adjacent harvest entries with small unit sizes to achieve larger OC area size requirements in the long tern could be used, and would meet scenic objectives as well

(5) Average open—road density per square mile for a contiguous piece of winter range shall be 2 miles/square mile,

2. Habitat Improvement

a. Improvement will be emphasized such as desirable forage species planting. fertilization, thinning, and slash disposal.

D. Range

a. Meet Forest-wide Standards and Guidelines

E. Timber

1. Timber Management Planning

a A full range of silviculture practices shell be allowed. USDA Forest Service. Agriculture Handbook No. 559

		should be used to design harvest units
		b The standards and guidelines for the management prescription. 17 shall apply to this management prescription
		c. Stands will be managed for a minimum 125 year rotation to meet visual objectives cited in
F.	Water. Soil, and Air	a. Meet Forest-wide Standards and Guidelines
G.	Minerals and Geology	a. Meet Forest-wide Standards and Guidelines.
H.	Rural Community and Human Resources	a. Volunteers and other human resource programs will be used to augment site and facility maintenance work where applicable
J.	Lands	
	1. Lend Ownership Planning	a. Place all these lands in Group III — Available for land exchange
L	Facilities	
	1. Transportation System Planning	a . Generally, easy access is provided to highway vehicles on single or double dirt or gravel lane roads built to accommodate dispersed recreationists. Roads may be built for the purpose of providing expanded recreational opportunities in this ROB class
	2. Developed Site Construction/ Reconstruction	a Moderate amount and complexity of facilities for comfort and convenience of users. May include trail shelters, boat ramps, sanitary facilities, picnic tables, cook fire enclosures Facilities should blend in with the natural landscape and character.
P.	Protection	
	1. Fire Management Planning	a Forest-wide Fire Protection Group C applies.
	2. Forest Pest Management	a Meet Forest-wide Standards and Guidelines.

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2 SCENIC VIEWSHED

Goal Provide a visually appealing landscape as viewed from major travel corridors end use areas

Description of Lands Where Prescription Applicable: This prescription is applied to selected, sensitive corridors and viewsheds throughout the Forest (see figure 4—la and 4—lb). Several of these because of their combined scenic, cultural, and recreational values have been designated as National Forest Scenic Byways

Desired Future Condition Common to all Intensities.

Scenic viewsheds accommodate a variety of activities which, to the casual observer, are either not evident or are visually subordinate to the natural landscape. Activities borrow from or repeat form, line, color, and texture elements which are frequently found in the natural landscape Vegetation is diverse and includes a wide variety of tree species and sizes, both living and dead

Intensities in this Management Prescription.

2A. Foreground
2B. Middleground

INTENSITY 2A FOREGROUND

Program Element	Standards and Guidelines
A. Recreation	
1. Recreation Planning	a. Developed sites may be allowed. Plan for roaded natural and rural ROS class standards.
	b. The applicable standards and guidelines for developed recreation are in Management Area 3A, program element A.
2. Visual Quality	a. Projects shall meet Visual Quality Objectives of Retention from primary road corridors and Partial Retention from secondary road corridors (figures 4-1a and 4-1b). Trails crossing 2A have a VQO of Retention.
3. American Indian Religious and Cultural Use	a. Meet Forest-wide Standards and Guidelines.
4. Facility and Site Management	a. All signs end facilities blend with surrounding landscape. On site interpretation may be present.
5. Use Administration	a. ORV use allowed in designated areas only.
6. Trails Construction, Reconstruction, Operation	a. Trails are located and maintained to blend with topography and surrounding landscape.
	b. Trails are located to take advantage of viewing opportunities
B. Wilderness	a. Not applicable.
C. Wildlife and Fish	a. Meet Forest—wide Standards and Guidelines.
	b. When inventoried deer and elk winter range occurs within this management area, the following standards will be incorporated.
1. Planning	(1) Diversity and juxtaposition of habitat shall consist of forage, hiding/thermal cover. and optimal cover (OC) See glossary for definition of habitat types
	(2) Range of habitat types is as follows:

Seral Stage	% of Range
1—20 years	10-15% forage
21—90 years	4O-45% thermal/hiding cover
91+ years	37-45% OC

(3) As a general rule, maintain above range of habitat types for every 2.000 acres (approx) of contiguous winter range.

(4) Methods such as sequential, adjacent harvest entries with smell unit sizes to achieve larger OC area size requirements in the long term could be used, and would meet scenic objectives as well.

(5) Average open-road density per square mile for a contiguous piece of winter range shall be 2 miles/square mile.

	2. Habitat Improvement	a. Improvement will be emphasized such as desirable forage species planting. fertilization, thinning, and slash disposal.
D. Range		a. Not applicable.
H. Timber		
	1. Timber Management Planning	a. A full range of silvicultural practices should be allowed. USDA Forest Service, Agriculture Handbook NO. 559 should be used to design harvest units.
		b. Stands will be managed on an extended rotation to meet visual objectives cited in A-2a.
	2. Timber Sale Preparation and Timber Sale Administration	a. At least ten percent of timber stands in foreground and areas shall contain large character trees (30 to 36" DBH) in sensitivity level 1 and 24'' to 30'' DBH in sensitivity level 2.
		b. Diversity in undergrowth should be retained by minimizing ground disturbance.
		c. Created openings shall no longer be considered openings in sensitivity level 1 areas when trees reach 20 feet in height.
		d. Created openings shall no longer be considered openings in sensitivity level 2 areas when trees reach 15 feet in height.
		e. Areas of ground disturbance should be rehabilitated to natural appearance. Exposed areas should be revegetated within one year of disturbance.
		f. Diversity of species and age classes should be maintained through harvest scheduling.
		q. Landing should be located outside of seen areas or rehabilitated within one year of operation if they must be located in seen areas.
		h. Logging systems should be used that sect the minimum objectives of timber harvest and cause the least ground disturbance.
		i. Stumps should be cut to a height necessary to meet Visual Quality Objectives.
	3. Genetic Forest Tree Improvement	a. Genetic tree material (cones, scions, etc may be collected and marked.
F. Water, Soil, and Air		a. Meet Forest-wide Standards and Guidelines.
G. Minerals and Geology		a. Meet Forest-wide Standards and Guidelines.
H. Rural Community and Human Resources		a. Meet Forest-wide Standards and Guidelines.
J. Lands		
	1. Special Use Management	a. Transmission towers should be designed to blend with the surrounding landscape.
	2. Right-of-Way Grants	a. Right-of-Way corridors should be designed and located to blend with the surrounding landscape.

3. Land Ownership Planning	a. Group III - available for land exchange.
L. Facilities	
1. Transportation System Planning	a. Roads in the seen or potentially seen area should blend with natural form, line, color. and texture.
2. Road Construction and Reconstruction	a. Cut and fill slopes should be revegetated within one year of construction.
	b. Rockpits and stockpile sites should be located outside seem areas whenever possible and rehabilitated when located within seen areas.
3. FA&O Construction/ Reconstruction and Facility Maintenance	a. Buildings and other facilities should be designed and located to blend with the surrounding landscape.
P. Protection	
1. Fire Management Planning	a. Forest-wide Fire Protection Group A applies
2. Forest Pest Management	a. Meet Forest-wide Standards and Guidelines.

INTENSITY 2B MIDDLEGROUND

Program Element	Standards and Guidelines
A. Recreation	
1. Recreation Planning	a. Developed sites may be allowed. Plan for semi-primitive motorized. roaded natural and roaded modified ROS class standards.
	b. The applicable standards and guidelines for Developed Recreation are found in Management Area 3A. program element A (recreation).
2. Visual Quality	a. Projects shall meet Visual Quality Objectives of partial Retention in the middleground of primary road corridors (see figure 4-1a and 4-1b. Foregrounds of secondary roads or of trails which overlap the middleground seen area also have a VQO of Partial Retention.
3. American Indian Religious and Cultural Use	a. Meet Forest-wide Standards and Guidelines.
4. Facility and Site Management	a. All signs and facilities blend with surrounding landscape. On site interpretation may be present.
5. Use Administration	a. ORV use allowed in designated areas only.
6. Trails Construction. Reconstruction, Operation	a. Trails are located and maintained to blend with topography and surrounding landscape.
	b. Trails are located to take advantage of viewing opportunities.
B. Wilderness	a. Not applicable.
C. Wildlife and Fish	
1. Planning	a. Meet Forest—wide Standards and Guidelines.

b. When inventoried deer and elk winter range occurs within this management area, the following standards will be incorporated:

(1) Diversity and juxtaposition of habitat shall consist of forage, hiding/thermal cover, and optimal cover (OC) See glossary for definition of habitat types.

(2) Range of habitat types is as follows:

Seral Stage	% of Range
1—20 years	10—15% forage
21—90 years	40—45% thermal/hiding cover
90+ years	37—45% OC

(3) As a general rule, maintain above range of habitat types for every 2.000 acres (approx.) of contiguous winter range.

(4) Methods such as sequential, adjacent harvest entries with small unit sizes to achieve larger OC area size requirements in the long term could be used, and would meet scenic objectives as well.

(5) Average open—road density per square mile for a contiguous piece of winter range shall be 2 miles/square mile.

2. Habitat Improvement

a. Improvement will be emphasized such as desirable forage species planting. fertilization, thinning, and slash disposal.

D. Range

a. Not applicable.

E. Timber

1 Timber Management Planning

a. a full range of silvicultural practice. should be allowed. USDA Forest Service: Agriculture Handbook NO. 559 should be used to design harvest units.

b. The Standards and Guidelines for the timber production, Management Prescription 17 shall apply to this Management Prescription.

c. Visual quality objective of partial retention should be maintained.

2. Timber Sale Preparation and Timber Harvest Administration

a. Areas of ground disturbance should be rehabilitated to natural appearance. Exposed trees should be revegetatad within one year of disturbance.

b. Diversity of species and age classes should be maintained through harvest scheduling.

c. Landing should be located outside of seen areas or rehabilitated within one year of operation if they must be located in seen areas.

d. Logging systems should be used that meet the minimum objectives of timber harvest and cause the least ground disturbance.

3. Genetic Forest Tree Improvement		a. Genetic tree material (cones, scions. etc may be collected and marked
F. Water. Soil. and Air		a. Meet Forest-wide Standards and Guidelines.
G. Minerals and Geology		a. Meet Forest-wide Standards and Guidelines.
H. Rural community and Human Resources		a. Meet Forest-wide Standards and Guidelines.
J. Lands		
1. Special Use Management		a. Transmission towers should be designed to blend with the surrounding landscape.
2. Right-of-Way Grants		a. Right-of-Way corridors should be designed and located to blend with the surrounding landscape.
3. Land Ownership Planning		a. Group III - available for land exchange.
L. Facilities		
1. Transportation System Planning		a. Roads in the seen or potentially seem area should blend with natural form, line, color, and texture
2. Road construction and Reconstruction		a. Cut and fill slopes should be revegetated within one year of construction.
		b Rockpits and stockpile sites should be located outside seen areas whenever possible and rehabilitated when located within seem areas.
3. FA&O Construction/ Reconstruction and Facility Maintenance		a Buildings and other facilities should be designed and located to blend with the surrounding landscape.
P. Protection		
1. Fire Management Planning		a. Forest-wide Fire Protection Group A applies.
2. Forest Pest Management		a. Meet Forest-wide Standards and Guidelines.

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3 DEVELOPED RECREATION

Goal Provide a wide variety of year-round recreation experiences and facilities at developed sites.

Description of Lands Where Prescription Applicable: Developed recreation sites are usually located close to water bodies, or other areas of scenic or special interest. Developed recreation sites include existing and potential campgrounds, major trailheads. boating and swimming sites, picnic areas, alpine ski areas, and associated facilities, organization camps, recreation residences, and others Facilities will be provided at mostly recreation development scale 2 (semi-primitive) with little site modification, to scale 4 (rural) with the site heavily modified. The areas allocated to developed recreation include the specific site on which existing or potential development takes place and a surrounding visual and noise screen Soils and vegetation should be able to absorb heavy use. Except for winter recreation areas, developed recreation sites are usually located on land with slopes of 10 percent or less.

Desired Future Condition Common to all Intensities.

Developed recreation sites nay appear mostly natural to rural in setting. Physical facilities may be evident, design and construction will repeat the color, shapes, and lines of the surrounding environment. site controls and user interaction will vary with the setting. There is no scheduled timber harvest and any vegetative management is done for the purposes of maintaining a safe, functional, and attractive site, openings exist to accommodate facilities and provide scenic views. Vegetation will vary widely in type, size, and age. Access is by road.

Intensities in this Management Prescription

3A Public Sector Developed Sites
3C Winter Sports Resorts

3D Private Sector Sites

This intensity is applied to a full range of public developed and managed recreation sites including campgrounds. trailheads, boating and swimming sites, picnic areas and interpretation sites. Facilities shall be provided at the full range of development scale including fee sites. These existing developed sites should be maintained long—term as developed sites, but will be closed periodically due to decrease in program capability.

INTENSITY 3A PUBLIC SECTOR DEVELOPED SITES

Program Element	Standards and Guidelines
A. Recreation 1. Recreation Facilities Planning	a. Constructed structures should be architecturally compatible with the established landscape. b. Sites may be modified to accommodate recreational facilities and uses. c. Buildings should present naturally harmonious colors d. Sites will be developed that are appropriate to the forest environment. and will be maintained to provide only facilities for forest-type recreation such as camping, picnicking, hiking, canoeing. etc. e. Where the need exists, facilities in existing developed sites should be modified to make them usable by the handicapped Future developments will be planned and designed to make facilities accessible to the handicapped. f. The developed site usually encompasses an area larger than just the ground on which facilities are located. These peripheral areas should be managed as a roaded natural setting in which trails may be developed to provide dispersed recreation opportunities. These areas should also provide a visual retention screen of at least 300-500 feet between the developed site and other resource development areas. g. Sites shall be designed to ensure that the People At one Time (PACT) capacity of the site is in proper relationship to the desired ROS class and the ability of the site to withstand use. h. Overcrowding and loss of privacy will be prevented by strategically locating improvements, limiting their number, or designing facilities so as to limit the number of persons who can physically use or occupy them at one time. i. consider potential to incorporate cultural resource protection and interpretation in facility development plans.
2. Visual Quality	a. A Visual Quality Objective (VQO) of retention is prescribed for 1) all fee campgrounds and 2) day use

		sites in primary viewsheds. Other developed sites have a VQO of partial retention.
		b. A visual analysis should be completed in order to blend activities with the naturally established landscape
		c Rehabilitation measures should be applied to the landscape where needed to improve the visual setting.
3.	American Indian Religious and Cultural Use	a. Meet Forest-wide Standards and Guidelines.
4.	Facility and Site Construction and Reconstruction	a. A comprehensive and detailed site plan shall be developed prior to site construction or expansion.
		b. Site plans should show the specific location and design of all facilities and will provide for proper utilization of the site, control of traffic, public safety, sanitation, site protection, grading, landscape planting, and use distribution
		c Site designs should be based upon the ROS class and development scale concept.
		d The site shall be constructed or expanded to conform with an approved site plan
		e. Soil compaction should not exceed established limits except as necessary to accommodate development.
		f. Priority for site development will generally follow
		(i) Expand existing high-use fee sites.
		(ii) Convert non-fee to fee sites.
		(iii) Develop new sites to fill a recognized need.
5.	Recreation Facilities and Site Management	a Occupancy and use of recreation sites shall be regulated to the extent necessary to protect the resources and to ensure safe, enjoyable recreation experiences.
		b. Utilize regulations contained in 36 CFR 261 (Prohibitions) as necessary to ensure full public enjoyment of recreation sites.
		c. Off-road vehicles use should be limited to ingress and egress.
		d. Information and other on-site interpretation should be designed and used to the extent necessary to inform visitors of current conditions and regulations.
		e. An operation and maintenance plan shall be prepared and updated annually. Ensure that personnel who perform operation and maintenance (O&M) functions are familiar with O&M plans. (See most current USDA Handbook “cleaning Recreation Sites.”)
		f. A vegetative management prescription and plan of management should be prepared and implemented for

		each site or group of sites. prior to vegetative manipulation.
		g Each site should be analyzed periodically to determine whether its intended function is being served and if it requires alteration. replacement, closure. or elimination.
		h. Provide periodic patrols and site supervision utilizing volunteer hosts where appropriate.
		i. collect fees for those sites that neat Lend and Water Conservation Fund Act fee site designation criteria.
		j. Cleaning and policing should be performed regularly to ensure that sites are clean and sanitary, free of litter, and nest in appearance as described in the moat current USDA Handbook “Cleaning Recreation Sites.”
		k. Each site shall be inspected annually and all known safety hazards must be eliminated to the extent practical
		1. Potable water sources shall be operated and maintained in accord with FSM 7420. Federal, and State regulations.
		m. Vaults, septic tanks, and wastewater systems shall be inspected at regular intervals to ensure appropriate operation.
		n. Garbage disposal should be accomplished at intervals sufficient to minimize odors. prevent pollution of water supplies, and avoid attracting disease spreading insects and rodents
		o. Priority for work on developed sites is: (i) Work needed to ensure public health and safety (ii) Protection of the site’s physical resources. (iii) Care and policing, maintenance of existing improvements, supervision of occupancy and use, and interpretive services. (iv) Expansion of existing developments or construction of new sites, as needed.
		p. soil compaction should not exceed established limits except as necessary to accommodate development of sites.
	6. Trail Planning	a. Trails should be located to take advantage of viewing opportunities.
	7. Trail Reconstruction and Construction	a. Trails will be located to minimize resource impacts.
	8 Trail System Maintenance and Operation	a. Maintenance of trails within the developed site should be at a priority 3 level. providing resource protection, investment preservation, and visitor convenience.
B. Wilderness		a Not applicable.

C. Wildlife and Fish

1. Planning
   a Improvement of wildlife and fisheries habitat is permitted.

2. Habitat Improvement
   a Improvements are appropriate as long as visitor conflict is minimized.
   b. Structures should blend in with the naturally established landscape.
   c. Seasonal visitor use and wildlife use should be coordinated to minimize conflicts.
   d. Watchable wildlife projects are encouraged.

D. Range
   a Not applicable

E. Timber

1. Timber Management Planning
   a. Timber shall be managed on a non-scheduled basis, to meet recreation objectives, and to reduce the risk of public injury from hazardous trees.
   b. Improvement cutting shall be in accordance with the vegetation management prescription for the cite.
   c. Logging practices shall be selected that provide the least impact to the cite.
   d. Any logging shall be scheduled for off-season periods or while in a closed condition.

2. Silvicultural Examination and Prescription
   a. This prescription should
      (1) Create and/or maintain a regenerating natural environment.
      (ii) Create am environment that is, in visual aspects, pleasing and which resembles a natural setting.
      (iii) Provide herbs, grasses, and other ground—cover plants as components of the site.
      (iv) Create a more durable area, less prone to damage by human or pest impact.
      (v) Create diversity of tree size, age, and species, ultimately reducing the need to remove hazard trees by emergency treatment, short of a catastrophe
      (vi) Develop healthy soil conditions conducive to plant growth
      (vii) Create or perpetuate plant screening between occupancy units as appropriate to the planned experience level.
      (viii) Provide shade, wind protection, and sunshine diversity as appropriate to the climate.

3. Reforestation - Site Preparation for Planting and Seeding
   a. Unwanted vegetation, slash, stumps or roots should be removed, as well as having the ground surface shaped

		before planting or seeding to retain the determined vegetation conditions for the site as outlined in the vegetation management prescription.
P. Water, Soil, and Air		
	1. Planning	a Meet Forest-wide Standards and Guidelines.
	2. Improvements	a. Improvements are appropriate as long as visitor conflict is minimized.
		b. Improvements or rehabilitation should blend in with the naturally established landscape.
G. Minerals and Geology		a. Identify and determine validity of existing claims prior to development of a new site.
		b Removal of common variety minerals should not be permitted.
		c. Require a no surface occupancy stipulation for mineral leases.
		d. Sites not previously withdrawn shall be studied to determine where a withdrawal from mineral entry is appropriate Where appropriate, withdrawal action will be initiated.
		e. No on-site occupancy.
		f. Lease application recommendations will include stipulations to protect existing and/or future uses.
H. Rural Community and Human Resources		a. Human Resource and Volunteer Programs will be aggressively used to supplement the recreation program.
		b. Campground Hosts, preseason cleanup days. and adopted campgrounds are methods to be used to supplement services at developed sites.
J. Lands		
	1. Special Use Management	a. Developed sites are not available for other non-recreation uses provided by special use permits, if such uses are determined to conflict with the intended use of the developed site.
	2. Right-of-Way Grants	a. Provide appropriate access to inholders under the existing guidelines
		b. Strive to minimize the impact on the character of the site.
	3. FERC License and Permits	a. Recommend only compatible uses which do not impair recreational use of the area.
	4. Withdrawals, Modifications and Revocations	a. Use withdrawals where necessary to protect on site values.
	5. Property Boundary Location and Corner Maintenance	a. Aggressively survey, mark, and post National Forest property lines and maintain to a high level.
	6. Land Ownership Planning	a. Group II Generally retain or acquire, but the NHPA analysis may allow disposal (Group III).

L. Facilities		
	1. Road Construction and Reconstruction	a. Roads should be provided that are compatible with development scale.
		b. Roads and other facilities inconsistent with developed recreation should be located away from the primary use area, closed or removed.
		c. Design roads with proper width and surfacing for experiences desired. Access roads should be managed to permit passenger car traffic.
	2. Road Operation	a. Roads should be managed to proper experience level desired for safety, resource protection. and convenience.
P. Protection		
	1. Fire Management Planning	a. Forest-wide Fire Protection Group A applies.
	2. Law Enforcement	a. It is preferable to obtain compliance with rules and regulations through closely supervised use as opposed to heavy law enforcement action.
		b. Law enforcement shall stress education and being good hosts.
		c. Agreements shall be made wherever possible with counties to provide cooperative law enforcement support.
	3. Forest Pest Management	a Only biological, chemical, or silvicultural methods consistent with the management goals for the area will be used for pest management.

INTENSITY 3C: WINTER SPORTS RESORTS

Alpine skiing and related activities such as Nordic skiing, snow play, tobogganing. horseback riding, tennis, and other winter summer activities at resorts established for those purposes These areas will be managed to provide, through private sector concession operations, a diversity of winter and summer recreation activities that emphasize the Forest Setting.

Program Element		Standards and Guidelines
A. Recreation		
	1. Visual Quality	a. Meet Visual Quality Objectives of foreground retention. Middle ground partial retention for the recreation setting. Development in the base area will be designed to remain subordinate to the landscape. This may require special measures to blend ski runs, ski lifts, and buildings into the natural environment.
	2. American Indian Religious and Cultural Use	a. Meet Forest-wide standards and Guidelines.
	3. Use Administration	a. Administration will be on a monitoring basis. Improvement projects (buildings, chairlifts)may be administered at the expense of the proponent.
B. Wilderness		a. During summer activities, winter sports resorts will be discouraged from significantly impacting wilderness

		resources.
C.	Wildlife and Fish	a. Enhancement of habitat may be permitted provided that recreation use is not impaired. b. Recreation and wildlife use shall be coordinated to minimize conflict.
D.	Range	a. Not applicable.
E.	Timber 1. Timber Management Planning	a. No scheduled harvest Harvesting allowed to maintain an attractive, safe setting or to clear new ski runs.
F.	Water, Soil, and Air	a. Meet Forest-wide Standards and Guidelines. Give extra attention to erosion prevention and control on areas cleared for ski runs.
G.	Minerals and Geology	a. Sites not previously withdrawn shall be studied to determine whether a withdrawal from mineral entry is appropriate. Where appropriate, withdrawal action will be initiated.
H.	Rural Community and Human Resources	a. Meet Forest-wide Standards and Guidelines.
J.	Lands 1. Special Uses Management	a. Do not issue permits for activities which are not compatible with recreation use.
	2. Land Ownership Planning	a. Group III -Acquire, retain. or dispose
L.	Facilities 1 Transportation System Planning	a. Roads and trails shall be planned and developed according to an approved area site development plan. Other objectives may be met if recreation use is not impaired.
P.	Protection 1. Fire Management Planning	a. Forest-wide Fire Protection Group A applies.
	2. Forest Pest Management	a . Meet Forest-wide Standards and Guidelines.

INTENSITY 3D: PRIVATE SECTOR SITES

Organization Camps, Ski Clubs, Concession sites, and Recreation Residences are facilities operated by the private sector on National Forest land under a Special Use Permit Authorization

a. Organization Camp Sites are designated for organized group recreation use. These privately operated facilities provide lodging, meals social and educational opportunities of recreation in a forest environment.

b. ski clubs are facilities or structures authorized to occupy National Forest land to serve groups that have organized as a registered club and are available to the public only through club membership or as invited guests

c. A concession is a commercial public service enterprise such as a ski or lake resort, campground, or groomed cross—country ski trail, operating on National Forest land under permit for the purpose of providing goods end services to the general public

d. Recreation Residence is a privately built and owned structure, authorized on National Forest land under a term

Program Element	Standards and Guidelines
A. Recreation	
1. Planning, Facility and Site Management	a. Plan new areas only for Organization Camps or Concessions end then, only where the public need can be clearly demonstrated 3~dminister existing areas to provide suitable, cafe and attractive sites under Special Use Authorization Administer permits to meet National Forest recreation direction, and Forest-wide Standards and Guidelines.
2. Visual Quality	a. Visual Quality Objective should be retention for the recreation setting. Development of facilities will modify the site but will be designed to be subordinate to the natural landscape
3. American Indian Religious and a Cultural Use	a. Meet Forest-wide Standards and Guidelines.
4. Use Administration	a. Organization Camp Sites. Manage for Organization site only when private land is not available, and land is not needed for higher use, and a public need is clearly demonstrated
	b. Ski Clubs Do future use determinations on all permits. Where it cannot be demonstrated that the club is the best use of the forest land it occupies, proceed with termination of the permit or conversion to a use that better serves the public or forest resources
	c. Concession Sites Management objective is to provide a suitable site for commercial development when determination is made by the Forest Service that commercial services are needed for public use and convenience. Encourage private sector to provide needed services under Special Use Authorization. Re-evaluate need for Concession operation each time the term permit comes up for renewal.
	d. Recreation Residence. Manage in tracts and in time reduce the number of isolated occupancies Do not create any additional tracts
B. Wilderness	a. Not applicable.
C. Wildlife and Fish	a. Improvement of habitat may be permitted provided it is compatible with the recreation use permit.
D. Range	a. Not applicable
E. Timber 1. Timber Management Planning	a. Timber shall be managed on a non-scheduled basis to meet recreation objectives and to reduce the risk of public injury. Vegetative management prescriptions

	should be prepared to maintain desired vegetation conditions for each site.
F. Water, Soil. and Air	a. Meet Forest-wide Standards and Guidelines.
G. Mineral and Geology	a. Removal of common variety minerals should not be permitted. b. Recommend a no surface occupancy stipulation for mineral leases c Sites not previously withdrawn shall be studied to determine whether a withdrawal from mineral entry is appropriate. Where appropriate, withdrawal action will be initiated. d. Applications will include stipulations to protect existing and/or future uses.
H. Rural Community and Human Resources	a. Meet Forest-wide Standards and Guidelines.
3. Lands	
1. Special Uses Management	a. Do not issue permits for *activities* which are not compatible with recreation use.
2. Land Ownership planning	a. Group III - Retain, acquire, or dispose.
L. Facilities	
1. Transportation System Planning	a. Roads sad trails shall be planned and developed according to an approved area site development plan. other objectives may be met if recreation use is not impaired.
P. Protection	
1. Fire Management Planning	a. Forest-wide Fire Protection Group A applies
2. Forest Pest Management	a. Meet Forest-wide Standards and Guidelines

4 MT. BAKER NATIONAL RECREATION AREA

Goal: Provide for: Public recreation, including but not limited to snowmobile use; the conservation of scenic, natural, historic. and other values contributing to public enjoyment; and manage, dispose of, and utilize ether natural resources which are compatible with and which do not significantly impair the purposes for which the area is established.

Description of Lands Where Prescription Applicable: A 8,600 acre parcel of land on the south side of Mt. Baker established by Congress in the 1984 Washington Wilderness Act. (Pt 98-339. 98 STAT. 299)

Desired Future Condition:

A natural or natural appearing environment has been maintained A variety of recreation opportunities are available in a primitive, semi-primitive, nonmotorized, semi-primitive motorized or roaded natural setting. On site controls, facilities or modifications exist as appropriate to each ROS class. Timber harvest or other resource utilization is compatible at levels which do not dominate the landscape or significantly impair the purposes of the area as described by Congress.

Intensities in this Management Prescription: None

Program Element	Standards and Guidelines
A. Recreation 1. Planning and Use Administration	a. Summer Use. Planned summer recreation facilities shall support nonmotorized use of NRA, such as heavy public use of the climbing route up Mt. Baker and of the crevasse fields on Easton Glacier for mountaineering training. Visual Quality objective should be partial retention when more than 1/4 mile from existing roads and trails. and retention within 1/4 mile. Planned recreation use should emphasize the high elevation dispersed type opportunities available on the side of Mt. Baker. Planned recreation improvements such as trailhead & interpretive facilities should support this use. These may include hardened sites and toilet facilities to prevent resource damage. Use of vehicles off the road is prohibited Monitor area to detect resource damage caused by human impact Set standards and institute management controls if damage exceeds standards b. Winter Use. Snowmobile use will be permitted within the National Recreation Area whenever the snow depth is 24 inches or deeper at the Schriber's Meadow area. Provide for snowmobile use of road to Schriber's Meadow (#13) and into upper Rocky Creek and upper Sulphur Creek, the upper Railroad Grade, Metcalfe Moraine, and lower Easton Glacier Work with Washington State Sno-Park program and user groups to manage winter use of this area.

	2. Visual Quality	a. From recreation roads and trails, a Visual Quality Objective of retention should be maintained in the foreground, and partial retention in the middleground.
	3. American Indian Religious and Cultural Use	a. Meet Forest-wide Standards and Guidelines.
	4. Trail System	a. During the summer, motorized use is prohibited. Provide loop trails out of trailhead for one and two day trips into alpine areas as shown on the trail plan. permit horse use on the western edge of the NRA.
B.	Wilderness	a. Not applicable.
C.	Wildlife and fish	a. Habitat improvement projects are acceptable provided they meet the visual quality objective of retention.
D.	Range	a. Not applicable.
H.	Timber	
	1. Timber Management Planning	a. Scheduled harvest at Timber Intensities A ,C, D
		b. Permit limited regeneration and sanitation salvage cutting to maintain healthy, and attractive forest.
		c. Logging to be permitted during periods of low public use.
		d. Give special attention to the preservation of the unique stand of subalpine fir above road #12.
F.	Water, Soil, & Air	a. Meet Forest-wide Standards and Guidelines.
G.	Minerals & Geology	a. For locatable minerals follow 38 CFR 228 and Forest-wide Standards and Guidelines.
		b DO not issue any “common variety” mineral materials permits.
		c. NRA is withdrawn from geothermal entry by law (P1 91-581: Sec. 15(c)).
		d. Do not allow winter operations which would significantly interfere with recreation use.
H.	Rural Community and Human Resources	a. Meet Forest-wide Standards and Guidelines.
L.	Lands	
	1. Special Uses Management	a. Issue only permits which contribute toward goal of NRA Grant permits as required in 1984 establishment act for studies of Mt Baker.
		b. Do not issue permits for projects which will significantly interfere with winter recreation use
	2. FERC License & Permits	a Recommend only when VQO of Retention can be met in the foreground Applies to all facilities including access roads and power transmission.
	3. Land Ownership Planning	a. Group II, retain or acquire.

L. Facilities

1. Transportation System Planning

a. No new permanent roads permitted for timber management activities.

b. construct trailhead facilities as needed to meet goals of NRA.

c. Develop roadhead facilities to enhance snowmobile use. If roads are to be plowed in winter require alternative roadhead facilities.

d. consider alternate snowmobile and X-C skier access to Schriber's Meadow and to the alpine areas rather than the existing road. Attempt to separate snowmobile and X-c ski traffic where possible.

P. Protection

1. Fire Management Planning

a. Forest-wide Fire protection Group B applies.

2. Forest Pest Management

a. Only biological, chemical. or silvicultural methods consistent with the management goals for the area will be used for peat management.

5 RECOMMENDED WILD AND SCENIC RIVERS

Goal Protect from degradation the outstanding remarkable values and wild, scenic, end recreation characteristics of recommended rivers and their environment, pending a decision on inclusion into the National Wild and Scenic River System.

Description of Lands Where Prescription Applicable: This prescription is generally applied to National Forest lands 1/4 mile either side of the main channel of each river that has been recommended for inclusion into the system; however, boundaries may include additional adjacent areas needed to protect the resources or facilitate management of the river corridor. The Forest Service has no authority for management or river protection outside National Forest lands until the river has been designated by Congress.

Desired Future Condition: Varies by Intensity.

Intensities in this Management Prescription:

5A. Recommended Recreation River

5B. Recommended Scenic River

5C. Recommended Wild River

INTENSITY 5A: RECOMMENDED RECREATION RIVERS

Desired Future Condition Evidence of a full range of management activities may exist. including existence of low dams, diversions, residential development, and forestry uses (past and present timber harvest). The rivers readily accessible by railroad, and bridge crossing. Streamside bank is generally natural condition. Water quality is such that waters are fishable and swimmable, or a water improvement plan exists or is under development in compliance with Federal and State law.

Program Element	Standards and Guidelines
A. Recreation	
1. Recreation Planning	a Proposed recreational activities shall be compatible with river values. Development Scale should not exceed Level 4. Attempt to locate major facilities outside of riverine area.
	b The applicable Standards and Guidelines for Developed Recreation are in Management Prescription 3A, program element A.
	c. Trails may be constructed
	d. Recreation special use may be permitted for the purpose of providing river-oriented recreation.
2. Visual Quality	a See Forest-wide Standards and Guidelines for Visual Resource Management.
3. Use Administration	a Manage according to ROS class standards of surrounding area, controls on motorized use will be similar to those on surrounding lands.
B. Wilderness	a Not applicable.
C. Wildlife and Fish	
1. Planning	a When inventoried deer and elk winter range occurs within this management area, the following standards will be incorporated.

(1) Diversity and juxtaposition of habitat shall consist of forage, hiding/thermal cover. and optimal cover (CC). See glossary for definition of habitat types

(2) Range of habitat types is as follows

Seral Stage	% of Range
1-20 years	10-15% forage
21-90 years	40-45% thermal/hiding cover
90+ years	37-45% Optimal Cover

(3) As a general rule, maintain above range of habitat types for every 2.000 acres (approx of contiguous winter range

(4) Methods such as sequential, adjacent harvest entries with small unit size requirements in the long term could be used. and would meet scenic objectives as well.

(5) Average open-road density per square mile for a contiguous piece of winter range shall be 2 miles/square mile

2. Habitat Improvement

a. Improvement will be emphasized such as desirable forage species planting. fertilization, thinning, and slash disposal.

D. Range

a. Not applicable.

E. Timber

1. Timber Management Planning

a. The Standards and Guidelines for Management Prescription 17, program element E, in the Forest Plan shall apply to this Management Prescription.

F. Water, Soil, Air

a. Meet Forest-wide Standards and Guidelines.

G. Minerals and Geology

a. Operation plans will include provisions to maintain streamside banks in a natural condition.

b. common variety mineral should not be removed.

H. Rural Community and Human Resources

a. Meet Forest-wide Standards and Guidelines.

L. Lands

1. Special Use Management

a. Applications for new permits will be reviewed to assure no degradation of river character or values, and for compliance with ROS classification.

2. FERC License and Permits

a. FHRC application proposals shall not be supported if degradation to values and characteristics necessary for classification is likely to occur

3. Land Ownership Planning

a. Group II - Retain national forest land and acquire other ownership as opportunity or need occurs

L. Facilities

a. Meet Forest-wide Standards and Guidelines.

P Protection

1. Fire Management Planning

a. Forest-wide Fire protection Group D applies.

2. Forest Pest Management

a. Meet Forest—wide Standards and Guidelines.

INTENSITY 5B: RECOMMENDED SCENIC RIVERS

Desired Future condition: Rivers are free flowing. No substantial evidence of human activity. A few small community buildings or structures may be present and visible from the river. Evidence of timber harvest is not noticeable from this river, and lands appear natural when viewed from riverbanks The river is accessible by roads which mar occasionally bridge the river area Short stretches of conspicuous or longer stretches of inconspicuous and well screened roads or railroads paralleling the river area may be permitted Water quality is such that waters are fishable and swimmable, or a water improvement plan exists or is under development in compliance with Federal and State laws.

Program Element	Standards and Guidelines
A. Recreation	
1. Recreation Planning	
	a. Proposed recreational activities shall be in keeping with river values. Development Scale should not exceed Level 3. Recreational sites and facilities to be located, designed and constructed to be unobtrusive from river and riverbank.
	b. The applicable Standards and Guidelines for Developed Recreation are in Management Prescription 3, Intensity A, program element A.
	c. Trails may be constructed, but located and constructed to be generally unobtrusive from river end riverbank.
	d. Recreation special use nay be permitted for the purpose of providing river-oriented recreation.
2. Visual Quality	a. See Forest-wide Standard and Guidelines for Visual Resource Management.
3. American Indian Religious and Cultural use	a. Meet Forest-wide Standards and Guidelines.
B. Wilderness	a. Not applicable
C. Wildlife and Fish	
1. Planning	a. When inventoried deer and elk winter range occurs within this management area, the following standards will be incorporated.
	(1) Diversity and juxtaposition of habitat shall consist of forage, hiding/thermal cover and optimal cover (CC). See glossary for definition of habitat types.
	(2) Range of habitat types is as follows:

% of Range	Seral Stage
1-20years	8-12% forage
21-90 years	40-45% thermal/hiding cover
90+ years	37—45% Optimal Cover

		(3) As a general rule, maintain above range of habitat types for every 2.000 acres (approx.) of contiguous winter range. (4) Methods such as sequential, adjacent harvest entries with small unit sizes to achieve larger OC area size requirements in the long term could be used, and would meet scenic objectives as well. (5) Average open—road density per square mile for a contiguous piece of winter range shall be 2 miles/square mile.
	2. Habitat Improvement	a. Improvements will be emphasized such as desirable forage species planting, fertilization, thinning and slash disposal.
D. Range		a. Not applicable.
E. Timber		
	1. Timber Management Planning	a. The Standards and Guidelines for Management Prescription 17, program element H, shall apply to this Management Prescription.
F. Water. Soil, Air		a. Meet Forest-wide Standards and Guidelines
G. Minerals and Geology		a. Operation plans will include provisions to maintain streamside bank in natural condition.
		b. Common variety minerals should not be removed.
H. Rural Community and Human Resources		a. Meet Forest-wide Standards and Guidelines.
J. Lands		
	1. Special Use Management	a. Applications for new permits will be reviewed to assure no degradation of river character or values, and for compliance with ROB classification.
	2. FERC License and permits	a. FERC application proposals shall not be recommended for approval.
	3. Land Ownership Planning	a. Group II - Retain National Forest land and acquire other ownership as opportunity or need occurs.
L. Facilities		
	1. Transportation Planning	a. Roads may occasionally bridge the river. Short stretches of conspicuous or long stretches of inconspicuous and well-screened roads could be allowed.
P. Protection		
	1. Fire Management Planning	a. Forest-wide Fire Protection Group D applies.
	2. Forest Peat Management	a. Meet Forest-wide Standards and Guidelines.

INTENSITY 5C: RECOMMENDED WILD RIVER

Desired Future condition: Wild rivers are generally ineccessable by road. but can be reached by trail or water. Vegetation is variedin size, species, and age and is predominately the product of natural succession, Vegetation may vary from natural openings to stands of mature and old—growth timber. The opportunity to interact within a natural environment away from the sights and sounds of man. i_5 available A high degree of challenge is offered.

Program Element	Standards and Guidelines
A. Recreation	
1. Recreation planning	a. Proposed recreation activities shall be compatible with Wild River values and recreation sites should be limited to simple comfort and convenience facilities and be located away from river shorelines. Such facilities will be of design and location which harmonize with the surroundings.
	b. Powerboats and off—road vehicles shall not be permitted in wild river corridors.
	c. As a minimum direction covering the semi-primitive non-motorized class of the Recreation Opportunity Spectrum (ROS) shall be met.
	d. Trails may be developed but must be located and constructed to be unobtrusive from the river or riverbank. Unobtrusive trail bridges could be allowed.
	e. Recreation special uses may be permitted for the purpose of providing river oriented recreation provided they are in keeping with the semi-primitive non-motorized ROS description
2. Visual Quality	a. See Forest-wide Standards and Guidelines for Visual Resource Management.
3. American Indian Religious and Cultural uses	a. Meet Forest-wide Standards and Guidelines.
B. Wilderness	a. Not applicable.
C. Wildlife and Fish	
1. Habitat Improvement	a. Structural habitat improvements allow utilizing native or natural appearing materials provided retention VQO can be met.
D. Range	a. Not applicable.
E. Timber	
1. Timber Management Planning	a. No scheduled harvest. Harvest may take place in the event of a catastrophic event such as fire, insects, disease, or blowdown. The intent of such harvest is limited to preventing further losses or protecting other resources or adjacent lands, and not for recovery of merchantable timber, preference given to those systems having the least effect on primitive values.
	b. Firewood cutting for commercial or domestic use

		should not be permitted.
F.	Water, Soil, Air	a. Meet Forest-wide Standards and Guidelines.
G.	Minerals end Geology	a. Operating plans shall be developed for proposed projects and shall include provisions to maintain streamside banks in their natural condition.
		b. Common variety mineral materials sources shall not be developed.
		c. Wild River corridors shall be studied to determine whether a mineral withdrawal is appropriate. Where appropriate initiate withdrawal action.
H.	Rural community and Human Resources	a. Meet Forest-wide Standards and Guidelines
J.	Lands	
	1. Special Use Management	a. Applications for new permits will be reviewed to assure no degradation of river corridors or values, and for compliance with ROS classification.
		b. New utility corridors shall not be permitted within or traversing river corridors.
	2. FERC License and Permits	a. FERC application proposals shall not be recommended for approval.
	3. Land Ownership Planning	a. Group II - retain National Forest land and acquire other ownerships as opportunity or need occurs.
L.	Facilities	
	1. Transportation Planning	a. No roads shall be permitted in Wild River Corridors
	2. Structures	a. All water supply dams and major diversions are prohibited.
		b. No flood control levees, dams. or other works are allowed in river channel or river corridor.
		c. A few minor existing structures could be allowed assuming such structures are not incompatible with the existing primitive and natural values of the river corridor. New structures not allowed except in rare instances to achieve recreation management objectives.
P.	Protection	
	1. Fire Management Planning	a. Forest-wide Fire Protection Group D applies.
	2. Forest Pest Management	a. Meet Forest-wide Standards and Guidelines.

6 SKAGIT WILD AND SCENIC RIVER

Goal: Manage the designated portions of the Skagit. Cascade. Sauk. and Suiattle Rivers as the Skagit Wild and Scenic River in accordance with the Skagit River Final Management Plan (Volume II) (1984).

Description of Lands Where Strategy Applicable: This strategy is applied to the Skagit Wild and Scenic River. Including 158.5 miles of designated river and 38,939 total acres.

Desired Future Condition: Refer to the management goals and specific management direction of the 1984 River Management Analysis and Plan.

Intensities in this Management Strategy: None

Management Direction as included in the River Management Plan — Skagit River Record of Decision August 8, 1984.

7 AMERICAN INDIAN RELIGIOUS AND CULTURAL USE AREAS

Goal: Allow for access to and protection of environmental conditions and values of sites and areas important to religious and ceremonial use by recognized American Indian tribes within the planning area.

Description of Lands Where Prescription Applicable: The prescription is applied to all Cemeteries, and selected Spirit Quest sites and legend sites, Cedar areas, Ceremonial Flora and Plant areas identified in the 1981 "Inventory of Native American Religious Use, practices, Localities and Resources. Sites and areas may be less than one acre or over 3.000 acres and are found throughout the Forest. Religious use areas are not shown on maps to protect their confidential nature Use areas may occur in wilderness, dispersed recreation, wildlife habitat allocations, and most other allocations.

Desired Future Condition: Areas vary from natural or naturally appearing to highly modified. The degree and nature of activity, and time of year during which activities may take place varies by the nature of the religious or ceremonial activity.

Intensities in this Management Prescription: None

Program Element		Standards and Guidelines
		For all activities under all Program Element consultation with appropriate American Indian tribe is required. (See Forest-wide Standards and Guidelines).
A. Recreation		
1.	Trail Planning	a. No new trails shall be located which lead directly to or cross these sites unless in consultation with the affected tribe(s) it is shown that such a location would not affect the quality and integrity of the site.
2.	Visual Quality	a. Meet the Visual Quality Objective of the Management Area as shown on the Forest Plan Map.
3.	American Indian Religious and Cultural Use	a. Meet Forest-wide standards and Guidelines.
4.	Facility and Site Construction	a. New campgrounds or recreational developments within the area shall be discouraged.
5.	Facility and Site Management	a. Existing facilities within the use area may remain. Consultation shall be undertaken to find means of mitigating existing adverse effects.
6.	Trail Construction	a. Trail Reconstruction in the area shall be timed to avoid conflict with known use periods of the sites
7.	Trail Systems Operation	a. Motorized recreation within the area shall be discouraged unless consultation with the affected tribe shows such use would not affect the quality and integrity of the site.
B. Wilderness		
1.	Wilderness Use Administration	a. Camping, stock grazing, and other activities that concentrate wilderness users shall be discouraged
C. Wildlife and Fish		
1.	Non-Structural Habitat Improvement	a. Any activity which may affect (even temporarily) stream quality, clarity, and stress flow in sensitive areas, or upstream from them, shall require consultation with the appropriate tribes to develop appropriate mitigation measures.

2. Structural Habitat Improvement	a.	Habitat improvement projects should not impair the religious or ceremonial use as determined by consultation with the affected tribe(s).
D. Range	a.	Not applicable.
E. Timber		
1. Timber Management Planning	a.	The Standards and Guidelines for the Management Areas as shown on the Forest Plan map shall apply.
	b.	Proposed timber management activities which way adversely affect the nature of the religious or ceremonial activity, even temporarily will require consultation to develop appropriate or mitigation measures.
2. Timber Harvest Administration	a.	Timber harvest activities should be scheduled for periods of non-use.
F. Water, Soil, and Air	a.	Meet Forest—wide Standards and Guidelines. Include consultation with effected tribe(s) for activities that impact use areas.
G. Minerals & Geology	a.	Meet Forest-wide Standards and Guidelines. Include consultation with affected tribe(s) for activities that impact use areas.
H. Rural Community and Human Resources	a.	Meet Forest-wide Standards and Guidelines.
J. Lands		
1. Special Use Management	a.	Avoid locating transportation and utility corridors in these areas.
2. FERC License and Permits	a.	Hydropower development projects upstream, or within the use area, which may adversely affect the nature of the religious or ceremonial activity, even temporarily will require consultation to determine appropriate avoidance of mitigation measures.
3. Land Ownership Planning	a.	Place all these lands in Group II — retain as National Forest.
L. Facilities		
1. Road Construction	a.	Construction of new roads within the zone of influence of sites shall be avoided unless such roads are determined, through consultation, not to adversely impact the value of the site for religious use.
P. Protection	a.	Meet Forest-wide Standards and Guidelines.

8A Mather Memorial Parkway

Goal: Manage the area to maintain and enhance its outstanding scenic and recreation qualities.

Description: The Parkway is classified by executive order. It encompasses a zone 1/2 mile either side of U S. Highway 410 and is managed primarily for scenic and recreational purposes

Desired Future Condition: The Mather Memorial Parkway will provide a Roaded Natural Recreation opportunity. The forest will be managed for its intrinsic values, emphasizing the old growth conifer stands. Developed recreation sites will be improved for customer satisfaction. Interpretive overlooks, and trails will enhance visitors understanding of natural and cultural resources, forest management and local recreation opportunities. Timber management practices may take place to enhance the overall objectives for the Parkway. These entries will be necessary to preserve species composition, primarily the Douglas—fir component. The objectives will to maintain a range of tree sizes with a continuum of large size trees.

Program Element	Standards and Guidelines
A Recreation	
1. Recreation Planning	a. Developed facilities will be improved to provide customer satisfaction where opportunities and interest warrant. The applicable standards and guidelines for developed recreation are in Management Area 3, program element A.
	b. Interpretive overlooks and trails will be added to enhance the visitors understanding of the forest and its opportunities.
	c. Trailheads will be constructed to support the trail system for improved convenience and safety of users. Additional trails will be constructed where opportunities and interest warrant.
	d. Facilities will be planned for the roaded natural and rural Recreation Opportunity Spectrum.
2. Visual Quality	a. Projects shall meet a Visual Quality Objective of Retention.
3. American Indian Religious and Cultural Use	a. Meet Forest-wide Standards and Guidelines.
4. Facility and Site Management	a. Signs and facilities are designed to complement the natural forest setting.
5. Use Administration	a. ORV use allowed in designated areas only
6. Trails Construction, Reconstruction, Operation	a. Trails are located and maintained to blend with topography and surrounding landscape
	b. Trails are located to take advantage of viewing opportunities
B. Wilderness	a. Not applicable
C. Wildlife and Fish	
1. Planning	a. Improvement of wildlife and fisheries habitat may be permitted.

2. Habitat Improvement	a. Improvements are appropriate as long as visitor conflict is minimized.
	b. Structures should blend in with the naturally established landscape.
	c. Seasonal visitor use and wildlife use should be coordinated to minimize conflicts.
D. Range	a. Not applicable
E. Timber 1. Timber Management Planning	a. Timber shall be managed on a non—scheduled basis, to meet recreation and visual objectives, and to reduce the risk of public injury from hazardous trees.
	b. All timber management intensities may be utilized to meet vegetation management prescription for the site.
	c. Logging practices shall be selected that provide the least impact to the site.
2. Silvicultural Examination and Prescription	a. Objectives of the prescription should be to:
	(ii) Create and/or maintain a regenerating natural environment that is, in visual aspects, pleasing and which resembles a natural setting.
	(ii) Maintain the characteristic old growth forest with its natural diversity of tree size, age, and species.
	(iii) Provide shade, wind protection, sunshine and views to complement the recreation environment.
3. Reforestation — Site Preparation For Planting and Seeding	a. Unwanted vegetation, slash, stumps or roots should be removed, as well as having the ground surface shaped before planting or seeding to retain the determined vegetation conditions for the site as outlined in the vegetation management prescription.
F. Water, Soil, and Air	a. Meet Forest-wide Standards and Guidelines.
G. Minerals and Geology	a. Inventory end/or validate existing mining claims and initiate title clearance on sites planned for development.
	b. Removal of common variety minerals should not be permitted.
	c. Recommend denial for application for leasable minerals.
	d. Sites not previously withdrawn shall be recommended for withdrawal from mineral entry.
	e. Developed sites shall be protected by standard and special stipulations in any leasing actions.
	f. No on—site occupancy.

		g. Applications will include stipulations to protect existing and/or future uses.
H. Rural community and Human Resources		a. Meet Forest-wide Standards and Guidelines.
J. Lands		
1. Special Use Management		a. Transmission towers should be designed to blend with the surrounding landscape.
2. Right-of-Way Grants		a. Right-of-Way corridors should be designed and located to blend with the surrounding landscape.
3. Land Ownership Planning		a. Group III — Retain, acquire, or dispose.
L. Facilities		
1. Transportation System Planning		a. Roads in the seen or potentially seen area should blend with natural form, line, color, and texture.
2. Road Construction and Reconstruction		a. Cut and fill slopes should be revegetated within one year of construction.
		b. Rockpits and stockpile sites should be located outside seen areas whenever possible and rehabilitated when located within seen areas.
3. FA&O Construction/ Reconstruction Facility Maintenance		a Buildings and other facilities should be designed and located to blend with the surrounding landscape.
		b. A cascadian architectural theme will be used to complement the CCC era architecture of the area.
P. Protection		
1. Fire Management Planning		a. Forest—wide Fire Protection Group A applies
2. Forest Pest Management		a. Meet Forest-wide Standards and Guidelines

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8B HEATHER MEADOWS — Goal: Manage the ares to maintain outstandingscenic quality and enhanced day-userecreation opportunities

Description of Lands Where Prescription Applicable Heather Meadows is located within the original Mt maker Recreation Area designated in 1926 by the Secretary of Agriculture Boundaries have since been modified by creation of the Mt. Baker Wilderness The remaining area is a developed day-use area in the summer and part of the Mt. Baker Ski Area in the winter (winter sports use is addressed in management area 3C). Recreation facilities are designed to enhance the viewing and interpretation of natural and cultural resources for the general public at the “easiest” access level feasible.

Desired Future Condition The outstanding scenery which draws people to this location is maintained in a natural condition. Physical facilities may be evident, design end construction will repeat color, shapes and lines compatible with the natural environment structures will have a “Cascadian” architectural theme inspired by the CCC architectural style. Access is by paved road with the system essentially in place. Trails provide hiking opportunities outside the wilderness end an “easiest” level is encouraged. Historic recreation and structures are restored and/or interpreted for the public. Encounters with other users are frequent. Vegetative management is for accomplishing recreational objectives. There is no scheduled harvest, and revegetation uses locally native species.

Standards and Guidelines	Program Element
A. Recreation	
1. Recreation Planning	a. Developed sites are designed for day use recreation such as hiking, picnicking, viewing scenery, visitor information and interpretive naturalist programs.
	b. The trail system is expanded to provide hiking opportunities outside of wilderness for the general public. An “easiest’ standard will be used where terrain permits.
	c. Interpretive facilities and programs will provide information on cultural and natural history and management.
2. Visual Quality	a. A Visual Quality Objective of Retention is maintained with deviations for developed facilities which are designed to blend into the natural environment.
3. American Indian Religious and Cultural Use	a. Meet Forest-wide Standards and Guidelines.
4. Facility and Site Management	a. Developed recreation facilities are designed for rural and urban recreation opportunity spectrum Refer to 3A. PUBLIC SECTOR DEVELOPED SITES for facility development standards and guidelines.
	b. A “Cascadian” architectural theme will be used to complement existing CCC era buildings.
5. Recreation Facilities end Site Management	a. Standards and Guidelines are the same as BA Public Sector Developed Sites.
6. Use Administration	a. Maintenance of trails within developed sites should be at a priority level 3, providing resource protection, and visitor convenience.
B. Wilderness	a. Not applicable.
C. Wildlife and Fish	
1. Planning	a. Improvement of wildlife and fisheries habitat may be permitted.
2. Habitat Improvement	a. Improvements are appropriate as long as visitor conflict is minimized and VQO’s are met.
	b. Seasonal visitor use and wildlife use should be coordinated to minimize conflicts.
3. Structural Habitat Improvement	a. Habitat improvement projects are generally acceptable, but they shall be unnoticed and/or blend into the natural landscape.
D. Range	a. Not applicable.
E. Timber	
1. Timber Management Planning	a. Timber shall be managed on a non-scheduled basis, to meet recreation objectives, and to reduce the risk of public injury from hazardous trees.
	b. Replant in native species.

F. Water, Soil, and Air	a.	Improvements are appropriate as long as visitor conflict is minimized.
	b.	Improvements or rehabilitation should blend with the natural landscape. Use endemic or native species for erosion control.
G. Minerals and Geology	a	High value recreation sites not previously withdrawn shall be recommended for withdrawal from mineral entry.
H. Rural Community and Human Resources	a.	Meet Forest-wide Standards and Guidelines.
J. Lands		
1. Special Use Management	a.	Do not issue permits which are not compatible with the goals of this prescription.
2. Land Ownership Planning	a.	Group III - Retain, acquire, or dispose.
L. Facilities		
1. Transportation System Planning	a.	Roads in the seen or potentially seen area should blend with natural form, line, color, and texture.
2. Road construction and Reconstruction	a.	Cut and fill slopes should be revegetated within one year of construction.
	b.	Rockpits end stockpile sites should be located outside seen areas whenever possible and rehabilitated when located within seen areas.
3. FA&O Construction/Reconstruction and Facility Maintenance	a.	Buildings and other facilities should be designed and located to blend with the surrounding landscape.
	b.	A Cascadian architectural theme will be used to complement the CCC era architecture of the area.
P. Protection		
1. Fire Management Planning	a.	Forest-wide Fire protection Group A applies.
2. Forest Pest Management	a.	Meet Forest-wide Standards and Guidelines.

8C SULPHUR CREEK BOTANICAL AREA

Goal: Protect unique low elevation silver fir stand for special botanical interest, research and education.

Description of Lands Where Applicable: An approximately 570 acre parcel of land located in Sulphur Creek on the south side of Mt. Baker. The area is a unique vegetative community for the elevation. The principal features include low elevation silver fir and associated species. The vegetation species are found on a lava flow which is influenced by cold air draining from the glaciers on Mt Baker Several species of vegetation are usually found only at more northern latitudes.

Desired Future Condition: Protection of natural plant communities/associations for educational end scientific values.

Program Element	Standards and Guidelines
A. Recreation	
1. Recreation Planning	a. Developed facilities are for the purpose of education and would be limited to trails and roadside turnouts.
	b. Dispersed recreation use should not be encouraged.
2. Visual Quality	a. Projects shall meet a Visual Quality Objective of Retention in the foreground and Partial Retention in the middleground.
3. American Indian Religious and Cultural Use	a. Meet Forest-wide Standards and Guidelines.
4. Facility and Site Management	a. All signs and facilities blend with surrounding landscape. On-site interpretation may be present.
B. Wilderness	a. Not applicable.
C. Wildlife and Fish	
1. Planning	a. Control of excessive animal populations may take place where such populations threaten desired plants.
D. Range	a. Not applicable.
E. Timber	
1. Timber Management Planning	a. Timber harvest, including salvage, shall not be scheduled.
	b. Hazard tree removal may only be permitted along roads or trails when required for safety.
F. Water, Soil, and Air	a. Meet Forest-wide Standards and Guidelines.
G. Minerals and Geology	a. Removal of common variety minerals shall not be permitted when the removal of vegetation is required. However. existing borrow sites may be utilized if the use does not require the removal of native vegetation.
	b. Recommend denial of application for leasable minerals.
	c. Sites not previously withdrawn shall be recommended for withdrawal from mineral entry.

H.	Rural community and Human Resources	a.	Meet Forest-wide Standards and Guidelines.
J.	Lands		
	1. Special Uses Management	a.	Do not issue permits which are not compatible with the goals of this prescription.
	2. Land Ownership Planning	a.	Place all these lands in Group II - retain or acquire when possible.
	3. FERC License and Permits	a.	Recommend only compatible uses (existing licenses and permits will be allowed).
L.	Facilities		
	1. Transportation System Planning	a.	Transportation system and utility corridors generally should not be allowed. If allowed, developments must be consistent with the goals of this prescription. (Existing facilities will be allowed and maintained.)
	2. FA&O Construction/Reconstruction and Facility Maintenance	a.	Structures should not be permitted unless botanical area characteristics can be maintained.
P.	Protection		
	1. Fire Management Planning	a.	Natural-occurring and human-caused fires shall be controlled at the minimum acreage.
	2. Forest Pest Management	a.	No action should be taken against insects and diseases unless an outbreak threatens the plants being protected or is inconsistent with management goals for adjacent areas.
	3. Vegetation	a.	Competing vegetation may be removed in order to preserve the continued existence of plant species of special interest.
	4. Collection permits	a.	Collection permits shall be required for the collection of any botanical specimens.

10 WILDERNESS	Goal:	Preserve and protect the wilderness character. Allow for naturalness and provide opportunities for solitude, challenge, and inspiration. Within these constraints, and following a policy of non-degradation management, provide for recreational, scenic, educational, scientific, and historical uses.

Description of Lands Where Prescription Applicable: This prescription is applied to those acres classified as Wilderness, including: Glacier Peak. Mt. Baker, Noisy-Diobsud, Boulder River. Henry M Jackson, Clearwater, and Norse Peak. Refer to the Alpine Lakes Management Plan for management direction for the Alpine Lakes Wilderness (See Management Prescription 21).

Desired Future Condition: Common to all 10A, 10B, 10C, 10D, 10E.

The ROS concept emphasizes that quality in outdoor recreation can best be achieved by providing a diversity of opportunities consistent with resource limitations to satisfy varying preferences of users. This concept is combined with factors for efficient management and adapted to wilderness in this plan. Wilderness ROS and their standards apply to all designated wilderness on the Forest (for specific direction regarding Alpine Lakes, consult the Alpine Lakes Area Land Management Plan).

Within each WROS Class there are Limits of Acceptable Change (LAC) which presuppose that certain areas (transition for example) of the wilderness will be allowed to receive relatively higher levels of use than other areas (trailless), and thus will receive higher levels of resource change or impact. Decisions about management of WROS Classes are aimed at making a conscious choice about the changes that will be allowed to occur. LAC should not be confused with a management objective that one is attempting to achieve. LAC is a maximum limit of change allowed. Managers try to achieve the best conditions possible rather than allowing conditions to deteriorate until this threshold is reached.

Wilderness must be managed to prevent degradation. The nondegradation principle directs that each Wilderness must essentially be as wild as it was at the tine of classification, or if conditions are not known and cannot be reconstructed for the tine of classification, the first Wilderness condition inventory should be used as the benchmark for maintaining Wilderness conditions. Nondegradation applies to all values of Wilderness social, physical, and biological factor. Additionally, conditions shall be improved in situations where natural processes are not operating freely, and where the values for which a Wilderness was created are impaired.

The standards listed below and summarized at the end of this Management Prescription were derived from field study and professional judgment.

Carrying Capacity — Carrying capacities have been developed to estimate the amount of recreation visitor use that a wilderness or portion of wilderness, could support without degradation of resource values carrying capacity is commonly expressed in Recreation Visitor Days (RVDs) per year or people-at-one-time (PAOT).

In the Recreation Opportunity Spectrum system, coefficients have been developed that help in the estimation of carrying capacity. These coefficients are the estimated RVD's per average acre per year, that a WROS class can support. Different coefficients are identified for each class and are theoretical estimation of capacity based on average conditions.

For the Land and Resource Management Plan for the Mt Baker-Snoqualmie National Forest, the following carrying capacity coefficients were developed in coordination with adjacent Forests sharing management of the Washington State Cascade Range Wilderness:

Zone	RVD/Acre/Year	RVD/Sq. Mile/Year
Transition	15 000	9600
Trailed	3.750	2400
General Trailless	.25	160
Dedicated Trailless	.078	50
Special Area	To be established after study	

Limits of Acceptable Change — Recreation visitor use of wilderness cannot occur without some degree of impact on wilderness resources. Impact occurs on the physical and biological features of wilderness as the quality of the recreation experience of other visitors. There is a point at which increasing impact of visitor use will result in unacceptable degradation outside the intent and direction of the Wilderness Act. The Regional Nondegradation Policy is described in FSM 2322 03.

The limits of acceptable change concept is a system to establish limits on the change that can be permitted within the nondegradation policy, before management actions must be taken to reverse trends of change. These actions can be either directed to improve the knowledge and abilities of the users or to reduce the numbers of visitors in impacted areas during critical time periods, or both.

The system has incorporated limits or maximum bevels for which key indicator resource values can change before management actions are implemented. The system assumes that the condition of key indicators which are easily quantifiable and measurable reflect the general condition of resource values which are not easily measured, the impact of human-caused noise and human disturbance of wildlife are examples of impacts not easily measured.

The limits of acceptable change levels or standards are different for each Wilderness Recreation Opportunity Spectrum Class. The standards for the Dedicated Trailless tolerate the least impact in order to achieve the most pristine wilderness conditions and the beast evidence of mans activity. The Transition class standards are more tolerant reflecting management of the area for a semi-primitive recreation experience and physical evidence of man’s activity.

The table following the standards and guidelines summarizes the key indicators that will be measured in monitoring the physical, biological, and social condition and the standards for each Wilderness Recreation Opportunity Spectrum Class.

When monitoring results indicate that the condition of one or more of the key indicators is approaching the standard, or limit of acceptable change, a trend analysis will be done this analysis will assess the changing conditions and identify all factors of visitor use contributing to the change cost effectiveness of possible management actions and recreation opportunity tradeoffs will be considered in the analysis. The analysis will identify alternative courses of action and a most suitable alternative will be chosen and implemented. Actions appropriate to resolve impact problems are shown in the wilderness Forest-wide Standards and Guidelines

There is a high probability that initial monitoring results in some areas will indicate impact conditions in excess of standards established for particular WROS Classes. In this event, monitoring efforts will need to be intensified to establish the current trends. The objectives in these situations will be to institute management actions to achieve an improving trend. Downgrading the Wilderness Recreation opportunity Class to a class more tolerant of impact will not be an option.

Over the long term, wilderness management activities should bead to an improving trend in the effects of man's activity on wilderness resources in all WROS classes.

Intensities in this Management prescription:

10A. Transition
10B. Trailed
10C. General Trailless
10D. Dedicated Trailless
10E. Special Areas

INTENSITY 10A: TRANSITION

This trailed class includes system trails and may include user-made trails that have a travelway worn to mineral soil over long distances, and is characterized by having a large proportion of day—users who are often sixed in with overnight and long distance travelers This area is usually adjacent to trailheads and extends into the wilderness a distance that is typically traveled in one day by a hiker. This class includes areas accessed by trail, around lakes or other attractions used by people, or pack stock within the day—use influence area The class extends at beast 500 feet on either side of a trail, but this may be wider around bakes or heavily used areas. The length of this trail class will be established for each trail depending on ease of travel, distance from trailhead outside wilderness, and destination attractions inside wilderness. This generally will be 3 to 5 miles inside the wilderness boundary. If the day-use activity occurs entirely outside wilderness, the trail will have no Transition class.

Opportunities for exploring and experiencing isolation contrast with adjacent more developed areas outside the Wilderness, though the visitor can expect the greatest number of people compared to other wilderness classes This class introduces users to the Wilderness setting. This area normally provides relatively bow challenge or risk in using outdoor skills compared to other classes. The managed trail system nay include trails classified as "easiest," "more difficult," or "most difficult," and they shall receive maintenance activities as appropriate for the primary objective and difficulty level. Users nay encounter improvements where the frequency and magnitude of use dictates the need for such improvement to protect the wilderness resource.

Program Element	Standards and Guidelines
A. Recreation 1. American Indian Religious and Cultural Use a.	Meet Forest-wide Standards and Guidelines.
B. Wilderness 1. Wilderness Use Administration	a. capacity coefficient is 15 RVDs per acre per year. b. Vegetative loss at campsites shall not exceed 1,000 square feet, or cumulatively, 3% from any acre. c. Mineral soil exposed shall not exceed 200 square feet at campsites. d. Trees felled or with scarring shall not exceed 10 trees, or 50 percent of trees on site, whichever is smaller. e. Average number of parties encountered per day when traveling during snow-free season shall not exceed 8. f. Maximum encounters with other groups on any one day shall not exceed 30. g. Unit size (people and stock) shall not exceed 12 unless otherwise authorized under Special Use Permit. h. The number of "campsites" per 160 acre area shall not exceed 20.

C.	Wildlife and Fish 1. Occupied campsites visible shall not exceed 4.	a.	Displacement of wildlife due to visitor use can be significant and should be an overriding concern in wilderness where the primary objective is to maintain a natural ecosystem. Since only a small amount is managed in this class, evaluation of visitor use effects on habitat effectiveness should include adjacent areas. Visitor use must not decrease habitat effectiveness in each wilderness (average of all WROS classes) for any species by more than 20%.
D.	Range	a.	Meet Forest-wide Standards and Guidelines.
E.	Timber	a.	Not applicable
F.	Water, Soil, and Air	a.	Meet Forest-wide Standards and Guidelines.
G.	Minerals & Geology	a.	Meet Forest-wide Standards and Guidelines.
H.	Rural Community & Human Resources	a.	Meet Forest-wide Standards and Guidelines.
J.	Lands	a.	Meet Forest-wide Standards and Guidelines.
L.	Facilities	a.	Meet Forest-wide Standards and Guidelines.
P.	Protection 1. Fire Management Planning	a.	Forest-wide Fire Protection Group B applies.

INTENSITY 10B: TRAILED

This class includes all managed system trails extending beyond the Transition Class. This class extends at least 500 feet on either side of the trail but may be wider around lakes or heavily used areas.

A moderate to high degree of opportunity exists for exploring and experiencing isolation (from the sights and sounds of civilization), independence, closeness to nature, tranquility and self-reliance through the application of no trace skills in a natural environment that offers a moderate to high degree of challenge and risk as one travels further from trailheads. The managed trail system may include trails classified as "more difficult," or "most difficult" and they shall receive maintenance activities as appropriate for the primary objective and difficulty levels. Visitors must be prepared for overnight camping, outdoor living, and changes in weather. A variety of user restrictions nay be implemented to control use impacts as the need arises.

Program Element	Standards and Guidelines
A. D-P	a. Sane as 10A.
B. Wilderness 1. Wilderness Use Administration	a. Capacity coefficient is 3,75 RVD's per acre per year. b. Vegetative loss at campsites shall not exceed 1,000 square feet, or 3 percent from any acre. c. Mineral soil exposed shall not exceed 200 square feet. d. Trees felled or with scarring shall not exceed 6 trees, or 25 percent of the trees on site whichever is smaller. e. Average number of parties encountered when traveling per day per snow-free season shall not exceed 5. f. Maximum encounters with other groups on any one day shall not exceed 10. g. Unit size (people and stock) shall not exceed 12 unless otherwise authorized under Special Use Permit. h. The number of "campsites" per 160 acre area shall not exceed 10. i. Occupied campsites visible shall not exceed 3.
C. Wildlife and Fish	a. Displacement of wildlife due to visitor use can be significant and should be an overriding concern in wilderness where the primary objective is to maintain a natural ecosystem. Since only a small amount is managed in this class, evaluation of visitor use effects on habitat effectiveness should include adjacent areas. Visitor use must not decrease habitat effectiveness in each wilderness (average of all WROS classes) for any species by more than 20%.

INTENSITY 10C: GENERAL TRAILLESS

This class is characterized by area not falling into the other classes. It generally attracts lower use because of the lack of constructed trails end a relative lack of attractions. The area is unmodified and user—made trails are not encouraged, but they may exist. If obvious user-made trails become well established, or are causing resource damage, consideration will be given to restricting use or reconstructing these trails in order to protect the wilderness resource from further damage. Reclassification from general trailless to trailed requires a supplement of the Forest Plan, which shall include full public involvement. This class is available for new trail construction only to protect resources or nest management objectives by dispersing use. If this should occur, the trail will be constructed to no higher than "more difficult" or "most difficult" standards.

This class provides an outstanding opportunity for isolation and solitude, mostly free from evidence of human activities and with very infrequent encounters with others. The user has outstanding opportunities to travel cross-country utilizing a maximum degree of outdoor skills, often in an environment that offers a very high degree of challenge and risk. No-trace camping skills are strongly encouraged and any user built "improvement" is undesirable and shall be removed.

Program Element		Standards and Guidelines	
A.	D—P	a	Same as 10A.
B.	Wilderness		
	1. Wilderness Use Administration	a	Capacity coefficient is 0.25 RVD5 per acre per year.
		b.	Vegetative loss at campsites shall not exceed 500 square feet.
		c.	Mineral soil exposed shall not exceed 100 square feet.
		d.	Trees felled or with scarring shall not exceed 4 trees, or 25 percent of trees on site, whichever is smaller.
		e.	Average number of parties encountered when traveling during snow-free season shall not exceed 2 per day.
		f.	Maximum encounters with other groups on any one day shall not exceed 4.
		g.	Unit size (people and stock) shall not exceed 12 unless otherwise authorized under Special Use Permit.
		h.	The number of 'campsites' per 160 acre area shall not exceed 5.
		i.	Occupied campsites visible shall not exceed 2.
C.	Wildlife and Fish	a.	Displacement of wildlife due to visitor use can be significant and should be an overriding concern in wilderness where the primary objective is to maintain a natural ecosystem. Since only a small amount is managed in this class, evaluation of visitor use effects on habitat effectiveness should include adjacent areas. Visitor use must not decrease habitat effectiveness in each wilderness (average of all WROS classes) for any species by more than 10%.

INTENSITY 1OD: DEDICATED TRAILLESS

This class is managed forever trailless; obvious user-made travel ways are not permitted. Class nay include way trails and routes not discernible as human related, the condition to be avoided is vegetation and soil loss along a continuous tread. The class say include popular attractions accessed only by cross-country travel. Human impact and influence is, by design, minimal therefore user restrictions may be necessary to insure that trailless experiences remain. Areas chosen for Dedicated Trailless should be of a size that will allow for a meaningful experience and can be reasonably protected for the experiences and remoteness identified. Generally the class is at least 2,000 — 3,000 acres in size and contains whole drainages or basins out of sight and sound of trails, or areas outside the wilderness.

This class provides an outstanding opportunity for isolation and solitude, free from evidence of human activities and with very infrequent encounters with users. The user has outstanding opportunities to travel cross—country utilizing a maximum degree of outdoor skills, often in an environment that offers a very high degree of challenge and risk.

Program Element	Standards and Guidelines
A. D—P	a. Same as 10A.
B. Wilderness 1. Wilderness Use Administration	a. Capacity coefficient is .078 RVDs per acre per year. b. Vegetative loss at campsites shall not exceed 0 square feet. c. Mineral soil exposed shall not exceed 0 square feet. d. There shall be no trees felled or scarred at the sight. e. Average number of parties encountered when traveling during snow-free season shall not exceed 1 per day. f. Maximum encounters with other groups on any one day shall not exceed 1. g. Unit size (people and stock) shall not exceed 12, but strongly encourage 6 people and 0 stock, unless otherwise authorized under Special Use Authorization. h. The number of “campsites’ per 160 acre area shall not exceed 2. i. Occupied campsites visible shall be 0.
C. Wildlife and Fish	a. Displacement of wildlife due to visitor use can be significant and should be an overriding concern in wilderness where the primary objective is to maintain a natural ecosystem. Since only a small amount is managed in this class, evaluation of visitor use effects on habitat effectiveness should include adjacent areas. Visitor use must not decrease habitat effectiveness in each wilderness (average of all WROS classes) for any species by more than 10%..

INTENSITY 10E: SPECIAL AREAS

The intent of this class is to provide for changes in standards or other management guidelines for unique areas Situations that qualify for Special Area designation include congressionally acknowledged areas, areas of significant cultural or historic value, areas with special wildlife considerations and areas that have limited management options to deal with unique situations. Areas do not qualify for this class for administrative convenience in dealing with overuse. This class is rare and will not exist in many wildernesses

Experience opportunities vary widely depending upon the special feature and its location A high number of other visitors may or nay not be encountered. Rules and regulations to protect resources or preserve visitor experience can be expected. The following have been identified as Special Areas

Special Area Name	Significance	Standards and Guidelines
A. D—P		a. Same as 10A
B. Wilderness		
Coleman Glacier Climbing Route- Mt. Baker Wilderness	Second most popular climbing route in State	a. Capacity coefficient will be in RVD's per acre per year. Coefficient to be developed thru ID Team analysis. b. Same as 10A. c. Same as 10A. d. Same as 10A. e. Average Number of parties encountered per day when traveling shall not exceed 16. f. Campsites visible shall not exceed 10. g. Same as 10A. h. Same as 10A.
Winchester Mountain Lookout Mt. Baker Wilderness	Lookout addressed in Committee Reports of enabling legislation for 1984 Wilderness bill	a. Accept non-conforming use, Standards and Guidelines same as 10A.
Three Fingers Lookout Boulder River Wilderness	Lookout addressed in Committee Reports of enabling legislation for 1984 Wilderness bill	a. Accept non-conforming use, Standards and Guidelines same as 10B.
Miners Ridge Lookout Glacier Peak Wilderness	Lookout addressed in Committee Reports of enabling legislation for 1984 Wilderness bill	a. Accept non-conforming use, Standards and Guidelines same as 10B.
Green Mountain Lookout Glacier Peak Wilderness	Lookout addressed in Committee Reports of enabling legislation for 1984 Wilderness bill	a. Accept non-conforming use, Standards and Guidelines same as 10B.

	Park Butte Lookout Mt. Baker Wilderness	Lookout addressed in Committee Reports of enabling legislation for 1984 Wilderness bill	a. Accept non-conforming use, Standards and Guidelines same as 10A.
	Cascade Glacier U.S.G.S. Facility Glacier Peak Wilderness	Glacial Research Station Maintained by Geological Survey	a. Accept non-conforming use, periodically review Special Use Permit, and manage same as 10C.
	Green Mtn Research Natural Area (Proposed) Glacier Peak Wilderness	Dual designation with Wilderness	a. Follow Wilderness or RNA Standards and Guidelines, whichever is more restrictive.
	Lily Lake Research Natural Area (Proposed) Clearwater Wilderness	Dual Designation with Wilderness	a. Follow Wilderness or RNA Standards and Guidelines, whichever is more restrictive.
	North Fork Nooksack Research Natural Area Mt Baker Wilderness	Dual designation with Wilderness	a. Follow Wilderness or RNA Standards and Guidelines, whichever is more restrictive.
	North Fork Nooksack Research Natural Area (Proposed expansion) Mt. Baker Wilderness	Dual designation with Wilderness	a. Follow Wilderness or RNA Standards and Guidelines, whichever is more restrictive.
	Chowder Ridge Research Natural Areas (Proposed) Mt. Baker Wilderness	Dual designation with Wilderness	a. Follow Wilderness or RNA Standards and Guidelines, whichever is more restrictive.
	Long creek Research Natural Area Boulder River Wilderness	Dual designation with Wilderness	a. Follow Wilderness or RNA Standards and Guidelines, whichever is more restrictive.
C.	Wildlife and Fish		a. Displacement of wildlife due to visitor use can be significant and should be an overriding concern in wilderness where the primary objective is to maintain a natural ecosystem. Since only a snail amount is managed in this class, evaluation of visitor use effects on habitat effectiveness should include adjacent areas, visitor use mustnot decrease habitat effectiveness in each wilderness (average of all WROS classes) for any species by more than 20%.

Summary of Management Intensities Standards and Guidelines for Wilderness 1/

Standard	Intensities				Coleman Glacier
	Transition	Trailed	General Trailless	Dedicated Trailless	Special Area
Capacity coefficient RVD's/acre/year	15.000	3.750	0.25	0.078	To be determined
Veg. Loss at Campsite (square feet) 2/	1.000 (or 3% from any acre)	1.000	500.0	0	1.000
Mineral Soil Exposed (square feet)	200	200	100	0	200
Trees Scarred or Felled or Percent of Trees on a Sits Scarred or Felled 3/	15 (50)	15 (50)	7 (25)	0 (0)	15 (50)
Average number parties encountered when traveling day/snow-free season 4/	8	5	2	1	16
Maximum Encounters on Anyday 5/	30	10	4	1	To be determined
Unit size limit (people and stock together) unless otherwise author-ized under Special Use Permit 6/	12	12	12	12 (strongly encourage 6 people. 0 stock)	12
Number of campsites per 160 Acre Area 7/	20	10	5	2	To be determined
Occupied campsites visible from other campsites 8/	4	3	2	0	10

1/ A standard nay be made more restrictive on site-specific areas at the discretion of the District Ranger, if resource damage is occurring. These areas will be identified by name and the lower LAC documented.

2/ Vegetation Loss at Campsites

This indicator, measured in square feet using a transect method, was determined in U.S.F.S. Research Paper INT-284 (1982) as being an excellent indicator of soil changes and as a good measure of areal extent of site impacts.

Both visual impacts and physical/ecological impacts of campsite use are reflected in this indicator, which can be measured fairly accurately using methodology developed in the mid-1970s by Schreiner, Moorehead, Koch and others.

3/ Trees Scarred or Felled

This indicator is one of the easiest to measure and is the only LAC proposed which deals with the effects of firewood gathering, and general site vandalism. Although some tree damage is inevitable, the cumulative effects over time can become critical, and therefore monitoring the trends of this indicator is essential, given the near impossibility of restoration.

4/ Average Encounters

Although maximum encounters is one way of monitoring social impacts, it is also desirable to monitor average number of parties encountered when travelling per day during the snow—free season as well. Due to the limits of personnel and funds, constant patrol is not possible in many areas and a maximum level of encounters could be difficult to monitor in these places Also, average encounters is more a measure of the day—to—day situation which the majority of visitors will be subject to Again, this indicator may be measured by patrols, encounters, or permits.

5/ Maximum Encounters

This indicator is an upper threshold LAc for social impact, indicating a level of use where the WROS class no longer retains its character. Although this say not be easily monitored in all areas, it is a necessary limit tied to definition of the WROS opportunity for solitude. Maximum encounters per day can be variously monitored by counters, observation, or permits

6/ Special Use Permit may be denied if other standards are being exceeded or resource damage is expected. Permit must specify route of travel, camp locations, dates, and other conditions necessary to meet management objectives Llamas are considered stock and are counted the same as horses and people

7/ Number of Sites Per Any 160 Acre Area

This indicator, as suggested by Stankey at al, is an indicator of campsite density and an indirect measure of aggregate site impacts. In many areas individual campsites sight have acceptable levels of impact, yet the total number of sites far exceeds need In such instances, unnecessary physical and social impacts occur due to the haphazard location and selection of sites. This LAC indicator is easily measured from a Cods—A—Site or similar site inventories and is based on 160 acres (1/4 section) since most destination spots will fall within this area.

8/ Campsites Visible From Each Site

Campsites visible is largely an indicator of social impacts, and is our only measure of in—camp social impact. Campsites visible is a measure which can be attained from a Code—A—Site or similar inventories, and is fairly easily and accurately measured.

11 OLD-GROWTH HABITAT (SPOTTED OWL)

Goal: Provide and maintain the nature and old growth forest ecosystem as habitat for species that depend upon or utilize old growth for a significant portion of their habitat.

Description of Lands Where Prescription Applicable: Old growth habitat is distributed throughout the forest and exhibits the following characteristics: stand overstory dominated by live mature and old growth trees; canopy structure is multi—layered with trees of varying age classes; large numbers of standing dead trees or snags in a variety of decomposition stages. downed logs and woody material on the forest floor, located generally below 4.000 feet in elevation. The management indicator species for this habitat is the northern spotted owl. Management Area 11 consists of a network of Spotted Owl Habitat Areas (SOHA's). Generally, each SOHA has a 300 acre core end a total of 2.200 acres of suitable habitat within a 2.1 mile radius circle Some exceptions occur due to availability of habitat, and differing levels of information about specific areas.

Desired Future Condition: Evidence of human activity may be present but it does not dominate the environmental setting or significantly alter the old growth characteristics. Timber harvest is not permitted in these old growth areas with some exceptions. construction of new access routes — roads or trails — is limited and nay be affected by season and species involved. Old growth areas are protected from fire. Isolated disease and insect outbreaks are natural occurrences in an old growth ecosystem. Controls will be implemented if significant damage or alteration to the ecosystem and surrounding forest land is anticipated.

Intensities in this Management Prescription: None

Program Element	Standards and Guidelines
A. Recreation 1. Recreation Planning	a. Developed sites will be allowed in SOHA's outside of core areas, the applicable Standards and Guidelines are found in Management Prescription BA. program element A. b. Expansion of existing developed sites should be carefully evaluated to insure that habitat values are not detrimentally impacted Construction of new facilities will not be allowed in SOHA core areas. c. Existing nonmotorized trails and trail use will be permitted in SOHA. including core area. d. New non-motorized trail construction may be permitted in these areas including SOHA core areas, provided: 1) core area has been determined using Regional standards, and 2) biologist has been consulted to determine trail will not impact these areas. e. On and off—trail motorized vehicle use is prohibited in core areas, however. may be permitted in other portions of SOHA on designated trails. Management and recreation activities will be scheduled to minimize disturbance between February 15 and August 15. f. Trail construction and reconstruction activity should be restricted in S0HAs during the breeding period from February 15 - August 15 within the core area Management activities will be scheduled to minimize disturbances between February 15 and August 15 throughout the SOn, unless it can be determined that owls are not actively using the area while construction/reconstruction is scheduled.

2. Visual Quality	a.	A Visual Quality Objective of retention should be met from primary viewsheds (see figure 4-1a & 4-1b) and trails within the designation.
3. American Indian Religious and Cultural Use	a.	Meet Forest—wide Standards and Guidelines
B. Wilderness	a.	Not applicable.
C. Wildlife and Fish		
1. Planning	a.	Core areas that are immediately adjacent to a SOHA boundary shall be verified prior to timber harvest to ensure protection of the nest.
	b.	Cooperate and coordinate on any research studies of old growth management.
	c.	Conduct monitoring necessary to determine effectiveness and condition of existing inventory of habitat improvements.
	d.	Management activities shall be scheduled to minimize disturbances between February 15 and August 15.
	e.	Conduct inventory and monitoring of suitable habitat and owl occurrences within SOHA's.
2. Habitat Improvement	a.	Habitat improvement may be done to correct resource damage, if compatible with SOHA objectives.
D. Range	a.	Not applicable.
E. Timber		
1. Timber Management Planning	a.	Timber management activities, including salvage of blowdown, and dead, or down material shall not normally be conducted. Exceptions are permitted where a portion of one of these areas is lost to blowdown or other catastrophic event that significantly changes the old growth stand structure to the point it is no longer suitable habitat, and salvage operations will not further adversely impact habitat requirements. When this situation occurs, and prior to beginning salvage operations, the oldest adjacent stands will be identified and managed so as to replace portion lost.
2. Timber Sale Preparation	a.	Trees within these areas nay be used as tailholds and/or rigging provided the tree shall not be felled.
	b.	Management activities will be scheduled to minimize disturbances throughout the SOHA between February 15 and August 15.
F. Water, Soil, and Air		
1. Planning	a.	Meet Forest-wide Standards and Guidelines.
2. Improvement	a.	Watershed restoration projects may be done to correct resource damage, if the project does not conflict with spotted owl habitat values.

		b. Management activities will be scheduled to minimize disturbances throughout the SOHA between February 15 and August 15
G. Minerals and Geology		a. These areas may be withdrawn from mineral entry following NEPA analysis and Bureau of Land Management concurrence. Appropriate protection clauses will be inserted in mineral leases.
		b. If activities that do not involve removal of timber are approved, no activities shall be permitted between February 15 - August 15.
		c. Activities that reduce habitat in areas outside of the core shall require replacement of that habitat to maintain at least 2,200 acres.
H. Rural Community and Human Resources		a. Meet Forest-wide Standards and Guidelines.
J. Lands		
	1. Land Ownership Planning	a. Old growth habitat lands considered critical to old growth species viability or necessary to insure distribution criteria will be placed in Group III, available for lend exchange, as long as proponent's lands contain equal habitat and meet distribution requirements. Otherwise such lands shall remain in Group II.
L. Facilities		
	1. Transportation System Planning	a. Avoid locating roads in SOHA'a outside of core areas. Those proposed road locations that involve these areas will be analyzed to assure the objectives of managing these habitats is maintained and acreage of habitat lost is replaced.
	2. Road Construction and Reconstruction	a. Prior to construction or reconstruction. SOHA core area must be verified.
		b. No new road construction shall be permitted in SOHA core area.
	3. Road Operation	a. In SOHA core areas, existing roads shall be permitted provided that local roads that the Forest Service has existing, valid rights, be closed at the end of each activity period.
		b. When feasible, restrict permitted activity in a SOHA core during the period of February 15 - August 15.
P. Protection		
	1. Fire Management Planning	a. Forest-wide Fire Protection Group A applies.
	2. Forest Pest Management	a. Integrated pest management concepts are permitted only when spotted owl habitat values can be maintained.

12 MATURE AND OLD GROWTH WILDLIFE HABITAT (PINE MARTEN, PILEATED WOODPECKER)

Goal: Provide and maintain mature and/or old growth forest as habitat for those species that can utilize either for their primary habitat needs.

Description of Lands Where Prescription Applicable: Mature and/or old growth habitat is distributed throughout the Forest and exhibits the following characteristics. Mature stands generally have large diameter (21' dbh) standing trees, a multi-layer canopy component; moderate numbers of standing dead trees or snags in a variety of decomposition stages, including down logs and woody material on the forest floor. Old growth overstory is dominated by large diameter trees generally 21" plus, a multi-layered (usually 4) stand, and large numbers of standing dead trees or snags in a variety of decomposition stages, including down logs and woody material on the forest floor. The management indicator species that are dependent on mature plant communities and also use old growth are the pine marten and pileated woodpecker.

Desired Future Condition: Evidence of human activity may be present but it does not dominate the environmental setting or significantly alter the mature or old growth characteristics. Dedicated habitat will be maintained as either old growth or nature stands of titber with the characteristics of each described above. There will be opportunities for visitors to interact with a natural environment to view and/or hunt wildlife.

Intensities in this Management Prescription: None

Program Element	Standards and Guidelines
A. Recreation	
1. Recreation Planning	a. The applicable Standards and Guidelines for Developed Recreation are found in Management prescription 3A, program element A.
	b. Expansion of existing developed sites or construction of new sites will not be allowed.
	c Existing nonmotorized trails and trail use will be permitted in these areas.
	d. New non-motorized trail construction may be permitted in these areas provided: 1) the area has been determined using Regional standards, 2) biologist has been consulted to determine trail will not impact these areas.
	e. Existing motorized vehicle use nay be permitted on designated trails. Management and recreation activities may be scheduled to minimize disturbance between April 1 - June 15.
2. Visual Quality	a A Visual Quality Objective of retention should be met from primary viewsheds (See Figure 4—1a & 4—1b) and trails within the designation.
3. American Indian Religious and Cultural Use	a. Meet Forest-wide Standards and Guidelines.
B. Wilderness	a. Not applicable.
C. Wildlife and Fish	
1. Planning	a Cooperate and coordinate on any research studies on pileated woodpecker or pine marten.
	b. Snag habitat will be maintained or created to at least nest minimum requirements for cavity-nesters as stated in Forest-wide Standards and Guidelines.

		c. Down log component for all species represented by this habitat management prescription will follow density, decay class, size class, and distribution characteristic to the pine marten.
		d. Conduct monitoring necessary to determine effectiveness and condition of existing inventory of habitat improvements.
		e. Conduct inventory and monitoring of Management Area to determine habitat suitability and occupancy.
	2. Habitat Improvement	a. Habitat improvement may be done to maintain or enhance the areas.
D. Range		a. Not applicable.
E. Timber		
	1. Timber Management Planning	a. Timber management activities, including salvage of blowdown, dead, or down material shall not normally be conducted. Exceptions are permitted where a portion of one of these areas is lost to blowdown or other catastrophic event that significantly changes the old-growth habitat structure to the point it is no longer suitable habitat, and salvage operations will not further adversely impact habitat requirements. When this situation occurs, and prior to beginning salvage operations, the oldest adjacent stands will be identified to replace portion lost.
	2. Timber Sale Preparation	a. Trees within these areas may be used as tailholds and/or rigging provided the tree shall not be felled.
F. Water, Soil, and Air		
	1. Planning	a. Meet Forest-wide Standards and Guidelines.
	2. Improvement	a. Meet Forest-wide Standards and Guidelines.
G. Minerals and Geology		a. These areas may be withdrawn from mineral entry and appropriate protection clauses will be inserted in mineral leases.
		b. Activities that reduce habitat shall require replacement of that habitat to maintain at least that amount recommended in the Regional Guide.
H. Rural Community and Human Resources		a. Meet Forest-wide Standards and Guidelines.
J. Lands		
	1. Land Ownership Planning	a. Old growth and nature forest habitat lands considered critical to old growth and mature forest species viability or necessary to insure distribution criteria will be placed in Group III, available for land exchange as long as proponent's lands contain equal habitat and meet distribution requirements, otherwise. such lands shall remain in Group II.
L. Facilities		
	1. Transportation System Planning	a. Avoid locating roads in these areas. If a proposed road location involves crossing through these areas, an analysis will be made to assure the objectives for managing these areas is maintained.

	2. Road Operation	a. In these areas, existing roads shall be permitted provided that local roads that the Forest Service has existing valid rights shall be closed at the end of each activity period.
P. Protection		
	1. Fire Management Planning	a. Forest-wide Fire Protection Group A is applicable except.
	2. Forest Pest Management	a. Integrated pest management concepts are permitted, except where use of pesticides conflicts with old growth habitat management.

13 WATERSHED, WILDLIFE, and FISHERIES

Goal: To maintain or improve water quality and EMPHASIS IN RIPARIAN AREAS to produce various levels of potential habitat capability for various species of fish within designated riparian areas. Also maintain or enhance habitat for riparian associated wildlife species.

Descriptions of Lands Where Prescription Applicable: This prescription is applicable to those lands adjacent to perennial and intermittent streams - class I, II, and deeply incised Class III streams - lakes, wetlands, ponds, seeps, floodplains, and it includes the aquatic and the riparian ecosystems. These lands also support a diversity of plant species, being dominated by species preferring or tolerating wet or moist site conditions.

Riparian areas contain a variety of resource values (water quality, fish and wildlife habitat. and soil productivity). This strategy is designed to maintain and/or improve these resource values, with special emphasis on water quality and fish and wildlife habitat. Actual area and boundaries of these riparian areas will be determined at the project level of planning.

Desired Future Condition: Meet or exceed State/Federal water quality standards. Maintain current (existing) levels of habitat capability of all fish species. Fish habitat capability is measured by the following four in-channel features channel stability, streambank stability, condition of pools, and the presence or absence of large woody debris. In some areas increase habitat capability for targeted fish species (habitat restoration or enhancement). Maintain, and in some cases, improve riparian vegetation diversity. Maintain. and in some areas improve, existing levels of habitat capability of all riparian dependent wildlife species through restoration and/or enhancement. A variety of plant and animal species are present, hardwood tree species are more common here than elsewhere. A variety of dead trees, standing and downed, are common created openings are small and widely distributed. The riparian area will include mature trees that may be managed on a normal rotation, as well as larger older trees to be managed on an extended rotation (160+ years). Some trees are not planned to be harvested, as they are needed for slope stability or future large woody debris in the stream systems.

INTENSITY 13D LEVEL III ANADROMOUS, POTENTIAL RESIDENT FISH HABITAT CAPABILITY

Program Element	Standards and Guidelines
A. Recreation	
1. Recreation Planning	a. When planning any new development and a conflict exists that conflict will be resolved in favor of the dependent riparian resources and values (soil, water, fish, and wildlife.)
	b. ROS settings can range from primitive to roaded natural.
2. Recreation Use	a No ground or water channel disturbance from any ORV use.
3. Visual Quality	a Visual Quality Objectives of retention to modification consistent with adjacent management areas.
4. American Indian Religious and Cultural Use	a. Meet Forest-wide Standards and Guidelines.
5. Trail Planning	a. Nonmotorized trail facilities are permitted. Existing ORV use will be permitted on roads or trails designated for that use.
	b. New ORV trail construction/reconstruction activities will be permitted in designated riparian areas only when stated riparian objectives can be accomplished. If ORV activities are allowed, they should be restricted to timing and/or access due to fish migration and/or spawning.

B. Wilderness	a. Not applicable.
C. Wildlife and Fish	
1. Planning	a. Emphasize maintenance and protection of fish habitat capability and water quality. Maintain or protect existing stream channel and bank stability, pool condition, and the presence of large woody debris in all stream channels. Where necessary, restore or rehabilitate channels to improve channel and bank stability, pool conditions, and large woody debris.
	b. Retain instream woody material plus standing (live and dead) adjacent to the stream, needed for future debris recruitment, bank and channel stability, and wildlife habitat.
	c. Emphasize planning at a watershed level for habitat and watershed restoration and improvement activities.
	d. Maintain streamside vegetation so that at least 80% of the fish habitat stream surface has shade during the summer low flows. Maintain or restore 75% of other small woody and herbaceous vegetation.
	e. Primary excavator habitat will be managed to 80% of potential population levels. All large dead and down logs will be left except for logs to be used as instrean structures for fish habitat or channel stability.
	f. For T & E species, follow Forest-wide Standards and Guidelines and Management Prescription 16 Standards and Guidelines. Manage wetlands to protect all bogs, swamps, and beaver ponds.
	g. Manage wetlands to protect all bogs, swamps, and beaver ponds.
	h. Consult with local state biologists to assure fish management objectives are compatible with state management objectives.
2. Habitat Improvement	a. Emphasize restoring, rehabilitating and improving degraded or lost spawning and/or rearing habitat for native anadromous and resident trout species. Habitat work in upper channel includes: installation of log-check dams and/or rock dams as energy dissipaters and sediment collectors. Streambank areas will be planted and seeded to help stabilize eroded sections The objective is to maintain and increase sufficient amounts of structure components to provide channel and bank stability.
	b. Habitat work in lower channel areas includes installation of large structures (wood. native rock, or concrete) in the channels to restore or improve spawning and/or rearing habitat quality and quantity. The objective is to re-create pools, or to improve on pool quality, and to increase stream channel and bank stability.

		Other habitat work in the lower channel areas can include improving or enhancing off-channel juvenile salmon and trout habitat by constructing either rearing channels or rearing ponds.
		c. Emphasize measures to improve wildlife habitat diversity and integrity.
		d. Stocking of anadromous fish (adults or juveniles) permitted to help meet production level III requirements. Must be part of the overall restoration plan Stocking of resident fish is permitted to meet potential capability level for resident fish. Stocking activities must be part of overall project work plans.
D. Range		a. Not applicable.
E. Timber		
	1. Timber Management Planning	a. A range of silvicultural treatments will be permitted only when riparian objectives can be accomplished. Timber management intensity H (extended rotation) best meets the riparian values: other timber management intensities A-G which also meet the riparian values may also be considered.
	2. Timber Sale Preparation	a. Yarding and skidding that maintains soil disturbance and vegetation standards are acceptable (see F2 on following page).
		b. Less than 10% of the area should be damaged. A damaged area exists when there is an increase in soil bulk density of 15% or more over the undisturbed level, a macropore space reduction of 50% or more, and/or a reduction below the 15% level as measured by an air permeameter.
F. Water, Soil, and Air		
	1. Planning	a. Meet Forestwide Standards and Guidelines.
	2. Improvements	a. Watershed improvements and maintenance are permitted. Use vegetative restoration methods to restore live root mat and reduce risk of slope failure along stream channels as well as upper slope areas outside the riparian area.
	3. Soil Resource Monitoring	a. Ground disturbing activities will result in no more than 10% mineral soil exposed within a project area. Disturbance should be widely distributed over the area.
		b. Small woody and herbaceous vegetation disturbance limited to 25% and widely distributed over the project area.
G. Minerals and Geology		a. Extraction of common variety minerals may be conducted provided riparian values can be protected.
H. Rural community and Human Resources		a. Encourage use of various human resource programs to be used in accomplishing pre-selected water quality or fish habitat restoration/rehabilitation projects.

J. Lands		
1. Special Use Management	a.	Activity to be analyzed through NEPA process to determine its effect on riparian habitat. Only permitted if riparian habitat diversity and integrity is maintained.
2. Rights-of-way Grants	a.	Meet Forest-wide Standards and Guidelines.
3. FERC License and Permits	a.	Assure consideration and establishment of minimum flows.
4. Land Ownership Planning	a.	Lands critical to riparian management should be placed in a Group III. Federal and non-federal lands involved in land exchanges shall contain equal amounts of mature riparian habitat.
L. Facilities		
1. Transportation System Planning	a.	Roads should avoid riparian areas when possible. Locating roads in a riparian area can only be done if riparian values are protected.
	b.	Necessary crossings should use methods that minimize adverse impacts to water and fisheries resources.
2. Road Construction, Reconstruction and Operation	a.	Road construction/reconstruction activities will be permitted in designated riparian areas only when stated riparian area objectives can be accomplished. Such activities may be restricted to timing and/or access due to fish migration and/or spawning.
	b.	Slopes adjacent to or within riparian areas will be protected with erosion and/or sediment control. Before the first wet season, vegetation or slope protection will be completed. Prior to the end of the normal operating season, final stabilization practices should include vegetation as well as structural.
	c.	Water quality and/or fisheries habitat problems caused by road construction/reconstruction shall be fully mitigated in kind, on site.
	d.	All roads not receiving annual maintenance shall have measures to control road surface and ditch water.
P. Protection		
1. Fire Management Planning	a.	Forest-wide Fire Protection Group D applies.
2. Forest Pest Management	a.	Integrated pest management is permitted except where use of pesticides conflicts with riparian values.

14 DEER AND ELK WINTER RANGE

Goal: Manage winter range to specifically benefit deer and elk in terms of vegetational habitat.

Description of Lands Where Prescription Applicable: This prescription is applied to acres throughout the Forest that are inventoried as deer and elk winter range. Winter range is generally located below 2,200 feet in elevation and contains a mix of successional stages to meet the forage and cover requirements for deer and elk. Optimum habitat is mature and old growth forest. The canopy cover and litter and understory vegetation of an old growth forest provides both the optimal thermal cover plus forage needs for wintering deer and elk. Second growth stands may also provide habitat. These acres include timber stands with a 70 percent or greater canopy closure and provide adequate thermal cover. Forage, however, is limited. Clearcut acres may also provide some food for the needs of deer and elk winter range; forage is available but cover is limited.

Desired Future Condition: To achieve proper forage/cover ratios, timber harvest patterns and unit size will be designed for optimum proportion and arrangement of different successional forest stages, including old growth, second growth stands, and clearcuts and plantations. Management activities will be scheduled to minimize disturbances between December 1 and April 1. Road closures may be implemented to reduce wildlife harassment from recreation or management activities.

Intensities in this Management Prescription: None

Program Element	Standards and Guidelines
A. Recreation	
1. Recreation Planning	a. Concentrated recreational activities are permitted except where direct conflicts with winter range occurs.
	b. Specialized habitats include, but are not limited to, calving and fawning areas, elk wallows, mineral licks, concentration areas, and travel corridors. Existing concentrated recreational activities within these areas should be moved to other areas when they conflict with winter range objectives.
	c. Conflicts between ORV and big game use between the dates of December 1 - April 15 shall be resolved in favor of the latter.
2. Visual Quality	a. Meet a Visual Quality objective of foreground retention and middleground partial retention in primary viewsheds (See Figure 4-1a & 4-1b). Meet a Visual Quality Objective of partial retention in secondary viewshed foregrounds, and modification in secondary viewshed middleground.
3. American Indian Religious and Cultural Use	a. Meet Forest-wide Standards and Guidelines.
B. Wilderness	a. Not applicable
C. Wildlife and Fish	
1. Planning	a. Average open-road density per square mile for a contiguous piece of winter range shall be no more than 2 miles/square mile.
	b. Diversity and juxtaposition of habitat shall consist of forage hiding/thermal cover, and optimal cover (OC). See glossary for definition of habitat types.

c. Range of habitat types is as follows:

Seral Stage	% of Range
1-20 years	10 - l5% forage
21-80/90 years	40 - 45% Thermal/hiding cover
90+ years	37 - 45% Optimal cover

d. As a general rule, maintain above range of habitat types for every 2,000 acres (approx.) of contiguous winter range, but not to exclude areas smaller than 2000 acres.

2. Habitat Improvement

a. Improvement will be emphasized such as desirable forage species planting, fertilization, thinning, and slash disposal.

D. Range

a. Not applicable

E. Timber

1. Timber Management Planning

a. Timber harvest will be scheduled and units designed to provide habitat diversity and integrity for deer and elk.

b. The following priorities for scheduling shall be applied:

(l) In scheduling timber management activities, first consideration shall be to meet optimal thermal cover acreage requirements.

(2) If optimal cover acreage requirements are met, then schedule to meet forage requirements.

(3) If optimal cover acreage requirements cannot be met, hold the oldest available stands to meet future optimal thermal cover requirements, then schedule to meet forage requirements.

c. Any timber management intensity may be applied to meet the optimal cover acreage and forage requirement.

2. Timber Sale Preparation

a. Forage units shall be designed to meet future optimal cover requirements. To achieve this unit design should assure no point is further than 600 feet from cover.

F. Water, Soil, and Air

a. Meet Forest-wide Standards and Guidelines.

G. Minerals and Geology

a. Mineral exploration and extraction will include requirements and mitigation measures needed to protect habitat and winter range objectives.

b. Activities that adversely affect wildlife shall be identified and mitigated.

H. Rural Community and Human Resources

a. Meet Forest-wide Standards and Guidelines.

J.	Lands		
	1. Special Use Management	a.	Construction, maintenance, and operation are permitted, provided it does not adversely affect special habitat and/or winter range.
	2. FERC License and Permits	a.	Same as J-1a above.
	3. Land Ownership Planning	a.	Winter habitat will be placed in Group III classification for acquisition or disposal as needed.
L.	Facilities		
	1. Transportation Systen Planning	a.	Location of new roads shall not adversely impact special habitat areas, including winter range. Road design should be coordinated with a biologist to determine and reduce impacts.
		b.	See C-la on prior page for open road densities.
	2. Road construction and Reconstruction	a.	Road construction and reconstruction shall not he permitted between December 1 - April 15 in identified winter range.
		b.	Road construction and reconstruction shall be timed to reduce harassment in special habitat areas, including winter range. Some exceptions for emergency flood repair.
	3. Road Operation	a.	See above for timing restrictions for maintenance operations. Some exceptions for emergency flood repair.
		b.	Local and collector roads may be closed seasonally or indefinitely, in order to allow an open road density that maintains habitat effectiveness. Unneeded roads will be obliterated or inactivated.
P.	Protection		
	1. Fire Management Planning	a.	Forest-wide Fire Protection Group E3 applies.
	2. Forest Pest Management	a.	Utilize integrated pest management techniques except when use of chemical pesticides conflicts with objectives of managing winter range and specialized habitats.

15 MOUNTAIN GOAT HABITAT

Goal: Protect and manage habitat to maintain or increase mountain goat populations.

Description of Lands Where Prescription Applicable: This prescription is applied to selected acres of current and historical mountain goat habitat. These areas characteristically contain diverse vegetation including mature and old growth stands, steep rocky cliffs, projecting pinnacles, ledges, and talus slides Winter range is generally at lower elevations (tree—line and below) than summer habitat.

Desired Future Condition: Current and historically used mountain goat range is in the process of being identified and verified. The winter range is maintained as a natural environment with little evidence of human activity.

Intensities in this Management prescription:

15A Management Requirement

INTENSITY 15A: MANAGEMENT REQUIREMENT

Program Element	Standards and Guidelines
A. Recreation	
1. Facilities construction and Reconstruction	a. Facilities that maintain the integrity of mountain goat habitat may be allowed.
	b. Use of existing trails and campsites should be discouraged within 1.500 feet of known key habitat features. Key habitat features are defined in the "Description of Lands" for this prescription
2. Visual Quality	a. Visual Quality Objectives consistent with adjacent management areas. The site itself will be managed to show little to no evidence of human impact.
3. American Indian Religious and Cultural Use	a. Meet Forest-wide Standards and Guidelines.
4. Use Administration	a. Existing roads that directly access winter range shall be restricted where harassment to mountain goats has been identified.
	b. Motorized use shall not he allowed on winter range from October 31 — June 15.
B. Wilderness	a. Not applicable.
C. Wildlife & Fish	
1. Planning	a. cooperate with the Washington Department of Wildlife in mountain goat census and refinement of winter range boundaries.

		b. Continue surveys and inventory of known and suspected mountain goat winter range to document critical habitat for protection.
		c. Monitoring shall examine habitat components and use to insure Forest planning objectives are being met.
D. Range		a. Not applicable.
E. Timber		
	1. Timber Management Planning	a. No harvest scheduled. If timber management activities are conducted, practices applied shall be for the primary purpose of maintaining mountain goat winter habitat.
	2. Reforestation and Timber Stand Improvement	a. Reforestation and TSI plans should be designed for improving forage to meet management objectives for mountain goats.
	3. Timber Sale Preparation and Harvest Administration	a. Any limited harvest activity should have restrictions similar to A-4b on previous page.
		b. Timber management activities adjacent to avalanche chutes shall be maintained to meet optimal cover needs in those areas.
F. Water, Soil, and Air		a. Meet Forest-wide Standards and Guidelines.
G. Minerals and Geology		a. Mineral exploration and extraction, including common variety minerals will include requirements and mitigation measures needed to protect habitat and winter range objectives.
		b. Activities that adversely effect goats on the winter range shall be identified and mitigated.
H. Rural community and Human Resources		a. Meet Forest-wide Standards and Guidelines.
J. Land		
	1. FERC Licenses and permits	a. Construction, maintenance, and operation is permitted, provided, it does not alter or adversely impact mountain goat habitat or its effectiveness.
	2. Land Ownership Planning	a. Identified critical habitat within forest boundary will be placed in Group II.
L. Facilities		
	1. Transportation System Planning	a. No new roads permitted which access mountain goat winter habitat.

		b. Existing open-road density should average no more than approximately 2 miles per square mile of contiguous winter range habitat.
	2. Road construction and Reconstruction	a. Reconstruction activities shall be timed to avoid conflict with mountain goat winter habitat use. Activities shall be restricted between December 1 - May 15 (south) and December 1 - June 15 (north).
	3. Road Operation	a. Manage traffic to minimize impact on mountain goat winter range. Consider road closures when conflict or goat harassment has been identified. Use of existing facilities should be discouraged within 1500’ of key habitat features.
P. Protection		
	1. Fire Management Planning	a. Forest-wide Fire Protection Group E1 applies.
	2. Forest Pest Management	a. Utilize integrated pest management techniques except where use of chemical pesticides conflicts with objectives of managing winter range.

16 THREATENED AND ENDANGERED SPECIES

Goal: Manage existing habitat to provide for the long-term needs of Threatened and Endangered species. In addition, identify potential habitat and management to enhance long—term viability of these species Management is consistent with recovery plan objectives.

Description of Lands Where prescription Applicable: This prescription is applied to identified and designated sites and areas to meet recovery needs, and those that may be identified in future through more intensive surveys.

Desired Future Condition: Common to all Intensities.

Existing habitat is managed to provide for the for the long-term needs of the species concerned Management may include vegetative alterations to enhance habitat, depending on species potential habitat is identified and managed to enhance the long—term viability of the species consistent with species recovery objectives and eventual delisting

Intensities in this Management Prescription

16A Northern Bald Eagle
16B Grizzly Bear
16C American Peregrine Falcon
16D Gray Wolf

The standards and guidelines in this prescription identify typical management practices in T & E habitat areas. However, the Forest will consult with USDI Fish and Wildlife Service regarding management activities which may effect a federally listed species' habitat and will develop protection, mitigation and enhancement measures specific to that habitat area. Recovery plans will be implemented and used to guide management activities within Threatened and Endangered species habitat.

INTENSITY 16A: NORTHERN BALD EAGLE

Included as dedicated habitat are one existing and two potential nest sites, 55 identified in the Bald Eagle Working Team Implementation Plan (1989), and six communal roost sites. These sites are not shown on the maps distributed to the public. There are additional acres of existing and potential feeding habitat that are managed for the eagle, but assigned to the Management Areas addressing the Skagit Wild and Scenic River, Riparian and Fisheries Habitat and other MAs with compatible management direction. There is no scheduled timber harvest in the dedicated areas. Some activities are prohibited, others are restricted, either by season or by distance from the nesting or roosting areas.

Program Element	Standards and Guidelines
A. Recreation	
1. Trail Planning	a. New trails will not be located within 1/4 mile of known neat trees or roost areas.
2. Visual Quality	a. Meet a VQO of retention foreground and partial retention middleground from primary viewsheds. Meets a VQO of foreground partial retention and middleground modification from secondary viewsheds.
3. American Indian Religious and Cultural Use	a. Meet Forest-wide Standards and Guidelines.

	4. Facility and Site Construction and Reconstruction	a.	New facilities shall be located at least 1/4 mile from known nests and roosts, except that development of new recreation sites is permitted if recreational use does not occur during the season of bald eagle use.
		b.	Existing developed sites will not be expanded and increased human use will be discouraged when monitoring identifies a potential conflict with bald eagle use.
		c.	Restrict any recreation reconstruction activity within 1/4 mile of a known nest from January 1 — August 31, or roost areas from November 15 — April 1.
		d.	Construction or development projects or reconstruction near the winter use areas should not be conducted between November 15 — April 1.
	5. Use Administration	a.	Dispersed use, such as an occasional solitary hiker, is not a significant conflict. However, more use than the occasional intrusion within 1/4 mile of a nest should be restricted between January 1 — August 31. The same restriction applies to known communal night roosts and feeding areas, but for the period November 15 — April 1.
	6. Trail Construction	a.	Locate new trails and recreation facilities further than 1/4 mile from known nest trees and night roosts.
	7. Trail Reconstruction	a.	Relocate existing trails within 660 feet of known nests to 1/4 mile or more from the nest. If relocation is not possible, restrict trail reconstruction activity from January 1 to August 31.
B.	Wilderness	a.	Not applicable.
C.	Wildlife and Fish		
	1. Threatened, Endangered and Sensitive Species Recovery Effort	a.	There will be no public disclosure of locations of known nest and roost sites.
	2. Habitat Improvement	a	Habitat improvement within 1/4 mile of nest sites will be restricted between January 1 - August 31, and between November 15 - April 1 for roost sites, if it conflicts with eagle use of the area.
D.	Range	a.	Not applicable.
E.	Timber		
	1. Timber Management Planning	a.	There will be no scheduled harvest within 1/4 mile radius, as a minimum, of any known or potential nest site, roosting or staging area. Timber harvest and related activities will be restricted to occurring outside of the habitat use period.

		b. To maintain nesting and winter roost and perch habitat, and to lessen susceptibility to disease, competing vegetation may be controlled or eliminated from immediately around these habitats using biological or silvicultural methods.
F.	Water, Soil, and Air	a. Meet Forest-wide Standards and Guidelines.
		b. If conflict occurs, require air space restrictions for low level aircraft from January 1 to August 31 in the vicinity of nest sites and feeding areas when in use.
G.	Minerals and Geology	a. No surface mining within a minimum of 1/4 mile of known meets, and no mining activity within 1/4 mile of a nest during season of use. No mining activity within 1/4 mile of shorelines used for feeding areas, or within 1/4 mile of known roosting sites, during seasons of bald eagle use.
		b. Mineral activity within 1/4 mile radius from known roosting or nest sites will require protection measures, such as timing restrictions.
H.	Rural community and Human Resources	a. Meet Forest-wide Standards and Guidelines.
J.	Lands	
	1. Special Use Management	a. No development of commercial sites or private homesites, hydroelectric facilities, and power lines within 1/4 mile of known nests or roosting areas.
	2. FERC License and Permits	a. Activities within 1/4 mile of a nest site or roost area may occur only outside the season of habitat use (January 1-August 31 for nest sites, and November 15 - April 1 for roost areas).
	3. Land Ownership Planning	a. Group II - parcels of Forest land containing existing or potential bald eagle habitat will be retained.
L.	Facilities	
	1. Road Construction and Reconstruction	a. Reconstruction and maintenance of existing roads within 1/4 mile of a nest tree or roost area vii). be restricted between January 1 — August 31 for nest areas, and November 15 — April 1 for roost areas, or when these areas are in use. Where possible, relocate existing roads 1/4 mile from nest and roost areas.
		b. No road construction within 1/4 mile of known nests, feeding areas, and core roosting areas.
	3. Road Operation	a Roads within 1/4 mile of nests, in feeding and/or roost areas will have time-of-year restriction on maintenance and use.

P. Protection

1. Fire Management Planning
   a. Protection of bald eagle nesting and roosting habitat from wildfire will be a high priority in determination of appropriate suppression response.
   b. Forest-wide Fire Protection Group A applies.
2. Treatment of Activity Fuels
   a. No fuels treatment within 1/4 mile of known nests between January 1 — August 31 or within 1/4 mile of roost sites between November 15 — April 1.
3. Forest Pest Management
   a. Integrated pest management concepts are permitted only when bald eagle habitat values can be maintained.

INTENSITY 16B: GRIZZLY BEAR

Although sightings of grizzly bears have been reported, no occurrences have been documented by the Washington Department of Wildlife in the on—going Grizzly Bear Population and Occurrence Study. Any grizzly bears found on the Forest will receive full protection under the Endangered Species Act. If the North Cascades Ecosystem is selected as a grizzly recovery area, a recovery plan will be developed which will guide grizzly hear management on the Forest. At the present time, the following standards and guidelines apply:

Program Element	Standards and Guidelines
A. Recreation	
1. Recreation Planning	a. Planning will assure that potential developed or dispersed use will not degrade or compromise important potential grizzly use areas (forage sites, denning areas, or travel routes).
	b. The applicable Standards and Guidelines for Developed Recreation are found in Management Prescription 3A, program element A.
2. Visual Quality	a. Meet Forest-wide Standards and Guidelines.
3. American Indian Religious and Cultural Use	a. Meet Forest-wide Standards and Guidelines.
B. Wilderness	
1. Wilderness Use Administration	a. Assure administration of wilderness use will not degrade or compromise important potential grizzly use areas.
C. Wildlife and Fish	
1. Threatened and Endangered Sensitive Species Recovery Effort	a. Conduct an inventory of the condition of grizzly bear habitat.
	b. Send reports of sightings to coordinator.
D. Range	a. Not applicable.
E. Timber	
1. Timber Management Planning	a. Assure any proposed activity in or near potential grizzly habitat is evaluated for its effect through NEPA analysis.
F. Water, Soil, and Air	a. Same as timber E-1a above.
G. Minerals and Geology	a. Same as timber E-1a above.
H. Rural Community and Human Resources	a. Meet Forest-wide Standards and Guidelines.

J. Lands

1. Special Use Management
   a. Dame as timber E-1a above.

2. Land Ownership Planning
   a. Group II - retain or acquire.

L. Facilities

1. Transportation System Planning
   a. Same as timber E-1a above.

P. Protection

1. Fire Management Planning
   a. If habitat quality is substantiated, managed burning may be appropriate.
   b. Forest-wide Fire Protection Group D applies.

2. Forest Pest Management
   a. Not applicable.

INTENSITY 16C: AMERICAN PEREGRINE FALCON

There are no specific standards or guidelines for this species because no use or recovery plan sites have been identified. Habitat for peregrine falcon will be inventoried. Suitable standards and guidelines will be developed and implemented if use areas are identified.

Meet Forest-wide Standards and Guidelines, Section VI. Threatened, Endangered, and Sensitive Species for general direction if American peregrine falcon nesting and use is discovered.

INTENSITY 16D: GRAY WOLF

There are no specific standards or guidelines for this species because no use or recovery plan sites have been identified.

Meet Forest-wide Standards and Guidelines. Threatened, Endangered, and Sensitive Species direction if gray wolf use is discovered.

17 TIMBER MANAGEMENT EMPHASIS Goal: provide for the production of timber.

Description of Lands Where Prescription Applicable: This prescription may be applied to any suitable forest acres. Approximate acres suitable for timber production in each timber productivity type are: Principal Douglas-fir North 271,575 acres; Principal Douglas-fir South 128,900 acres, Upper True fir North 92,515, and Upper True fir South 111,810 acres. Timber productivity for these types as expressed by the average King site index at age 50 years (King 1966) are 95, 79, 73 and 70 respectively. The intensity selected for any suitable acre will be determined at the project-level environmental (NHPA) analysis.

Desired Future Condition: Common to all Intensities.

Areas allocated to this strategy will take on the appearance of intensively managed timber lands, typified by even ages of stands, relatively even spacing of trees, well developed crown ratios, and low levels of mortality. Clearcuts are common; they may borrow form, line, and texture from the characteristics of the surrounding landscape, but management activities will generally be dominant. Access will generally be by road.

Intensities in this Management Prescription:

17A Natural Regeneration — Final Harvest: Natural reforestation is supplemented by planting to meet Forest minimum stocking standards. This is a minimum investment intensity.

17B Natural Regeneration — Precommercial Thinning — Final Harvest: Reforestation is natural, supplemented by planting to meet Forest minimum stocking standards. Precommercial thinning is planned. Release, growing stock protection measures, and fertilization may be prescribed. This intensity nay be applied to existing reforestation condition classes. There are no location or species constraints.

17C Plant — Final Harvest: Reforestation is by planting. Release and growing stock protective practices may be prescribed

17D Plant — Final Harvest — Genetic Stock: Reforestation is by planting, using genetically improved stock when available. Release and growing stock protective practices may be prescribed.

17H Plant — Commercial Thin (1) — Final Harvest — Genetic Stock Reforestation is by planting, using genetically improved stock when available. Release, growing stock protection measures, and fertilization nay be prescribed Commercial thinning harvest is planned 10 to 20 years before regeneration (final) harvest MA liE may be applied to stands that have not been precommercielly thinned, commercial thinning permitted in timber stands accessible by road, in which SOt of the trees are Douglas-fir.

17F Plant — Precommercial Thin — Final Harvest — Genetic Stock: Reforestation is by planting using genetically improved stock when available. Precommercial thinning planned. Release, growing stock protection measures, and fertilization nay be prescribed. This intensity may be applied to existing reforestation condition classes. There are no location or species constraints.

17G Plant — Precommercial Thin — Commercial Thin (1) — Final Harvest — Genetic Stock: This intensity is designed to obtain the maximum timber production possible while meeting the Forest-wide and Management Area Standards and Guidelines. Every applicable approved practice should be used to increase production. Reforestation is by planting, using genetically improved stock when available. Precommercial thinning is planned; commercial thinning is permitted, as in 17E. This intensity may be applied to existing reforestation condition classes. Maximum rotation length is at the age volume production is equivalent to 100% culmination of mean annual increment (see Glossary).

17W Plant — Precommercial Thin — Commercial Thin (3) — Final Harvest — Genetic Stock —Extended Rotation: This intensity is designed to produce and maintain a portion of managed stands with a good range of large to very large

trees, to meet visual quality requirements or other resource objectives. The basic rotation length is 200 years, with three intermediate thinning harvests; however, different rotation lengths may be prescribed. Reforestation is by planting. Precommercial and commercial thinning at 30 year intervals are planned. Release, growing stock protection practices, fertilization, or planting genetic stock nay be prescribed. This intensity may be applied to existing reforestation condition classes.

The first two intensities (A, B) are applicable only to the upper slope type of true fir-western hemlock while intensities C through H are available to the principal forest type where Douglas-fir is the preferred tree species. Intensity C is applicable to the mixed conifer hardwood types where hardwood species will be planted.

Timber management intensities A through H have the same Standards and Guidelines for each program element except where noted.

Program Element	Intensity	Standards and Guidelines
A. Recreation		
1. Visual Quality	All	a. Unit design will meet at least the Visual Quality objective of Maximum Modification while still meeting the objective of this Management Prescription.
	All	b. Within a trail foreground, manage to meet a visual Quality Objective of at least modification.
2. American Indian Religious and Cultural Use	All	a. Meet Forest-wide Standards and Guidelines
3. Facility Site Planning	All	a. Developed recreation sites will be allocated to and managed under direction contained in Management Area 3A.
4. Use Administration	All	a. Recreation opportunities will generally be in Roaded Natural and Roaded Modified ROS classes.
	All	b. ORV use as provided in Forest-Wide Standards and Guidelines.
	All	c. Roaded and non-roaded dispersed recreation are permitted.
5. Trails	All	a. Trails interrupted by logging or road construction shall he restored, or substitute trails provided so that the mileage of trails in the same general location is not diminished. Trails will be kept open and clear directions for users provided during interrupting activities.
	All	b. New trail location shall be permitted provided that it does not conflict with the long-term timber objectives.
B. Wilderness	All	a. Not applicable.
C. Wildlife and Fish		
1. Planning	All	a. Meet Forest-wide Standards and Guidelines for maintenance of wildlife habitat.

2. Habitat Improvement	All	a.	Enhancement of habitat may be permitted provided that full timber management objectives are met.
3. Threatened, Endangered, and Sensitive Species	All	a.	Meet Forest-wide Standards and Guidelines.
D. Range	All	a.	Range use may be permitted to accomplish specific silvicultural objectives.
	All	b.	Other range use may be permitted provided that timber production is not impaired.
H. Timber			
1. Timber Management Planning and Inventories	All	a.	The full range of activities are included which are necessary to develop and prepare the timber resource portion of the forest land and resource management plan, (including inventory, data analysis, rotation determination, harvest schedule development, EIS preparation. etc.) plus maintenance of the completed plan and control records.
2. Regeneration Harvest	All	a.	Final harvest method determined as stipulated in E. 6a below.
3. Intermediate Harvest	A—D, F	a.	Sanitation (salvage) cuts are permitted.
	E, G, H	a.	Thinning and sanitation (salvage) cuts are permitted.
4. Commercial Thinning Harvest	H.G.H	a.	Candidate stand should not be past Culmination of Mean Annual Increment (CMAI).
	E, G, H	b.	Individual trees will have crown ratios meeting or exceeding those prescribed in FSH 2409 28d (Silvicultural Hxamination and Prescription Handbook) for a commercial thin before management activity may occur.
	E, G, H	c.	Stand is expected to show a growth response to treatment.
	E, G, H	d.	Management activity should lessen susceptibility to infectious disease, e.g. stem and/or root rots.
	E, G, H		1. Harvest activities will be such as to limit damage to residual stands.
	E, G, H		2. Treat freshly cut whitewood stumps above ten inches in diameter, with disease retarding agents, e.g. Borax.
	H, G, H	e.	In whitewood (True firs and hemlock) stands give priority to wetter plant associations for commercial thinnings.

		H, G, H	f.	Economic efficiency analysis shall be completed before the decision is made to use Commercial Thinning.
5.	Salvage Harvest	All	a.	Permitted.
6.	Silvicultural Examination and Prescription	All	a.	Prior to any silvicultural activity, a silvicultural examination and prescription will be made.
7.	Post Treatment Examination and Validation	All	a.	A post-treatment examination and validation of the prescribed treatment will be made to insure that minimum prescribed standards are met.
8.	Activity Review and Evaluation	All	a.	Reviews of silvicultural activities that are “in progress” or “recently completed” will be conducted to provide feedback to silviculturalists for the purpose of improving the quality of prescriptions.
9.	Reforestation	A, B	a.	Residual seedlings and natural seeding will be utilized. Planting may be used to insure adequate reforestation. Genetically improved stock will not normally be planted.
		C—F, M	a.	Residual seedlings and natural seeding will be utilized. Planting may be used to insure adequate reforestation Genetically improved stock will be planted when available.
		G	a.	Residual seedlings may be utilized and natural seedling may also occur. Planting may be used to insure adequate reforestation. Genetically improved stock will be planted when available.
10.	Site Preparation for Planting and for Natural Regeneration	All	a.	Removal and utilization will be the preferred method for treating residual material for site preparation and hazard reduction. The NEPA analysis for a planned regeneration harvest should address both utilization standards and length/diameter specifications for “Piling of Unutilized Material” to provide for maximum removal under the sale contract.
		All	b.	Utilize as many viable residual seedlings as practical in the Pacific silver fir zone. Viable naturals retained should be undamaged, be of the prescribed species and size, and have a crown ratio of at least 0.3.
		All	c.	All site preparation methods that do not cause degradation of water and soil productivity are permitted. The selected method shall be based on a site-specific analysis.

11. Planting and Replanting	All	a.	A “pre-planting” survey will be conducted to determine site preparation needs as wall as recording stockability relative to the prescription Planting will follow prescriptions and Sale Area Improvement (SAI) Plans.
	All	b.	A minimum stocking of 190 well-spaced seedlings per acre should be alive and growing during the first growing season following reforestation. A post—treatment examination will be made at the end of the first growing season.
12. Certification of Planted, Seeded Natural Regeneration	All	a.	Before an area of deforested land may be certified as satisfactorily stocked. the reestablished tree seedlings must have survived and be thriving after three or more full growing seasons.
13. Animal control for Reforestation and Timber Stand Improvement	All	a.	Conduct activities necessary to maintain the stocking level prescribed for the site. Coordinate method selection and activity with appropriate State and Federal agencies, and adjacent land owners.
14. Timber Stand Improvement	All	a.	Permitted activities should provide for salvage rights of wood residue in service contracts.
15. Release and Weeding	B, F—H	a.	Use of mechanical, chemical, or manual methods to maintain the stocking level of desirable trees are permitted.
16. Precommercial Thinning	B, F—H	a.	Either killing or felling of excess trees are permitted. Salvage of this excess growing stock is encouraged whenever a market exists and damage to the remaining trees would not be significant.
17. Fertilization	B, F—H	a.	Fertilization may be prescribed for stands composed of 70% or more Douglas-fir growing on previously identified soil types (Snoqualmie SRI 10, 12 & 13 and Mt. Baker SRI 12, 13, 24, 25, & 26) or other soil types which show positive response to fertilization. Potential fertilization gains are based on Nitrogen Fertilization Trials on Mt. Baker-Snoqualmie National Forest (PNW Cooperative Research Project).
	B, F—H	b.	May be prescribed for stands of different species composition in different soils if found responsive through research studies.
18. Certification of Timber Stand Improvement	All	a.	Examine completed treatment and prepare written certification that the treatment meets prescription objectives.
	All	b.	Take appropriate follow-up action if treatment does not meet the prescription.

19. Timber Sale Preparation	All	a.	Activities necessary for the preparation of sawtimber, roundwood and miscellaneous forest product sales (except firewood) are included.
		b.	Begin NEPA analysis, start scoping.
20. Position Statement Development	All	a.	Staff specialists conduct an extensive review to obtain information for decision on whether to prepare a sale. A positive decision adds a sale project to the Forest Timber Sale program. The statement documents the scoping process and includes a work plan scheduling specific activities.
	All	b.	Development of Position Statements is a continuing activity as sales must be planned several years ahead of projected sale date.
21. Sale Area Design	All	a.	Conduct an intensive interdisciplinary field investigation within and adjacent to the sale project area.
	All	b.	Complete NEPA analysis.
22. Sale Plan Implementation	All	a.	Implement all phases of the sale plan and prepare the timber sale report, incorporating the direction of the NEPA decision document.
23. Final Sale Package Preparation Appraisal and Offering, Bid Opening, and Sale Award	All	a.	Follow current Forest Service Manual directions to prepare the final sale package, offer, accept bids, and award sale.
24. Timber Harvest Administration	All	a.	Administer timber harvest for compliance with the provisions of timber sale contracts or permits.
25. Post Sale Measurements	All	a.	conduct all activities necessary including check scaling, log/load accountability, and utilization scales to insure accuracy of timber volume/quantity and value for payment purposes.
26. Financial Management	All	a.	Perform all project work involved with timber sale financial requirements.
27. Sale Area Administration	All	a.	Day-to-day, on-the-ground inspections will preferably be conducted by certified Sale Administrators Specific Standards and Guidelines are found in FSH 2409.23 — Timber Sale Administration Handbook
28. Non-recurring Contractual Work	All	a.	Take timely appropriate action to complete un-scheduled project work associated with timber sale contract administration such as contract modifications, contract term extensions, breach, unauthorized cutting, etc.

29.	Administration. Execution and Supervision of Cooperative Work	All	a. Require the purchaser to perform all possible work which is involved with his timber sale contract. Entering a cooperative agreement to perform the purchaser's work should be avoided for most projects, cooperative road maintenance is often an exception.
		All	b. Conduct all project work involved with purchaser cooperative agreements. Knudsen-Vandenberg (KV) and BD accounts are excluded.
30.	Export and Substitution Control	All	a. Administer export and substitution control regulations. Make timely and appropriate reports on violations.
31.	Cost Collection	All	a. Participate in data collection, mill studies, to update Appraisal Handbook. Specific needs are coordinated by the Regional Director of Timber Management.
32.	Commercial Fuelwood Sale, Preparation/Administration and Personal Use Fuelwood Sale/ Administration	All	a. Wherever feasible prepare, offer, sell, and administer the sale of unutilized wood created from regeneration and thinning harvest units. Refer to Standards and Guidelines 20 and 25 for general guidance in this process.
		All	b. Encourage relogging of regeneration harvest units if adequate volume of unutilized wood is present and reforestation requirements and other resource protection can be maintained.
		All	c. Consider hauling PUM (Piling of Unutilized Material) to locations that will facilitate better utilization. Also seek prospective purchasers who could chip PUM at the sale site.
		All	d. Maintain roads, weather conditions permitting, to allow access to unutilized wood residue concentrations for fuelwood or fiber sales.
33.	Free Convertible Products Preparation and Administration	All	a. Consult current budget appropriation direction and Forest Service Manual for specific Standards and Guidelines in issuing free use permits. Generally, convertible wood products, except fuelwood in some cases, are sold by commercial sale because of the value and demand.
34.	Nonconvertible Products Free & For Sale Preparation and Administration	All	a. Follow Current FS Manual on free use and sale of non-convertible products.
35.	Nursery Management	All	a. Not applicable.
36.	Cone Collection	All	a. Follow the Forest's Ten Year Seed Collection Plan for cone quantities by elevation, seed zone, and species for family selection.

31. Seed Extraction	All	a,	Not applicable.
38. Seed Certification & Storage	All	a.	All seed collected will be certified to minimum standards of SIA.
39. Genetic Forest Tree Improvement Program			
(1) Tree Selection and Maintenance	All	a.	Tree Selection based on superior growth, form and disease resistance.
(2) Seed Collection from Selected Trees	All	a.	Collect seed from selected trees to use in reforestation and seed orchard establishment.
(3) Genetic Evaluation Plantations	All	a.	Establish test plantations with seedlings seedlings from selected trees in order to evaluate parents by comparing the performance of their offspring For Douglas-fir and noble fir only.
(4) Seed Orchards	All	a.	Establish seed orchards using scion or seed collected from selected trees to produce seed for reforestation.
F. Water, Soil, and Air			
1. Planning	All	a.	Meet Forest-wide Standards and Guidelines.
2. Soil Resource Inventory Updating	All	a.	Continue to update. sonitor and record status of unsuitable forest lands classified S-8 soils.
G. Minerals & Geology	All	a.	Meet Forest-wide Standards and Guidelines.
H. Rural Community and Human Resources	All	a.	Meet Forest-wide Standards and Guidelines.
J. Lands			
1. Special Use Management	All	a.	Discourage permits which would reduce timber production.
2. Rights-of-way Grants	All	a.	Meet Forest-wide Standards and Guidelines.
3. Land Ownership Planning	A—F	a.	Group III. available for land exchange.
	G, H	a.	Group III, available for land exchange provided approximately equal acreage of like lands are acquired.
L. Facilities			
1. Transportation System Planning and Road Preconstruction, Construction Reconstruction and Operations	All	a.	Meet Forest-wide Standards and Guidelines.
	H	b.	Location of roads should minimize impacts on dedicated or sensitive lands where practicable; i.e. wilderness, NRA's, RNA's. semi-primitive dispersed recreation.

P. Protection

1. Fire Management Planning	All	a.	Fire Management Direction Old Growth Stands - Group E (1); Second Growth Stands — Group E (2); Harvest Areas. Pre-reforestation Certification — Group E (3).
2. Treatment of Activity Fuels Also termed Slash disposal Fire hazard reduction Wood residue treatment	All	a.	Permitted methods are burning, rearrangement, and removal. Removal by utilization is the preferred treatment, and should be used wherever feasible. Utilization must be considered as a post-activity treatment option.
3. Disposal of Activity Fuels by Burning	All	a.	Broadcast burning, piling and burning, or burning landing concentrations may be prescribed.
4. Rearrangement of Activity Fuels	All	a.	Any rearrangement to meet prescribed standards of fire hazard reduction may be used. Two such methods of treatment are chipping and PUM (Piling of unutilized material).
5. Removal of Activity Fuels	All	a.	Hauling activity fuels to good locations for subsequent utilization it permitted. PUM and hauled activity fuels should be utilized by commercial wood fiber, commercial fuelwood, or personal use fuelwood sales whenever feasible.
	All	b.	Maintain roads to allow access to wood residue concentrations for fuelwood, or fiber sales, weather conditions permitting.
	All	c.	Encourage relogging of regeneration harvest units if adequate volume of fiber is present and reforestation requirements and other resource protection can be maintained.
	B, F G, H	d.	Include a provision for wood residue salvage rights for all trees cut in pre-commercial thinning contracts.
6. Forest Pest Management	All	a.	Meet Forest-wide Standards and Guidelines.

18 RESEARCH NATURAL AREAS	Goal	Preservation of naturally occurring physical and biological units where natural conditions are maintained insofar as possible for the purpose of: 1) comparison with those lands altered by management; 2) education and research on plant and animal communities; and 3) preservation of gene pools for typical as well as threatened and endangered plants and animals.

Description of Lands Where Prescription Applicable: Existing RNA - North Fork Nooksack River — 1.407 acres established in 1934. Principal features include Douglas-fir and western hemlock forests. Lake Twenty-two — 790 acres established in 1947. Principal features include north slope western redcedar and western hemlock forests and a subalpine lake. Long Creek — 640 acres established in 1947. Principal feature includes a south-slope western hemlock forest and climax red alder forest. Potential RNA — Perry Creek - Approximately 2,000 acres. Principal features include a unique assemblage of rare fern species and Alaska cedar in a stand with mountain hemlock and subalpine fir, and a heather-huckleberry community. Green Mountain - Approximately 2,000 acres. Principal features include a subalpine parklike mosaic, heather-huckleberry communities, and subalpine lush herbaceous communities. Chowder Ridge —Approximately 1,900 acres. Principal features include an alpine community mosaic with Krummholz tree groups. North Fork Nooksack Addition - Approximately 2,500 acres. Principal features include a 75 year old burn in Douglas-fir along with a wide array of subalpine meadow communities. Lily Lake - Approximately 800 acres. Principal features include high elevation mountain hemlock - Pacific silver fir forest. Lake is typical of mid to high elevation subalpine lakes.

Desired Future Condition: Preservation of naturally occurring physical and biological processes without undue human intervention, as a source for gene pools and for education and research on plant and animal communities.

Intensities in this Management Prescription: None

Program Element	Standards and Guidelines
A. Recreation	
1. Use and Administration	a. Recreation activities and use within RNA's shall not be encouraged. If necessary to prevent damage, permits or closures may be instituted.
	b. Overnight camping and the use of fires shall be discouraged. Such use may be prohibited where it interferes with the preservation of naturally occurring biological or physical conditions.
	c. Discourage all recreation use within 200 feet of streams, lakes and ponds except for use on system trails.
	d. Prohibit all recreation pack and saddle stock.
	e. All recreation summer and winter ORV use is prohibited.
	f. Hunting and trapping shall not be encouraged.
2. Visual Quality	a. Visual Quality Objective of preservation shall be maintained.

3.	Archaeological and Historical Properties	a. Meet Forest-wide Standards and Guidelines.
4.	American Indian Religious and Cultural Use	a. Manage identified and potential cultural resource sites to protect sites and preserve values.
		b. Prohibit interpretation rehabilitation or restoration of historical or archaeological sites within RNA. Relocate if possible to rehabilitate or interpret. Relocation shall include a restoration plan for the RNA.
		c. Stabilize and preserve Green Mountain Lookout. Accept non-conforming structures.
5.	Interpretive and Public Use Administration	a. Education will generally be directed toward the graduate level, but may be approved for advanced undergraduate or interested groups.
		b. Prohibit on-site interpretation or demonstrative facilities.
		c. Criteria for education use shall be: 1) minimum influence on natural character of RNA, 2) minimum influence on existing research activities, 3) size, frequency and intensity of group use, and 4) provisions for supervising and controlling group activities.
		d. Publicity that would attract the general public to the area shall be avoided.
		e. Information on location and resources of the RNA shall be made available to responsible scientific and educational parties.
		f. Signs or references on maps should be discouraged except to protect the RNA.
		g. Discourage publicity of special features within RNA's.
6.	Trail System Maintenance and Operation	a. Existing trails will be allowed to remain. Minor rerouting or upgrading shall be allowed provided it does not compromise the purpose of the RNA.
		b. New trails will not normally be constructed unless it is needed for research purposes or can be shown to conform to the purpose of the RNA and compliment its management objectives.

B. Wilderness		
1. Wilderness Use Administration	a.	For those RNAs, or portions thereof, that fall within designated Wilderness areas, no mechanized equipment will be allowed.
C. Wildlife and Fish		
1. Planning	a.	Prohibit introduction of exotic plant and animal species.
	b.	Reintroduction of former native species may be permitted with Regional Forester approval and with concurrence of PNW Station Director.
	c.	Species of special interest may be managed within RNA according to standards and guidelines for those species except that management shall not violate the integrity of the RNA.
	d.	Control of excessive animal populations may be considered where such populations threaten the RNA integrity. Control measures are subject to Regional Forester and PNW Station Director approval.
	e.	Habitat improvement is prohibited.
	f.	Fish stocking shall be prohibited, except as provided under C-1b above
D. Range	a.	Grazing of domestic livestock is prohibited.
H. Timber		
1. Timber Management Planning	a.	Scheduled timber harvest is prohibited.
	b.	Logging may be permitted following fire, windthrow, insect attack, or disease which may threaten the RNA or threaten values adjacent to the RNA. This is subject to approval of the Regional Forester and PNW Station Director.
2. Reforestation	a.	Natural regeneration following fire, windthrow, insect attack, or disease is the preferred reforestation method.
	b.	Prohibit firewood cutting.
3. Timber Management Research	a.	All research proposals shall be subject to approval by the PNW Station Director and any applicable permits obtained from the appropriate National Forest System line officer.
	b.	Research should be limited to non-consumptive, Non-destructive and essentially observational activities. Some collecting of soil, plants, or animal specimens nay be permitted on a case-by-case basis.

		c. Research will be conducted only by qualified individuals or groups.
F. Water, Soil, and Air		a. Meet Forest-wide Standards and Guidelines.
G. Minerals and Geology		a. RNAs shall be recommended for withdrawal from mineral entry.
H. Rural Community and Human Resources		a. Meet Forest-wide Standards and Guidelines.
J. Lands		
	1. Special Use Management	a. Minimal, temporary or semi-permanent research facilities and installations may be approved under permit. Approval is required through the PNW Station Director and coordinated with the Forest Supervisor.
	2. Rights-of-way Grants	a. Rights-of-way easements including utility corridors existing before RNA establishment shall be honored, but upgrading of existing ones shall be discouraged.
		b. No longer needed rights-of-way shall be restored to their natural surrounding conditions.
		c. Proposals for new rights-of-way shall require Regional Forester recommendation and Chief of Forest Service approval.
		d. Roads shall be discouraged as RNA boundaries
	3. FERC License and Permits	a. Recommend against FERC licenses or permits.
	4. Land Ownership Planning	a. All lands will be placed in Group II — retain or acquire.
L. Facilities		
	1. Transportation System Planning	a. New trail or road construction or reconstruction should not normally take place unless it is aimed at preserving or enhancing RNA values.
		b. Hazard tree felling is permitted along boundary trails or roads for safety. Felled trees shall remain in place unless lying across trail or road. Trees should not normally be hauled out or used for trail improvements
	2. FA&O Facility Maintenance and Reconstruction	a. Prohibit buildings or other facilities. Allow existing facilities to deteriorate without replacement.
P. Protection		
	1. Fire Management Planning	a. Managed fire may be considered to perpetuate the sere and thus the cell that the RNA is meant to represent.
		b. If fire is used to manage a sere. it should mimic a natural fire, but with prudent measures to avoid catastrophe.

		c. Prescribed burn plans shall be subject to approval by the PNW Station Director and Regional Forester.
		d. Naturally occurring or accidental human-caused fire shall be extinguished at the smallest practical acreages unless it meets strict guidelines of a management prescription to maintain the RNA objectives.
		e. Ground disturbing activity to suppress fire such as fire breaks with bulldozers shall be avoided if possible.
		f. Fire retardants shall be avoided if possible.
2.	Fuel Management Inventory	a. Fuels normally should be allowed to accumulate at natural rates unless they threaten adjacent values or the existence of the RNA.
3.	Forest Pest Management	a. No action will be taken against insects or diseases unless the outbreak threatens adjacent resources or would drastically alter the natural ecological processes within the RNA. If action is proposed, it shall be subject to approval of the PHW Station Director and Regional Forester.

19 MOUNTAIN HEMLOCK ZONE

Goal: Determine what portion of the mountain hemlock plant associations are tentatively suitable forest land.

Description of Lands Where Prescription Applicable: These lands are located on the Skykomish, Darrington, and Mt. Baker Ranger Districts and are identified as Mtn. Hemlock plant associations, described in "Preliminary Plant Associations and Habitat Types for the Mt. Baker-Snoqualmie National Forest" by Henderson and Peter (1983, 1984, 1985). The delineation of these habitat types on maps were drawn for modeling purposes. Actual on-the-ground verification will be made by a certified silviculturist as part of project environmental analysis in adjacent management areas.

These lands are normally characterized by heavy snowfall accumulations and a very short growing season. These forest lands have been classified as "not suited" for timber production because existing knowledge, research, and experience does not provide reasonable assurance of reforestation success within 5 years after final harvest (36 CFR 219 14(c) (3)).

Desired Future Condition: This prescription is included so that a study plan may be implemented to test various silvicultural practices which will address the reforestation question. The study plan is "A Study Plan for the Determination of Suitability for the Mountain Hemlock Zone on the Mt. Baker-Snoqualmie National Forest." The implementation of the Study Plan will require various types of timber removal. These activities will give the appearance of intensively managed lands, typified by even ages of stands. They may or may not reflect relatively even spacing of trees and well developed crown ratios. Silvicultural treatments may borrow form, line, and texture from the characteristics of the surrounding landscape, but study activities may be dominant. For this study, up to approximately 250 acres may be harvested, in 25 plots of approximately equal size. These cut areas will represent a structured "study" design and will be distributed on the three districts mentioned.

Intensities in Management Area 19: None

Program Element	Standards and Guidelines
A. Recreation	
1. Visual Quality	a. Visual Quality Objective ranges from retention to modification.
2. American Indian Religious and Cultural Use	a. Meet Forest-wide Standards and Guidelines.
3. Facility and Site Management	a. No developed recreation sites permitted in Study plots.
4. Use Administration	a. No ORV use is permitted in the study plots. Study plots will be located to avoid known ORV travelways.
	b. A full range of recreation activities is permitted if use does not interfere with the prescription goal.
5. Trail System Maintenance and Operation Reconstruction	a. Maintain existing trails. Replace or relocate trails disrupted by roads or study plan activities.
	b. New trail location may be permitted, provided it does not conflict with long-term study objectives.
B. Wilderness	a. Not applicable.
C. Wildlife and Fish	
1. Habitat Improvement	a. Improvement of habitat may be permitted if consistent with the Study Plan.

2. Threatened, Endangered, and Sensitive Plants	a.	Meet Forest-wide Standards and Guidelines.
D. Range	a.	No domestic livestock grazing in Study Plots.
E. Timber		
1. Timber Management Planning	a.	Limit timber management activities to those needed to carry out the Study Plan. Volume harvested in this Study will not contribute to ASQ.
	b.	Varying combinations of silvicultural regeneration systems nay be used, such as: — Harvest, clearcut even-aged regeneration method; — Strip clearcut/strip shelterwood even-aged regeneration method; — Shelterwood even-aged regeneration method.
2. Silvicultural Examinations and Prescriptions	a.	Guided by the Study Plan, specialists will select probable Study unit locations. As part of the Study unit selection process, and prior to any silvicultural activity, an intensive silvicultural stand examination will be made in probable Study unit locations. Analysis of stand examinations will aid in selecting planned Study units.
	b.	A silvicultural prescription for each Study unit will be approved by a certified silviculturist.
	c.	Other management practices NOT to be applied under this Study are: — Broadcast burning; — Genetic tree improvement; — Precommercial thinning; — Salvage harvest. — Fertilization.
3. Post Treatment Examination end Validation	a.	A minimum of three post-treatment examinations will be made at first, third, and fifth year intervals.
4. Timber Sale Preparation and Timber Harvest Administration	a.	Each of the 25 units will have regeneration cut.
	b.	Unit design, location, etc. will follow the Study Plan.
	c.	Additional standards and guidelines for timber sale preparation and administration are located under Management prescription 17.
5. Reforestation	a.	Each unit will be reforested by either natural or artificial seams as indicated in the Study Plan.
F. Water, Soil, and Air		
1. Planning	a.	Meet Forest-wide Standards end Guidelines.

	2. Soil Resource Inventory Updating	a.	Continue to update, monitor, and record S-8 soils
G. Minerals & Geology		a.	Meet Forest-wide Standards and Guidelines.
H. Rural Community and Human Resources		a.	Meet Forest-wide Standards and Guidelines.
J. Lands			
	1. Special Uses Management	a.	Discourage permits which would interfere with Study plots.
	2. Rights-of-Way Grants	a.	Meet Forest-wide Standards and Guidelines.
	3. Land Ownership Planning	a.	Group III, available for land exchange, except Study plots, which are Group II.
L. Facilities			
	1. Transportation Planning	a.	Meet Forest-wide Standards and Guidelines.
	2. Road Preconstruction, Arterial, Collector, Local Bridge & Culvert, Timber Purchaser	a.	Meet Forest-wide Standards and Guidelines.
	3. Construction Engineering, Arterial, Collector, Local Bridge & Culvert, Timber Purchaser	a.	Meet Forest-wide Standards and Guidelines.
	4. Road Reconstruction, Arterial, Collector, Local Bridge & Culvert, Timber Purchaser	a.	Meet Forest-wide Standards and Guidelines.
	5. Road Construction. Arterial, Collector. Local, Bridge & Culvert, Timber Purchaser	a.	No system roads will be constructed. Temporary roads are permissible to meet Study Plan objectives or to access adjacent management areas.
	6. Road Operation	a.	Meet Forest-wide Standards and Objectives.
P. Protection			
	1. Fire Management Planning	a.	Forest-wide Fire Protection Group S (1) will apply with the exception of the use of prescribed fire.
	2. Treatment of Activity Fuels	a.	Emphasize residue utilization for hazard reduction.
		b.	Treatment of fuels by prescribed burning is not permitted
	3. Forest Pest Management	a.	Meet Forest-wide Standards and Guidelines.

20	CEDAR RIVER MUNICIPAL WATERSHED (CITY OF SEATTLE)	Goal:	Provide raw water at a level of quality and quantity, with treatment by the purveyor, which will result in a satisfactory and safe water supply. Production of timber products is allowed to the extent that the water quality goal is met. There is varying emphasis on other uses.

Description of Lands Where Prescription Applicable: The Watershed is comprised of private, municipal and National Forest lands totaling 90,495 acres in King County. This strategy applies to National Forest lands within the watershed not allocated to other Management Areas. National Forest lands are intermingled with City of Seattle end private lands in a checkerboard ownership pattern in the eastern portion of the watershed.

City of Seattle and private lands within the watershed are closed to the public. All National Forest lands in the watershed are open to public use. However, because the Forest Service does not own public rights on the roads, the public has no road access to interior National Forest parcels.

A spotted owl habitat area has been provided for in the eastern portion of the watershed. Management Area 11 standards and guidelines will apply to these lands.

Intensities in this Management Prescription:

20D: Negotiate a new Cooperative Agreement.

Desired Future Condition: The desired future condition for the watershed has been based on the 1962 Cooperative Agreement between the City of Seattle and the Forest Service. The management goals of that agreement for City owned lands have recently been modified by the City of Seattle's Secondary Use Policies. As new findings on wildlife protection needs become known, changes in the management direction for National Forest lands in the watershed are likely to occur as well.

The Forest Service will initiate negotiations on a mew Cooperative Agreement between the City of Seattle and the Forest to reestablish goals and objectives for management of the watershed. Until a new agreement is negotiated, the Forest Service will not enter into new land exchanges affecting National Forest lands within the watershed. Pending a mew agreement, the 1962 Cooperative Agreement will remain in effect. When a new agreement is reached, the Forest Plan will be amended to incorporate its goals and direction.

Program Element		Standards and Guidelines	
A.	Recreation		
	1. Visual Quality	a.	Visual Quality Objective is maximum modification except for areas seen from the Pacific crest National Scenic Trail where the standard will be retention foreground.
	2. American Indian Religious and Cultural Use	a.	Meet Forest-wide Standards and Guidelines.
	3. Facility Construction, Reconstruction, and Management	a.	No existing or planned developed recreation sites.
	4. Use Administration	a.	Dispersed use is permitted unless otherwise restricted, but is not encouraged.

5. Trails Planning	a.	Use of the Pacific Crest National Scenic Trail (PCNST) in the far eastern part of the watershed will be allowed to continue. No relocation is planned.
	b.	No new trails are planned.
B. Wilderness	a.	Not applicable.
C. Wildlife and Fish		
1. Planning	a.	A spotted owl habitat area is designated in the watershed to fit into the Forest-wide network. MA 11 standards and guidelines will be applied in these areas.
2. Threatened and Endangered Species	a.	Meet Forest-wide Standards and Guidelines.
D. Range	a.	Not applicable.
E. Timber		
1. Timber Management Planning	a.	Timber Management Prescription 17, program element E is applicable. Intensities A, C, D are applicable.
F. Water, Soil, and Air		
1. Soil Resource Inventory	a.	Continue to update, monitor and record S-8 classified soils. Maintain inventory of areas in the TRI/GIS system.
2. Planning	a.	Use soil information when locating roads and harvest units.
3. Improvement	a.	Emphasize maintenance and improvement of water quality over other resources.
4. Administration/Management	a.	Operations are conducted in compliance with the 1962 Coop Agreement (subject to amendment) with the City of Seattle which includes prohibition of manufacturing, use of uniform road construction standards, and compliance with sanitary regulations. No overnight camping is allowed (applies only to Industrial Operations) Industrial operations must provide chemical toilets.
	b.	Prescribed slash burning is discouraged to protect residual seedlings, soil water and air quality
	c.	Roads will not be constructed across S-8 classified soils, and timber harvest will not be done on S-8 or S-8 lands.
5. Soil Resource Monitoring	a.	Timber harvest activities will result in no more than 10 percent of the project area having mineral soils exposed within the riparian zone, or 15 percent outside the riparian zone.

G. Minerals and Geology		a. National Forest lands were withdrawn from locatable mineral and mineral leasing activities (which includes minerals, oil and gas, and geothermal) by Public Law 97-350. 96 Stat 1661 dated October 18, 1982. Extraction of common variety rock for road development needs is acceptable where water quality is not degraded.
H. Rural Community and Human Resources		a. Meet Forest-wide Standards and Guidelines.
J. Lands		
	1. Special Use Management	a Approval will be recommended for only those special use authorizations compatible with over all management goals and direction for this area.
	2. Rights-of-Way Grants	a. Rights-of-Way and easements will be given or obtained as outlined in the 1962 Cooperative Agreement.
	3. Land Ownership Planning	a. Maintain the options of maintaining National Forest land ownership in the watershed and the option of disposal of lands and/or timber to the City of Seattle. National Forest lands within the watershed fall into land classification Group V, more intensive study and planning necessary before landownership decisions are made.
		b. Retain right-of-way on Pacific Crest National Scenic Trail.
L. Facilities		
	1. Transportation System Planning	a. Road locations are jointly planned and reviewed in accordance with the 1962 Coop Agreement in order to minimize the miles of road constructed.
	2. Road Construction and Reconstruction	a. Road construction standards are used as jointly agreed, in accordance with the 1962 Coop Agreement.
	3. Road Operation	a. Road maintenance operations, schedules, and standards are agreed to annually through cooperative meetings between Forest Service, municipal owner, and private owners.
		b. Road maintenance is financed through cooperative maintenance agreements under Forest service timber sale contracts, cost-share agreements, and haul permit charges.
		c. Locked gates and gate watchmen services at main entries are provided to control access by road.

P. Protection

1. Fire Management Planning

a. All operations are subjected to fire regulations mutually developed by the City of Seattle and the Forest Service as provided by the 1962 Coop Agreement.

b. Suppress all fires utilizing suppression strategies and resources compatible with fire intensity conditions and values.

c. Prescribed fire has limited application. Maintenance of vegetative cover is important to meeting resource objectives. Some burning of piled debris may be done.

d. Avoid the use of ground disturbing equipment within 100 feet of water courses. Avoid the use of retardant within 200 feet of water courses. Firelines should be located away from streams, maintaining at least 50 feet between the stream course and fire lines if possible.

e. Natural fuels shall normally be left in place for soil stability. Activity fuels shall normally be treated by utilization.

2. Forest Pest Management

a. Integrated pest management permitted except where use of pesticides conflicts with water quality objectives.

21 GREEN RIVER MUNICIPAL WATERSHED (CITY OF TACOMA)

Goal: Provide for the production of water at a level of quality which, with adequate treatment by the purveyor, will result in a satisfactory and safe water supply. Timber production is emphasized to the extent that the water quality goal is met. There is varying emphasis on other uses.

Description of Lends Where Prescription Applicable: This prescription is applied to the approximately 36.000 acres of National Forest land within the Green River Watershed. Such lands are located in an intermingled pattern in the eastern part of the Green River drainage. About 9,000 acres of National Forest Land are currently being considered under the existing Memorandum of Understanding for land exchange.

Intensities in this Management Prescription:

21A Current Direction: Timber Harvest and Dispersed Recreation Permitted.

Desired Future Condition: Complete land exchanges as described in the 1984 joint Memorandum of Understanding with the City of Tacoma. As exchanges are completed, relinquish public use rights on those roads no longer needed to access National Forest land. All other use rights may be retained as needed.

Timber production with dispersed recreation in a primarily roaded modified setting will be emphasized. Special constraints will help protect water quality. Emphasis on public firewood cutting will be continued. Forest Service roads with public use rights, which provide access to National Forest lands, will remain open for dispersed recreation including deer and elk hunting

Program Element	Standards and Guidelines
A. Recreation	
1. Visual Quality	a. Manage to a maximum modification visual quality standard except in areas seen from the Pacific crest National Scenic Trail where the standard will be foreground retention.
2. American Indian Religious and Cultural Use	a. Meet Forest-wide Standards and Guidelines.
3. Facility Construction. Reconstruction	a No developed recreation sites exist. Construct no new sites unless it is concluded after consultation with the City of Tacoma and the Washington State Department of Social and Health Services that such facilities can be installed and utilized while safeguarding water quality.
4. Use Administration	a Emphasize dispersed recreation. Overnight camping will be allowed.
	b. Discourage camping perennial streams spurs to campsites where necessary to within 200 feet of perennial streams. Physically block access within 200 feet of streams discourage use.
	c. Discourage issuance of Recreation Special Use Permits such as concerts, religious gatherings, group parties or recreation vehicle clubs.

B. Wilderness		a. Not applicable
C. Wildlife and Fish		
	1. Planning	a. Meet Forest-wide Standards and Guidelines.
		b. Cooperate with the Washington State Department of Fisheries and Department of Wildlife in restoration and enhancement of fisheries habitat and the stocking of resident and anadromous fish within the area.
		c. Habitat improvements are encouraged.
D. Range		a. Not applicable.
E. Timber		
	1. Timber Management Planning	a. Program Element E from Timber Management Prescription 17, Investment Levels A through O are available. Silvicultural prescription and economic analysis at the time an activity is planned shall determine the appropriate investment level.
F. Water, Soil, and Air		
	1. Soil Resource Inventory	a. Continue to update, monitor, end record S-8 classified soils. Maintain inventory of areas in TRI/GIS system.
	2. Planning	a. Use soil information when locating roads and harvest units.
	3. Improvement	a. Emphasize maintenance and improvement of water quality over other resources. Bank stabilization end erosion control is encouraged to reduce turbidity, bedload and sedimentation.
	4. Administration/Management	a. Industrial operations must provide a means of disposing of human wastes and litter and restoration of the site upon removal of overnight facilities.
		b. Cooperate with the Washington State Department of Social and Health Services and the City of Tacoma in providing data that would be helpful in the study of the watershed and water quality.
		c. Prescribed slash burning is discouraged to protect residual seedlings, soil, water and air quality.
		d. Roads will not be constructed across S-8 classified soils and timber harvest will not be done on S-8 or J-8 lands.
		e. Timber harvest activities will result in no more than 10 percent of the project area having mineral soils exposed within the riparian zone, or 15 percent outside the riparian zone.

		f. Meet at least annually with the City of Tacoma to review work plans, anticipated contractor or permittee work within the drainage. Informational or educational materials referencing activities within the drainage and other issues of mutual interest.
G. Minerals and Geology		a. National Forest lends were withdrawn from locatable mineral and mineral leasing activities (which includes minerals, oil and gas, and geothermal) by Public Law 97-350. 96 Stat 1661 dated October 18. 1982. Extraction of common variety rock for road development needs is acceptable where water quality is not degraded.
H. Rural Community and Human Resources		a. Meet Forest-wide Standards and Guidelines.
J. Lands		
	1. Special Use Management	a. Approval will be recommended only for those special uses compatible with overall management goals and direction for this area.
	2. Land Ownership Planning	a. Applicable details are found in the Memorandum of Understanding between the Forest Service and the City of Tacoma dated August 29. 1984. F.S. control #84-06-58—5.
		b. National Forest lands are in Group III and IV. (Group III - available for land exchange and Group IV — available for disposal through land exchange).
L. Facilities		
	1. Transportation System Planning	a. Meet Forest-wide Standards and Guidelines.
	2. Road construction and Reconstruction	a. Perform and administer road construction/ reconstruction activities to stay within the water quality goal for this area.
	3. Road Operation	a. Road maintenance is financed through cooperative maintenance agreements under Forest Service timber sale contracts, cost share agreements, haul permit charges and appropriated funding.
		b Refer to Forest Service-Corps of Engineers joint Memorandum of Understanding No. DA(S) 45-108-CIVENG-60-10 which describes administration and maintenance agreements on Road 54 from the west watershed entry to the end of the Corps of Engineers' ownership.

P. Protection

1. Fire Management Planning
   a. Forest-wide Fire Protection Group H applies

2. Forest Pest Management
   a. Integrated pest management is permitted except where the use of pesticides conflicts with water quality objectives.

22 SULTAN RIVER MUNICIPAL WATERSHED (CITY OF EVERETT)

Goal: Provide water at a level of quality and quantity which, with treatment by the purveyor, will result in satisfactory and safe water supply. There is emphasis on providing for other uses.

Description of Lands Where prescription Applicable: This prescription is applied to approximately 16,800 acres of National Forest land within the Sultan River watershed. It excludes the private and municipal ownership in the watershed.

Intensities in this Management Prescription:

22B: Current Situation Restricted watershed, recreation use only in developed sites. Provide for timber production, protect watershed values beyond legal requirements, maintain fish and wildlife. The watershed will be managed under the 1963 Memorandum of Understanding between the Forest Service, the City of Everett, and the Snohomish County Public Utility District.

Desired Future Condition: The National Forest land will be owned and managed by another party either private, State or municipal. The Forest service will relinquish all rights except those necessary for the Federal Power Withdrawal (FERC Project No. 2151). While still in the National Forest system, lands will be managed for developed recreation use, timber production, protection of watershed values, and maintenance of fish and wildlife habitat. Emphasis is on maintaining current high quality water production, and for producing moderate levels of fish/wildlife habitat, recreation, and timber outputs.

Program Element	Standards and Guidelines
A. Recreation	
1. Recreation Planning	a. Developed sites permitted. Planning limited to developed sites for picnicking, camping, boating and lake fishing. Water contact sport (swimming) prohibited. Dispersed use (ORV, hunting, driving for pleasure, hiking, etc.) is discouraged, but not prohibited.
2. Visual Quality	a. Meet Forest-wide Standards and Guidelines.
3. American Indian Religious and Cultural Use	a. Meet Forest-wide Standards and Guidelines.
4. Facility and Site Reconstruction, Construction and Management	a. Site development (boat access, picnic, camping and interpretative sites) along Spade Lake is emphasized. Access to the lake should be distributed to allow access to the entire lake. b. Interpretation of the hydroelectric projects are permitted c. Gas-powered boats are not permitted on the lake. d. The applicable Standards and Guidelines for Developed Recreation are found in Management Prescription 3A, program element A.

5. Trail Planning	a.	Trails to access the lake and around the lake permitted to manage user developed travelways. Sanitation facilities provided at the lake and the trailhead when on National Forest land.
B. Wilderness	a.	Not applicable.
C. Wildlife and Fish		
1. Planning	a.	Emphasis is on maintaining 20% of the National Forest commercial timber land in “old growth”.
	b.	Maintain resident fisheries. Maintenance could involve some habitat improvement in the riparian area.
D. Range	a.	Not applicable.
E. Timber		
1. Timber Management Planning	a.	The Standards and Guidelines for the Timber Management, MA 17, intensities C and D, program element E, shall apply to this management prescription.
F. Water, Soil, and Air		
1. Improvement	a.	Meet Forest-wide Standards and Guidelines. Emphasize maintenance end improvement of water quality. Bank stabilization and erosion control is encouraged to reduce turbidity, bed load and sedimentation.
G. Minerals and Geology	a.	Meet Forest-wide Standards and Guidelines.
H. Rural Community and Human Resources	a.	Meet Forest-wide Standards and Guidelines.
J. Lands		
1. Special Use Management	a.	Administer special use permit for FERC license.
2. Right-of-Way Grants	a.	Meet Forest-wide Standards and Guidelines.
3. Land Ownership Planning	a.	Group IV — available for disposal through land exchange.
L. Facilities	a.	Meet Forest-wide Standards and Guidelines. Roads accessing developed sites maintained for public use. All other roads maintained as per the Forest Service-Department of Natural Resources Agreement for the Sultan Basin.
P. Protection		
1. Fire Management Planning	a.	Forest-wide Fire Protection Group E (2) applies.
2. Forest Pest Management	a.	Integrated pest management permitted except where the use of pesticides conflict with water quality objectives.

23 OTHER MUNICIPAL WATERSHEDS

Goal: Provide water at a level of quality and quantity which, with treatment by the purveyor, will result in satisfactory end safe water supply with varying emphasis on timber production, recreation, and other uses.

Description of Lands Where Prescription Applicable: This prescription is applied to the small municipal watersheds of the Forest not covered in Management Prescriptions 20, 21, and 22. Watersheds are found throughout the Forest and at varying elevations. Most are forested old growth, second growth, and plantations — and access is generally by road.

Desired Future Condition: Common to all Intensities.

A varying mix of timber, recreation, wildlife, and other resource use will occur but the primary emphasis will be to meet the above stated goal for a municipal watershed.

Intensities in this Management Prescription:

23A: Timber Harvest, Moderate Recreation Opportunities.

Program Element		Standards and Guidelines	
A.	Recreation		
	1. Recreation Planning	a.	Recreation opportunities in SPNM, SPM, RN, and RM may occur.
		b.	Day use shall be permitted. Overnight use may occur at designated sites.
		c.	The applicable Standards and Guidelines for Developed Recreation are found in management prescription 3A, program element A.
	2. Visual Quality	a.	Meet a Visual Quality objective of foreground retention and middleground partial retention in primary viewsheds. Meet a VQO of Partial Retention in secondary viewsheds foreground and modification in secondary viewsheds middleground.
	3. American Indian Religious and cultural Use	a.	Meet Forest-wide Standards and Guidelines.
	4. Recreation Use Administration	a.	ORV use may be controlled by closures on certain travelways.
	5. Trail construction, Reconstruction, and Maintenance	a.	Trail development may occur and will be located and constructed to minimize adverse effects on water quality.
B.	Wilderness	a.	Not applicable.
C.	Wildlife and Fish	a.	Meet Forest-wide Standards and Guidelines.
D.	Range	a.	Not applicable.

E. Timber		
1. Timber Management Planning	a.	The Standards and Guidelines for the Timber Management prescription Intensity 175, program element 5, shall apply to this management prescription.
F. Water, Soil, and Air		
1. Planning	a.	Meet Forest-wide Standards and Guidelines.
2. Improvement	a.	Watershed improvement and maintenance activities are permitted. Use vegetative restoration methods to restore live root mat and reduce risk of slope failure.
3. Soil Resource Monitoring	a.	Meet Forest-wide Standards and Guidelines
	b.	Ground-disturbing activities will result in no more than 15 percent mineral soil exposed within the project area after the first year. excluding roads.
G. Minerals and Geology	a.	Additional mitigation and rehabilitation measures nay be required to protect water quality. These measures will be determined through NEPA analysis.
H. Rural community and Human Resources	a.	Meet Forest-wide Standards and Guidelines.
J. Lands		
1. Special Use Management	a.	Permit special use compatible with this intensity.
2. Rights-of-way Grants	a.	Meet Forest-wide Standards and Guidelines.
3. FERC License and Permits	a.	Activity to be reviewed through NHPA analysis to determine its effect on water quality. Only permitted if water quality and minimum flows are maintained.
4. Land Ownership Planning	a.	Acquire and/or dispose of land as needed. Lands are in Group III.
L. Facilities		
1. Transportation System Planning	a.	Roads must be located to meet water quality objectives.
2. Road Construction and Reconstruction	a.	Only those construction/reconstruction practices that meet water quality objectives will he allowed. Water quality and/or fish habitat problems caused by construction should be given a high priority for corrective action.
	b.	Road cut-and-fill slopes that may adversely effect water quality will be protected with erosion and/or sediment control Final stabilization practices should include vegetation as well as structures.
3. Road Operation	a.	See Item L-2a above. Apply for maintenance.
	b.	See Item L-2b above. Apply for maintenance

c. All roads not receiving annual maintenance should have measures to control road surface and ditch water.

d. Temporary structures installed to impound water for road maintenance will be removed upon completion of use.

P. Protection

1. Fire Management Planning

a. Forest-wide Fire Protection Group A applies.

b. Temporary structures installed to impound pumper chance water sources will be removed immediately upon completion of use.

c. Rehabilitation needs should be evaluated for all sizes of fires.

2. Treatment of Activity Fuels

a. No more then 20t of the activity area may be exposed to mineral soil and at least 20% of the streams surface within the area should be shaded.

3. Forest Pest Management

a. Integrated pest management is permitted except where use of pesticides conflicts with water quality objectives.

25 SPECIAL USES

Goal: Provide and manage for effective end economical transmission facilities with least impact on the natural resources involved.

Description of Lands Where Prescription Applicable: The prescription applies to existing and potential sites and corridors for such purposes as communication, signal relay, other electronic sites, canals, penstocks, pipelines, and power transmission lines. It includes the land directly under and adjacent to the corridor (clearing limits). Compatible facilities are combined within the same corridor when possible.

Desired Future Condition: Common to all Intensities.

Signs of human activities are dominant. Buildings, antennas, pipelines, high voltage powerlines, and similar structures will be visible. There are few, if any, large trees at sites or in the corridors: ground cover is in small conifers, shrubs and forbs. Vegetation partially screens smaller sites from distant view and provides edge habitat for wildlife. Recreational opportunities may be available for operating off-road vehicles, viewing distant scenery, gathering miscellaneous Forest products, and hunting.

Intensities in this Management Prescription

25A: Utility Corridors
25B: Electronic Sites

INTENSITY 25A Utility corridors

Program Element	Standards and Guidelines
A. Recreation	a. Meet Forest-wide Standards and Guidelines.
1. Visual Quality	a. Meet a Visual Quality Objective of foreground retention and middleground partial retention in primary viewsheds. Meet a VQO of partial Retention in secondary viewsheds foreground and modification in secondary viewsheds middleground.
2. American Indian Religious and Cultural Use	a. Meet Forest-wide Standards and Guidelines.
B. Wilderness	a. Not applicable.
C. Wildlife and Fish	a. Meet Forest-wide Standards and Guidelines.
D. Range	a. Not applicable.
E. Timber	
1. Timber Management Planning	a. No scheduled timber harvest activities. Commercial products, e.g. Christmas trees, may be grown within a utility corridor as long as the prescriptions contained in the corridor management plan are met.
	b. Vegetation maintenance salvage activities will be encouraged for safety purposes.
	c. Brush control within corridors shall be accomplished by manual or mechanical methods unless specific approval is obtained for the use of herbicides.

F. Water, Soil, and Air	a.	Meet Forest-wide Standards and Guidelines.
G. Minerals and Geology	a.	Operating plans must include appropriate measures for protecting the existing facilities.
H. Rural Community and Human Resources	a.	Meet Forest-wide standards and Guidelines.
J. Lands		
1. Special Use Management	a.	Other linear rights-of-way within the corridors will be encouraged Special use permits for uses other than the preceding will be discouraged.
2. Rights-of-Way Grants	a.	Meet Forest-wide Standards and Guidelines.
3. FERC License and Permits	a.	New development will be encouraged within existing utility corridors when activities are compatible.
4. Land Ownership Planning	a.	Group III – Retain, Acquire, or Dispose.
L. Facilities	a.	Meet Forest-wide Standards and Guidelines.
P. Protection		
1. Fire Management Planning	a.	Forest-wide Fire Protection Group A applies.
2. Forest Pest Management	a.	Meet Forest-wide Standards and Guidelines.

INTENSITY 25B: Electronic Sites

Program Element		Standards and Guidelines
A. Recreation		
1. Recreation Planning	a.	Recreation use is not encouraged.
2. Visual Quality	a.	Meet Forest-wide Standards and Guidelines.
3. American Indian Religious and Cultural Use	a.	Meet Forest-wide Standards and Guidelines.
4. Trail Planning	a.	Discourage new public access trail development
	b.	No active maintenance of public access trails that may exist in the area.
B. Wilderness	a.	Not applicable.
C. Wildlife and Fish		
1. Planning	a.	Meet Forest-wide Standards and Guidelines for threatened and endangered species. Habitat improvement projects may be implemented if compatible with electronic site uses.

D.	Range	a. Not applicable
E.	Timber	
	1. Timber Management Planning	a. No scheduled timber harvest activities.
		b. Vegetation maintenance salvage activities compatible With site-specific plans will be encouraged for safety purposes.
F.	Water, Soil, and Air	a. Meet Forest-wide Standards and Guidelines.
G.	Minerals and Geology	a. Operating plans must include appropriate measures for protecting the existing facilities.
H.	Rural Community and Human Resources	a. Meet Forest-wide Standards and Guidelines.
J.	Lands	
	1. Special Use Management	a. Administration shall meet FS Policy direction other types of special uses will be discouraged.
	2. Rights-of-way Grants	a. Meet Forest-wide Standards and Guidelines.
	3. Land Ownership Planning	a. Group III – Retain, Acquire, or Dispose
L.	Facilities	a. Meet Forest-wide Standards and Guidelines.
P.	Protection	
	1 .Fire Management Planning	a. Forest-wide Fire Protection Group A applies.
	2. Forest Pest Management	a. Meet Forest-wide Standards and Guidelines.

26 ADMINISTRATIVE SITES

Goal: Provide appropriate sites and facilities to administer the Mt Baker-Snoqualmie National Forest.

Description of Lands Where Prescription Application: This strategy is applied to ranger stations, public service centers, engineering zone compounds, road maintenance compounds, seed orchard sites, seed production sites, scale stations guard stations, and lookouts where permanent facilities and utility systems are constructed in order to administer National Forest.

Desired Future Condition: Appropriately located and adequately sized administrative sites with well maintained, legal and functional offices, warehouses, residences, quarters, and utility systems older buildings will be renovated or replaced to maintain their functionality as they age. Improvements will be thoughtfully integrated into the already existing facilities to form a consistent whole. Administrative sites no longer needed may be declared excess or placed under permit if that represents the best use of those real property improvements.

Intensities in this Management prescription: None

Program Element	Standards and Guidelines
A Recreation	a. Provide recreation information, displays, brochures, and services at appropriate major administrative sites.
1. Visual Quality	a. No active visual management Visual Quality Level of site-specific plans will be met.
2. American Indian Religious and Cultural Use	a. Meet Forest-wide Standards and Guidelines.
3. Archaeological and Historic Properties	a. Meet Forest-wide Standards and Guidelines. b. Follow provisions of current Programmatic MOA for Management of Depression-Era Structures.
B. Wilderness	a. Not applicable.
C. Wildlife and Fish	a. Improvement projects may be implemented when they are compatible with other administrative site uses.
D. Range	a. Not applicable.
E. Timber	
1. Timber Management Planning	a. Hazard tree removal, and salvage sales are permitted to properly maintain facilities and meet safety requirements. Timber stand improvement is the primary goal at seed tree orchards and seed production areas.
2. Genetic Forest Tree Improvement	a. Some forest lands are allocated to the culture of genetically improved seed. The ‘Tree Improvement Plan - Mt. Baker-Snoqualmie National Forest, 1982-1992” is the primary source of information and guidelines on the genetic tree improvement program.

	3. Seed Production Areas	a.	At present, there are only 2 seed production areas located on the Forest. These are the Sun Top and Mule Creek noble fir seed production areas on the White River Ranger District. These sites will be managed as interim sources of seed until such time as seed is available from the McCullough Seed Orchard. Additional information is contained in the "Tree Improvement Plan," previously referenced.
		b.	Any additional seed production areas must he recommended by the Forest Geneticist.
	4. Seed Orchards	a.	The Derrington and McCullough Seed Orchards are established to ultimately produce genetically improved seed for the production of seedlings to be used in reforesting deforested National Forest lands. The "Tree Improvement Plan" - previously referenced, is the primary guide for the management of these sites. Additional guidance will be provided by the Forest Geneticist.
F.	Water, Soil, and Air	a.	Meet Forest-wide Standards and Guidelines.
G.	Minerals and Geology	a.	Not applicable.
H.	Rural community and Human Resources	a.	Meet Forest-wide Standards end Guidelines.
J.	Land Ownership Planning	a.	Group III. Retain, Acquire, or Dispose.
L.	Facilities	a.	Meet Forest-wide Standards and Guidelines.
P.	Protection	a.	Forest-wide Fire Protection Group A applies.

27 ALPINE LAKES MANAGEMENT AREA

Goal: Manage Alpine Lakes Wilderness and management area in accordance with the Record of Decision, Selected Alternative. Alpine Lakes Area Land Management Plan Final Environmental Impact Statement, November 2, 1981.

Description of Lends Where Prescription Applicable: This prescription is applied to the Alpine Lakes Wilderness and Management Area.

Desired Future Condition: Refer to Alpine Lakes Area Land Management Plan and FEIS.

Intensities in this Management prescription:

D Developed Site (as per Alpine Lakes Area Management Plan)

DR Dispersed Recreation (as per Alpine Lakes Area Management Plan)

GF General Forest (as per Alpine Lakes Area Management Plan)

SA Special Area (as per Alpine Lakes Area Management Plan)

SF Scenic Forest (as per Alpine Lakes Area Management Plan

Management Direction as included in the Alpine Lakes Area Management Plan. Final Environmental Impact Statement and Record of Decision November 2, 1981.

As provided for in the Alpine Lakes Area Management Plan, Management in the following areas will be as stipulated in the following Management Prescriptions:

5— Potential Wild and Scenic River
11— Old Growth Habitat
12— Mature and Old Growth Wildlife Habitat
14— Deer and Elk and winter Range
15— Mountain Goat Habitat
16— Threatened and Endangered Species

Brief descriptions:

D Developed Site: Areas are substantially modified for campgrounds, boating, ski areas, summer home tracts, administrative sites, etc. Sights and sounds of people are evident; concentration of users is often high. Roads, trails, and parking are managed to provide access to the site, with emphasis on nonmotorized activity on the site. No scheduled timber harvest. Vegetative manipulation only for the enhancement or protection of the area.

DR Dispersed Recreation: Managed primarily in an unroaded condition with emphasis on dispersed recreation, scenic, wildlife or other amenity values. No new roads construction. ORV used permitted, depending on the ROS class. No scheduled timber harvest. The only exception is salvage harvest of catastrophic forest lose for the purpose of limiting damage on adjacent lends. Visual Quality Objective is Retention and Partial Retention, concentration of recreation users is low; relatively minimal contact with other users. If no alternative road access available for intermingled lands, access say be granted for a non-public minimum standard road.

GF General Forest: Timber harvest occurs, with a full range of silvicultural prescriptions used on suitable lands. The visual quality objective ranges from Retention to Modification. Dispersed recreation sites are common: encounters between recreationists say be numerous. Motorized activities are common. Rustic facilities may be provided. Land in this allocation is generally accessible by road. Road and trail standards range from optimum, for high-volume mixed traffic, to closed after project completion.

SA Special Area: Areas protected for their uniqueness and natural conditions, and, where appropriate, to foster public use, enjoyment, or study. Each Special Area has a specific management direction. Refer to FEIS, Alpine Lakes, 1981. No scheduled timber harvest. Roads, facilities (such as parking, picnic areas, and interpretive sites, etc.) will enhance and protect the area. Other resource manipulation, including removal of trees, will occur only for the enhancement or protection of the area.

SF Scenic Forest: The objective is to retain or enhance viewing and recreation experiences. Developments and use in the seen area from recreation sites, roads, and trails within Scenic Forest will meet visual quality objectives. Use will be integrated with the natural landscape. Timber harvest permitted; a full range of silvicultural prescriptions will be used to meet the visual and recreational objectives.

CHAPTER 5 - IMPLEMENTATION OF THE FOREST PLAN

INTRODUCTION

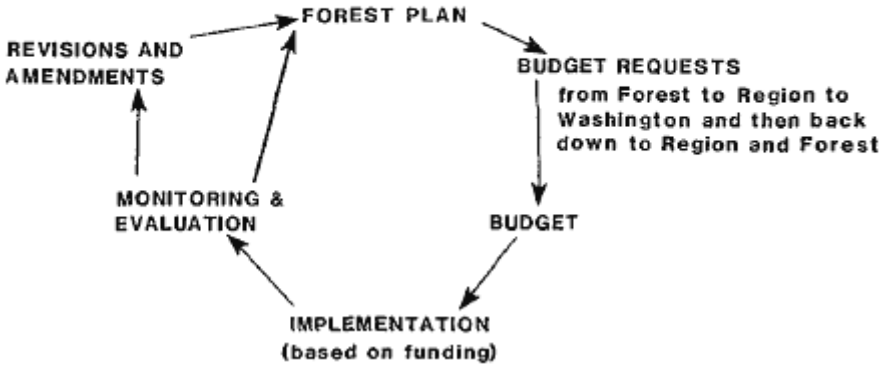
This chapter explains how management of the Mt. Baker-Snoqualmie National Forest Plan will be guided by the implementation of this integrated resource plan, instead of by functional plans. Implementation requires moving from an existing management program, with a budget and "targets" for accomplishment, to a new management program - one with a budget, goals, objectives, and standards and guidelines, that were developed with extensive public involvement and are responsive to issues and concerns.

This Forest Plan, used in conjunction with Forest Service Manuals and the Pacific Northwest Regional Guide, establishes the direction for the Mt. Baker-Snoqualmie National Forest for the next 10 to 15 years.

The remainder of this chapter explains how management of the Mt. Baker-Snoqualmie National Forest moves from the existing management situation (described in the DEIS) to this integrated plan. Chapter sections describe: aspects of the implementation that are influenced by previous management activities and objectives; the relationship between project planning and this Forest Plan; monitoring and evaluation; and the circumstances which could require amendments and revisions to the Plan.

Figure 5-1 displays the Forest Plan implementation process:

Figure 5-1
Implementation Process



B. IMPLEMENTATION DIRECTION

Implementation of the Forest Plan occurs through identification, selection scheduling of projects, and execution of management practices to meet the management direction provided in the Plan. Implementation may also involve responding to proposals by others for use and/or occupancy of National Forest system lands.

Chapter 5
Project Planning

The Forest Plan serves as the single land management plan for the Mt. Baker-Snoqualmie National Forest; all other management plans are replaced or incorporated into this direction. A number of other plans have been (or will be) developed to give additional, more specific guidance to management activities. These are developed within the direction that is established in this Plan. They are needed for site-specific information or to carry out direction in this Plan. Some examples of these plans include:

- Wild and Scenic River Management Plans
- Wilderness Action Plans
- Land Adjustment Plans
- Viewshed Corridor Plans
- Scenic Byway Plans
- Area Transportation Plans
- Cultural Resource Management Plans
- Species Management Guides
- T & E Recovery Plans

The management direction provided by this Forest Plan comprises the framework within which project planning and activities take place. It defines management area goals and management standards that guide project activities toward achieving a desired future condition for the Management Area and, collectively, for the Forest. It specifies a schedule for project activities. It provides guidance concerning potential land and resource management.

Within this guidance, projects are developed o most efficiently and effectively accomplish management goals and objectives. Project environmental analysis provides an essential source of information for Forest Plan monitoring. First, as project analyses are completed, new or emerging public issues or management concerns may be identified. Second, the management direction designed to facilitate achievement of the Management Area goals are validated by the project analyses. Third, the site-specific data collected for project environmental analyses serve as a check on the appropriateness of the land allocation. The information included in the project environmental analyses is used as part of the monitoring process to determine when changes should be made in the Forest Plan.

Project Scheduling

The schedule of proposed and possible projects for the first decade is contained in Appendices A through K of this document. These activity schedules represent a pool of possible projects from which implementation schedules (specific, funded projects) are developed in conjunction with funding approvals. Lists of possible projects to meet or accelerate the 10-year management practice schedule are maintained by the unit managers. These lists will routinely change as projects are implemented or are removed from the lists (for various reasons) and replaced with new projects. Projects are scheduled in response to the management direction in the Plan, planned outputs of goods and services, near-term management needs and opportunities, and the annual budgeting process. If there is a conflict between standards and guidelines and program outputs, projects will be in full compliance with standards and guidelines set forth in this Forest Plan. (WO 1920 February 23, 1990)

Consistency With Other Instruments

This Forest Plan serves as the single land management plan for the Mt. Baker-Snoqualmie National Forest. All other land management plans are replaced by the direction in this Plan, with the exception of the Alpine Lakes Area Land Management Plan and the Skagit Wild and Scenic River Management Plan. These two plans are incorporated into this Forest Plan. The existing management plans that are superseded are:

Ranger District Multiple Use Plans
Land Adjustment Plan, Snoqualmie National Forest
Land Adjustment Plan, Mt. Baker National Forest

Also superseded are the portions of the Timber Management Plans for the Mt. Baker N.F. and Snoqualmie N.F. administered by the Mt. Baker-Snoqualmie National Forest.

All outstanding and future permits, contracts, cooperative agreements, and other instruments for occupancy and use of lands included in this Forest Plan will be brought into agreement with this Plan, subject to the valid existing rights of the parties involved. This will be done as soon as practicable, and generally within three years of the date of this Plan.

Budget Proposals

The scheduled projects and monitoring activities in the Plan are translated into multi-year, program budget proposals that identify needed expenditures. The schedule is used for requesting and allocating the funds needed to carry out the planned management direction. The Forest's current year tentative annual program of work will be derived from this process. Upon approval of a final budget for the Forest, the annual program of work is finalized and carried out. Accomplishment of the annual program is the incremental implementation of the management direction of the Forest Plan. Depending on final budgets, outputs and activities in individual years may be significantly different from those shown in Chapter 4 and 5, depending on final budgets.

Environmental Analysis

Projects and activities permitted through this Forest Plan are subject to analysis under the NEPA process, as they are planned for implementation. Analysis will follow the requirements of 40 CFR 1502.20, FSM 1950, and FSH 1909.15 in determining subsequent environmental analysis and documentation. Appropriate public involvement will be a part of the analysis process. Regardless of the form of NEPA documentation (environmental impact statement, environmental assessment, or categorically excluded/decision memo), an analysis file will be maintained and available for public review.

C. MONITORING AND EVALUATION PROGRAM

The Monitoring and Evaluation Program is the management control system governing implementation of the Forest Plan. At established intervals (once per year), the Interdisciplinary Planning Team shall evaluate implementation to verify compliance with the Standards and Guidelines established in Chapter 4 of this Plan, and to determine the effectiveness of those Standards and Guidelines in meeting Land and Resource Management Plan objectives. Based upon this evaluation, the Interdisciplinary Team shall recommend to the Forest Supervisor such changes in management direction, revisions, or amendments to the Forest Plan as deemed necessary.

Monitoring involves a periodic comparison between the end results that are realized and those projected in the Forest Plan. Costs, outputs, and environmental effects, both experienced and projected, will be compared to *gauge* the overall *progress in* implementing the Forest Plan, as well as to determine whether the overall relationships on which the Forest Plan is based continue to be accurate. When differences occur, they will be evaluated as to their significance, and appropriate amendments or revisions will be considered and installed in compliance with NEPA and Forest Service processes.

The Monitoring Plan, Table 5-1, identifies the key activities and outputs to be monitored during implementation of this plan. This table is based on detailed information found in Forest Plan Monitoring Worksheets; these are located in the planning records at the Mt. Baker-Snoqualmie's Supervisors Office.

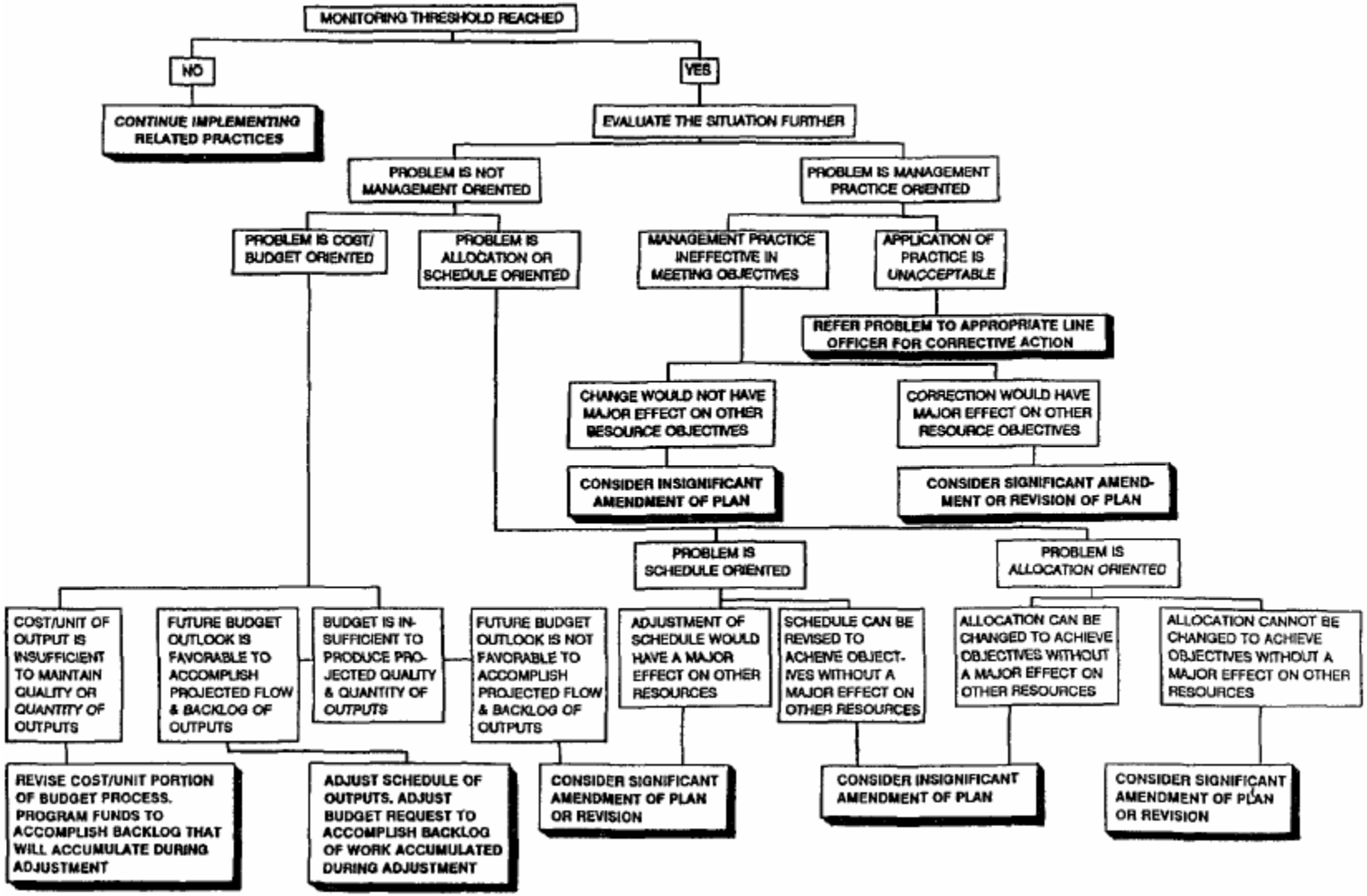
Table 5-1 is not intended to spell out all monitoring that is occurring or may occur on the Forest in the future. Currently, many activities are being monitored to comply with administrative and legal responsibilities. However, this monitoring is not essential for the purposes mentioned above. Only those items that are essential and sensitive enough for the purposes of this plan will be addressed in the monitoring plan.

The objectives of monitoring are to determine:

- if management area direction is being applied as directed;
- if standards are being followed;
- if the forest is achieving the objectives of the Plan;
- if application of management area direction is achieving desired conditions;
- if the effects of implementing the Plan are occurring as predicted;
- if the costs of implementing the Plan are as predicted;
- if management practices on adjacent or intermingled non-National Forest lands are affecting the Forest Plan goals and objectives;
- if implementation of the Forest Plan is keeping other agencies from reaching their stated objectives.

Monitoring and evaluation each have a distinctly different purpose and scope. In general, monitoring is designed to gather the data necessary for evaluation. During evaluation, data provided through monitoring are analyzed and interpreted. Evaluation of the results of the site-specific monitoring program will be documented in the annual monitoring and evaluation report- The significance of the results of the monitoring program will be analyzed and evaluated by the Forest Interdisciplinary Team.

DECISION FLOW DIAGRAM FOR EVALUATION



The data collected during monitoring will be evaluated using the Decision Flow Diagram shown in Figure 5-2. Based on this evaluation, any need for further action will be recommended to the Forest Supervisor. The action prescribed by the Forest Supervisor will depend on the significance of the results of monitoring. The magnitude of the change from predicted conditions is an important factor, as is the risk associated with the change. For example, in terms of risk, a finding of somewhat more or less recreation visits than predicted has considerably less significance than a finding of reduced water quality. Procedures prescribed by the National Environmental Policy Act will be followed as the Forest Supervisor determines the appropriate action.

Actions directed by the Forest Supervisor could include one or several of the following:

1. A determination that no action is needed, that monitoring indicates goals, objectives, and standards are being achieved.

2. District Ranger(s) may be directed to improve application of management area direction as projects are implemented. Normally, this would involve a change in proposed project design or a site-specific interpretation of management area direction. In some instances, additional information or study may be required due to an inconclusive evaluation.

3. Management area direction may be modified as a Plan amendment. This would normally involve a question of the applicability of the direction to a specific geographic area, rather than to the entire Forest.

4. The assignment of acres to a particular management prescription may be modified as a Plan amendment.

5. The projected schedule of outputs may be amended.

6. The needed action may singly or cumulatively be so significant as to cause the Forest Supervisor to initiate revision of the Plan.

A file will be maintained in the office of the Forest Supervisor which documents all decisions resulting from monitoring and evaluation.

The document resulting from the use of the Decision Flow Diagram constitutes the evaluation report. As applicable, the following will be included in each evaluation report:

1. A quantitative estimate of performance comparing outputs and services with those projected by the Forest Plan;

2. Documentation of measured effects, including any changes in productivity of the land;

3. Unit costs associated with carrying out the planned activities as compared with unit costs estimated during Forest Plan development;

4. Recommendations for changes;

5. A list of needs for evaluation of management systems and for alternative methods of management;

6. A list of additional research needed to support the management of the Forest;

7. Identification of additional monitoring needs to facilitate achievement of the monitoring goals.

The Monitoring Plan

The monitoring plan follows, in Table 5-1. Several of the variables across the top of this table merit special discussion.

Precision is a subjective descriptor to measure the expected accuracy with which data is collected. Precision, in Table 5-1, is qualitatively rated as high, moderate, or low.

Reliability is a measure of how accurately the method used to monitor reflects the situation. A qualitative rating system of high, moderate or low is utilized.

Table 5-1
Monitoring Plan

RESOURCE AREA	ACTION/EFFORT MONITORED	OBJECTIVE OF MONITORING	METHOD OF MONITORING	UNIT OF MEASURE	FREQUENCY
SOIL PRODUCTIVITY	Maintain soil productivity by insuring that the effects of displacement, compaction and erosion within harvest units when added to the lands dedicated to systems roads and landings do not ex- 20% of the area.	Maintain soil resource so that land productivity is not impaired.	1) Follow Regional Guide "Guidelines for Sampling Some Physical Conditions at Surface Soils" by Howes, Hazard and Geist - other State of Art Technology 2) End product review	% area affected Visual observation of condition	One project in in a watershed annually
MASS WASTING	Determine if management activities are affecting the frequency and amount of mass wasting.	To maintain productivity of land and provide water quality meets the needs of the beneficial user.	Visual observation & photo points to determine rate & kind of accelerated movement.	Area disturbance, landslide numbers, tons/acre.	2 projects per year in area selected to monitor
WATER REHABILITATION	Determine if rehabilitation prescriptions and methodology being used for watershed rehabilitation are achieving expected results.	To maintain or improve conditions of Forest watershed to assure land productivity and acceptable water quality.	Visual observations and transects in project area.	% vegetative cover and project improvement effectiveness.	Annualy for each project for first three years. Every five years after.
WATER SHED S&G'S AND PRESCRIPTION	Determine if the S&G's are effective in protecting the watershed resource.	To protect and maintain conditions of Forest watersheds to assure land productivity and acceptable water quality.	Visual observations, sampling of one or more key water parameters, and photos.	Temperature, area of disturbance, etc.	One area or watershed per year.
	Reforestation	Determine if NFMA Requirement and Forest Plan assumptions are met.	Plantation survival examinations TRI/GIS database Attainment reports (Annual).	Acre	1, 3 and 5 years.
	Timberland Suitability	Determine Change in acres of timber base.	Formal and informal management reviews. Project Planning (ongoing Vegetation resource inventory (as scheduled) and at least every 10 years).	Acre	5 years.

RESOURCE AREA	REPORT PERIOD	PRECISION	RELIABILITY	DATA STORAGE	RESPONSIBILITIES	THRESHOLD OF VARIABILITY
SOIL PRODUCTIVITY	Annually	H	H	-Project DR film -TRI/GIS	Forest Staff and District Ranger	10% deviation from regional guidelines (FSM 2500 R-5 supp 45)
MASS WASTING	Annually	M	M	-Project DR file -TRI/GIS	District Ranger	10% increase in rates of mass wasting established for previously managed areas
WATERSHED	Annually	H	H	-Project DR file -TRI/GIS	District Ranger	20% less cover than stated in project objectives. No more 20% failure rate of structure
WATERSHED S&G's	Annually	H	H	-Project DR file -TRI/GIS	District Ranger & Forest Staff	Within 10% of that defined for each S&G
TIMBER	3 years	H	H	TRI, GIS TRACS	District Manager	10% of harvested lands not adequately stocked after 5 years
	5 years	H	H	TRI, GIS	District Ranger Timber Staff Officer	± 5% change in unsuitable acres, ± 10% amend Forest Plan, ± 20% consider revision of Forest Plan

RESOURCE AREA	ACTION/EFFORT MONITORED	OBJECTIVE OF MONITORING	METHOD OF MONITORING	UNIT OF MEASURE	FREQUENCY
TIMBER (cont)	Size of harvest area	Standards for size and dispe-rsion are met and size limitation are appropriate	Ea's and TRI database Field Reviews	Acre	Annual
	Impacts to growing stock levels -insect & disease hazards -animal damage -air pollution	Determine whether IPM measures were taken and effective	Aerial surveys, field observation & past detection reports. Stand exams	Acres and/or infestation centers	Every other year
	Allowable Sale Quantity	Chargeable volume offered is consistent with Plan	TSSA, Stars	MMCF	Annual
	Timber Sale Program Quantity	Total chargeable and non-charge-able volume offered is consis-tent with Plan	TSSA, Stars	MMCF	Annual
	Acres per Manag-ement Area of var-ious silvicultural practices	Silvicultural practices are accomplished as planned for each Management Area	Number of acres harvested by silvicultural system or activity by management area	Acres	Annual
	Distribution of timber harvest acres and volume	Harvest activ-ities by mgt area working group, condition class occur as planned	10-year Action Plan, 6 month announcement, SILVA, TRACS, attainment reports (annual) and Stars	Acres and MMCF by condition class working group, management acre	Annual
	Mt. Hemlock suitability	Tentatively suit-able lands in the Mt. Hemlock association	Mt. Hemlock study plan	Acres	Annual

RESOURCE AREA	REPORT PERIOD	PRECISION	RELIABILITY	DATA STORAGE	RESPONSIBILITIES	THRESHOLD OF VARIABILITY
TIMBER (cont)	Annually	H	H	TRI, GIS STARS, TRACS	District Ranger Timber Staff & Wildlife Staff Officer	+ 5% over exceptions in Forest Standards and Guidelines.
	Every other year	M	M	TRI, GIS	Timber Staff Officer, District Ranger	When unacceptable losses develop (2,000 acres per decade) on the ground.
	Annually	H	H	TSSA, Cut and Sold report, Stars	District Ranger, Timber Staff Officer	± 15% annually or the cumulative volume exceeds ± 10% from that predicted for the decade.
	Annually	H	H	TSSA, Cut and Sold report, Stars	District Ranger, Timber Staff Officer	± 25% annually or the cumulative volume exceeds ± 10% from that predicted for the decade.
	Annually	H	H	TRI, GIS, Accomp-lishment reports, TRACS, STARS, TSPIRS	District Ranger, Timber Staff Officer	Total acres treated by each practice is plus or minus 10% of planned objective. When threshold is exceeded, ASQ should be adjusted based on new FORPLAN runs.
	Annually	H	H	TRI, GIS, STARS, Accomplishment Reports, TSPIRS	District Ranger, Timber Staff Officer	Total chargeable volume (MMCF) and/or harvest type (Acres) are more than ± 10% of the planned objective for the decade.
	Annually	H	H	Mt. Hemlock Study Plan, TRI, GIS	District Ranger, Timber Staff Officer	N/A

RESOURCE AREA	ACTION/EFFORT MONITORED	OBJECTIVE OF MONITORING	METHOD OF MONITORING	UNIT OF MEASURE	FREQUENCY
OLD GROWTH	Old Growth Ecosystem	Identify acres and distribution of old Growth through time	Field reviews, GIS, Region Six's old growth inventory mapping project, and TRI	Acres	Annual
WILDLIFE	Population trends and habitat capability for T&E species (bald eagle, grizzly bear, American peregrine falcon, gray wolf and plants)	Determine how populations are responding to the available habitat	Utilize bald eagle census in known nest and roost sites. Review WDW, USPWS, and other T&E census sources and habitat data. Survey bi-annually all assigned T&E habitat for its continuing suitability. Gather data on habitat in and adjacent to project areas during post project analysis.	Numbers of animals, acres of suitable habitat	Biennial
	Same as above but for old growth and snag dependent species	Same as above	Conduct (or coordinate) monitoring of population levels in SOHAs. Survey all MR old growth acres for continued suitability. Use post-project analysis or any project adjacent to assigned old growth to establish actual wildlife tree levels. Review WDW and other agency data.	Number of animals acres of suitable habitat	Biennial
	Same as above but for deer, elk and mountain goat	Same as above	Survey all assigned big game habitat in and adjacent to project areas for continuing suitability. Use post-project analysis and data from WDW, Univ of Washington, other sources	Number of animals, acres of suitable habitat cover/ forage ration	Every 3 years for goats and 5 years for deer and elk
	Habitat improvement	Determine effectiveness of habitat improvement	Field observation of habitat utilization during project analysis	Number of targeted animals	The 1st and 5th year after project completion

RESOURCE AREA	REPORT PERIOD	PRECISION	RELIABILITY	DATA STORAGE	RESPONSIBILITIES	THRESHOLD OF VARIABILITY
OLD GROWTH	5 years	H	H	STARS, GIS, TRI, Region 6 Old Growth mapping project, Integrated Resources Inventory	District Ranger, Timber Staff & Wildlife Staff Officers	± 10% variance from assumed in the Forest Plan
WILDLIFE	5 years or upon habitat loss	L	L	TRI/GIS	District Ranger	Decrease in populations and/or suitable habitat below recovery plan objectives
	5 years	L	L	TRI/GIS	District Ranger	Number of animals, pairs or habitat areas is 10% less than projected outputs from Forest Plan, decrease in number of wildlife trees needed to meet 40% potential population level
	3 and 5 years	M	M	TRI/GIS	District Ranger	+ or – 20% from expected improvement as predicted in acre equivalent outputs from Forest Plan

RESOURCE AREA	ACTION/EFFORT MONITORED	OBJECTIVE OF MONITORING	METHOD OF MONITORING	UNIT OF MEASURE	FREQUENCY
FISH S&G AND PRESCRIPTIONS (FISH)	Effectiveness of the S&G and area prescriptions (including BMP's) in protecting desired fish habitat capability objectives and riparian area values	To provide for desired levels of anadromous & resident fish population through habitat protection, restoration, and improvement	ID Team using FSH 2609.23 and the Hankin-Reeves stream survey methodology along with the Stream Channel Stability Evaluation	Desired Habitat Capability Levels for Anadromous & Resident Fish	Annual
RIPARIAN	Terrestrial (Diversity abundance, and habitat capability of wildlife species)	To determine population responses of various riparian dependent wildlife species in the available Forest riparian habitat	Conduct population transects and measure ground conditions in selected riparian areas	Number of animals by species, % ground cover, stand age, number of vegetation species, other habitat components	Once immediately on project completion for all projects in 10% of established watershed that have incurred activity
WATER QUALITY/ FISH HABITAT CAPABILITY	Effectiveness of BMP's in maintaining, improving or reducing the capability of the aquatic and riparian areas in the Forest to meet objectives for on-off Forest fishery values	To maintain or improve water quality that will meet the requirements of the Clean Water Act, state water quality stds, and the desired levels of beneficial uses of the water(fish)	Measure temperature, sediment bedload, turbidity, & pH using methodology defined in FSH 2609.23. Measure stream channel stability evaluation and streambank vegetation measurements	Change in degrees centigrade, tons of sediment including bedload, pH, and Jackson turbidity units	At low-flow time of year (July-Sept) on a specific project site or on sensitive aquatic system. Number of samples is dictated by the method employed
FISH HABITAT RESTORATION/ IMPROVEMENT	Effectiveness of fish habitat restation and enhancement projects in producing the fish outputs as predicted in the FP	To determine if the habitat treatment results in an increase in habitat quality. and/or quality.	Stream channel response to structural of nonstructural treatment (refer to the Fisheries Handbook)	Change in the habitat capability index	Measure habitat change on 10% of the project sites per district
		To determine if the projected increase in fish (pounds) of anadromous fish & sportfish use (WFUD) are being achieved (FP outputs)	Calculate smolt production and convert to harvested adults for estimating pounds on fish harvested. Estimate WFUD's derived from anadromous and resident fish sport fishing use from State recreational sport fishing data	Number of smolts produced per site or location. Number of increase WFUD from sport fishing use as a result of project	Measure change in fish production on 10% of the project sites per district

RESOURCE AREA	REPORT PERIOD	PRECISION	RELIABILITY	DATA STORAGE	RESPONSIBILITIES	THRESHOLD OF VARIABILITY
FISH S&G AND PRESCRIPTIONS (FISH)	1 Report per year	M	M	TRI/GIS	Forest Fish and Wildlife Staff Officer & District Manager	No more than 5% decrease from the desired habitat capability levels for the project area
RIPARIAN	Every 5 years	M	L	TRI/GIS	Forest Fish and Wildlife Staff	Cumulative sample at end of 5 years indicates a 15% loss of previously established riparian habitat. Population transects when compared over time indicate a 10% loss of diversity
WATER QUALITY/ FISH HABITAT CAPABILITY	1 Report per year	M	M	TRI/GIS	Forest Fish & Wildlife Staff & District Ranger	Do not exceed water quality standards established in the State Water Quality Plan
FISH HABITAT RESTORATION/ IMPROVEMENT	Annually sample 30% of the improvement sites	M	M	TRI/GIS	Forest Fish & Wildlife Staff & District Ranger	90% of the improvement sites meet habitat quality and quantity objectives
	Annual (same as above)	M	M	TRI/GIS	Forest Fish & Wildlife Staff & District Ranger	Habitat treatment sites are within 15% of meeting projected benefits

RESOURCE AREA	ACTION/EFFORT MONITORED	OBJECTIVE OF MONITORING	METHOD OF MONITORING	UNIT OF MEASURE	FREQUENCY
CUMULATIVE EFFECTS-FISH HABITAT CAPABILITY	Determining the cumulative cause/ effect relationships between land disturbing activities such as timber mgt. & associated road construction and fish habitat capability	To maintain or improve the desired fish habitat capability levels for anadromous and resident fish	Collect and evaluate fish habitat trend data to determine changes in the existing fish habitat capability using the Hankin-Reeves stream survey methodology & the stream channel stability evaluation	Percent or degree of change in the Fish Habitat Capability Index for the target species	Annually
CUMULATIVE EFFECTS-WATERSHED CONDITION	Assessment of the In-channel Condition of the Forest's watersheds (acceptibility/unacceptability	To determine the acceptability or unacceptability of the following 4 conditions: channel stability pool condition, status of large woody debris, and stream bank stability	Validate the watershed condition by: narrative update of the management history (acres harvested, road density), amount and type of unstable soils, updated stability rating of the channels, updated evaluation of the fish habitat capability trends, a current assessment on the prevailing climatic conditions, and a current assessment as to potential for off-site downstream impacts	Acceptable/ Unacceptable Watershed Condition	Will be determined as projects are proposed within the watersheds
WATER	Stream Discharge (flow)	To augment information needed for sediment & bedload movement and for the use in the watershed cumulative effects process	Streamflow gages, staff gages or other suitable techniques	Cubic foot per sec	Over range of discharge events
SOCIAL AND ECONOMIC	Receipts returned to counties	Determine change in county receipts	Revenue and 25% fun records	Dollars/year	Annual

RESOURCE AREA	REPORT PERIOD	PRECISION	RELIABILITY	DATA STORAGE	RESPONSIBILITIES	THRESHOLD OF VARIABILITY
CUMULATIVE EFFECTS- FISH CAPABILITY	Annually	L	L	TRI/GIS	Forest Staff, Wildlife Staff Officer and District Ranger	No more than 5% decrease in the desired fish habitat capability level for each Forest watershed for the target fish species
CUMULATIVE EFFECTS- WATERSHED CONDITION	Annually	L	L	GIS	Forest Fish and Wildlife Staff & District Ranger	No more than 15% of the Forest's watersheds in an unacceptable condition at any one time
WATER	Annually	L	L	GIS	District Ranger	A change in base line flow conditions
SOCIAL AND ECONOMIC	Annually	H	H	6500 file	Planning Staff Officer	Receipts to counties exceeds + or – 25% annually or + or – 15% of 5 years average from those predicted in the Forest Plan

RESOURCE AREA	ACTION/EFFORT MONITORED	OBJECTIVE OF MONITORING	METHOD OF MONITORING	UNIT OF MEASURE	FREQUENCY
SOCIAL AND ECONOMIC (CONT)	Validation of costs & values identified in the Forest Plan	Determine accuracy of assumptions used in model	Timber sale appraisals, PAMARS and contracts	Dollars	Annually
	Changes in local income		U.S. Census, State publications, Co & local agency reports, etc	Dollars	Annually
	Changes in local population		U.S. Census, State publications, Co & local agency reports, etc	Thous. of persons	Annually
	Changes in local employment patterns		U.S. Census, State publications, Co & local agency reports, etc	Thous. of persons by industry of occupation	Annually
	Changes in lifestyles, attitudes, beliefs or values		Interviews with key public and opinion leaders in communities, observation, etc (See FSH 1909.17)	Various	Biennial
	Changes in Forest contribution to area forest products industries		Tracking of raw material flow to mills, industry mix	MMCP/yr, % industry distribution	Annually
AMERICAN INDIAN INTERACTION	Coordination with Tribes	Determine if Forest programs & activities are in compliance with treaties, AIRPA & FLPMA	Meetings, interviews and telephone contact with American Indian Tribal representatives	Documentation of Contacts	On-going
CULTURAL	Documentation	Assess level of accomplishment of inventoried acres, site surveys, recordation and evaluations, project assessment, mitigation projects, management plans, and the associated costs	Review data components in Cultural Resource Reconnaissance Reports, site inventory records, evaluation reports, Cultural Resource Management Plans, and cost figures from Field units	Variable acres, properties, plans, dollars	On-going

RESOURCE AREA	REPORT PERIOD	PRECISION	RELIABILITY	DATA STORAGE	RESPONSIBILITIES	THRESHOLD OF VARIABILITY
SOCIAL AND ECONOMIC (CONT)	5 years	H	H	1920 file	Planning Staff Officer	Predicted costs vary + or – 10% from actual costs over a 5-year average
	Annually	H	H	Files	Planning Staff Officer	+/- 15% in 3 years (corrected for inflation)
	Annually	H	H	Files	Planning Staff Officer	+/- 15% in 3 years
	Annually	M	H	Files	Planning Staff Officer	+/- 15% in 3 years
	Quarterly	L	M	Files, newspapers, anecdotal data	Planning Staff Officer	Established trend toward Forest-Community conflict or identification of problems
	Annually	M	M	TSA reports, Files	Planning Staff Officer	Fails to meet plan objectives
AMERICAN INDIAN INTERACTION	Annually	L	M	Files 1920, 2360	District Ranger	When Administrative appeals and others have been filed
CULTURAL	Annually	H	M	District and S.O. Cultural Resource Management files, Accomplishment Report	Recreation Staff Officer	Failure to meet 20% or more of assigned cultural resource targets

RESOURCE AREA	ACTION/EFFORT MONITORED	OBJECTIVE OF MONITORING	METHOD OF MONITORING	UNIT OF MEASURE	FREQUENCY
CULTURAL (CONT)	Protection of historical resources	To determine the protection for historically significant structures & sites from vandalism and natural degradation	Inspection visits to structures and documentation of observations (may include photogrammetric recordation in selected cases)	Properties	Variable. Depends on site condition and nature and intensity of threatening agents. As a minimum should be done annually on a sampling of properties
SCENERY	Visual Quality Level	Determine whether the condition of the visual resource is meeting the standards set by management standards and guidelines	Monitor visual conditions during programs and activity reviews through use of visual resource photopoints	Acres by VQO	Annually on 10% of viewsheds, vegetative manipulation roads, or major developments
RECREATION	Recreation outputs by ROS class	Determine where recreation opportunities are being provided and quality of experience conforms to management standards and guidelines	Monitor recreation use by type of activity & location of activity. Measure in terms of M/RVDs or visits. Correlate with ROS class	Measure -M RVOS -visits -activities -standards by ROS class -Acres not meeting desired attributes	Annually
	Miles of trail in trail inventory	Determine the extent trail mileage is being retained in the system	RIM Trails database	Miles	Annually
WILDERNESS	Condition of Wilderness resource	Assess the impacts of overuse	Measure visitor registration or permits, Wilderness Ranger surveys and photoelectric counts to measure trail and campsite encounters in transition and trailed zones. Sample once a month during high use season	Number of encounters	Annually
			Measure changes in LAC's in Wilderness	Sq. feet denuded area	Initially sites recorded on campsite inventory form. 5 years or 20% of sites annually

RESOURCE AREA	REPORT PERIOD	PRECISION	RELIABILITY	DATA STORAGE	RESPONSIBILITIES	THRESHOLD OF VARIABILITY
CULTURAL (CONT)	Annually	M	M	District and S.O. Cultural Resource Management files, RIM facility condition report	Recreation Staff Officer	When individual site condition class drops one level
SCENERY	Annually	H	H	TRI/GIS	Recreation Staff Officer	10% of acres not meeting VQO
RECREATION	Every 2 years	M	M	RIM	Recreation Staff Officer	When use varies + or – 25% from projections or quality of experience is below standard on 15% of sites
	5 years	H	M	RIM Trails	Recreation Staff Officer	Mileage loss exceeds 10% of the base inventory
WILDERNESS	Annually	M	M	Files (2320), Wilderness Ranger close out reports	District Ranger	When encounter reach 90% of established LAC for each WROS
	5th year	H	H	Files, Wilderness Ranger close out reports	District Ranger	When vegetation loss reaches 90% of LAC for each WROS class

RESOURCE AREA	ACTION/EFFORT MONITORED	OBJECTIVE OF MONITORING	METHOD OF MONITORING	UNIT OF MEASURE	FREQUENCY
WILDERNESS (CONT)			Measure changes in water quality bacteriological levels focusing on Fecal Coliform	Most probable number method	Once every 5 years at all extra-heavy use lakes
		To measure change from established base-line for visual range within Class I areas	Point samples using photopoints	Miles	Continuous sampling but reviewed annually after year 3
		To determine the extent that natural ignitions are used to accomplish pre-scribed fire objectives in wilderness areas	Fire reports	Active burned by FIL	Annually
WILD AND SCENIC RIVERS	Retention of characteristics of eligible rivers	Determine effects of act-ivities on attributes for potential class-ification of river segments eligible for wild & scenic river designation	Assure that attributes are maintained at current levels through project reviews on all actions involving veget-ative, soil, or scenic alter-ations manipulation, road or trail construction along eligible rivers	N/A	Continuing as projects are
	Skagit River Plan	Assume that plan is being follow-ed or need for revision	Regional and Forest level activity reviews	N/A	Once every 3 years
RESEARCH NATURAL AREAS	Effectiveness at meeting RNA man-agement object-ives	Assure that RNA attributes and unmodified con-ditions are maintained	Visual site inspection, evaluation of impacts from a) adjacent activities recreation, timber harvest, etc.) and b) on-site activities that are detrimental to RNA qualities (recreation): evaluate Forest compliance with Standards and Guidelines	RNA sites	Annually

RESOURCE AREA	REPORT PERIOD	PRECISION	RELIABILITY	DATA STORAGE	RESPONSIBILITIES	THRESHOLD OF VARIABILITY
WILDERNESS (CONT)	5th year	H	H	Files, Wilderness Ranger Close-out reports	District Ranger	When 10% of established sites fail to meet est-abolished drinking standards
	Annually	H	H	Written reports prepared by contractor	Fire Staff Officer	When measured values taken after year three of plan implementation indicate a decline in visual range when compared against the information gained during years 1-3 of the decade
WILD AND SCENIC	Annually	H	H	Fort Collins Fire Occurrence data file	District Ranger	When the burned acreage in any one year exceeds by 40% the annual expected burned acreage expressed in the Forest Plan or the accumul-ated acres burned for the decade exceeds the Plan's expected acreage by 20%
	N/A	M	H	District files (2310, 2360)	District Ranger	When resource condition or level of activities would lower potential class-ification
RESEARCH NATURAL AREAS	3rd year	M	H	District files (2310, 2360)	Recreation Staff Officer	On 3 year schedule or if conditions on river change dramatically
	Annually	M	H	District, S.O., and PNW Research Station	District Ranger	When standards are not being met or downward trend is indicated

RESOURCE AREA	ACTION/EFFORT MONITORED	OBJECTIVE OF MONITORING	METHOD OF MONITORING	UNIT OF MEASURE	FREQUENCY
RESEARCH NATURAL AREAS (CONT)			Guidelines/coordination with Station Director, evaluate implementation and effectiveness of individual RNA management prescriptions		
FIRE	Fire Management program efficiency	Determine if fire program implementation is achieving intended results	Comparison of the expected Fire Management Efficiency from the Plan with the experienced efficiency following plan implementation	Dollars of budget (include FFF) plus resource losses over M Ac protected	Annually after year 3
LANDS	Effects of N.F. management on lands resources and communities adjacent to National Forest land	Determine if LMP implementation results in positive and/or adverse effects to occur on/in adjacent lands resources and communities	Periodic meetings with cost share co-operators, city, county officials, and staff management review	N/A	Annually
			Special Uses Program review with site inspections (interdisciplinary)	5 sites	Annually
	Adjacent land Management by Other Government Agencies (Federal, State and local)	Determine effects on N.F. lands resulting from management activities on adjacent lands managed by other governmental organizations (Federal, State and local)	Periodic meetings with Government agencies and staff management reviews	N/A	Annually
	Effects of N.F. management of utility corridors on transmission needs and other resource values	Determine whether utility corridor mgmt. strategy is compatible with land mgmt. objectives and energy needs. Assure that capacity of existing corridors is utilized prior to initiating new corridor	Review existing capacity and plans for upgrade with utility officials prior to new corridor construction	N/A	As needed
			Management review of effects of implementation on resources, land management and energy needs	N/A	Every 5 years

RESOURCE AREA	REPORT PERIOD	PRECISION	RELIABILITY	DATA STORAGE	RESPONSIBILITIES	THRESHOLD OF VARIABILITY
FIRE	Annually	H	L	PAMARS and Fire Occurrence Data Base at FCCC	Fire Staff Officer	When the efficiency for an individual year exceeds that predicted by 40% or the accumulated efficiency for the decade exceeds the predicted by 20%
LANDS	5 years	L	L	5400 open files	L & M Staff Officer	Problem areas which will restrict Plan outputs from being accomplished
	5 years	M	M	2700 open files	L & M Staff Officer	When Forest-wide Standards are not being met or downward trend is indicated
	5 years	L	L	5400 open files	Forest Supervisor Deputy F.S. and Staff Officers	Problem areas which will restrict Plan outputs from being accomplished
	5 years	L	L	2700 open files	L & M Staff Officer	Full utilization of existing corridors
	5 years	L	L	2700 open files	L & M Staff Officer	Full utilization of existing corridors

RESOURCE AREA	ACTION/EFFORT MONITORED	OBJECTIVE OF MONITORING	METHOD OF MONITORING	UNIT OF MEASURE	FREQUENCY
MINERALS	Effectiveness of meeting Forest goals and outputs	Assess effectiveness of withdrawals in managing resource values	Program Management Review	N/A	Review 20% annually
		Determine if activities are adequately documented and administered	Program Management Review	N/A	Review 20% annually
		Assure that operating stipulations are achieving resource protection objectives	Visual site inspections with interdisciplinary teams. Evaluate activities for compliance with Standards and Guidelines	2 sites	Annually
THE BUILT ENVIRONMENT-ROADS	Miles of new road construction	Validate roading coefficients in planning model	Engineering reports, data base TIS	Mi/year	Annually
ALL	Application of Standards and Guidelines	Determine if Standards and Guidelines are being implemented as planned	Sample review of NEPA documents for proposals on each unit and various management areas	Documents sampled	Annually
	Results of Standards and Guidelines	Determine if Standards and Guidelines are effective in meeting desired objective	Sample review of completed practices, covering all units and various management areas. Review by IDT appointed by Forest Supervisor	Projects reviewed	Annually, beginning with 2nd year
	Acquisition of new information as specified in Information Needs Chapter 2, Forest Plan	Determining progress being made to information needs	Review data generated in response to Information Needs section	Documentation of new data	Every other year beginning 1992

RESOURCE AREA	REPORT PERIOD	PRECISION	RELIABILITY	DATA STORAGE	RESPONSIBILITIES	THRESHOLD OF VARIABILITY
MINERALS	5 years	L	L	2800 open files	L & M Staff Officer	Action will be taken on all unauthorized ground disturbing mineral activities. Additional administrative efforts may be required to control "recreational" mining in Wilderness or other special interest areas
	5 years	L	L	2800 open files	L & M Staff Officer	Same as above
	Annually	M	M	2800 open files	District Manager	Same as above
THE BUILT ENVIRONMENT	5 years	H	M	TIS	Forest Engineer	Miles constructed exceeds + or – 25% annually or + or - 15% of 5 years average predicted in the Forest Plan
ALL	2, 3, 5 and 8th years	H	M	1920 files	Planning Staff Officer	Failure to implement any Standards and Guidelines
	Annually	M	M	1920 files	Planning Staff Officer	Determination by IDT that Standards and Guidelines are not producing desired results
	2 years	H	M	1920 files, Summary of new data	Planning Staff Officer	Determination by Line & Staff that opportunities to gather needed info. are being overlooked

D. AMENDMENT AND REVISION

The Forest Plan incorporates legal mandate, professional judgment and the public's stated concerns into a future vision of the Forest. It charts a path for this future by developing management goals and objectives and translating them into management direction in the form of standards and guidelines for management areas on the Forest.

National Forest planning is a dynamic process, and the products - Forest Plans - are similarly dynamic. Forest Plans can and should be modified if conditions warrant. As management goals are applied on the ground, or as new information is learned about resources, the Plan's goals and objectives, or activities that the goals generate, may no longer be appropriate. In such instances, activities may be tailored to fit the resources, or planning objectives as stated in the Plan may be amended. Plans do not apply direction in site-specific management activities. It would be unrealistic and beyond the scope of this plan to try to identify, analyze, and schedule the myriad projects or activities that occur on a National Forest. Instead, this type of site-specific planning occurs at the project-level planning stage.

The Forest Supervisor may amend the Forest Plan. Based on an analysis of the objectives, standards, and other contents of the Forest Plan, the Forest Supervisor shall determine whether a proposed amendment would result in a significant change in the Plan. If the change resulting from the proposed amendment is determined to be significant, the Forest Supervisor shall follow the same procedure as that required for development and approval of a Forest Plan. If the change resulting from the amendment is determined not to be significant for the purposes of the planning process, the Forest Supervisor may implement the amendment following appropriate public notification and satisfactory completion of NEPA procedures.

Two types of Management Areas (MA's) are identified in this Forest Plan. The first type are Management Areas that are legally established and described, such as wilderness, Mt. Baker National Recreation Area, Skagit Wild and Scenic River, and the Alpine Lakes Area. The boundaries of these MA's are firm.

The second type of Management Areas are aggregations of analysis areas that have been assigned to the same management emphasis. The boundaries of this type of MA are not firm and do not always follow easily identified topographic features, such as ridges or streams. The boundaries represent a transition from one set of opportunities and constraints to another, with management direction established for each. During project design, field verification may indicate that the mapped Management Area boundary should be changed to reflect the environmental conditions the MA was intended to include. Such changes will be evaluated and documented in the environmental assessment, including a determination of significance, as discussed above.

The Forest Plan shall ordinarily be revised on a ten-year cycle or at least every 15 years. It also may be revised whenever the Forest Supervisor determines that conditions or demands in the area covered by the Plan have changed significantly, or when changes in RPA policies, goals, or objectives would have a significant effect on Forest level programs. In the monitoring and evaluation process, the interdisciplinary team may recommend a revision of the Forest Plan at any time. Revisions are not effective until considered and approved in accordance with the requirements for the development and approval of the Forest Plan.

The Forest Supervisor shall review the conditions on the land covered by the Plan at least every five years to determine whether conditions or demands of the public have changed significantly.

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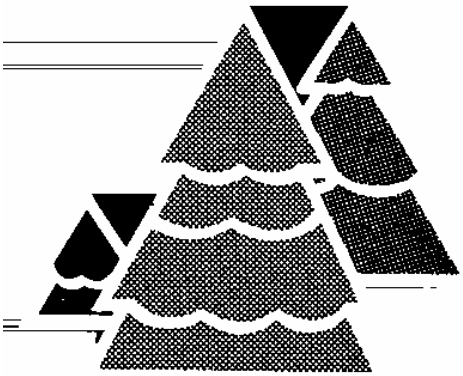

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Abbreviations Used In The Documents

AASQ — Average Allowable Sale Quantity

AMS — Analysis of the Management Situation

AQRV — Air Quality Related Value

ASO — Annual Allowable Sale Quantity

BD — Brush Disposal

BLM — Bureau of Land Management

BMP — Best Management Practices

BSS — Base Sale Schedule

CEO — Council on Environmental Quality

CF — Cubic Foot

CFL — Commercial Forest Land

CFR — Code of Federal Regulations

CMAI — Culmination of Mean Annual Increment

DBH — Diameter at Breast Height

DEIS — Draft Environmental Impact Statement

DNR — Department of Natural Resources. Washington State

DOE — Department of Ecology. Washington State

EIS — Environmental Impact Statement

EPA — Environmental Protection Agency

EVC — Existing Visual Condition

FEIS — Final Environmental Impact Statement

FERC — Federal Energy Regulatory Commission

FS — Forest Service

FSH — Forest Service Handbook

FSM — Forest Service Manual

FVC — Future Visual Condition

FWS — Fish and Wildlife Service, U.S. Department of the Interior

ICO — Issues, Concerns, Opportunities

ICOR — Interagency Committee for Outdoor Recreation, Washington State

IPT — Interdisciplinary Planning Team

KV — Knutsen-Vandenberg Fund

LAC — Limits of Acceptable Change

LTSYC — Long-Term Sustained Yield Capacity

MAI — Mean Annual Increment

MBNRA — Mt. Baker National Recreation Area

MBS — Mt. Baker-Snoqualmie National Forest

MIS — Management Indicator Species

MSF — Thousand Board Feet

MMBF — Million Board Feet

MCF — Thousand Cubic Feet

MMCF — Million Cubic Feet

MR — Management Requirement

MSF — Mt. Baker-Snoqualmie National Forest

NDY — Non Declining Yield

NEPA — National Environmental Policy Act

NP — National Forest

NFMA — National Forest Management Act

NFS — National Forest System

NPB — Net Public Benefit

PAOT — Persons-At-One-Time

PSD — Prevention of Significant Deterioration

OFM — Office of Financial Management, Washington State

ORV — Off-Road Vehicle

PCT — Precommercial Thin

PNV — Present Net Value

PNW — Pacific Northwest Region. USDA Forest Service

PNW — Present Net Worth

RARE II — Roadless Area Review and Evaluation

RIM — Recreation Information Management

RM — Roaded Modified

RN — Roaded Natural

RNA — Research Natural Area

ROS — Recreation Opportunity Spectrum

RPA — Forest and Rangeland Renewable Resources Planning Act

RVD — Recreation Visitor Day

SCORP — State Comprehensive Outdoor Recreation Plan

SEIS — Draft Supplemental to the Environmental Impact Statement for an Amendment to the Pacific Northwest Regional Guide — Spotted Owl Guidelines, 1986

SMU — Streamside Management Unit

SOHA — Spotted Owl Habitat Area

SPM — Semi-Primitive Motorized

SPNM — Semi-Primitive Nonmotorized

TSPQ — Timber Sale Program Quantity

TRI — Total Resource Inventory

TSE — Timber Stand Examination

TSI — Timber Stand Improvement

USDA —United States Department of Agriculture

USDI — United States Department of Interior

USFWS — United States Fish and Wildlife Service

VAC — Visual Absorption Capacity

VQL — Visual Quality Level

VQO — Visual Quality Objective

WFUD — Wildlife Fish User Day

WMU — Wetland Management Unit

WROS — Wilderness Recreation Opportunity Spectrum

Acquired Lands — Lands added to the National Forest system by purchase, transfer, or donation under authority of the Weeks Law or related acts. Also, lands obtained by the Forest Service by exchange for other acquired lands.

Acre Equivalent — Used to adjust actual acres of habitat improvement or improvement structures to reflect overall habitat benefits derived. It reflects the zone of influence of the habitat improvement for the target species. For example, a single water development for upland game birds has an acre equivalent of 160, whereas a single water structure for big game has a value of 640 because it has a larger zone of influence for the more mobile big game animals.

Acre-foot — A measure of water or sediment volume, equal to the amount which would cover an area of one acre to a depth of one foot (i.e. 43,560 cubic feet or 325,851 gallons).

Activity — Actions, measures, or treatments that are undertaken that directly or indirectly produce, enhance, or maintain forest and rangeland outputs or achieve administrative or environmental quality objectives. An activity can generate multiple outputs. Forest Service activity definitions, codes, and units of measure are contained in the Management Information Handbook (FSM 1309.11).

Administrative Unit — An area under the administration of one line officer, such as a District Ranger, Forest Supervisor, or Regional Forester.

Air Quality Related Value (AQRV) — Any physical, chemical, or biological component of an ecosystem that can be affected by changes in air pollutant levels. As an example: visual range as measured from a vista may be shortened by the presence of fine particulates in the air. Similarly a threatened or endangered plant species may be sensitive to sulphur dioxide levels.

Airshed — A geographical area that, because of topography, meteorology, and/or climate, shares the same air.

Age Class — An interval, usually 10 to 20 years, into which the age ranges of vegetation are divided for classification or use.

Allocation Zone — Geographic subdivisions of the Forest delineated for the purpose of controlling land allocations, so the FORPLAN Model could select only from a set of spacially feasible land allocations and harvest schedules. In addition, outputs and costs portrayed by zones would be more meaningful than portrayed by Forest-wide analysis areas.

Allowable Sale Quantity (ASQ) — The quantity of timber that may be sold from the area of suitable land covered by the Forest Plan for a time period specified by the plan. This quantity is usually expressed on an annual basis as the “Average Annual Allowable Sale Quantity.” For timber resource planning purposes, the allowable sale quantity applies to each decade over the planning horizon and includes only chargeable volume. Consistent with the definition of timber production, fuelwood and other non-industrial wood shall not be included in the allowable sate quantity.

Alternative — One of several policies, plans, or projects proposed for decision making.

Amenity — An object, feature, quality, or experience that gives pleasure or is pleasing to the mind or senses. Amenity value is typically used in land use planning to describe those resource properties for which market values (or proxy values) are not or cannot be established (such as clean air and water, scenic quality, etc.).

Anadromous Fish — Those species of fish that mature in the sea and migrate into streams to spawn. Salmon, steelhead, and shad are examples.

Analysis Area — A grouping of homogeneous land areas, formed from the land and resource inventory data comprising the data base. Similarities are in terms of common capabilities to produce resources and susceptibility to impacts. Analysis areas need not be contiguous areas of land.

Analysis of the Management Situation (AMS) — A determination of the ability of the planning area to supply goods and services in response to society's demand for those goods and services.

Animal Unit Month (AUM) — The amount of forage required by one mature (1,000 lb.) cow or the equivalent for 1 month, based on an average of 26 lbs. of dry forage per day.

Aquatic Ecosystems — Stream channels, lakes, marshes or ponds, and the plant and animal communities they support.

Aquifer — An underground geological formation or structure that contains water in sufficient quantity to supply needs for water development.

Arterial Roads — See "Road, Arterial."

Average Annual Allowable Sale Quantity (AAASQ) — See "Allowable Sale Quantity."

Background — The viable terrain beyond the foreground and middleground where individual trees are not visible, but are blended into the total fabric of the stand. Includes the view beyond 3-5 miles from the observer and as far as the eye can see. (See "Foreground" and "Middleground.")

Basal Area — The area of the cross-section of a tree stem near the base, generally at breast height and inclusive of bark.

Base Sale Schedule (BSS) — A timber sale schedule formulated on the basis that the quantity of timber planned for sale and harvest for any future decade is equal to or greater than the planned sale and harvest for the preceding decade, and this planned sale and harvest for any decade is not greater than the long-term sustained yield capacity. This definition expresses the principle of non-declining flow.

Bedload — The sediment that moves by sliding, rolling, or bounding on or very near the streambed; sediment moved mainly by tractive or gravitational forces or both but at velocities less than the surrounding flow.

Benchmark — 1) The analytical basis from which the alternatives were developed. The use of assessed land capability as a basis from which to estimate the effects of alternative patterns of management on the land. 2) Reference points that define the bounds within which feasible management alternatives can be developed. Benchmarks may be defined by resource output or economic measures.

Benefit/Cost Ratio — The ratio obtained by dividing the anticipated benefits of a project by its anticipated costs (or realized benefits by realized costs) to obtain a measure of expected (or realized) benefits per unit of cost — a common exercise in cost-benefit analysis which gives a measure of economic efficiency.

Best Management Practices (WAP's) — A practice or combination of practices that is determined by a State (or designated area-wide planning agency) after problem assessment, examination of alternative practices, and appropriate public participation, to be the most effective, practicable (including technological, economic, and institutional considerations) means of preventing or reducing the amount of pollution generated by nonpoint sources to a level compatible with water quality goals (Federal Register, Volume 40, No. 230 dated 11/28/75).

Big Game — Those species of large mammals normally managed for sport hunting.

Big Game Summer Range — A range, usually at higher elevation, used by deer and elk during the summer. Summer ranges are usually much more extensive than winter ranges.

Big Game Winter Range — A range, usually at lower elevation, used by migratory deer and elk during the winter months; usually more clearly defined and smaller than summer ranges.

Biological Growth Potential — The average net growth attainable in a fully stocked natural forest stand.

Biological Potential — The maximum production of a selected organism that can be attained under optimum management.

Biomass — The total quantity at a given time of living organisms of one or more species per unit of space (species biomass), or of all the species in a biotic community.

Board Foot — The amount of timber equivalent to a piece of wood one foot square and one inch thick, being the unit in board foot measure.

Board Foot/Cubic Foot Ratio — A ratio expressing the number of board feet in a cubic foot of timber. Varies with tree species, diameter, height, and form factors

Broadcast Burn — Allowing a prescribed fire to burn over a designated area within well-defined boundaries for reduction of fuel hazard or as a silvicultural treatment, or both.

Browse — Twigs, leaves, and young shoots of trees and shrubs on which animals feed; in particular, those shrubs which are used by big game animals for food.

Brush — A growth of shrubs or small trees, usually of a type undesirable to livestock or timber management.

Brush Disposal (BD) — A term commonly used to refer to disposal of slash. See “Slash.” “Broadcast Burn.” and “Residue Utilization.”

Bureau of Land Management (BLM) — An agency within the Department of the Interior, with land management responsibility for the Public Domain lands.

Canopy — The more-or-less continuous cover of branches and foliage formed collectively by the crown of adjacent trees and other woody growth.

Capability — The potential of an area of land to produce resources, supply goods and services, and allow resource uses under an assumed set of management practices and at given levels of management intensity. Capability depends upon current conditions and site conditions such as climate, slope, landform, soils, and geology, as well as on the application of management practices, such as silviculture or protection from fire, insects, and disease.

Capital Investment — An input that increases the value of natural or manmade resources (assets) needed to maintain or increase the flow of outputs in the future. Benefits resulting from capital investments are normally recouped in excess of 1 year.

Carrying Capacity — 1) The number of organisms of a given species and quality that can survive in, without causing deterioration of, a given ecosystem through the least favorable environmental conditions that occur within a stated interval of time 2) In recreation management, the level of recreational use that a site can provide without deterioration of the quality of the recreation experience of the resource.

Cavity Excavators — The hollow excavated in trees by birds or other natural phenomena; used for roosting and reproduction by many birds and mammals.

Cedar — Areas that have been sources of various cedar products, or are at least identified as significant stands of cedar. Cedar is used in everything from smokehouse construction to spirit dancer costumes to basketry and other utilitarian items. Of all forest products it may be the most significant to the Indians of today, although it cannot survive without a total appropriate environment, most of which was used by the Indians in the past.

Cemeteries & Archaeological Sites — Villages, camps, and burial areas (not in most instances known to be cemeteries). Other sites are ethnographically and/or historically known cemeteries. Some are maintained and still used, others are not.

Ceremonial flora — Locations known to contain certain plants that have ritual or healing properties. Some areas so designated are large and may contain several such plant species, others are small and may possess only a few. Often areas containing specific flora are considered as ceremonially, ritually, and/or religiously powerful.

Channel or Stream Scour — Erosion of the channel bottom caused by high flows of water, loss of channel stability or debris torrents.

Chargeable Volume — All volume that is included in the growth and yield projections for the selected management prescriptions used to arrive at the allowable sale quantity, based on Regional utilization standards.

CHUNK Study — An economic-efficiency study of the developed campgrounds on the Forest, completed in 1984. Refer to Chapter III, DEIS, Recreation.

Class I Stream — Perennial or intermittent streams (or segments thereof) that have one or more of the following characteristics: provide a direct source of water for domestic use; are used by large numbers of fish for spawning, rearing, and/or migration; and/or are major contributors to the quantity of water in a Class I stream. See “SMU.”

Class II Stream — Perennial or intermittent streams (or segments thereof) that have one or more of the following characteristics, are used by moderate though significant numbers of fish for spawning, rearing and/or migration, and/or flow enough water to be moderate or not clearly identifiable contributors to the quantity of water in a Class I stream, or are major contributors to a Class II stream. See “SMU.”

Class III Stream — All other perennial streams or segments thereof not meeting higher class criteria. See “SMU.”

> Deeply Incised — A stream channel with perennial stream flow, steep deep streambanks, and unstable sideslopes that can generate slumps and slides resulting in debris torrents. Class III channels incised more than 10 feet and having one or more unstable soil types qualifies as a deeply incised Class III stream. On this Forest 70% of the Class III streams are deeply incised; they represent 66% of the total Forest stream miles.
>
> Lightly Incised — Class III channels incised less than 10 feet, and in some cases, possessing unstable soil types, qualifies as a lightly incised Class III stream. For this Forest, 30% of the Class III streams are lightly incised; this represents 27% of the total Forest stream miles.

Class IV Stream — All other intermittent streams not meeting higher class criteria. See “SMU.”

Clearcutting — A silvicultural system in which all trees on an area are harvested in one cut for the purpose of regenerating a new, even-aged stand. The area harvested may be a patch, strip, or stand large enough to be mapped or recorded as a separate class in planning for sustained yield.

Climax — The culminating stage in plant succession for a given site where the vegetation has reached a highly stable condition.

Climax Species — Those species that dominate a climax stand in either numbers per unit area or biomass.

Code of Federal Regulations (CFR) — A codification of the general and permanent rules published in the Federal Register by the Executive departments and agencies of the Federal Government.

Collector Reads — See “Road, Collector.”

Commercial Forest Land (CFL) — See “Timber Resource Land Suitability Classification.”

Commercial Thinning — Any type of tree thinning that produces merchantable material at least equal in value to the direct costs of harvesting.

Commodity — A transportable resource product with commercial value; all resource products that are articles of commerce.

Compaction — The packing together of soil particles by forces exerted at the soil surface, resulting in increased soil density.

Concern — A point, matter, or question raised by management and/or the public that must be addressed in the planning process.

Concession — A commercial public service enterprise which operates on National Forest land under a “Special Use Permit” for the purpose of providing goods and services to the public.

Condition Class — A descriptive grouping into 10 classes of the existing forest vegetation based on age, tree size, maturity, species mix, and accessibility by road. Condition class is an important component of the Forest Model structure. See “Forest Model” and Appendix B.

Congressionally Classified and Designated Areas — Areas that require congressional enactment for their establishment, such as National Wilderness Areas, National Wild and Scenic Rivers, and National Recreation Areas.

Connecting Habitat — Areas which serve as travel corridors or habitat connections, provide for the dispersal and interaction of indicator species, and avoid the isolation of habitat into geographic islands. These areas provide species access across and/or along drainages and elevation gradients (ridgeline to valley floor). Connecting habitat can be provided in several ways:

1. Utilize natural land forms, such as riparian areas along creek drainages, or the areas adjacent to avalanche chutes, where possible.

2. Maintain areas in blocks of land that generally are one or more logical harvest units in size. This will provide the option of rotating the designation of connecting habitat to adjacent areas, as the adjacent harvested areas mature or develop the desired habitat structure.

Constraint — A confinement or restriction on the range of permissible choices.

Consumptive Use — A use of resources that permanently reduces the supply, such as mining. (See also Non-consumptive Use.)

Core Area — (As related to a Spotted Owl Habitat Area) An area encompassing at least 300 contiguous acres of old growth suitable for nesting and reproduction. Centering on a reproductive site or a site of concentrated pair use where such information is available. See “Spotted Owl Habitat Area.”

Corridor — A linear strip of land identified for the present or future location of transportation or utility rights-of-way within its boundaries.

Costs:

1. Direct cost — a cost that directly contributes to the production of the primary outputs of an activity, project, or program.

2. Economic cost — total fixed and variable costs for inputs, including costs incurred by other public parties and, if appropriate, opportunity costs and cost savings.

3. Fixed cost — a cost that is committed for the time horizon of planning or the decision being considered. Fixed costs include fixed ownership requirements, fixed protection, short-term maintenance, and long-term planning and inventory costs.

4. Investment cost — a cost of creating or enhancing capital assets, including costs of administrative or common-use transport facilities and resource management investments.

5. Joint cost — a cost contributing to the production of more than one type of output.

6. Non-Forest Service cost — a cost of investment and operating activities paid by cooperators or other non-Forest Service agencies which are part of Forest Service management programs, or which contribute to the outputs included in the analysis.

7. Opportunity cost — the value of a resource’s foregone net benefits in its most economically efficient alternative use.

8. Unit cost or cost per unit — total cost of production divided by the number of units produced.

Cost Efficiency — The usefulness of specified inputs (costs) to produce specified outputs (benefits). In measuring cost efficiency, some outputs, including environmental, economic, or social impacts, are not assigned monetary values, but are achieved at specified levels in the least costly manner. Cost efficiency is usually measured using present net value, although use of benefit-cost ratios and rates-of-return may be appropriate.

Cost Share — A term referring to investment sharing provided under Public Law 88-557 (18 U.S.C. 535) whereby forest development roads may be financed cooperatively with public or private agencies or persons. Investment sharing may be accomplished in several ways. Road right-of-way construction and use agreements (referred to as cost share agreements) are a common method used in this Forest where there are large areas of intermingled landownership.

Council on Environmental Quality (CEQ) — An advisory council to the President established by the National Environmental Policy Act of 1959. Reviews federal programs for their effect on the environment, conducts environmental studies, and advises the President on environmental matters. (Abstracted from NEPA.)

Cover/forage Ratio — The mixture of cover and forage areas on a unit of land, expressed as a ratio.

Created Openings — Openings in the forest created by the silvicultural practices of: shelterwood regeneration cutting at the final harvest; clearcutting; seed tree cutting; or group selection cutting.

Crop Tree — Any tree forming or selected to form, a component of the final crop. Generally a tree selected in a young stand or plantation for carrying through to maturity.

Crown Height — In a standing tree, the vertical distance from ground level to the base of the crown, measured either to the lowest live branch whorl, or to the lowest live branch (excluding shoots arising spontaneously from buds on the stem of a woody plant), or to a point halfway in-between.

Cubic Foot — A unit of quantity for lumber or timber equal to a cube 1x1x1 foot.

Cull Material — Timber which does not meet the specified utilization standards (usually in a timber sale contract) for size and percent of sound wood See “Utilization Standards.”

Culmination of Mean Annual Increment (CMAI) — The age at which the average annual growth is greatest for a stand of trees. Mean annual increment is expressed in cubic feet measure and is based on expected growth according to the management intensities and utilization standards assumed in accordance with 38 CFR 2l9.16(a)(2)(i) and (ii). Culmination of mean annual increment includes regeneration harvest (cutting) yields and any additional yields from planned intermediate harvests (cuttings).

Cultural Resource — The physical evidence of our Nation's heritage. Included are: archaeological sites; historic buildings, structures, and districts; and localities with social significance to the human community. In the plan, they are classified as archaeological and historical properties, and American Indian religious and cultural use areas.

Cumulative Effects or Impacts — The impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions, regardless of what agency (federal. or nonfederal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time. (40 CFR 1508.7 — these regulations use effects and impacts synonymously)

DBH (d.b.h.) — Diameter at breast height, measured at 4 feet 5 inches from the ground.

Debris Slide — A shallow landslide of soil, rock, and organic material that occurs on steep slopes.

Debris Torrent — A large debris slide that is charged with water and confined to a steep stream channel. Debris torrents may travel several thousand feet.

Decision Space — Decision space defines the outer limits past which it is not physically, biologically, or economically possible to produce a feasible combination of Forest goals and services, and land allocations

Demand — The amount of an output that users are willing to take at a specified price, time period, and condition of sale

Departure — A sale schedule that deviates from the principle of non—declining flow by exhibiting a planned decrease in the sale schedule at any time during the planning horizon. A departure can be characterized as a temporary increase, usually in the beginning decade(s) of the planning horizon, over the base sale schedule that would otherwise be established, without impairing the future attainment of the long-term sustained yield capacity.

Developed Recreation — Recreation that requires facilities that, in turn, result in concentrated use of an area. Examples of recreation areas are campgrounds and ski areas; facilities in these areas might include roads, parking lots, picnic tables, toilets, drinking water, ski lifts, and buildings See “Recreation Development Scale (Level).”

Dispersed Recreation — A general term referring to recreation use outside a developed recreation site, such as scenic driving, hiking, fishing, cross-country skiing, horseback riding, snow mobiling, hunting, backpacking, and recreation in primitive environments.

Diversity — The distribution and abundance of different plant and animal communities and species within the area covered by a land and resource management plan. See also “Edge,” “Horizontal Diversity,” and “Vertical Diversity

Douglas-fir Type — An association of tree species in which Douglas-fir is recognized as one of the principal seral species.

Draft Environmental Impact Statement (DEIS) — The draft statement of environmental effects which is required for major federal actions under Section 102 of the National Environmental Policy Act, and released to the public and other agencies for comment and review.

Duff — Organic matter in various stages of decomposition on the floor of the forest.

Early Forest Succession — The early stage or condition of a plant community that occurs during its development from bare ground to climax.

Economic Efficiency — The usefulness of inputs (costs) to produce outputs (benefits) and effects when all costs and benefits that can be identified and valued are included in the computations Economic efficiency is usually measured using present net value, though use of benefit-cost ratios and rates-of-return may sometimes be appropriate.

Economic Impacts:

1. Direct economic impact — effects caused directly by forest product harvest or processing or by forest uses.

2. Indirect economic impact — effects that occur when supporting industries sell goods or services to directly affected industries.

3. Induced economic impact — effects that occur when employees or owners of directly or indirectly affected industries spend their income within the economy.

Ecosystem — An interacting system of organisms considered together with their environment; for example, marsh, watershed, and lake ecosystems

Edge — An interfacial area where plant communities meet or where successional stages or vegetative conditions within plant communities come together. See also ‘‘Diversity,’’ ‘‘Edge Contrast’’ and ‘‘Horizontal Diversity.”

Edge Contrast — A qualitative measure of the difference in structure of two adjacent vegetated areas; for example: “low,” “medium,” or “high” edge contrast.

Effects — Environmental consequences as a result of a proposed action. Included are direct effects, which are caused by the action and occur at the same time and place, and indirect effects, which are caused by the action and occur later in time and/or further removed in distance, but which are still reasonably foreseeable. Indirect effects may include growth-inducing effects and other effects related ‘to induced changes in the pattern of land use, population density or growth rate, and related effects on air, water, and/or other natural systems, including ecosystems.

> Effects and impacts as used in this statement/plan are synonymous. Effects include ecological (such as the effects on natural resources and on the components, structures, and functioning of affected ecosystems), aesthetic quality, historic, cultural, economic, social, or health, whether direct, indirect, or cumulative. Effects may also include those resulting from actions that may have both beneficial and detrimental effects, even if on balance the agency believes that the effects will be beneficial (40 CFR 1508.8).

Electronic Sites — Areas designated for the operation of equipment which transmits and receives radio signals (excluding television aerials and antennas) for individual pickup of programming, and passive reflectors.

Endangered Species — Any species of animal or plant that is in danger of extinction throughout all or a significant portion of its range Plant or animal species identified by the Secretary of the Interior as endangered in accordance with the Endangered Species Act of 1973, as amended.

Ending Inventory Constraint — The standing volume left in the inventory at the end of the planning horizon. The constraint insures that there is enough standing inventory at the end of the planning horizon to perpetuate long-term sustained yield capacity harvest levels on a nondeclining flow basis.

Environmental Analysis — A process associated with the preparation of an environmental assessment or environmental impact statement An analysis of alternative actions and their predictable short-and long-term environmental effects, including physical, biological, social, and economic.

Environmental Assessment — A concise public document, providing sufficient evidence and analysis for determining whether to prepare an environmental impact statement or a finding of no significant impact.

Environmental Impact Statement (EIS) — A statement of the environmental effects of a proposed action and alternatives to it. Required for major federal actions under Section 102 of the National Environmental Policy Act (NEPA), and released to the public and other agencies for comment and review. A formal document that must follow the requirements of NEPA, the Council on Environmental Quality (CEQ) guidelines, and directives of the agency responsible for the project proposal. See DEIS and FEIS.

Environmental Protection Agency (EPA) — An agency of the Executive Branch of the Federal Government which has the responsibility for environmental matters of national concern.

Erosion — 1) The wearing away of the land surface by running water, wind, ice. or other geologic agents, including such processes as gravitation creep; or 2) detachment and movement of soil or rock fragments by water, wind, ice, or gravity.

Even-Aged Management — The application of a combination of actions that results in the creation of stands in which trees of essentially the same age grow together. Managed even-aged forests are characterized by a distribution of stands of varying ages (tree sizes) throughout the forest area. Clearcut, shelterwood, or seed tree cutting methods produce even-aged stands. (35 CFR 219.3)

Even-aged Stands — Stands in which all trees are of about the same age. (A spread of 10 to 20 years is generally considered one age class.) Cutting methods producing even-aged stands are clearcut, shelterwood, or seed tree systems.

Existing Visual Condition (EVC) — The “Existing Visual Condition” of the Forest was prepared in 1979. See “Visual Condition.”

Final Environmental Impact Statement (FEIS) — The final version of the statement of environmental effects required for major federal actions under section 102 of the National Environmental Policy Act. A revision of the draft environmental impact statement to include public and agency responses to the draft.

Final Harvest — Synonymous with “regeneration cutting” (harvest) in the clearcutting silvicultural system.

Fisheries Habitats — Streams, lakes, and reservoirs that support fish populations.

Floodplain — The lowland and relatively flat areas adjoining inland and coastal waters including, at a minimum, those areas subject to a 1-percent or greater chance of flooding in any given year (100-year recurrence).

Flood Proof — Using special measures during road construction to insure that flood occurrences will not cause road damage.

Forage — All browse and nonwoody plants that are available to livestock or game animals and used for grazing or harvested for feeding.

Forb — Any herb other than grass.

Foreground — A term used in visual management to describe the portions of a view between the observer and up to 1/4 to 1/2 mile distant. The stand of trees immediately adjacent to a high—value scenic area, recreation facility, or forest highway. See “Background,” “Middleground.”

Forest or Forest Land — 1) Forest is used in the text as a proper noun to substitute for Mt. Baker-Snoqualmie National Forest. 2) See “Timber Resource Land Suitability Classification.”

Forest Model — An idealized (simplified) representation of the real life Forest system, developed from a set of simplifying assumptions. The “Forest Model” serves as a format to structure Forest management resource data, i.e. yields (activities and outputs) over time, acres, and management constraints. The “Forest Model” developed by the interdisciplinary team was incorporated into the computer program model FORPLAN far use in this planning effort. See “FCRPLAN.” See Appendix B for more detail.

Forest Service Handbook (FSH) — For Forest Service use, directives that provide detailed instructions on how to proceed with a specialized phase of a program or activity.

Forest Service Manual (FSI) — A system of manuals which provides direction for Forest Service activities.

Forest Types — A classification of forest land based upon the tree species presently forming a plurality of basal area stocking in live trees.

FORPLAN — Acronym for Forest Planning Model. A linear programming system used for developing and analyzing forest planning activities. Can be used to simulate management practices while at the same time optimizing for any given desired objective. As a manageable representation of reality, it can be used to manipulate information and look at alternative approaches to management, calculating tradeoffs and opportunity costs. See “Forest Model.” See Appendix B for more detail.

Fuel Management — The practice of planning and executing the treatment or control of living or dead vegetative material in accordance with fire management direction.

Fuel Treatment — The rearrangement or disposal of natural or activity fuels (generated by management activity, such as slash left from logging) to reduce fire hazard. Fuels are defined as both living and dead vegetative materials consumable by fire.

Fuels — Combustible wildland vegetative materials. While usually applied to above ground living and dead surface vegetation. this definition also includes roots and organic soils such as peat

Game Species — Any species of wildlife or fish for which seasons and bag limits have been prescribed and which are normally harvested by hunters, trappers, and fishermen under state or federal laws, codes, and regulations

Genetic Integrity — Refers to a normal, healthy genetic pool within a biological population to provide for long—term maintenance and survival of the species. Of specific concern in management direction is the prevention of loss of genetic variance and the avoidance of inbreeding. See the Draft SEIS, Spotted Owl Guidelines for more detail.

Genetic Seedlings — Tree seedlings from a genetically superior seed source. The seeds are collected from trees displaying exceptional form and raised in nurseries before outplanting. The seedlings usually have faster growth rates than naturally regenerated seedlings.

Geothermal — Of or pertaining to the internal heat of the earth.

Glaciolacustrine — Soil, materials transported by glaciers and deposited by glacial meltwater in glacier lakes.

Goal — A concise statement that describes a desired condition to be achieved sometime in the future. It is normally expressed in broad, general terms with no specific completion date. Goal statements form the principal basis from which objectives are developed.

Goods:

1. Nonmarket good — an output that is not normally exchanged for money in a market. Usually no market has evolved because ownership of the good is not clear, exclusive use is not possible under current laws, or it is not possible to consistently define good.

2. Public good — an output for which it is impractical to impose a charge, either because it must be supplied to all if it is supplied to one or because the costs of collection and control exceed likely revenue.

Goods and Services — The various outputs, including on—site uses, produced from forest and rangeland resources.

Grass/forb — An early forest successional stage where grasses and forbs are the dominate vegetation.

Group Selection Cutting — Removal of tree groups ranging in size from a fraction of an acre up to about 2 acres. Area cut is smaller than the minimum feasible under even—aged management for a single stand.

Growing Season — That part of the year when temperature and moisture are favorable for vegetation growth.

Growing Stock Trees — Live trees, meeting specified standards of quality or vigor, that are included in growth and yield projections to arrive at the allowable sale quantity.

Guideline — An indication or outline of policy or conduct that is not a mandatory requirement (as opposed to a standard, which is mandatory).

Habitat — The place where a plant or animal naturally or normally lives and grows.

Habitat Capability — The estimated ability of an area, given existing or predicted habitat conditions, to support a wildlife, fish or plant population. Measured in tems of potential population numbers.

Habitat Diversity — The distribution and abundance of different plant and animal, communities and species with a specific area.

Hardwood — A broad-leaved flowering tree.

Harvest Cutting Method — A combination of interrelated actions whereby forests are tended, harvested, and replaced The combination of management practices used to manipulate the vegetation results in forests of distinctive form and character. Harvest cutting methods are classified as even-aged and uneven-aged. See “Silvicultural System **“**

Harvest Dispersion (factor) — The dispersion of cutting units over the land base in order to meet clearcut size limitations, or other resource constraints. An example of a harvest dispersion constraint is: no more than 25 percent of an analysis area may be harvested in one decade.

Headwaters — The upper tributaries of a river.

Herbaceous — An adjective describing seed-producing plants that do not develop persistent woody tissue, but die down to ground level at the end of the growing season.

Hiding Cover — Any vegetation used by wildlife for security or to escape from danger. For example, hiding cover is capable of hiding 90 percent of an adult deer or elk from the view of a human at a distance of 200 feet or less.

Historic Site — Site associated with the history, tradition, or cultural heritage of national, state, or local interest. and of enough significance to merit preservation or restoration.

Horizontal Diversity — The distribution and abundance of plant and animal communities or successional stages across an area of land; the greater the number of communities, the higher the degree of horizontal diversity (or richness). This concept is similar but not identical to “even-aged management.” Application of even-aged management, for example, can be designed to accomplish horizontal diversity objectives. See also “Vertical Diversity.”

Hydrology — The scientific study of the properties, distribution, and effects of water in the atmosphere, on the earth’s surface, and in soil and rocks

ID Team — See Interdisciplinary Team.

Impacts — See Effects.

IMLAN — A computer—based system used by the Forest Service for constructing nonsurvey input/output models to measure economic input. The system includes a data base for all countries in the U.S. and a set of computer programs to retrieve data and perform the computational tasks for input/output analysis.

Indicator Species — Species identified in a planning process that are used to monitor the effects of planned management activities on viable populations of wildlife and fish including those that are socially or economically important. See Management Indicator Species.

Instream Flows — A prescribed level (or levels) of streamflcw, usually expressed as a stipulation in a permit authorizing a dam or water diversion, for the purpose of meeting National Forest System management objectives

Integrated Pest Management — A process for selecting strategies to regulate forest pests, in which all aspects of a pest-host system are studied and weighed. A basic principle in the choice of strategy is that it be ecologically compatible or acceptable. (36 CFR 219.3)

Intensive Forest Management — A high investment level of timber management that envisions initial harvest, regeneration with genetically improved stock, control of competing vegetation, fill-in planting. preoommercial thinning as needed for stocking control, one or more commercial thinnings, and final harvest.

Interdisciplinary Approach — Using individuals representing two or more areas of knowledge and skills focusing on the same tasks, problem, or subject.

Interdisciplinary Team (ID Team) — A group of individuals with different training assembled to solve a problem or perform a task. The team is assembled out of recognition that no one scientific discipline is sufficiently broad to adequately assess the situation.

Intermediate Cutting — Any removal of trees from a regular crop or stand between the time of its formation and the harvest cutting (final harvest). Generally includes cleaning, thinning, liberation, and improvement cuttings. increment fellings, and sometimes even salvage and sanitation cutting

Intermingled Ownerships — Lands within the National Forest boundaries or surrounded by National Forest lands owned by private interests or other government agencies. Because of early land grants, these lands frequently are in a checkerboard ownership pattern.

Intermittent Stream — A stream that runs water in most months, but does not run water during the dry season during most years.

Irretrievable — Applies to losses of production, harvest. or use of renewable natural resources. For example, some or all of the timber production from an area is irretrievably lost during the time an area is used as a winter sports site. If the use is changed, timber production can be resumed. The production lost is irretrievable, but the action is not irreversible.

Irreversible — Applies primarily to the use of non-renewable resources, such as minerals or cultural resources, or to those factors, such as soil productivity, that are renewable only over long time periods. Irreversible also includes loss of future options.

Issue — A point, matter, or question of public discussion or interest to be addressed or decided through the planning process

J-8 — A map code used on this Forest to designate unsuitable forest land not managed for timber production because there is no reasonable assurance that these lands can be adequately restocked within 5 years after harvest. This is based on existing technology and knowledge as reflected in current research and experience. See “Timber Resource Land Suitability Classification, 3.(d).”

Knutsen—Vandenberg Fund (KV) — Authorization to withhold a portion of timber sale receipt funds for reforestation of harvested areas, rehabilitation of streams and habitat affected by timber sales, etc.

Lacustrine — Refers to material deposited in lake water and later exposed either by lowering of the water level or by the elevation of the land.

Land Allocation — The assignment of a particular land area(s) to a specific “Management Area.”

Landing — Any place where round timber is assembled for further transport, commonly with a change of method.

Landownership Classification Groups — All National Forest land and land in other ownerships within the Forest boundary will be classified in one of five landownership classification groups. This classification system identifies opportunities to acquire, retain, exchange, or relinquish lands to facilitate administration of the Forest (FSM 1920.42, 1982 or as revised).

Group I — Lands where Congress has either directly or indirectly instructed the Forest Service to retain ownership and acquire non-Federal lands for a designated purpose.

Group II — Retain National Forest ownership and acquire private land as the opportunity and/or need occurs.

Group III — Lands are available for land adjustment and usually will provide most of the land considered in exchange projects.

Group IV — Lands normally made available to acquire private lands in Groups I, II, or III.

Group V — More intensive study and planning are necessary before landownership decisions are made.

Lands Not Appropriate for Timber Production — Includes lands that: 1) are proposed for resource uses that preclude timber production, such as Wilderness; 2) have other management objectives that limit timber production to the point where management requirements set forth in CFR 219.27 cannot be met; or 3) or are not cost efficient over the planning horizon in meeting forest objectives including timber production.

Lands Not Suited (Unsuitable) for Timber Production — Includes lands that: 1) are not forest land as defined in CFR 219 3; 2) are likely, given current technology, to suffer irreversible resource damage to soils productivity, or watershed condition; 3) cannot be adequately restocked as provided in 36 CFR 219.27; or, 4) have been withdrawn from timber production by an Act of Congress. the Secretary of Agriculture. or the Chief of the Forest Service. In addition, Forest lands other than those that have been identified as not suited for timber production shall be reviewed and assessed prior to formulation of alternatives to determine the costs and benefits of a range of management intensities for timber production.

Legendary — Locations that may have, or may have had, spiritual significance. They appear also to be areas which are significant to the cosmology of the Indian groups in the project area. They are significant in mythology having to do with the origin and development of the area and of the people of that area.

Limits of Acceptable Change (LAC) — Maximum limit of human-caused change allowed in wilderness. Each WROS Class has a set of limits which presupposes that certain areas of wilderness (trails) will be allowed to receive higher levels of use than other areas (trailless), and thus will receive more change or resource impact. LAC’s are not a management objective, but a maximum limit. See “Wilderness Recreation Opportunity Spectrum.”

Local Roads — See “Road, Local”

Logging Systems — See “Yarding.”

Tractor — Use of tracked or rubber-tired vehicle to skid logs to a central loading point. This method is typically used on dry, gently sloping ground; it is infrequently used on this Forest.

Hightead — A cable system operated from a tower or spar-tree, which drags logs to a central loading site. One end of a log may be lifted off the ground for short distances. Used most often in moderately steep terrain over relatively short distances.

Skyline — The log yarding cable is attached between a tower or spar-tree and an elevated point in the distance. Logs are transported partially or completely suspended above the ground with a movable carriage on the cable. Used in steep or unstable terrain with minimal impacts on the land, this method can reach for long distances.

Helicopter — Use of helicopter to lift logs from a logging site to a nearby central loading point. Most economical on relatively remote and difficult to reach sites. Avoids road building where roading is inappropriate because of steep terrain, unstable soils, visual consideration, etc.

Long-Term Sustained-Yield Capacity (LTSYC) — The highest uniform wood yield from lands being managed for timber production that may be sustained under a specified management intensity consistent with multiple-use objectives.

Macropore Space — Space in soil composed of larger pore spaces. See “Pore space,” “Porosity,” and “Soil.”

Management Area — An area or non-contiguous areas of the Forest assigned to a specific management strategy (the management strategy then becomes the management prescription for the area(s)).

Management Concern — An issue, problem, or condition which constrains the range of management practices identified by the Forest Service in the planning process.

Management Direction — A statement of multiple-use and other goals and objectives, the associated management prescriptions, and standards and guidelines for attaining them.

Management Emphasis — The major resource uses, outputs, and activities emphasized in a management area.

Management Indicator Species (MIS) — A species selected because its welfare is presumed to be an indicator of the welfare of other species using the same habitat. A species whose condition can be used to assess the impacts of management actions on a particular area. See “Indicator Species.”

Management Intensity — A management practice or combination of management practices and associated costs designed to obtain different levels of goods and services.

Management Practice — A specific activity, measure, course of action, or treatment

Management Prescription — Management practices and intensity selected and scheduled for application on a specific area to attain multiple—use and other goals and objectives.

Management Requirement (MW) — Minimum standards for resource protection. vegetation manipulation. silvicultural practices, even—aged management. riparian areas, soil and water diversity, to be met in accomplishing National Forest System goals and objectives.

Management Strategy — A specific set of management practices appropriate for application to Forest lands or resources. The management strategy should define the management goals or objectives, resource priorities, and intensities to be considered. See “Management Area” and “Management Prescription.”

Marginal Component — The portion of the regulated commercial Forest land on which it is presently not feasible (economically or technologically) to manage for timber crops because of soil constraints, difficulties in establishing tree regeneration or excessive development costs.

Market Resources — Products derived from renewable and nonrenewable resources that have a well-established market value for example, forage, timber, water, and minerals.

Market Value — The unit price of an output normally exchanged in a market after at least one stage of production. Market value is expressed in terms of prices as evidenced by market transactions.

Mass Movement — A general term for any of the variety of processes by which large masses of earth material are moved downslope by gravitational forces — either slowly or quickly.

Mass Wasting — All landslide events; the detachment and movement of soil or surface mantle material. Landslides may fall in a single mass or single event, moving downslope to cause debris slides and avalanches, or they may detach and move slowly downslope over a period of years.

Maximum Modification — See “Visual Quality Objectives.”

May (or Can) — Verb used in the Management Prescriptions, Proposed Forest Plan. Action is optional.

MBF — One thousand board feet. Lumber or timber measurement term.

MCF — One thousand cubic feet. Lumber or timber measurement term.

Mean Annual Increment (MAI) — The total increment up to a given age divided by that age.

Mesotrophic — Habitats, particularly soil and water, of moderate nutrient capacity.

Middleground — The visible terrain beyond the foreground where individual trees are still visible, but do not stand out distinctly from the stand. See “Foreground” and “Background.”

Mineral Entry — The filing of a mining claim upon public domain or related land to obtain the right to any minerals it may contain.

Mineral Soil. — A soil consisting predominantly of, and having its properties determined predominantly by mineral matter. It usually contains less than 20% organic matter but may sometimes contain an organic surface layer up to 30 centimeters thick. Mineral soil is the soil where surface erosion of individual soil particles can take place, not the loose unconsolidated organic surface layer.

Mineral Withdrawal — The exclusion of mining locations and mineral development work on areas required for administrative sites by the Forest Service and other areas highly valued by the public.

Minerals —

1. Common — mineral deposits which do not possess distinct, special economic value, such as common varieties of sand, stone, gravel, pumice, pumicite and cinders. They may have value for use in trade, manufacture, science, or in the mechanical or ornamental arts.

2. Leasable — federally owned minerals which are disposed of under the Mineral Leasing Act of 1920, as amended. These include coal, oil, gas, phosphate, sodium, potassium, oil shale, and in some states sulphur and geothermal steam.

3. Locatable — federally owned minerals which can be located and patented under the 1892 Mining Law, as amended. In general, the locatable minerals are those hardrock minerals which are mined and processed for the recovery of metals. They also may include certain nonmetallic minerals and uncommon varieties of mineral materials, such as valuable and distinctive deposits of limestone or silica.

4. Valuable Deposit — where minerals have been found and the evidence is of such a character that a person of ordinary prudence would be justified in further expenditure of his labor and means with a reasonable prospect of success in developing a valuable mine.

Minimize Streamflows — A specified level of flow through a channel that must be maintained by the users of streams for biological, physical, or other purposes.

Minimum Viable Population — The low end of the viable population range.

Mining Claim — A portion of the public lands which a miner, for mining purposes, takes and holds in accordance with mining laws.

Mining Claim, Perfection — All steps legally required to give a secured party an interest in subject property have been met. One cannot perfect a mining claim without actual discovery of minerals in place. Perfection occurs when a discovery of a “valuable” mineral deposit has been made within the boundaries of a mining claim which has been located on public lands in conformance with State and Federal statutes. Once the claim has been perfected, the claim has the effect of a grant by the US of the right of present and exclusive possession and the claimant may receive patent. Discovery normally precedes location, but (US v. Carlile 67 I.D. 417, 420 (1960)) discovery may follow location and give validity to a previously located claim as of the time the discovery was made. When such occurs, the claim has been perfected.

Mining Claim, Validity — Synonymous with perfection when exclusive rights against the government are concerned. For a claimant to establish exclusive rights against the government, the claim must be located on public lands in conformance with State and Federal statutes and a discovery of a valuable mineral deposit must have been made within the boundaries of the claim.

Mitigation — Avoiding or minimizing impacts by limiting the degree or magnitude of the action and its implementation; rectifying the impact by repairing, rehabilitating, or restoring the effected environment; reducing or eliminating the impact by preservation and maintenance operations during the life of the action.

MMBF — Million board feet. Lumber or timber measurement term.

MMCF — Million cubic feet. Lumber or timber measurement term.

Model — See “Forest Model.”

Modification — See “Visual Quality Objectives.”

Monitoring — A process to collect significant data from defined sources to identify departures or deviations from expected plan outputs.

Multiple Use — The management of all the various renewable surface resources of the National Forest System so that they are utilized in the combination that will best meet the needs of the American people: making the most judicious use of the land for some or all of these resources or related services over areas large enough to provide sufficient latitude for periodic adjustments in use to conform to changing needs and conditions, that some lands will be used for less than all of the resources; and harmonious and coordinated management of the various resources, each with the other, without impairment of the productivity of the land, with consideration being given to the relative values of the various resources, and not necessarily the combination of uses that will give the greatest dollar return or the greatest unit output.

Municipal Supply Watershed — A watershed that provides water for human consumption, where Forest Service management could have a significant effect upon the quality of water at the intake point, and that provides water used by a community, or any other public water system that regularly serves at least 25 individuals at least 60 days out of the year or that provides at least 15 service connections. In addition to cities, this includes campgrounds, residential developments, and restaurants.

Must (or Shall) — A verb used in the Management Prescriptions, in the Proposed Forest Plan. Action is mandatory.

National Environmental Policy Act (NEPA) of 1969 — An act to declare a National policy which will encourage productive and enjoyable harmony between humankind and the environment, to promote efforts which will prevent or eliminate damage to the environment and biosphere and stimulate the health and welfare of humanity, to enrich the understanding of the ecological systems and natural resources important to the Nation, and to establish a Council on Environmental Quality. (The Principal Laws, Relating to Forest Service Activities, Agriculture Handbook No. 453, USDA, Forest Service, 359 pp.)

National Forest Management Act (NFMA) of 1976 — A law passed as an amendment to the Forest and Rangeland Renewable Resources Planning Act, requiring the preparation of Regional Guides and Forest Plans and the preparation of regulations to guide that development.

National Forest System (NFS) Land — Federal lands that have been designated by Executive order or statute as National Forests, National Grasslands, or Purchase Units, and other lands under the administration of the Forest Service, including Experimental Areas and Bankhead-Jones Title III lands.

Natural Forest — The Forest that would occur on the planning area if natural processes were allowed to function without man's influence.

Natural Regeneration — Reforestation of a site by natural seeding from the surrounding trees. May or may not be preceded by site preparation.

Net Public Benefits — An expression used to signify the overall long-term value to the nation of all outputs and positive effects (benefits) less alt associated inputs and negative effects (costs), whether they can be quantitatively valued or not. Net public benefits are measured by both quantitative and qualitative criteria rather than a single measure or index. The maximization of net public benefits to be derived from management of units of the National Forest System is consistent with the principles of multiple use and sustained yield.

Net Receipts — Net receipts are the total cash receipts received by the Forest Service less budget costs.

Nitrogen-Fixing (Nitrogen Fixation) — Conversion of free nitrogen into combined forms useful in nutrient cycles and other functions in the biosphere.

Noncash Benefits — These are benefits or values that people derive from the good or service being provided, but where there is no market in which to exchange that good or service for cash, i.e. the person benefiting does not pay any of the actual value received.

Nonchargeable Volume — All volume that is not included in the growth and yield projections for the selected management prescriptions used to arrive at the allowable sale quantity. (FSH 2409.13)

Non-consumptive Use — That use of a resource that does not reduce its supply, for example, non-consumptive uses of water include hydroelectric power generation, boating, swimming, and fishing.

Non-declining Flow — Where the quantity of timber planned for sale and harvest for any future decade is equal to or greater than the planned sale and harvest for the preceding decade, and this planned sale and harvest for any decade is not greater than the long-term sustained yield capacity.

Non-forest Land — Lands that never have had or that are incapable of having 10 percent or more of the area occupied by forest trees; or lands previously having such cover and currently developed for nonforest use.

Nongame — Species of animals not managed for sport hunting

Non-market — Products derived from National Forest resources that do not have a well-established market value for example, recreation, wilderness, wildlife.

Not Appropriate Land — See 36 CFR 219.4 and FSH 2409.13-23. See “Timber Resource Land Suitability Classification. Unsuitable.”

No-Trace Camping — A concept of recreation use in wilderness which encourages the recreation user to leave “No-Trace” of a visit to aid in protection of the wilderness resource.

Not Suited Lands — See 36 CFR 219.14. See “Timber Resource Land Suitability.”

Objective — A concise, time-specific statement of measurable planned results that respond to pre-established goals. An objective forms the basis for further planning to define the precise steps to be taken and the resources to be used in achieving identified goals.

Off-Road Vehicle (ORV) — Any motorized vehicle designed for or capable of cross-country travel on or immediately over land, water, sand, snow, ice, marsh, swarnpland, or other natural terrain. The term excludes any registered motorboat, any military, fire, emergency, or law enforcement vehicle when used for emergency purposes, and any vehicle whose use is expressly authorized by the respective agency head under a permit, lease, license, or contract. (Executive Order 11644)

Old-Growth Stand — Any stand of trees 10 acres or greater generally containing the following characteristics: 1) stands contain mature and overmature trees in the overstory and are well into the mature growth stage; 2) stands will usually contain a multi-layered canopy and trees of several age classes; 3) standing dead trees and down material are present; and 4) evidence of human activity may be present, but does not significantly alter the other characteristics and would be a subordinate factor in a description of such a stand.

Opportunity Cost — The dollar-quantifiable net loss resulting from a less efficient course of action.

Optimal Cover — A forest stand with: 1) four layers (overstory canopy, sub canopy, shrub layer, and herbaceous layer): and 2) an overstory canopy which can intercept and hold substantial amount of snow yet has dispersed (<1/8 acre) openings These criteria are generally achieved when the dominant trees average 21 inches dbh or greater, have 70 percent or greater crown closure, and are in the large saw timber or old-growth condition.

Optimum Density — For wildlife, the maximum rate of animal stocking possible without inducing damage to vegetation or rotated resources; may vary from year to year because of environmental and/or population factors.

Organization Camp — A privately-operated facility providing lodging, meals, social, and educational recreation opportunities in a forest environment. An organization camp is operated on National Forest land under “Special Use Permit.”

Output — The goods, end products, or services that are purchased, consumed, or used directly by people. Goods, services, products, and concerns produced by activities that are measurable and capable of being used to determine the effectiveness of programs and activities in meeting objectives. A broad term for describing any result, product, or service that a process or activity actually produces.

Overtnature — The stage at which a tree declines in vigor and soundness, for example past the period of rapid height growth.

Overstory — That portion of the trees, in a forest of more than one story, forming the upper or uppermost crown canopy.

Ozone — An allotropic triatomic form of oxygen that is normally a faintly blue irritating gas with a characteristic pungent odor A predominant compound in a layer of the Earth's atmosphere (the ozone layer) which plays a key role in filtering the Sun's radiation

Partial Retention — See "Visual Quality Objectives."

Particulate (Concerning air quality) — Minute separate particle of matter suspended in air. Particulate as a measure of air quality condition or standard is expressed in microns per cubic meter.

Penstock — A sluice or gate for regulating a flow (as of water); or a conduit or pipe for conducting water.

Perennial Stream — A stream that flows year round.

Persons-At-One-Time (PAOT) — The number of people in an area or using a facility at the same time. May be used as "maximum PAOT" to indicate the capacity of an area or facility to support peak usage within established user density standards and without degradation to biophysical resources.

Planning Criteria — Criteria prepared to guide the planning process. Criteria applied to collection and use of inventory data and information, analysis of the management situation, and the design, formulation, and evaluation of alternatives.

Planning Horizon — The overall time period considered in the planning process. Spans all activities covered in the analysis or plan and all future conditions and effects of proposed actions which would influence the planning decision.

Planning Period — One decade. The time interval within the planning horizon that is used to show incremental changes in yields, costs, effects, and benefits.

Planning Records — The body of information documenting the decisions and activities which result from the process of developing a Forest Plan, revision, or significant amendment.

Pore Space — Total space not occupied by soil particles in a bulk volume of soil, commonly expressed as a percentage.

Porosity — The degree to which the total volume of a soil, sediment. or rock is permeated with pores or cavities, generally expressed as a percentage of the whole volume unoccupied by solid particles.

Potential Yield — Sustainable output of wood fiber available after the yield foregone for the management opportunities of other resources has been deducted from the biological potential.

Precommercial Thinning (PCT) — The practice of removing some of the trees less than merchantable size from a stand so that the remaining trees will grow faster.

Prescribed Fire — A wildfire burning under specified conditions that will accomplish certain planned objectives. The fire may result from either planned or unplanned ignitions. Use of unplanned ignitions must have prior approval by the Regional Forester.

Present Net Value (PNV) — The difference between the discounted value (benefits) of all outputs to which monetary values or established market prices are assigned and the total discounted costs of managing the planning area. (36 CFR 219.3)

Preservation — See “Visual Quality Objectives.”

Presuppression — Activities organized in advance of fire occurrence to ensure effective suppression action.

Primary Cavity Excavators — Wildlife species that excavate cavities in wood, for food and shelter Example: woodpeckers.

Primitive — See “Recreation Opportunity Spectrum (ROS)”

Program Element — Forest Service areas of responsibility, such as “Wildlife”, “Recreation”, “Timber” based upon the National Forest budgeting process. Used in this Forest Plan to organize the management area standards and guidelines and tie to budgeting.

Programmed Harvest — The amount of timber on the Forest that is scheduled for harvesting. The programmed harvest is based on current demand, funding, and multiple-use considerations

Project — An organized effort to achieve an objective identified by location, timing, activities, outputs, effects, accountability. and control of a project.

Public Issue — A subject or question of widespread public interest relating to management of National Forest system. (36 CFR 219.3)

Puddling — Soil puddling is a physical change in soil properties due to shearing forces that destroy soil structure and reduce porosity. Detrimental puddling can be observed as vehicle tracks when soil is molded and when depth of rutting has reached 6 inches or more.

Purchaser Credit — Credit earned by the purchaser of a National Forest timber sale by construction of contract-specified roads. Earned purchaser credit may be used by the purchaser as payment for National Forest timber removed.

Range — Land producing native forage for animal consumption, and lands that are revegetated naturally or artificially to provide forage that is managed like native vegetation.

Raptors — Predatory birds, such as falcon, hawks, eagles, or owls.

Real Dollar Value — A monetary value which compensates for the effects of inflation.

Reasonable Assurance — For the purposes of regeneration suitability decisions in the Forest planning process, "reasonable assurance" is provided when:

1) One or more reforestation projects are known to exist on NFS or non-NFS lands within the subject ecosystem or land stratum, which have succeeded in meeting Regional standards for adequate restocking (as defined in a subsequent portion of the direction), and either;

2) The practices used in achieving the regeneration success are known and are accepted by experts in the field of reforestation as being generally applicable to the ecosystem or land stratum being examined.

3) Research results exist which are applicable to the subject ecosystem or land stratum and which provide the means to prescribe treatment(s) that will lead to successful reforestation.

Where a successful regeneration project cannot be found, or applicable research does not exist to demonstrate that a prescription can be written to accomplish reforestation; reasonable assurance of regeneration has not been provided. The stratum or ecotype, therefore, will be classed as not suited for timber production due to regeneration difficulty.

Management prescriptions rely on existing technology. Existing technology includes all techniques that have been proven in research or demonstrated successfully on the ground. Cost of practices will not be a criterion for excluding lands from the suitable land base at this stage in the planning process. For this round of planning, irrigation, exotic-species, and soil importation practices wilt not be considered as existing technology.

In determining whether or not natural regeneration may be reasonably assured, a certified silviculturist must be able to write a prescription that will provide for successful reforestation within a 5-year period following clearcutting, or a 10-year period following the seed cut when using the shelterwood method of regeneration cutting. The regeneration period is considered to start when the trees in a harvest unit are felled, and ends when the unit is adequately restocked.

Explanatory Notes: the phrase "reasonable assurance" is a subjective expression and is, therefore, not completely definable by precise objective and quantitative terms. By its very nature, the phrase recognizes the necessity of arriving at a decision through judgmental (subjective) processes rather than through precise quantitative analysis (objective) procedures based on measurable data with known statistical reliability.

Receipts — Those priced benefits for which money will actually be paid to the Forest Service recreation fees, timber harvest, mineral leases and special use fees.

Record of Decision — A document separate from but associated with an Environmental Impact Statement which states the decision, identifies all alternatives, specifying which were environmentally preferable, and states whether all practicable means to avoid environmental harm from the alternative have been adopted, and if not, why not.

Recreation Capacity — The number of people that can take advantage of the supply of a recreation opportunity during an established use period without substantially diminishing the quality of the recreation experience or the biophysical resources.

Recreation Development Scale (Level) — This is a scale of the level of recreation site modification and development coordinated with the ROS classes. The five development scales are described below. See “Recreation Opportunity Spectrum” and “Recreation Development.”

Recreation Information Management (RIM) — A computer-oriented system for the organization and management of information concerning recreation use, occupancy, and management of National Forest lands.

Recreation Opportunity — The availability of choices for users to participate in the recreational activities they prefer within the settings they prefer.

Recreation Opportunity Spectrum Class	Development Scale	Level of Site Modification
Primitive	1	Minimum site modification. Rustic or rudimentary improvements designed for protection of the site rather than comfort of the users. Use of synthetic materials excluded. Minimum controls are subtle. No obvious regimentation. Spacing informal and extended to minimize contacts between users. Motorized access not provided or permitted.
Semi-primitive	2	Little site modification. Rustic or rudimentary improvements designed primarily for the protection of the site rather than the comfort of the users. Motorized access provided or permitted.
Nonmotorized		Use of synthetic materials avoided. Minimum controls are subtle. Little obvious regimentation. Spacing informal and extended to minimize contacts between users. Primary access over primitive roads. Interpretive services informal, almost subliminal.

Roaded Natural	3	Site modification moderate. Facilities about equal for protection of site and comfort of users. Contemporary/rustic design of improvements is usually based on use of native materials. Inconspicuous vehicular traffic controls usually provided. Roads may be hard surfaced and trails formalized. Development density about 3 family units per acre. Primary access may be over high standard roads. Interpretive services informal, but generally direct.
Rural	4	Site heavily modified. Some facilities designed strictly for comfort and convenience of users. Luxury facilities not provided. Facility design may incorporate synthetic materials. Extensive use of artificial surfacing of roads and trails. Vehicular traffic control usually obvious. Primary access usually over paved roads. Development density 3-5 family units per acre. Plant materials usually native. Interpretive services often formal or structured.
Urban	5	High degree of site modification. Facilities mostly designed for comfort and convenience of users and usually include flush toilets; may include showers, bathhouses, laundry facilities, and electrical hookups. Synthetic materials commonly used. Formal walks or surfaced trails. Regimentation of users is obvious. Access usually by high-speed highways. Development density 5 or more family units per acre. Plant materials may be foreign to the environment. Formal interpretive services usually available. Designs formalized and architecture may be contemporary. Mowed lawns and clipped shrubs not unusual.

Recreation Opportunity Spectrum (ROS) — A conceptual framework for defining types of recreation opportunities, physical settings, and experiences a visitor can expect. It is an inventory system and a management tool. There are six ROS classes. Each class, is defined in terms of the degree to which it satisfies certain recreation experience needs, based on the extent to which the natural environment has been modified, the type of facilities provided, the degree of outdoor skills needed to enjoy the area, and the relative density of recreation use. The six classes are:

1. Primitive — Area is characterized by an essentially unmodified natural environment of fairly large size. Interaction between users is very low and evidence of other users is minimal. The area is managed to be essentially free from evidence of human-induced restrictions and controls. Motorized use within the area is not permitted.

2. Semi-primitive Nonmotorized — Area is characterized by a predominantly natural or natural-appearing environment of moderate to large size. Interaction between users is low, but there is often evidence of other users. The area is managed in such a way that minimum onsite controls and restrictions may be present, but would be subtle. Motorized recreation use is not permitted.

3. Semi-primitive Motorized — Area is characterized by a predominantly natural or natural-appearing environment of moderate to large size Concentration of users is low, but there is often evidence of other users. The area is managed in such a way that minimum onsite controls and restrictions may be present, but would be subtle. Motorized recreation use of local primitive or collector roads with predominantly natural surface and trails suitable for motor bikes is permitted.

4. Roaded Natural — Area is characterized by predominantly natural-appearing environments with moderate evidence of the sights and sounds of man. Such evidence usually harmonizes with the natural environment. Interaction between users may be moderate to high, with evidence of other users prevalent. Resource modification and utilization practices are evident, but harmonize with the natural environment. Conventional motorized use is allowed and incorporated into construction standards and design of facilities.

5. Rural — Area is characterized by a natural environment that has been substantially modified by development of structures, vegetative manipulation, or pastoral agricultural development. Resource modification and utilization practices may be used to enhance specific recreation activities and to maintain vegetative cover and soil. Sights and sounds of humans are readily evident, and the interaction between users is often moderate to high. A considerable number of facilities are designed for use by a large number of people. Facilities are often provided for special activities. Moderate user densities are present away from developed sites. Facilities for intensified motorized use and parking are available.

6. Urban — Area is characterized by a substantially urbanized environment, although the background may have natural-appearing elements. Renewable resource modification and utilization practices are often used to enhance specific recreation activities. Vegetative cover is often exotic and manicured. Sights and sounds of humans are predominant on site. Large numbers of users can be expected both on site and in nearby areas. Facilities for highly intensified motor use and parking are available with forms of mass transit often available to carry people throughout the site.

Recreation Residence — A privately owned structure, authorized on National Forest land under a “Special Use Permit.”

Recreation Visitor Day (RVD) — A measure of recreation use. Twelve visitor hours, which may be aggregated continuously, intermittently, or simultaneously by one or more persons.

Reforestation — The natural or artificial restocking of an area with forest trees; most commonly used in reference to artificial restocking.

Regeneration — The actual seedling and saplings existing in a stand; or the act of establishing young trees naturally or artificially.

Regeneration Cutting (Harvest) — Any removal of trees intended to assist regeneration already present or to make regeneration possible.

Region — An area covered by a Regional Guide. See FSM 1221.3 for organizational definitions.

Regional Forester — The Forest Service official responsible for administering a single Region.

Regional Guide — The guide developed to meet the requirements of the Forest and Rangeland Renewable Resources Planning Act of 1974, as amended. It guides all natural resource management activities, and establishes management standards and guidelines for the National Forest System lands within a given Region. It also disaggregates the assigned Regional RPA objectives to the Forests within that Region.

Regulations — Generally refers to the Code of Federal Regulations, Title 36, Chapter II, which covers management of the Forest Service.

Rehabilitation — Action taken to restore, protect, or enhance site productivity, water quality, or other resource values over a period of time.

Release — Freeing trees from competition for light, water, and nutrients by removing or reducing the vegetation growth that is overtopping or closely surrounding them.

Released Roadless — See “1) Unroaded,” and “Roadless Areas.”

Renewable Resources — Resources that are possible to use indefinitely, when the use rate does not exceed the ability to renew the supply.

Research Natural Area (RNA) — In USDA Forest Service usage, RNAs are areas designated to ensure representative samples of as many of the major naturally-occurring plant communities as possible. An area established specifically to preserve a representative sample of an ecological community, primarily for scientific and educational purposes.

Residual Stand — The trees remaining standing after some event such as selection cutting.

Residue Utilization — Removal and use of forest residue (such as slash, litter, brush, dead trees, and snags) for energy production, home heating, or wood products.

Resource — Anything which is beneficial or useful - be it animal, vegetable, mineral, a location, a labor force, a view, an experience, etc. Resources, in the context of land use planning, thus vary from such commodities as timber and minerals to such amenities as scenery, scenic view points, or recreation opportunities.

Resource Use and Development Opportunities — A possible action, measure, or treatment and corresponding goods and services identified and introduced during the scoping process, which subsequently may be incorporated into and addressed by the Forest Land and Resource Management Plan in terms of a management prescription.

Retention — See “Visual Quality Objectives.”

Riparian — Pertaining to areas of land directly influenced by water. Riparian areas usually have visible vegetative or physical characteristics reflecting this water influence. Stream sides, lake borders, or marshes are typical riparian areas.

Riparian Area — A geographically delineated area with distinctive resource values and characteristics that is comprised of aquatic and riparian ecosystems. This includes floodplains, wetlands, and all areas within a horizontal distance of approximately 100 feet from the normal line of high water of a perennial stream channel or from the shoreline of other bodies of water.

Riparian Ecosystem — A transition between the aquatic ecosystem, and the adjacent upland terrestrial ecosystem. Identified by soil characteristics and distinctive vegetation communities that require free or unbound water.

Road:

1. Arterial — A road that serves a large land area and usually connects with a public highway or other arterial road to form an integrated network of primary travel routes. The location and standard are often determined by a demand for maximum mobility and travel efficiency rather than specific resource-management service. They are usually developed and operated for long-term land and resource management purposes and constant service.

2. Collector — A road that serves a smaller land area than an arterial road and is usually connected to an arterial road or public highway. They collect traffic from local roads or terminal facilities. The location and standard are influenced by both long-term multi-resource service needs, as well as travel efficiency. Collector roads may be operated for either constant or intermittent service, depending on land use and resource management objectives for the area served by the facility (FSM 7700).

3. Local — A road that connects terminal facilities with a collector road, arterial road, or public highway. The location and standard are usually determined by that required to serve a specific resource activity, rather than travel efficiency. Local roads may be developed and operated for either long- or short-term service.

Roaded Natural (RN) —See “Recreation Opportunity Spectrum.”

Roaded Modified (RM) — A classification of the Recreation Opportunity Spectrum that characterizes a predominately altered environment, allowing for noticeable to strongly-evident management activity.

Roadless Area Review and Evaluation (RARE II) — A comprehensive process directed by the Secretary of Agriculture to identify roadless and undeveloped land areas in the National Forest system and to determine their uses for either wilderness or other resource management and development and to determine areas that would require further planning to make such a decision.

Roadless Areas — These lands, inventoried in the Roadless Areas Review and Evaluation (RARE II), were not designated wilderness by the Washington State Wilderness Act of 1984. See “Released Roadless,” and “Unroaded.”

Rotation — The number of years required to establish, including the regeneration period, and grow timber crops to a specified condition or maturity for regeneration harvest. Rotation age is based on the selected management prescriptions in a Forest Plan Alternative.

RPA — The Forest and Rangeland Renewable Resources Planning Act of 1974. Also refers to the National Assessment and Recommended Program developed to fulfill the requirements of the act. The most recent recommended program was completed in 1985.

S-8 — A map code used to designate unsuitable forest land that is not managed for timber production because technology is not available to prevent irreversible damage to soils productivity, or watershed conditions. See “Timber Resource Land Suitability Classification, (3)C.”

Sale Schedule — The quantity of timber planned for sale and harvest, by time period, from the area of suitable land covered by the Forest Plan. The first period, usually a decade, of the selected harvest schedule provides the allowable sale quantity. Future periods are shown to establish that sustained yield will be achieved and maintained.

Salvage Cutting (Harvest) — The exploitation of trees that are dead, dying, or deteriorating before their timber becomes worthless. Cutting done essentially to prevent the spread of pests or pathogens is termed “Sanitation Cutting.”

Sanitation Cutting — See “Salvage Cutting.”

Saprophyte — A plant living on dead or decaying organic matter.

Saturation Density — (Same as tolerance density). Intraspecific tolerance permits no future increase. Is most marked in territorial species. Space is the limiting factor to the further increase of this population density.

Sawtimber — Trees containing at least one 12-foot sawlog or two noncontiguous 8-foot logs, and meeting regional specifications for freedom from defect. Softwood trees must be at least 9 inches in diameter and hardwood trees 11 inches in diameter at breast height.

Scarified — Land in which the topsoil has been broken up or loosened in preparation for regenerating by direct seeding or natural seedfall. Also refers to ripping or loosening road surfaces to a specified depth for obliteration or “putting a road to bed”.

Scenic Areas — Places of outstanding or matchless beauty which require special management to preserve these qualities. They may be established under 38 CFR 294.1 whenever lands possessing outstanding or unique natural beauty warrant this classification.

Scenic River Areas — See Wild and Scenic River.

Scheduled Timber Harvests — Volumes and acres programmed for harvest which are within the allowable sale quantity. This does not include salvage and sanitation harvesting.

Scion — A detached shoot or twig containing buds from a woody plant and used in grafting.

Scoping Process — A part of the National Environmental Policy Act (NEPA) process; early and open activities used to determine the scope and significance of the issues, and the range of actions, alternatives, and impacts to be considered in an Environmental Impact Statement.

Second Growth — Forest growth that has come up naturally after some drastic interference (for example, wholesale cutting. serious fire, or insect attack) with the previous forest growth.

Sediment — Solid material, both mineral and organic, that is in suspension, is being transported, or has been moved from its site of origin by air, water, gravity, or ice and has come to rest on the earth’s surface.

Sedimentary — Rock formed of sediment, such as conglomerate, sandstone, or shales, formed of fragments of other rock transported from their sources and deposited in water. Also, rocks formed by precipitation from solution, as, rock salt and gypsum, or from secretions of organisms, as most limestone.

Seedlings and Saplings — Live trees less than five inches in diameter at breast height. (See also Size Class).

Selection Cutting — The annual or periodic removal of trees (particularly mature), individually or in small groups (“Group Selection”), from an uneven-aged forest to achieve the balance among diameter classes needed for sustaining yield and to establish a new crop of irregular distribution representative of age and/or size classes.

Semi-primitive Motorized ROS Class — See “Recreation Opportunity Spectrum.”

Semi-primitive Nonmotorized ROS Class — See “Recreation Opportunity Spectrum.”

Sensitive Species — Plant or animal species which are susceptible or vulnerable to activity impacts or habitat alterations. Those species that have appeared in the Federal Register as proposed for classification and are under consideration for official listing as endangered or threatened species, that are on an official State list, or that are recognized by the Regional Forester as needing special management to prevent their being placed on Federal or State lists.

Sensitivity Analysis — A determination of the effects of varying the level of one or more factors, while holding the other factors constant

Sensitivity Levels — These levels represent an evaluation of public use and concern for the scenic quality of the National Forests. In Region B sensitivity levels will be reviewed every 5 years and revised as necessary. There are three sensitivity levels, each identifying a different level of user concern for the visual environment:

1. Level 1 — Highest Sensitivity Level — An example would be seen areas from Interstate and U.S. Highways.

2. Level 2 — Average Sensitivity — (Also termed “Moderate Sensitivity”) Examples are seen areas from county and Forest system roads not meeting the criteria for Level 1 sensitivity.

3. Level 3 — Lowest Sensitivity — An example would be seen areas from a local road in a Management Area where timber production is emphasized.

Seral — A biotic community that is a developmental, transitory stage in an ecological succession.

Series — A level of vegetation classification that is identified by the most common species found in the tree, shrub, and/or herbaceous layer of a plant community. Series is a subdivision of a subformation.

Shall — See “must.”

Shelterwood — The cutting method that describes the silvicultural system in which, in order to provide a source of seed and/or protection for regeneration, the old crop (the shelterwood) is removed in two or more successive shelterwood cuttings. The first cutting is ordinarily the seed cutting, though it may be preceded by a preparatory cutting, and the last is the final cutting. Any intervening cutting is termed removal cutting. An even-aged stand results.

Should (or ought) — Verb used in the Management Prescriptions, Proposed Forest Plan. Action is required unless justifiable reason exists for not taking action.

Silviculture — The theory and practice of controlling the establishment, composition, constitution (the distribution and representation of age and/or size classes), and growth of forests.

Silvicultural System — A process that applies silvicultural practices, including the tending (thinning, pruning, etc.), harvesting, and replacing, to a stand in order to produce a crop of timber and other forest products. The system is named by the cutting method with which the regeneration is established, e.g. clearcutting, shelterwood, selection and group selection See “Harvest Cutting Methods.”

Site Index — A numerical evaluation of the quality of land for plant productivity, based on the height of dominant trees in a stand at an arbitrarily chosen age.

Site Preparation — 1) An activity (such as prescribed burning, disking. and tilling) performed on a reforestation area, before introduction of reforestation, to ensure adequate survival and growth of the future crop; 2) manipulation follows harvest, wildfire, or construction in order to encourage the growth of favored species. Site preparation may include the application of herbicides; burning, or cutting of living vegetation that competes with the favored species; tilting the soil; or burning of organic debris (usually logging slash) that makes planting or seeding difficult.

Site Productivity — Production capability of specific areas of land.

Size Class — For purposes of Forest planning, size class refers to the intervals of tree stem diameter used for classification of timber in the Forest Plan data base.

seedling/sapling = less than five-inch diameter
pole/sapling = five-inch to nine-inch diameter
sawtimber = greater than nine-inch diameter

Skidding — A general term for hauling loads by sliding, not on wheels as developed originally, from stump to roadside, deck, skidway, or other landing.

Skyline Deflection — The distance a skyline cable drops below line of sight during the yarding operation.

Skyline Logging — Sea “Logging Systems.”

Skyline Tailhold — Anchors consisting of stumps, trees, deadmen, or rock bolts to hold the end of the skyline yarding cable that is opposite the yarding machine.

Slash — The residue left on the ground after timber cutting or other vegetation disturbing activity and/or accumulating there as a result of storm, fire, or other damage. It includes unused logs, uprooted stumps, broken or uprooted tree stems, branches, twigs, leaves, bark, and chips.

Slope Class — See “Topographic Class.”

Small Game — Birds and small mammals typically hunted or trapped.

Snag — A standing dead tree.

SOHA (Spotted Owl Habitat Area) — A habitat area designated to support one pair of owls. See the Final SEIS for the Pacific Northwest Regional Guide.

Special Component — The portion of the regulated commercial forest land that needs specially designed treatment of the timber resource to achieve landscape or other key resource objectives

Special Use Permit — The most common permit authorizing use of Forest lands by individuals and public agencies. Examples of use authorized are: recreation residence, pasture, power or telephone tine, water transmission pipeline, powerplant, and electronic site.

Soil Stability Classes — A grouping of soil types on the Forest with respect to their tendency to erode or move from natural conditions or land use activities. The three soil stability classes used in the Forest are 1) Stable soils; 2) Moderately unstable; and 3) Highly unstable soils. See “Topographic Classes.”

Spirit Sites — Locations where an individual may seek a personal spirit power. The areas are isolated, include fresh running streams or lakes, or are near some stands of cedar. They may also be areas that are considered imbued with a power of their own.

Stand (Tree Stand) — An aggregation of trees occupying a specific area and sufficiently uniform in species, composition, age arrangement, and condition as to be distinguishable from the forest in adjoining areas.

Standard — A statement which describes a condition when a job is done properly. Standards show how well something should be done, rather than what should be done.

Standards and Guidelines — Principles specifying conditions or levels of environmental quality to be achieved.

Standard Component — The portion of the regulated commercial forest land on which crops of industrial wood can be grown and harvested with adequate protection of the forest resources under the usual provisions of the timber sale contract.

Stream Class — See Class I, II, III, and IV Streams.

Streamflow — The flow of water, generally with its suspended load, down a well-defined water course.

Streamside Management Unit (SMU) — The stream and an adjacent area where practices that might affect water quality, fish, and other aquatic resources are modified, as necessary, to meet water quality goats for each class of stream. The width of the area will vary with the management goals for each class of stream, characteristics of the stream and surrounding terrain, and type and extent of the planned activity. In the Mt. Baker-Snoqualmie National Forest, the area adjacent to wetlands and other bodies of water is termed a Wetland Management Unit (WMU). See “Class I, II, III, and IV streams.”

Stream Structure — The arrangement of logs, boulders, and meanders which modify the flow of water, thereby causing the formation of pools and gravel bars in streams. Generally, there is a direct relationship between complexity of structure and fish habitat. Complex structure is also an indication of watershed stability.

Stocking — The degree of occupancy of land by trees as measured by basal area or number of trees and as compared to a stocking standard; that is, the basal area or number of trees required to fully use the growth potential of the land.

Stumpage (stumpage value) — The value of timber as it stands uncut, in terms of an amount per unit of volume.

Substantive Comment — A comment that provides factual information, professional opinion, or informed judgment germane to the action being proposed.

Successional Stage — A stage or recognizable condition of a plant community that occurs during its development from bare ground to climax.

Suitable — See “Timber Resource Land Suitability Classification.”

Suitable Forest Land — Land to be managed for timber production on a regulated basis. See “Timber Resource Land Suitability Classification.”

Suitability — The appropriateness of applying certain resource management practices to a particular area of land, as determined by an analysis of the economic and environmental consequences and the alternative uses foregone. A unit of land may be suitable for a variety of individual or combined management practices.

Suppression — The process of extinguishing or confining a fire.

Surface Erosion — The detachment and transport of individual soil particles by wind, water, or gravity. Surface erosion can occur as the loss of soil in a fairly uniform layer across the land surface or in many small rills.

Sustained Yield of the Products and Services — The achievement and maintenance in perpetuity of a high-level annual or regular periodic output of the various renewable resources of the National Forest System without impairment to the productivity of the land.

Talus Slope — A collection of fallen disintegrated material which has formed a slope at the foot of a steeper descending slope.

Tentatively Suitable — See “Timber Resource Land Suitability Classification.”

Thermal Cover — Cover used by animals to lessen the effects of weather; for elk, a stand of coniferous trees 40 feet or more tall with an average crown closure of 70 percent or more.

Thinning — See “Intermediate Cutting” and “Precommercial Thinning.”

Threatened Species — Those plant or animal species likely to become endangered species throughout all or a significant portion of their range within the foreseeable future.

Till — Nonsorted, nonstratified sediment carried or deposited by a glacier.

Timber Resource Land Suitability Classification — National Forest System lands are classified according to the following definitions:

1. Non-forest — Land that has never supported forests and land formerly forested where use for timber production is precluded by development or other uses.

2. Forest — Land at least 10-percent stocked (based on crown cover) by forest trees of any size, or formerly having had such tree cover and not currently developed for non—forest use.

3. Unsuitable Forest Land (Not Suited) — Forest land that is not managed for timber production because (a) the land has been withdrawn by Congress, the Secretary, or the Chief; (b) the land is not producing or capable of producing crops of industrial wood; (c) technology is not available to prevent irreversible damage to soils, productivity, or watershed conditions; (d) there is no reasonable assurance that lands can be adequately restocked within 5 years after final harvest, based on existing technology and knowledge, as reflected in current research and experience; e) there is at present, a lack of adequate information to responses to timber management activities; or (f) timber management is inconsistent with or not cost efficient (not appropriate) in meeting the management requirements and multiple-use objectives specified in a Forest Plan land management alternative.

4. Tentatively Suitable Forest Land — Forest land that is producing or is capable of producing crops of industrial wood and (a) has not been withdrawn by Congress, the Secretary, or the Chief; (b) existing technology and knowledge is available to ensure timber production without irreversible damage to soils, productivity, or watershed conditions; c) existing technology and knowledge, as reflected in current research and experience, provides reasonable assurance that adequate restocking can be attained within 5 years after final harvest; and (d) adequate information is available to project responses to timber management activities.

5. Suitable — Tentatively suitable forest land identified as appropriate for timber production in a Forest Plan land management alternative.

6. Commercial Forest (CFL) — Forest land that is producing or is capable of producing crops of industrial wood and (a) has not been withdrawn by Congress, the Secretary of Agriculture, or the Chief of the Forest Service; (b) existing technology and knowledge is available to ensure timber production without irreversible damage to soils productivity, or watershed conditions; and (c) where existing technology and knowledge, as reflected in current research and experience, provides reasonable assurance that adequate restocking can be attained within 5 years after final harvesting.

Timber Production — The purposeful growing, tending, harvesting, and regeneration of regulated crops of trees to be cut into logs, bolts, or other round sections for industrial or consumer use other than for fuelwood.

Timber Sale Program Quantity (TSPQ) — The volume of timber planned for sale during the first decade of the planning horizon. It includes the allowable sale quantity (chargeable volume) and any additional material (nonchargeable volume) planned for sale. The timber sale program quantity is usually expressed as an annual average for the first decade.

Timber Stand Improvement (TSI) — Measures such as precommercial thinning, pruning, release cutting, prescribed fire, girdling, weeding, or poisoning of unwanted trees aimed at improving growing conditions for the remaining trees.

Topographic Class (Slope Class) — Divisions of the Forest important primarily for determining soil sediment outputs, tendency for soil erosion and slope failure, and difficulty in road construction and timber harvesting activities. The three classes defined in the Forest to reflect these concerns are:

A — Gentle topography, less than 35% slope.
B — Somewhat uneven topography with rock outcrops in less than 35% of the area. Steep slopes (35% to 80%).
C — Rugged highly dissected topography with rock outcrops in 35% - 100% of the area. Steep slopes (50% to 90%). Stream density greater than 5 miles per section.

See “Soil Stability Class.” The latter (three classes) were used in combination with each topographic class to develop coefficients such as soil sediment output caused by management activities.

Tree Line — A loose term for the limit beyond which trees cannot or do not appear. The limiting factor is most commonly altitude or geographical latitude. A distinction may be drawn between tree tine and timber line, the latter being roughly the limit of timber rather than isolated trees.

Turbidity — The cloudy condition caused by suspended solids in a liquid. See “Sediment.”

Understory — The trees and other woody species growing under a more-or-less continuous cover of branches and foliage formed collectively by the upper portion of adjacent trees and other woody growth.

Undeveloped Area — Portion of the National Forest that is essentially unroaded.

Uneven-Aged Management — The application of a combination of actions needed to simultaneously maintain continuous high-forest cover, recurring regeneration of desirable species, and the orderly growth and development of trees through a range of diameter or age classes to provide a sustained yield of forest products. Cutting is usually regulated by specifying the number or proportion of trees of particular sizes to retain within each area, thereby maintaining a planned distribution of size classes. Cutting methods that develop and maintain uneven-aged stands are single-tree selection and group selection. (35 CFR 219.3)

Unroaded — 1) RARE II roadless areas released by the Washington State Wilderness Act of 1984 from being considered for designation as wilderness during development of the initial Forest Plan; 2) In the Forest’s FORPLAN Model, an analysis area identifier which includes roadless areas defined in “1” above in addition to other unroaded areas in the Forest containing tentatively suitable forest land; 3) A term used to equal the sum of recreation use or carrying capacity from the primitive, semi-primitive nonmotorized, and semi-primitive motorized recreation opportunity spectrum areas outside wilderness.

Unsuitable Lands — See CFR 35 219.14. See “Timber Resource Land Suitability Classification, Unsuitable.”

Utility and Transportation Corridors — A strip of land designated for the transportation of energy, commodities, and communications. Examples are power transmission lines, pipelines, penstocks, water lines, etc. Transportation of minor amounts of power for short distances are not treated in the Forest Plan.

Utilization Standards — Standards guiding the use and removal of timber, which is measured in terms of diameter at breast height, top diameter inside the bark, and percent “soundness” of the wood.

Variety Class — A measure of visual diversity or inherent capability of the land to produce attractive scenery. There are three variety classes. See “Character Type.”

Class A - Distinctive — Refers to areas where features of the landscape are of unusual or outstanding visual quality. They are usually not common in the character type.

Class B - Common — Refers to areas where features contain variety in form, line, color, texture, or combinations thereof, but which tend to be common throughout the character type. These landscapes are the benchmark from which distinctive and minimal can be judged.

Class C - Minimal — Refers to areas where features have little change in form, line, color, or texture. Includes all areas not found under Classes A and B.

Vegetation Leave Area — Area of land in which vegetation is left undisturbed in order to provide shade and organic debris to streams, or to prevent the acceleration of natural erosion processes. No regulated timber harvest is planned in these areas.

Vegetative Management — Activities designed primarily to promote the health of the crop forest cover for multiple-use purposes.

Vertical Diversity — The diversity in a stand that results from the complexity of the aboveground structures of the vegetation; the more tiers of vegetation and/or the more diverse the species makeup, the higher the degree of vertical diversity. This concept is similar but not identical to “uneven-aged management;” each may influence the other. Application of even-aged management, for example, can be designed to accomplish vertical diversity objectives. See also “Horizontal Diversity.”

Viable Population — The number of individuals of a species required to ensure the long-term existence of the species in natural, self-sustaining populations adequately distributed throughout their region.

Viewshed — (Sometimes termed “Viewshed Corridor” or “Visual Corridor”). Viewsheds are the “seen” landscape visible to most Forest visitors from roads, trails, rivers, and recreation areas. Most are corridors, one-quarter to two miles wide. Viewsheds viewed from primary travel routes and use areas are “Sensitivity Level 1.” Viewsheds viewed from secondary travel routes and use areas are “Sensitivity Level 2.”

Visual Absorption Capacity (VAC) — An estimate of the relative ability of a landscape to accept management manipulations without significantly affecting its visual character, or the relative capacity of the land to absorb visual change. Rated as low, moderate, and high.

Visual Condition — The visual appearance of a landscape described in terms of the degree of alteration of the natural appearing landscape. Descriptive degrees of alteration are:

1 . Natural Appearing — Area appears untouched by man; changes are not visually evident.

2. Slightly Altered — Changes may be noticed by the average visitor but do not attract attention. Natural appearance dominates minor disturbances.

3. Moderately Altered — Changes are easily noticed by the average visitor and may attract attention. Disturbances are apparent.

4. Heavily Altered — Changes are strong and obvious to the average visitor. Changes dominate the landscape but may resemble natural patterns when viewed from a distance of 3 to 5 miles. Disturbances are major.

Visual Corridor — See “Viewshed.”

Visual Quality Levels (VQL) — An inventoried measure of acceptable levels of modification of the visual resource. VQL’s are used in Forest planning as an indicator of social (visual) acceptability and as an input for management decisions. VQL’s become Visual Quality Objectives in the approved Forest Land Management Plan.

1. Preservation — Allows ecological changes only.

2. Retention — Human activities are not evident to the casual Forest visitor.

3. Partial Retention — Human activity may be evident, but must remain subordinate to the characteristic landscape.

4. Modification — Human activity may dominate the characteristic landscape, but must, at the same time, follow naturally established form, line, color, and texture. It should appear as a natural occurrence when viewed in foreground or middleground.

5. Maximum Modification — Human activity may dominate the characteristic landscape, but should appear as a natural occurrence when viewed as background.

6. Enhancement — A short-term management alternative which is done with the express purpose of increasing positive visual variety where little variety now exists.

Visual Quality Objectives (VQO) — See “Visual Quality Levels.”

Visual Resource — The composite of basic terrain, geologic features, water features, vegetative patterns, and land-use effects that typify a land unit and influence the visual appeal the unit may have for visitors.

Wetlands — Areas that are inundated by surface water or groundwater with a frequency sufficient to support, and under normal circumstances does or would support, a prevalence of vegetative or aquatic life that requires saturated or seasonally saturated soil conditions for growth and reproduction (Executive Order 11990).

Wetland Management Unit (WMU) — See “Streamside Management Unit.”

Wilderness — Areas designated by congressional action under the 1964 Wilderness Act. Wilderness is defined as undeveloped Federal land retaining its primeval character and influence without permanent improvements or human habitation. Wilderness areas are protected and managed to preserve their natural conditions, which generally appear to have been affected primarily by the forces of nature, with the imprint of human activity substantially unnoticeable; have outstanding opportunities for solitude or for a primitive and confined type of recreation; include at least 5,000 acres or are of sufficient size to make practical their preservation, enjoyment, and use in an unimpaired condition, and may contain features of scientific, educational, scenic, or historical value as well as ecologic and geologic interest.

Wild and Scenic Rivers — Those rivers or sections of rivers designated as such by congressional action under the 1968 Wild and Scenic Rivers Act, as supplemented and amended, or those sections of rivers designated as wild, scenic, or recreational by an act of the Legislature of the State or States through which they flow. Wild and Scenic Rivers may be classified and administered under one or more of the following categories:

1. Wild River Areas — Those rivers or sections of rivers that are free of impoundments and generally inaccessible except by trail, with watersheds or shorelines essentially primitive and waters unpolluted. These represent vestiges of primitive America.

2. Scenic River Areas — Those rivers or sections of rivers that are free of impoundments, with watersheds still largely primitive and shorelines largely undeveloped, but accessible in places by roads.

3. Recreational River Areas — Those rivers or sections of rivers that are readily accessible by road or railroad, that may have some development along their shorelines, and that may have undergone some impoundment or diversion in the past.

Wilderness Recreation Opportunity Spectrum — See “Recreation Opportunity Spectrum.” Wilderness ROS and their standards apply to all designated wilderness on the Forest. For specific direction regarding Alpine Lakes, consult the Alpine Lakes Area Land Management Plan.

Within each WROS Class there are Limits of Acceptable Change (LAC). LAC is a maximum limit of change allowed. Managers try to achieve the best conditions possible rather than allowing conditions to deteriorate until the threshold is reached. See “Limits of Acceptable Change.”

1. Transition — This trailed class includes system trails that have a travelway worn to mineral soil over tong distances, and is characterized by having a large proportion of day-users, often mixed in with overnight and long distance travelers. This area is usually adjacent to trailheads and extends into the wilderness a distance that is typically traveled in one day by a hiker. This class includes areas accessed by trail, around lakes, or other attractions used by people or pack stock, within the day-use influence area. The class extends at least 500 feet on either side of a trail; it may be wider around takes or heavily used areas. The length of this trail class will be established for each trail depending on ease of travel, distance from trailhead outside wilderness, and destination attractions inside wilderness. Length will generally be 3 to 5 miles inside the wilderness boundary. If the day-use activity occurs entirety outside wilderness, the trail will have no Transition Class.

2. Trailed — This class includes all managed system trails. It extends beyond the Transition Class. This class extends at least 500 feet on either side of the trail but may be wider around lakes or heavily used areas.

3. General Trailless — This class includes areas not falling into the other classes. It attracts very low use because of a relative tack of trails or destination spots. The area is unmodified; user-made trails are not encouraged, but they may exist. If obvious user-made trails become well established, or are causing resource damage, consideration wilt be given to their reconstruction in order to protect the wilderness resource from further damage. Reclassification from general trailless to trailed requires a supplement of the Forest Plan, which shall include full public involvement. This class is available for new trail construction or relocation of existing trails to protect resources or meet objectives by dispersing use. If this should occur, the trail will only be constructed to no higher than “more difficult” or “most difficult” standards.

4. Dedicated Trailless — This class is managed forever trailless; user-made trails are not permitted. It may include popular attractions accessed only by cross-country travel. Human impact and influence is, by design, minimal; therefore user restrictions may be necessary to insure that trailless experiences remain. Dedicated Trailless areas should be of a size that will allow for a meaningful experience and can be reasonably protected for the experiences and remoteness identified. Generally the class is at least 1,000 acres in size and contains whole drainages or basins out of sight and sound of trails or areas outside the wilderness.

5. Special Areas — The intent of this class is to provide for significant changes in standards or other management guidelines for unique areas. Areas that qualify for Special Area designation include congressionally acknowledged areas, areas of significant cultural or historic value, areas with special considerations, and areas with limited management options to deal with unique situations. Areas do not qualify for this class for administrative convenience in dealing with overuse. The class is rare and will not exist in many wildernesses.

Wildfire — Any wildland fire that is not a prescribed fire.

Wildland — Uncultivated land, other than fallow, virtually uninfluenced by human activity. It may be neglected altogether or maintained for such purposes as wood or forage production, wildlife habitat, recreation, or protective plant cover.

Wildlife Fish User Day (WFUD) — One WFUD consists of 12 hours of recreation that is the result of fish or wildlife, such as hunting, fishing, birdwatching, etc.

Will — Verb used in the Management Prescriptions, Proposed Forest Plan. Is not restrictive; applies only to a statement of future condition or an expression of time. Not used in the place of “shall.”

Windfall — A tree thrown or the stem or other parts (such as branches, foliage, or fruit) broken off or blown down by the wind.

Wood Residue — The residual wood remaining as a result of timber cutting, other vegetation disturbing activity, storms, fire, or other natural event. It includes any unutilized woody material. See “Slash” and “Residue Utilization.”

Yarding — The moving of logs from the stump where cut to a central concentration area or landing. See “Logging Systems.”

Yield Tables — Tables that estimate the level of outputs that would result from implementing a particular activity. Usually referred to in conjunction with FORPLAN input or output. Yield tables can be developed for timber volumes, range production, soil and water outputs, and other resources.

APPENDIX A

Timber Program Activity Schedule

This appendix displays how the allowable sale quantity of chargeable sawtimber projected by the Forest Plan , that is likely to be provided during the period 1990 through 1999. The first portion of table 1-A shows proposed sales in Fiscal Years 1990 through 1992. These sales are relatively firm, based on current conditions and information available. The second part of Table A-1 list a pool of possible projects (Timber Sales) that could be implemented over the remainder of the period, FY 1993 - 1999. These sales can be considered probable sales in the initial stages of sale preparation. Conditions and new information at any time may eliminate, delay, or revise a scheduled sale. The timber sale schedule may be modified during the implementation of this Plan. The degree of modification will determine whether the Plan needs amendment in accordance with the required process. Additional program information is provided for the entire ten year period in Table A-1 of the Forest Plan.

The timber sale schedule displayed in Table A-1 will be modified if conditions change from those that existed when the Forest Plan was developed, and as new information becomes available during implementation of the Forest Plan. This sale schedule was developed from the Ten-Year Allowable Sale Quantity Goals by Working Group and Management Area, Table A-1.

The (small sale) and miscellaneous sales category displayed in Table A-1 reflects sales that, individually, do not exceed 2.0 million board feet. These sales are located in areas that are already roaded, and are used to achieve a variety of special purposes. Typical uses of small sales includes salvage of windthrown trees, removal of hazard trees from along trails, and treatment of small areas that would be impractical to include in a regular scheduled large sale. A variety of silvicultural methods may be used to achieve the objectives of individual small sales.

A schedule of sales for non-chargeable forest products (chips, post, poles, firewood, etc-TSPQ) is not shown. These products will be made available to the public, as provided for in the Forest-wide standards and underlined.

The following abbreviations are used in the third column of the table, Harvest Method:

HCC Clearcut, even-aged regeneration method: group, patch, strip, or stand.

HFR Final Removal Cut, even-aged regeneration method: from a prescribed seed tree or shelterwood cutting unit.

HPR Partial Removal Cut. A partial overstory removal, usually occurring in even-aged stands exhibiting a layered condition,

HSH Shelterwood Seed Cut, even-aged regeneration method.

HSV Salvage (intermediate) Cut. Not to be used when blown down or other disaster results in reducing stocking on an area below minimum level.

HTH Commercial Thinning. This is an intermediate harvest chargeable to the Allowable Sale Quantity.

HSL Selection Cut. Harvest prescription requires cutting individual trees.

Table A-1
Timber Sale Activity Schedule

Sale Name, FY, and Ranger District	Township, Range, & Section Location	Harvest Method	Area Acres	Volume (MMBF)	Miles of Road Con-struction	Miles of Road Recon-struction	Manage-ment Area	Remarks
F I R S T T H R E E Y E A R S - F Y 1 9 9 0 - 1 9 9 2 P R O P O S E D S A L E S								
FY 1990 - MT. BAKER								
Lucky Son	T34N, R12E, 1, 2, 11, T34N, R13E, 5, 6	HCC	132	8.5	3 4	1.0	6	Eight D fir/cedar clearcut units located in the Cascade River drainage near Mineral Park Seven units in RARE II H6031.
Old Grade	T39N, R7E, Sect 9, 10, 16, 21, 22, 27	HCC	194	9.1	6 1		2B	Eleven white wood/cedar clearcut units located south of Thompson Creek east of the town of Glacier. Skyline Ten units in RARE II 6041
Louise	T34N, R10E, Sect.26, 35	HCC	58	2.6	0 4	0 5	17,2B,19	Three white wood/cedar clearcut units located on Suiattle Mtn. Grabinski and live skyline. All units in RARE II I6031
Razor Fly Salvage	T39N, R9E	HSV	30	0 05			2B	Seven units located along the Mt Baker Hwy and Razorbone Rd Five units in RARE II 6041
Hilt-White Creek Cedar Salvage	T34N, R10E	HSV		0 25			17	One unit cedar salvage from previous logging area On roads #16 and #1610 Harvest scattered over 400 acres.
Illabot Fly Cedar	T34N, R10E, T34N, R11E	HSV		1 2			17	Six unit salvage of windthrow on Road #16. All units in RARE II 6031. Harvest scattered over 2,000 acres
Bacon Road Salvage	T36N, R11E	HSV	4	0.035			14	Two unit salvage of windthrow on upper Road #1060.
Cascade Road Salvage	T34N, R12E, R13E T35N, R12E, R13E	HCC	31	0 05			1D	Salvage of windthrow on the Cascade and Kindy Road

Sale Name, FY, and Ranger District	Township, Range, & Section Location	Harvest Method	Area Acres	Volume (MMBF)	Miles of Road Con-struction	Miles of Road Recon-struction	Manage-ment Area	Remarks
Finney Fly #3	T34N, R8E	HSV		0.175			17	One unit salvage of windthrow at the end of Road #1715. Harvest scattered over 225 acres.
Slate Mountain	T39N, R8E, Sect 1 T39N, R9E, Sect.6-8	HPR	156	5 1			2B	Five white wood partial cut and clearcut units located northwest of Slate Mtn. Helicopter yarding required. All five units in RARE II 6041.
Boyd Creek	T35N, R7E, Sect 27, 28 33-35, T34N, R7E, Sect.2-4	HCC	72	3 8			2B	Four white wood/D fir clear-cut units located on the forest boundary between Boyd and O'Toole Creeks. Helicopter yarding required. All four units are in Rare II 6048.
Loretta	T39N, R7E, Sect.5, 6, T40N, R7E, Sect.31, 32	HTH HPR	86	2.0	1.0		2A, 2B	Two D.fir/cedar partial cut units located north of the town of Glacier.
Slippery Rock	T37N, R8E, Sect.26, 27, 34, 35	HPR	189	6.6	1 3		2B	D.fir/cedar/white wood clearcut units located west of Baker Lake Hwy and Rocky Creek.
Hannegan	T39N, R9E, T40N, R8E, T34N, R7E	HPR HCC HPR	300	7.1	0.5	1.7	2A, 2B	White wood/D fir clearcut units located on the North Fork of the Nooksack River drainage. Six units require skyline. Five units require helicopter and one unit requires tractor yarding. Six units in RARE II 6041.
SUBTOTAL - MT. BAKER	90		1,252	46.56	12.7	3.2		
FY 1990 - DARRINGTON								
Hurry On Salvage SSTS	T31N, R11E, Sect 13	HSV	11	0 86			17	SOLD
Flat Salvage SSTS	T30N, R9E, Sect 31, 34	HCC	34	1 1			2B, 17	SOLD

Sale Name, FY, and Ranger District	Township, Range, & Section Location	Harvest Method	Area Acres	Volume (MMBF)	Miles of Road Con-struction	Miles of Road Recon-struction	Manage-ment Area	Remarks
Whitehorse Flat	T32N, R8E, Sect.15	HCC	47	3.5	1.5		2B	One clearcut unit is planned on the lower slopes of Whitehorse Mtn. near French Creek.
Nowl Cedar Salvage	T30N, R8E, Sect.23, 26	HSV	23	0.037			23A	Salvage of down cedar on the lower slopes of Mt. Pilchuck
3 Saw Salvage	T32N, R9E, Sect 14	HSV		0.004			17	SOLD
Stalwart	T30N, R10E, Sect.22, 23, 26, 27	HCC	29	2.8	0 3	1.0	2A	Five small clearcut units are planned in the Perry Creek drainage. Douglas fir is the major species.
Goldfly Cedar Salvage	T32N, R10E, Sect 32, 33	HSV	74	0.018			2B	Salvage of down cedar on Gold Hill.
Suiattle Two Buyback	T32N, R11E, Sect 8, 17	HCC	37	3.0		1 3	17	Two clearcut units near Conrad Creek in the Suiattle drainage. Douglas fir is the major species. Advisory Board modifications
Sauk Alder	Sauk River Drainage	HCC	135	2.733			6, 2A	Seventeen clearcut units of hardwoods plus one partial cut in the Sauk River drainage.
Remnant Cedar Salvage	T30N, R9E, Sect.30	HSV	41	0.03			17	Salvage of down cedar in the Schweitzer Creek drainage
Huckleberry Flat	T32N, R9E, Sect 3, 4, 9, 10	HCC	90	5.5	2 1	5.3	17	One clearcut unit is planned on Huckleberry Mtn. Douglas fir is the major species.
Fork Cedar Salvage	T31N, R7E, Sect 12, T31N, R8E, Sect 7	HSV	70	0 04			17	Salvage of standing and down cedar in the North Fork Canyon Creek drainage.
White Cedar Salvage	T31N, R11E, Sect.16, 17	HSV	48	0 03			17	Salvage of standing and down cedar in the Whitechuck River drainage
Mallardy Cedar Salvage	T30N, R9E, Sect.28, 33	HSV	40	0.06			2B	Salvage down cedar in the Mallardy Creek drainage.

Sale Name, FY, and Ranger District	Township, Range, & Section Location	Harvest Method	Area Acres	Volume (MMBF)	Miles of Road Con-struction	Miles of Road Recon-struction	Manage-ment Area	Remarks
Gold Rush Salvage	T32N, R10E, Sect.19, 21	HSV	7	0.16			17	Two partial cut units of windthrown timber on Gold Hill.
Jaybird Cedar Salvage	T33N, R9E, Sect. 21	HSV	15	0.081			17	Salvage of down cedar in the south branch of the North Fork Stillaguamish River
Clear Creek	T30N, R9E, Sect 1, 2, T31N, R9E, Sect 23, 26, 35	HCC	98	7 1		9 2	2B, 1D	Eight clearcut units are planned in the Clear Creek drainage
Flat Cedar Salvage	T29N, R9E, Sect. 5, 6 T30N, R9E, Sect.31, 32	HCC	34	0 038			2B, 17	Salvage of down cedar salvage in Schweitzer Creek drainage Harvest scattered over 340 ac.
South Green Cedar Salvage	T30N, R8E, Sect 11, 12	HSV	30	0 06			2B	Salvage of standing and down cedar on the south side of Green Mtn
New Crevice Cedar Salvage	T33N, R9E, Sect.16, 17	HSV	66	0 048			17	Salvage of down cedar in the south branch of the North Fork Stillaguamish River.
Gold Coast Buyback	T32N, R10E, Sect 28, 29 32, 33	HCC	170	9.145		4.6	2B, 17	Six clearcut units on Gold Hill. Mixed species. Advisory Board modifications.
Median Buyback	T33N, R9E, Sect 4, 5, 8, 9	HCC	144	6.1		17 5	17	Five clearcut units are located in the North Fork Stillaguamish Hemlock and silver fir. Advisory Board modifications
Phantom #3	T31N, R10E, Sect. 3	HCC	29	1 56			2B	One clearcut unit on Gold Hill.
Small Salvage	T32N, R11E, Sect 16, 21 22, 23	HCC	17	0.55			17	Salvage of small diameter timber located between the Circle Creek and Straight Creek drainages.
Dead Duck	T31N, R11E, Sect.15, 16	HCC	115	7 16	0 9	0 1	17	Four clearcut units located on lower slopes of Mt Pugh. Mixed species.

Sale Name, FY, and Ranger District	Township, Range, & Section Location	Harvest Method	Area Acres	Volume (MMBF)	Miles of Road Con-struction	Miles of Road Recon-struction	Manage-ment Area	Remarks
Scraps	T30N, R9E, Sect 22, 27, 28, 32-34	HFR	142	6.225			2B, 17	Nine clearcut units are planned on Mallardy Ridge Cedar and hemlock. Advisory Board modifications.
Rounder Cedar Salvage	T33N, R8E, Sect.36	HSV	10	0 036			2B	Salvage of down western red cedar located in the Segelson Creek drainage.
SUBTOTAL - DARRINGTON 90			1,523	57 975	4.8	39 0		
FY 1990 - NORTH BEND								
Puget Power Settlement 90	T22N, R11E, Sect 22		1	0 015			27SF	SOLD Permanent land clearing.
NFS Salvage	T25N, R10E, Sect.7	HSV	1	0 035			27GF	
Railroad Leave	T22N, R10E, Sect.32	HCC	83	3 9	0.8		20A	Two clearcut units located in the Cedar River Watershed
Claim	T21N, R10E, Sect 4	HCC	46	4 5			20A	One clearcut unit in the Cedar River Watershed.
Calligan	T25N, R9E, Sect 34	HCC	96	4 2	1.5	2.1	27GF	Five clearcut units adjacent to Calligan Lake.
Abiel	T21N, R11E, Sect 6, T22N, R10E, Sect.36	HCC	159	9 0	3.8		20A	Ten clearcut units in the North Fork Cedar River drainage.
Baby Bear	T21N, R10E, Sect 10	HCC	35	1 8			20A	One clearcut unit in the Cedar River Watershed
Price Buyout	T20N, R11E, Sect. 14	HCC	93	5 7			21A	Five clearcut units in the Upper Green River Watershed
Dandy Pass Log Decks	T21N, R11E, Sect. 22		3	0 15				Permanent land clearing
SUBTOTAL - NORTH BEND 90			517	29 3	6 1	2 1		
FY 1990 - SKYKOMISH								
U S 2 Decks Salvage	T26N, R13E, Sect 30		2	0 091			27GF	SOLD U S. 2 Right-of-way
Money Creek Salvage Decks	T26N, R11E, Sect 30, 31	HSV	2	0 036			27GF & SF	SOLD

Sale Name, FY, and Ranger District	Township, Range, & Section Location	Harvest Method	Area Acres	Volume (MMBF)	Miles of Road Con-struction	Miles of Road Recon-struction	Manage-ment Area	Remarks
E-Z Beck Salvage (SSTS)	T27N, R14E, Sect.17, 18	HSV	18	0 1			17	
N. Windy Salvage (SSTS)	T26N, R14E, Sect 18	HSV	17	0 25			17	
North Fork SSTS	T28N, R12E, Sect 8, 9, 18, 19	HSV	5	0.11			1D	
Sawyer	T25N, R12E	HCC	78	3.5	1 0	1 0	27GF & SF	
Wayout Salvage	T26N, R12E Sect 36	HSV	8	0.05			27GF & SF	
Eagle Down Salvage	T26N, R11E, Sect 10	HSV	5	0.1			19	
Deception	T26N, R12E, T26N, R13E	HCC	58	4.156	1 0	0 5	17, 27GF	
Powerline Salvage	T26N, R12E Sect 29, 30	HSV		0 06			27GF & SF	Scattered harvest over 189 acres
Sobieski	T25N, R11E, T25N, R12E	HCC	59	3.428	1 0	0.5	27GF & SF	
North Heybrook	T27N, R10E	HCC	156	5.1	2 5	1 3	2A, 17	
SUBTOTAL - SKYKOMISH 90			408	16 981	5 5	3 3		
FY 1990 - WHITE RIVER								
Little Viola	T18N, R8E, Sect 25	HCC	85	4.5	0 4		17	Unit 5 in Roadless Area 6055.
NW Haller	T18N, R9E, Sect 2, 4, 9, 20, 30	HCC	167	8.4	1 0		2B,14,17	
Lower Huckleberry	T18N, R10E, Sect 7, 18	HCC	123	7.13	1 9		2B, 17	
Doe Creek	T18N, R10E, Sect 32, 33	HCC	90	3 6	2.5		17	Sale in Roadless Area 6058.
Side Burns	T17N, R7E, Sect 2,-12	HCC	146	5 67	3 0		17	Units 2 & 3 in Roadless Area 6055
7060 Salvage		HCC	4	0 16			17	
Evans Thin Resale		HTH	43	0 78			17	
SUBTOTAL - WHITE RIVER 90			658	30 24	8,8			
FOREST TOTAL FY 90			4,705	181 056	37 9	47 6		

Sale Name, FY, and Ranger District	Township, Range, & Section Location	Harvest Method	Area Acres	Volume (MMBF)	Miles of Road Con-struction	Miles of Road Recon-struction	Manage-ment Area	Remarks
FY 1991 - MT. BAKER								
Black Powder	T33N, R8E, Sect 24, 25, 35, T33N, R9E, Sect.10, 19, 29	HCC	145	5.1		1 0	17	White wood/cedar clearcut units located between Alder Creek and North Fork of the Stillaguamish.
Clapper	T37N, R7E, Sect.22, 27	HCC	50	2 0		1.0	17, 14	White wood clearcut units located on the South Fork of the Nooksack River. Some units are found in former RARE II area, Mt Baker West #6041
Little Bear	T38N, R9E. Sect 27, 28, 32-34	HCC	159	10.2	4.2	4 6	2A, 2B	Five clearcut units Highlead and skyline
Grouse Butte West	T39N, R6E. Sect.25, 36	HCC	51	1.8	1.3	0 5	23A	Two white wood clearcut units near Rocky Creek north of Clearwater Creek. Some units are found in former RARE II area, Mt. Baker West #6041.
Misc. Small Sales	Various		100	7 9				Various small sales consisting of roadside salvage and windthrow timber.
SUBTOTAL - MT BAKER 91			505	27.04	5.5	7.1		
FY 1991 - DARRINGTON								
North Canyon Buyback	T31N, R8E, Sect 7, 17, 18	HCC	45	2 9		2.0	17	Five clearcut units are planned in North Fork Canyon Creek. Hemlock and Pacific silver fir.
Tupso Pass	T31N, R8E, Sect. 9	HOR	46	2.7	0.3	3.0	1D	Harvest final removal unit near Tupso Pass Some units are found in former RARE II area, Boulder River #6050
Boxer	T32N, R12E, Sect.23, 24, 25, 26	HCC	145	11 9	1.6	7 4	6, 17	Eight clearcut units are planned on Box Mtn. Mixed species. Some units are found in former RARE II area, Glacier Peak #G6031.

Sale Name, FY, and Ranger District	Township, Range, & Section Location	Harvest Method	Area Acres	Volume (MMBF)	Miles of Road Con-struction	Miles of Road Recon-struction	Manage-ment Area	Remarks
Black Gold Salvage	T33N, R10E, Sect 19	HSV	5	0.48			2B	Helicopter logging of salvage resulting from fire.
Betwixt	T30N, R8E, Sect. 26, 35	HCC	80	3.5	1.0	0.3	2B, 17	Three shelterwood harvest and three final removal units are planned adjacent to Bear and Black Creeks.
Backside	T33N, R9E, Sect.19, 20, 29, 30	HCC	65	3 0	0 6	2.0	17	Two clearcut units located on south branch of the North Fork Stillaguamish River.
Beulah Johnson	T29N, R12E, Sect 8-11, 14-17	HCC	58	3 4		3 0	17	Seven clearcut units are planned in the North Fork Sauk River drainage. Some units are found in former RARE II area, Glacier Peak #J6031
Miscellaneous Sales	Various	HCC	80	2 4				Various small sales consisting of roadside salvage and wind thrown timber
SUBTOTAL - DARRINGTON 91			524	30 3	3.5	17.7		
FY 1991 - NORTH BEND								
Pioneer Creek	T20N, R12E, Sect. 26, T19N, R12E, Sect.2, 19	HCC HSL	96	4.4	2.6		21A	Five clearcut units located in the head of Tacoma and Pionner Creek within the Green River Watershed.
Ballard	T22N, R10E, Sect 32	HCC	41	1.8			20A	Clearcut unit located in the Cedar River Watershed
Prospector	T25N, R10E, Sect.16, 17, 21,22	HCC	77	4 2	1 5		14	Five clearcut units located in Lennox Creek drainage
Jig Saw	T22N, R10E, Sect. 36	HCC	97	5 7	1 1		20A	Three clearcut units in Findley Creek within the Cedar River Watershed.
Miscellaneous Salvage	District Wide	HCC	15	0.7				Various small sales District wide.

100 ac.

Sale Name, FY, and Ranger District	Township, Range, & Section Location	Harvest Method	Area Acres	Volume (MMBF)	Miles of Road Con-struction	Miles of Road Recon-struction	Manage-ment Area	Remarks
Border	T21N, R11E, Sect.8, 18	HCC HSL	80	3 2	1.6		20A	Seven clearcut units located in the Cedar River Watershed.
SUBTOTAL - NORTH BEND 91			406	20 0	6 8			
FY 1991 - SKYKOMISH								
Harbeck	T26N, R12E, Sect.16, 18-22	HCC	105	5.0	1.4	2.4	17	
Foss Reshape	T25N, R12E, Sect.18, 19	HSV	15	0 6			27GF	
Miscellaneous Sales	District Wide	HCC	54	1 0	1 5	1 0	14	
Mountain Hemlock Study	T25N, R11E, R12E, & R27N, R11E	HCC HTH HSH	59	1 18		0 4	19	Some units are found in former RARE II area, Eagle Rock #6054. HCC-35 ac HTH-8 ac HSH-16 ac.
US2 Salvage Rehab	Private Cutting Boundary		25	1.0	2.3		27SF	
SUBTOTAL - SKYKOMISH 91			258	8.78	5.2	3.8		
FY 1991 - WHITE RIVER								
Pyramid #2	T19N, R11E, Sect.20, 30	HCC,HSV	90	3.0	1.5		17	
West Milky	T18N, R8E, Sect. 1, 2, 11, 12, T18N, R8E	HCC	209	11.05	2.5		17	Some units are found in former RARE II area, Clearwater #6055
Lost Creek	T18N, R9E, Sect.36, T18N, R10E, Sect 31	HCC	106	5.6	1.0		2B, 17	Sale in Roadless Area #6058.
Miscellaneous Sales	Various	HSV	20	0.32			17	
SUBTOTAL - WHITE RIVER 91			425	20.00	5.0			
FOREST TOTAL FY 91			2,118	106 12	26.0	28.6		

Sale Name, FY, and Ranger District	Township, Range, & Section Location	Harvest Method	Area Acres	Volume (MMBF)	Miles of Road Con-struction	Miles of Road Recon-struction	Manage-ment Area	Remarks
FY 1992 - MT. BAKER								
Loose Bark	T35N, R9E, Sect.23	HCC	54	2.3	1.0		2B	Four D.fir/cedar/white wood clearcut units located on the south side of Sauk Mtn. Some units found in former RARE II area, Mt. Baker Noisy Diobsud #6041.
SSF & Miscellaneous Small Sales	District Wide	HSV	39	1.2				
Corkindale/Olson	T35N, R10E, Sect.10, 15, 16, 22	HCC	339	16.0	4.2	2.3	2B	D.fir/cedar/whitewood clearcut unit between Rocky and Corkindale Creeks. Some units are found in former RARE II area, Mt. Baker Noisy-Diobsud #6041.
Copper Tayl	T35N, R11E, Sect.3,4, T36N, R11E, Sect.27, 28, 32, 33, 34	HCC	126	5.5	4.0	3.5	2B	White wood clearcut units located NE of Marblemount. Some units found in former RARE II area, Alma Copper #6044.
SUBTOTAL - MT. BAKER 92			558	25.0	9.2	5.8		
FY 1992 - DARRINGTON								
Semi-Circle	T32N, R11E, Sect.35	HCC	80	3.2		0.5	17	Four clearcut units next to Circle Creek. Some units found in former RARE II area, Glacier Peak #G6031.
Big Tenas	T33N, R11E, Sect.19, 20, 26, 27, 34, 35	HCC	155	8.3	2.5	7.5	17	Seven clearcut units are planned along Tenas Creek. Mixed species. Some units found in former RARE II area, Glacier Peak #J6031.
Doe Creek	T32N, R11E, Sect.10, 11	HCC	90	5.8	1.0	1.0	6, 17	Four clearcut units are planned in Doe Creek. Some units found in former RARE II area., Glaicer Peak #J6031.
Higgins Thin	T32N, R8E, Sect.3, 4	HTH	160	2.5	1.0		2B	Commercial thinning of Douglas fir is planned on Higgins Mtn.

Sale Name, FY, and Ranger District	Township, Range, & Section Location	Harvest Method	Area Acres	Volume (MMBF)	Miles of Road Con-struction	Miles of Road Recon-struction	Manage-ment Area	Remarks
North Mountain	T33N, R9E, Sect.12, 13, 14	HCC	120	5.2	0.5	2.0	17	Two clearcut units are planned on North Mtn. Mixed species.
North Middle Buyback	T34N, R9E, Sect.29-32	HCC	80	6.0		5.0	17	Six clearcut units are planned along the middle branch of the Stillaguamish River. Mixed species.
Miscellaneous Sales	Various	HCC HSV	200	2.0				Misc. small sales. Cedar sales. HCC-100 ac., HSV-100 ac.
SUBTOTAL - DARRINGTON 92			955	33.0	5.0	16.0		
FY 1992 - NORTH BEND								
Hogback	T21N, R9E, Sect.8, 16	HCC	80	3.5	0.7		20A	Planning area is located near Lindsay Ridge in the Cedar River Watershed.
1812	T21N, R10E, Sect.18	HCC	57	2.7	1.4		20A	Three clearcut units in Seattle Creek within Cedar River Watershed.
Wolf Creek	T20N, R9E, Sect.36, T20N, R10E, Sect.30, 36	HCC	150	6.0	5.4		21A	Eight clearcut units in the Green River Watershed.
Crunch-Sheets	T20N, R12E, Sect.22, 26	HCC	76	3.8	0.7		21A	Seven clearcut units in Intake and Tacoma Creek in Green River Watershed.
Miscellaneous Sales	Various	HCC	88	4.0				
SUBTOTAL - NORTH BEND 92			451	20.0	7.0			
FY 1992 - SKYKOMISH								
Proctor Creek	T27N, R9E, Sect.34	HCC	44	3.48	0.3	2.0	17	
North Face	T26N, R10E, T26N, R11E	HCC	140	4.5	4.4	4.4	27GF & SF	Estimate.
San Juan	T27N, R11E, T27N, R12E	HCC	80	1.8		1.0	17	Some units are found in former RARE II area, Eagle Rock #6054.

Sale Name, FY, and Ranger District	Township, Range, & Section Location	Harvest Method	Area Acres	Volume (MMBF)	Miles of Road Con-struction	Miles of Road Recon-struction	Manage-ment Area	Remarks
FY 1992 - MT. BAKER								
Loose Bark	T35N, R9E, Sect 23	HCC	54	2.3	1.0		2B	Four D fir/cedar/white wood clearcut units located on the south side of Sauk Mtn. Some units found in former RARE II area, Mt. Baker Noisy Diobsud #6041
SSF & Miscellaneous Small Sales	District Wide	HSV	39	1 2				
Corkindale/Olson	T35N, R10E, Sect 10, 15	HCC	339	16 0	4 2	2 3	2B	D fir/cedar/whitewood

Plan-Appendix A

Sale Name, FY, and Ranger District	Township, Range, & Section Location	Harvest Method	Area Acres	Volume (MMBF)	Miles of Road Con-struction	Miles of Road Recon-struction	Manage-ment Area	Remarks
Grotto	T26N, R11E, Sect.17	HCC	75	3 0	2.3	6.0	27GF & SF	Some units are found in former RARE II area, Eagle Rock #6054
Miscellaneous Sales	District Wide	HCC	50	1.0				Estimate
SUBTOTAL - SKYKOMISH 92			389	13.8	7.0	13.4		
FY 1992 - WHITE RIVER								
High 20 #2	T17N, R7E, Sect.16, 17, 20, 21	HCC	110	4 0			23A, 17	
Miscellaneous Salvage	District Wide	HSV	40	0 9				
Chenuis	T18N, R7E, Sect 36, T18N, R8E, Sect 31-35	HCC	184	5.7			1D	Some units are found in former RARE II area, Clearwater #6055.
Upper Pigeon	T18N, R9E, Sect 31	HCC	169	9.45	2 7		17	Sale in Roadless Area #6055
SUBTOTAL - WHITE RIVER 92			503	20 05	2 7			
FOREST TOTAL FY 92			2,856	111 83	30 9	29.2		
F Y 1 9 9 3 - 1 9 9 9 P O O L O F P O S S I B L E P R O J E C T S								
FY 1993-1999 - MT. BAKER								
Basin/Sibley	T34N, R12E, Sect.2,3,10, 11	HCC HPR	373	8 79	1.4	4.1	2B, 1D	D.fir/cedar/white wood clearcut units located in the Upper Cascade River drainage Cascade planning area. Some units are found in former RARE II area, Glacier Peak #H6031 and Hidden Lake #6045.

Sale Name, FY, and Ranger District	Township, Range, & Section Location	Harvest Method	Area Acres	Volume (MMBF)	Miles of Road Con-struction	Miles of Road Recon-struction	Manage-ment Area	Remarks
Kit-Kat	T39N, R7E, Sect 1,12, T39N, R8E, Sect 5-7	HPR	150	6 0	2.0	1 0	2A,2B,5B	White wood/D.fir clearcut units located in the North Fork Nooksack River drainage between Glacier and Wells Creek Westnook planning area. Some units found in former RARE II area, Mt Baker North #6041.
Boutface	T38N, R9E	HPR	75	3 0		2 5	2A,2B,17	White wood/cedar clearcut units located north of Baker Lake near Shannon and Swift Creeks. North Baker planning area. Some units found in former RARE II area, Mt Baker Noisy-Diobsud #6041.
Sky Pork	T36N, R11E, T37N, R11E	HCC	220	10 0	4.5	4 0	2B	White wood/D.fir clearcut units located in the lower reaches of Bacon Creek, Bacon Creek planning area.
Illabot Sweep	T34N, R10E, T34N, R11E	HPR	250	10.0	2.0	2.5	17	D fir clearcut units located in the Illabot Creek drainage. Illabot planning area. All units in RARE II #6031.
Anderson Creek	T37N, R9E	HPR	113	5 0	3 0	1 0	2B	D.fir/cedar/white wood clearcut units located east of Baker Lake. East Baker planning area. All units in RARE II #6041.
Quill	T34N, R7E, T35N, R7E	HPR	58	2 0	0 5	1.0	2B, 17	White wood clearcut units located in the headwaters of Pressentin Creek drainage South Skagit planning area All units in RARE II #6048
Thunder Bolt	T36N, R9E	HCC	100	4.0	2 0		2B	White wood clearcut units located east of Lake Shannon. Thunder Lake planning area. All units in RARE II #6041.

Sale Name, FY, and Ranger District	Township, Range, & Section Location	Harvest Method	Area Acres	Volume (MMBF)	Miles of Road Con-struction	Miles of Road Recon-struction	Manage-ment Area	Remarks
Sand Top	T37N, R8E, T37N, R9E	HCC	100	4.0		1.0	2A	White wood/D.fir/cedar clearcut units located east of Baker Lake in the Little Sandy Creek drainage. Sandy Creek planning area.
Sister Seymor	T38N, R7E, Sect 30, 32, 33, 36	HCC	175	6 5	3.5	6.0	23A	White wood clearcut units located in the three areas in the Middle Fork of the Nooksack River drainage. Middle Fork planning area. All units in RARE II #6041.
FY 1993-1999 - DARRINGTON								
Eubie	T30N, R11E, Sect 15, 16, 21, 22	HCC	105	5 0	1.0		2A, 2B	A sale is planned in the Sauk River drainage Some units found in former RARE II area, Glacier Peak #L6031.
Old Burn	T33N, R9E, Sect.2, 3, 10, 11	HCC	90	4.8	1.2	3.0	17	Four clearcut units are planned on Crevice Ridge. Douglas fir is the major species.
Straight Shot	T32N, R11E, Sect.28, 33	HCC	80	4.4			17	Five small clearcuts are planned in the Straight Creek drainage. Cedar and hemlock are the major species.
Whitehorse Flat Thin	T32N, R8E, Sect.14, 15	HTH	435	1.6	1.5		17, 2B	Commercial thinning of Douglas fir is planned for the lower slopes of Whitehorse Mtn.
Huckleberry	T33N, R11E, Sect 20, 28, 29, 30, 33	HCC	252	5 0	4 0		17	Ten clearcut units are planned on Huckleberry Mtn. Mixed species Some units found in former RARE II area, Glacier Peak #J6031.
Longstop	T32N, R10E, Sect.3, 10, 14, 15, 23	HCC	124	5 0			17	Planning area located on Prairie Mtn Some units found in former RARE II area, Prairie Mtn. #6060.

Sale Name, FY, and Ranger District	Township, Range, & Section Location	Harvest Method	Area Acres	Volume (MMBF)	Miles of Road Con-struction	Miles of Road Recon-struction	Manage-ment Area	Remarks
Black Creek Buyback	T30N, R8E, Sect 23-26	HCC	100	4 0		1.0	17	Four clearcut units are planned between Hemple and Wisconsin Creek. Cedar and hemlock are the major species.
Dubor Thin	T31N, R10E, Sect.14, 15 23	HCC HTH	370	13.2			2A, 6	Commercial thinning of Douglas fir in Sauk River drainage. 120 ac.-HCC and 250 ac. HTH.
Goldy	T30N, R8E, Sect.12-14	HCC	50	2 5	0.8	2.0	17	Two clearcut units are planned between Wiley and Benson Creeks Hemlock and cedar are the major species.
Bench Thin	T31N, R10E, Sect.13, 24, T31N, R11E, Sect.18-20	HTH	700	2.5			2B, 17	Commercial thinning of Douglas fir in the Whitechuck River drainage.
Tinhorn	T31N, R11E, Sect 20-22, 27, 28	HCC	93	2 5			17	Planning area in the Tenas Creek drainage. Roadless Area #6031, Glacier Peak.
Lower Mid Buyback	T33N, R9E, Sect.7, 17, 18	HCC	115	4.0			17	Four clearcut units are planned on the upper slopes of the south branch of the North Fork of the Stillaguamish River. Hemlock and silver fir.
Falls Creek	T30N, R10E, Sect.1, 2	HCC	81	4 5		6.6	1D, 17	
Snowline	T32N, R10E, Sect.1, 2	HCC	120	6.0	6 6	1.4	17	
FY 1993-1999 - NORTH BEND								
Receeding	T20N, R10E, Sect 12	HCC	70	3 2	0.5		21A	Planning area located near Bald Mtn. in the Green River Watershed.
Bear Ridge	T21N, R10E, Sect.2, T22N, R10E, Sect. 34	HCC	156	7.0	4.4		20A	Five clearcut units in the Cedar River Watershed
Green Canyon	T20N, R10E, Sect 10	HCC	65	2 8	0.5		21A	Planning area is located in Green Canyon Creek in the Green River Watershed.

Sale Name, FY, and Ranger District	Township, Range, & Section Location	Harvest Method	Area Acres	Volume (MMBF)	Miles of Road Con-struction	Miles of Road Recon-struction	Manage-ment Area	Remarks
King Sno Line	T26N, R9E, Sect.2	HCC	35	1.5			17	
South Fork Thin	T22N, R9E, Sect.1, T22N, R10E	HTH	300	3.0			27GF & SF	Commercial thinning planning area in the South Fork *Snoqualmie River drainage*.
Liner	T21N, R9E, Sect.24	HCC	40	1.7			20A	
Burnt Bridge	T24N, R10E, Sect.8-11, 14-16	HCC HTH	166	4.0	1.0	6.2	27GF & SF	Planning area is located within Quartz and Taylor Creek drainages of the Middle Fork Snoqualmie *River*. 66 ac.-HCC and 100 ac.-HTH.
Pratt	T23N, R10E T24N, R10E	HCC HTH	253	5.0	5.0		27GF & SF	Planning area is located within Pratt River drainage of the Middle Fork Snoqualmie River. 105 ac.-HCC and 148 ac.-HTH.
Upper Middle Fork	T23N, R11E, Sect.1, 2, 10, 15, 16	HCC	200	5.0		10.0	27SF	Planning area is located in the upper Middle Fork Snoqualmie drainage.
Quartz Mtn	T24N, R10E, Sect.18, 19	HSL	115	5.0	1.0		27GF	Planning area is located south of Quartz Mtn. in the Middle Fork Snoqualmie drainage.
Mc GLT Thin	T20N, R10E, Sect.14	HTH	200	1.0	2.5		21A	
Sawmill Ridge	T19N, R11E, Sect.4, 6, 8, 12	HCC	250	7.0	5.0		21A	Planning area is located near Sawmill Ridge within the Green River Watershed.
Mason Creek	T22N, R10E, Sect.6, T23N, R10E, Sect.31	HSL	50	1.0		2.0	27GF & SF	Planning area is located on *the north side of I-90 in* the South Fork Snoqualmie drainage.
Adios	T20N, R9E, Sect.16, 18, 20, 30	HCC	270	12.0	4.0		21A	
Already-Bumped	T21N, R11E, Sect.30	HCC	40	2.0			21A	
Dandy	T21N, R11E, Sect.22	HCC	40	1.7	0.5			

Sale Name, FY, and Ranger District	Township, Range, & Section Location	Harvest Method	Area Acres	Volume (MMBF)	Miles of Road Con-struction	Miles of Road Recon-struction	Manage-ment Area	Remarks
FY 1993-1999 - SKYKOMISH								
M&M	T26N, R10E, T26N, R11E	HCC	130	5.0		1.0	27GF & SF	
Tonga Ridge	T25N, R12E	HCC	70	3.0	1.0		17	
Rapid River (H)	T27N, R12E, T27N, R13E	HCC	152	5.0		4.0	17	
Beckler II	T26N, R12E, R13E, T27N, R11E	HCC	250	4.6	3.0		17	
Trout Creek So.	T27N, R10E	HCC	86	3.0	0.5	2.0		
Salmon Creek	T28N, R10E, R11E	HCC	90	3.4		2.0	17	
Kelly Creek	T26N, R12E	HCC	111	4.5	0.5		17	
Johnson Creek	T26N, T27N, R12E	HCC	83	3.4	1.0		17	
Top West Thin Too	T25N, R12E, Sect.17-20, 30	HTH	100	2.7			27GF & SF	
William	T29N, R9E, R10E, T30N, R9E	HCC	93	6.0	1.5	6.0	22B	
FY 1993-1999 - WHITE RIVER								
Bronco	T18N, R10E, Sect.20, 21, 28, 33	HCC	93	4.4			2B	Partial in Roadless Area #6058.
Skinner	T18N, R9E, Sect. 17, 21, 22, 27, 28	HCC	122	4.4			17	Partial in Roadless Area #6057.
Goodby George	T18N, R11E, Sect. 6 & 7	HCC HSH	139	5.03	1.0		17	HCC-125 ac., HSH-14 ac. Some units found in former RARE II area, Norse Peak #6034.
Boot	T18N, R7E, Sect.13, 14, 22, 23	HCC	120	3.0	1.5		17	Some units found in former RARE II area, Clearwater #6055.
Butterfat	T18N, R8E, Sect.2, 4, 10, 11	HCC	111	5.0			17	
Minnie	T18N, R10E, Sect.2, 4, 8, 10, 15, 17	HCC	169	7.16			2B	Partial in Roadless Area #6034.

Sale Name, FY, and Ranger District	Township, Range, & Section Location	Harvest Method	Area Acres	Volume (MMBF)	Miles of Road Con-struction	Miles of Road Recon-struction	Management Area	Remarks
Silver Creek	T18N, R10E, Sect.34, 35	HFR	124	1.5	1.1		2A	Sale in Roadless Area #6059.
Trump	T18N, R8E, Sect 12, 13, T18N, R9E, Sect. 4-8	HCC	150	5 0			17	
Jimmy Hank	T18N, R9E, Sect.9, 10, 15, 16	HCC	119	3.59			17	
Lone Ranger	T18N, R10E, Sect 3, 5, 8, 10, 15, 17	HCC	120	4.0			2B	Partial in Roadless Area #6034
Sphinx	T18N, R10E, Sect 20, 21, 28, 33	HCC	119	4 8			17	
Down N' Out	T18N, R9E, Sect.26, 27, 34, 35	HCC	97	2.65			2B	Partial in Roadless Area #6057.
Martian	T17N, R7E, Sect.20, 28, 29	HCC	69	3.45			17	
Tolmie	T17N, R7E, Sect 4, 8, 9, 16, 17	HCC	214	8 03			1D, 17	
Sunny	T18N, R9E, Sect.13, 14, 23, 24	HCC	112	3 65			2B, 14 2A, 17	
Keelboat	T18N, R9E, Sect.1, 2, 11 12, 14	HCC	53	2.63			2B	
Slippery Twin	T20N, R9E, Sect.28, 30, 32, 34	HCC	241	7.95			17, 23A	
Sunfish	T18N, R9E, Sect.25, 36	HCC	72	2 93			2B	

APPENDIX B
Road and Bridge Capital Investment Projects

The projects are shown as proposed for implementation in either the first or second half of the first decade and by Ranger District location. They are not listed in any priority order.

Program Period: First half of first decade.

Project Name and Number*	Ranger District	Project Type	Length - Mi. Bridges - No.
Boulder Creek #11	Mt. Baker	Bridge replacement	1 bridge
Glacier Creek #39	Mt. Baker	Road reconstruction	7.8 miles
Canyon Creek #31, etc	Mt. Baker	Road reconstruction for fish habitat and stabilization	18.0 miles
Finney Cr #17 - Phase I	Mt. Baker	Road reconstruction for fish habitat and stabilization	18.0 miles
Loomis Nooksack #12, etc	Mt. Baker	Road reconstruction for fish habitat and stabilization	3.0 miles
Finney Cr #17 - Phase II	Mt. Baker	Road reconstruction for fish habitat and stabilization	12.0 miles
Wallace/Rankin #38	Mt. Baker	Bridge construction	2 bridges
Shannon Crossing #11	Mt. Baker	Road reconstruction	0.1 mile
Diobsud Cr #1050	Mt. Baker	Road reconstruction	3.0 miles
East Bank #1106	Mt. Baker	Road reconstruction	1.0 mile
Jackman #14	Mt. Baker	Road reconstruction for fish habitat and stabilization	7.0 miles
Loomis-Nooksack #12	Mt. Baker	Road reconstruction	3.4 miles
Suiattle River #26	Darrington	Road reconstruction	6.1 miles
Sunrise Mine #4065	Darrington	Road reconstruction	0.2 miles
Whitechuck/Suiattle #23 & 26	Darrington	Road reconstruction	7.6 miles
Tupso Pass #41	Darrington	Road reconstruction	6.7 miles
Pilchuck Road #42	Darrington	Road reconstruction	6.0 miles

Green Mtn #2680	Darrington	Road reconstruction	5.7 miles
Deer Cr #4052	Darrington	Road reconstruction	4.4 miles
Pilchuck #42	Darrington	Road reconstruction	3.5 miles
Squire Cr #2040	Darrington	Road reconstruction Bridge replacement	4.2 miles 1 bridge
MF Snoqualmie #56 & 5620 Phase I	North Bend	Road reconstruction	6.0 miles
Denny Creek #58	North Bend	Bridge replacement & road reconstruction	1 bridge 5.5 miles
Taylor/Quartz #5630 & 5640	North Bend	Road reconstruction	6.0 miles
Tacoma Creek #52	North Bend	Bridge replacement	1 bridge
Green River 2 #52	North Bend	Bridge replacement	1 bridge
MF Snoqualmie #5620 Phase II	North Bend	Road reconstruction	4.0 miles
Tinkham #55	North Bend	Road reconstruction Bridge construction	5.5 miles 1 bridge
1st Quartz Creek #5640	North Bend	Bridge replacement	1 bridge
2nd Quartz Creek #5640	North Bend	Bridge replacement	1 bridge
Beckler River #65	Skykomish	Road reconstruction 2 bridge replacements	5.5 miles 2 bridges
Suntop #73 & 7315	White River	Road reconstruction	7.2 miles
Corral Pass #41	White River	Road reconstruction	5.7 miles
Greenwater #70	White River	Road reconstruction 1 bridge replacement	0.5 miles

Program Period: Second half of first decade.

Project Name and Number	District	Type	Length - Mi. Bridges - No.
Deer Cr #1750, etc.	Mt. Baker	Road reconstruction for fish habitat and stabilization	7.0 miles
Anderson Creek #1107	Mt. Baker	Bridge replacement	1 bridge
Wells Creek #33	Mt. Baker	Road reconstruction Bridge replacement	0.6 mile 1 bridge

Finney Cr #17 - Phase III	Mt. Baker	Road reconstruction for fish habitat and stabilization	10.0 miles
Canyon Cr #31	Mt. Baker	Road reconstruction	2.3 miles
Pipeline #33	Mt. Baker	Bridge replacement	16 feet
Park Creek #1130	Mt. Baker	Bridge replacement	1 bridge
Little Deer Peak #1755	Mt. Baker	Bridge replacement	1 bridge
Lost Cr #49	Darrington	Bridge replacement	1 bridge
Rat Trap Pass Road	Darrington	Road reconstruction	0.2 miles
Moose Cr #2030	Darrington	Bridge replacement	1 bridge
Otter Creek #16	Darrington	Bridge replacement	1 bridge
Falls Creek #2080	Darrington	Bridge replacement	1 bridge
Black Oak #2440	Darrington	Bridge replacement	1 bridge
Lennox Creek #57	North Bend	Bridge replacement	1 bridge
Bear Creek #57	North Bend	Bridge replacement	1 bridge
5th Lennox Creek #57	North Bend	Bridge replacement	1 bridge
Wellington #6090050	Skykomish	Road reconstruction	0.3 miles
Lake Serene #6202110	Skykomish	Road reconstruction	2.0 miles
Army Camp #7305	White River	Bridge replacement	1 bridge
Greenwater #70	White River	Road reconstruction	7.0 miles

*The project number is the road number.

This listing is not complete. It contains only the major projects. Smaller projects such as trail head parking lot construction, road reconstruction related to fish habitat mitigation, bridge repair, slide stabilization, drainage improvements, and flood repair projects (large and small) will also be accomplished during the first decade.

Forest Highways

Forest Highways are routes under the jurisdiction of other agencies, State and local, that provide the link between the State primary highway system and the Forest Development Road System for the transport of Forest visitors and commodities.

Forest Highway projects compete on a State-wide basis and are determined by three parties: Washington State Department of Transportation (often representing the local agency), Federal Highway Administration, and the Forest Service. The list of MBS Forest Highways and proposed projects are as follows:

FH6	Mt. Baker Highway	1990	Double lane, pave 2.5 miles to Heather Meadows
FH7	Mtn. Loop Road	1990	Double lane, pave 2.8 miles between Darrington and South Side Sauk segment.
		1991	Repair 0.2 miles of "sink hole" near Verlot.
		1993-96	Double lane, pave 14 miles from end of South Side Sauk segment to Barlow Pass.
FH8	Stevens Pass Highway		No projects proposed.
SR 410	Mather Memorial Pkwy.	1993-96	Improve 10 miles to double lane parkway standards between west boundary of Mount Baker-Snoqualmie National Forest and north boundary of Mount Rainier National Park.
FH25	Baker River Highway		No projects proposed.
FH27	Cascade River Road	1990	Improve 1.6 miles of narrow sections to full double lane.
FH29	Middle Fork Snoqualmie		No Forest Highway projects proposed. See "Road and Bridge Capital Investment Projects" list for Forest Development Road project.
FH32	North Cascade Highway		No projects proposed.
FH33	Crystal Mountain Hwy		No projects proposed.
FH101	North Fork Skykomish Rd		No projects proposed.

APPENDIX C

Wildlife and Fish Habitat Project Schedules

The following wildlife and fish habitat improvement schedules describe the projects which achieve part of the outputs contained in Table A-1. Project priorities and schedules will be shifted as necessary during implementation.

Projects funded by KV are mitigative and are not included in these improvement schedules. KV projects will be scheduled in conjunction with site-specific timber sale planning. This may affect scheduling and priority of non-KV projects also.

The schedules are partial lists of planned activities based on existing improvement opportunity information, derived from inventories and identified management needs and opportunities. In some cases, the information needs (Chapter 2) and standards and guidelines (Chapter 4) call for new inventories or resource plans, which will result in new projects and priorities. This will necessitate updating the schedules periodically, as new inventories and analyses are completed. Some of these inventories are included in this schedule. It is expected that the detailed schedules will require updating annually as a result of the budget process and watershed, area, or project plans.

Table C-1 displays the wildlife habitat improvement schedule for this Plan. Emphasis is placed on surveys for Threatened, Endangered, and Sensitive species and habitat improvements for T & E species, raptors, game species, cavity users, and habitats with special qualities and of limited availability (e.g. wetlands). The units of measure used in Table C-1 are the actual number of acres or structures for the activity.

Table C-2 shows the fish habitat improvement schedule for this Plan. Toward the end of the decade, the number of projects will level off and the emphasis will be on maintenance of in-place improvements. Fish outputs increase and remain at this higher level, showing the long-term benefit of improvements. Also, during the first five years of the decade, on-going inventories may identify the need for additional projects and changed priorities.

The cost of implementing the wildlife and fish program in this Plan includes costs for: (1) coordination of wildlife and fish objectives, standards, and guidelines with other project implementation; (2) habitat improvement; (3) gathering and evaluation of new information; (4) monitoring; and (5) General Administration. If budgets are significantly different than those contained in the Plan, project accomplishment could increase above or decrease below Plan objectives. This would result in an increase or reduction in expected outputs.

ACTIVITY/PROJECT	ACT CODE	COST/YR (0-5 YRS)	OUTPUTS (0-5 YRS)	COST/YR (6-10 YRS)	OUTPUTS (6-10 YRS)
Mount Baker Ranger District					
Spotted owl surveys	CT111	38.0	1 plan/yr	38.0	1 plan/yr
*Grizzly bear forage pintg	CT222	3.0	10 ac/yr	3.5	10 ac/yr
*Bald eagle nest plan	CT112	3.5	1 plan	0.0	-
Bald eagle perch improvemt	CT221	3 0	10 str/yr	3.0	10 str/yr
Bald eagle roost mgmt plan	CT112	3.0	1 plan/yr	3.5	1 plan/yr
Bald eagle roost surveys	CT111	10.0	1 plan/yr	10.5	1 plan/yr
Sensitive plant surveys	CT111	10.0	1 plan/yr	10.0	1 plan/yr
Marbeled murrelet surveys	CT111	15.0	1 plan/yr	15.0	1 plan/yr
Townsends bat surveys	CT111	10.0	1 plan/yr	10.0	1 plan/yr
*Bat roost structures	CT221	1 0	2 str/yr	1.0	2 str/yr
Pileated Wdpker snag mgmt	CW111	1.5	1 plan/yr	2.0	1 plan/yr
*Access mgmt structures	CW221	3.0	2 str/yr	3.5	2 str/yr
Dead and defective tree habitat management	CW221	30.0	300 str/yr	30.0	300 str/yr
*Deer/elk w. range forage	CW222	15.0	100 ac/yr	15.0	100 ac/yr
*Elk meadow maintenance (Middle Fork Nooksack)	CW23	0.5	4 ac/yr	0.0	0 ac/yr
Mtn goat range enhancement	CW222	2.0	20 ac/yr	2.5	20 ac/yr
Raptor nest surveys	CW111	3.0	1 plan/yr	3.0	1 plan/yr
Raptor nest platforms	CW221	1 8	2 str/yr	-	-
*Raptor perch structures	CT221	1 5	7 str/yr	2.0	7 str/yr
Misc nest structures	CW222	2.2	30 str/yr	2 5	30 str/yr
Cavity-nest animals invnty	CW111	2 0	1 plan/yr	2.0	1 plan/yr
Special habitats invntry	CW111	2.0	1 plan/yr	2 0	1 plan/yr
Wood/brush cover structure	CW221	1.0	10 str/yr	1.0	10 str/yr
Band-tailed pigeon habitat improvement	CW2	1.5	1 site/yr	2 0	1 site/yr
Pigeon habitat mtce	CW23	0 5	1 site/yr	0.5	1 site/yr
Wetland habitat impvts					
log structures	CW221	3.0	3 str/yr	3.0	3 str/yr
loon nest platforms	CW221	0 5	1 str/yr	0.5	1 str/yr
Wood duck nest boxes	CW221	1.0	10 str/yr	1 0	10 str/yr
Maintenance of impvts	CW23	3.5	20+ sites	4.0	20+ sites
Darrington Ranger District					
Spotted owl surveys	CT111	38.0	1 plan/yr	38.0	1 plan/yr
Bald eagle roost surveys	CT111	7 0	1 plan/yr	7.5	1 plan/yr
Bald eagle perch impvt	CT221	3 0	10+ str/yr	3.5	10+ str/yr
Sensitive plant surveys	CT111	3 0	1 plan/yr	3 5	1 plan/yr
*Peregrine falcon surveys	CT111	3.0	1 plan/yr	3 5	1 plan/yr
Thinning to improve stand conditions for spotted owls & other raptors	CT222	3.0	10 + ac/yr	3.0	10+ ac/yr
*Marbeled murrelet surveys	CT111	15 0	1 plan/yr	15.5	1 plan/yr
Access mgmt structures	CT221	7.0	4 str/yr	7 5	4 str/yr
Access mgmt str mtce	CT23	2.0	2 str/yr	2.5	2 str/yr
Dead and defective tree habitat improvement	CW221	4.0	20+ str/yr	4 5	20+ str/yr
Access mgmt structures	CW221	3.0	2 str/yr	3 5	2 str/yr
Access mgmt str mtce	CW23	1 5	1 str/yr	2 0	1 str/yr

ACTIVITY/PROJECT	ACT CODE	COST/YR (0-5 YRS)	OUTPUTS (0-5 YRS)	COST/YR (6-10 YRS)	OUTPUTS (6-10 YRS)
Deer/elk/mtn goat habitat planting/thinning	CW222	3.0	10+ ac/yr	3.5	10+ ac/yr
*Mtn goat mineral blocks	CW221	10.0	10+ str/yr	10.5	10+ str/yr
Mtn goat range enhancement	CW222	3.0	10+ ac/yr	3.0	10+ ac/yr
Pileated wdpkr snag mgmt	CW111	1.5	1 plan/yr	2.0	1 plan/yr
*Special habitat surveys	CW111	2.0	1 plan/yr	2.0	1 plan/yr
*Raptor nest surveys	CW111	3.0	1 plan/yr	3.5	1 plan/yr
Maintenance of impvts	CW23	5.0	20+ sites/yr	5.5	20+ site/yr
Info & ed sign preparation	CW2	1.5	2+ signs/yr	2.0	2+ signs/yr
*Wood/brush cover str	CW221	2.0	5+ str/yr	4.0	10+ str/yr
Black bear forage planting	CW222	3.0	10+ ac/yr	3.5	10+ ac/yr
*Bat roost boxes	CW221	1.5	5+ str/yr	2.0	5+ str/yr
*Pothole development	CW2	2.0	2 sites/yr	2.5	2 site/yr
*Raptor nest structures	CW221	2.0	2+ str/yr	2.0	2+ str/yr
*Raptor perch development	CW221	3.0	2+ sites/yr	3.5	2+ sites/yr
Band-tailed pigeon habitat improvement	CW2	1.5	1 site/yr	2.0	1 site/yr
*Nest boxes for wood ducks	CW221	2.0	5+ str/yr	2.5	5+ str/yr
Skykomish Ranger District					
Spotted owl surveys	CT111	19.0	1 plan/yr	19.0	1 plan/yr
Bald eagle perch impvt	CT221	1.8	12 str/yr	2.0	12 str/yr
Bald eagle roost surveys	CT111	5.0	1 plan/yr	5.5	1 plan/yr
Sensitive plant surveys	CT111	5.4	1 plan/yr	6.0	1 plan/yr
Dead & defective tree habitat mgmt	CW221	13.6	50+ str/yr	14.5	60+ str/yr
Deer/elk forage seed & ft	CW222	24.9	64 ac/yr	22.0	50+ ac/yr
Deer/elk browse planting	CW222	18.7	22 ac/yr	16.0	15+ ac/yr
Deer/elk browse pruning	CW222	0.4	2 ac/yr	1.5	6 ac/yr
*Deer/elk forage thinning	CW222	6.5	13 ac/yr	8.0	17 ac/yr
Mtn goat range enhancement	CW222	3.0	3 ac/yr	3.5	3 ac/yr
Access mgmt	CW221	0.5	2 str/yr	0.5	2 str/yr
Access mgmt str mtce	CW23	0.2	1 str/yr	0.2	1 str/yr
Pileated wdpkr snag mgmt	CW222	1.5	1 plan/yr	2.0	1 plan/yr
*Info & ed signing	CW2	3.2	5 signs/yr	4.5	8 signs/yr
Maintenance of impvts	CW23	4.0	20+ str/yr	4.5	20+ str/yr
Wood/brush cover str	CW221	1.4	8 str/yr	2.5	15 str/yr
*Pothole development	CW2	1.2	1 site/yr	2.0	1 site/yr
Bat roost boxes	CW221	0.8	8 boxes/yr	1.0	10 boxes/yr
*Osprey nest structure	CW221	0.9	2 str/yr	0.9	2 str/yr
Raptor perch	CW221	1.0	2 str/yr	2.5	4 str/yr
Nest boxes	CW221	1.2	8 boxes/yr	1.5	10 boxes/yr
North Bend Ranger District					
Spotted owl srvy/banding	CT111	33.0	1 plan/yr	19.0	1 plan/yr
Spotted owl nest cavities	CT221	3.5	5 sites/yr	5.0	10 sites/yr
Spotted owl habitat impvt by silvicultural means	CT222	5.7	3 sites/yr	5.9	3 sites/yr

Access mgmt structure	CT221	5.0	3 str/yr	5.5	3 str/yr
Access mgmt str mtce	CW23	3.0	3 str/yr	3.5	5 str/yr

ACTIVITY/PROJECT	ACT CODE	COST/YR (0-5 YRS)	OUTPUTS (0-5 YRS)	COST/YR (6-10 YRS)	OUTPUTS (6-10 YRS)
Dead and defective tree habitat improvement	CW221	3.2	20+ str/yr	3.3	20+ str/yr
Deer/elk/mtn goat forage seeding and planting	CW222	5.2	40+ ac/yr	5.4	40+ ac/yr
Deer/elk forage thinning (Middle Fork Taylor)	CW222	3.0	20 ac/yr	3.5	20 ac/yr
Mtn goat inventory	CW111	4.0	1 plan/yr	5.0	1 plan/yr
Mtn goat range enhancement	CW222	5.0	20 ac/yr	5.5	20 ac/yr
Pileated wdpkr snag mgmt	CW111	1.5	1 plan/yr	2.0	1 plan/yr
Aerial video inventory of habitat areas & projects	CW111	5.0	1 plan/yr	3.0	1 plan/yr
Pothole development	CW2	6.0	5 sites/yr	6.5	5 sites/yr
Nest/roost boxes	CW221	2.9	20+ str/yr	3.0	20+ str/yr
Nest/roost box maintenance	CW23	2.2	50+ str/yr	2.3	50+ str/yr
Wood/brush cover structure	CW221	2.5	10 str/yr	3.0	10 str/yr
Nest platforms	CW221	2.5	5 str/yr	3.0	5 str/yr
Herpetofauna inventory	CW111	5.0	1 plan/yr	5.0	1 plan/yr
White River Ranger District					
Spotted owl surveys	CT111	19.0	1 plan/yr	19.0	1 plan/year
Bald eagle surveys	CT111	2.1	1 plan/yr	2.5	1 plan/year
Sensitive plant surveys	CT111	3.0	1 plan/yr	3.5	1 plan/year
Government Meadows burn	CW222	6.0	50 ac/yr	6.5	50 ac/yr
Deer/elk range inventory	CW111	2.0	1 plan/yr	2.5	1 plan/year
Deer/elk w.range impvt	CW222	7.0	30 ac/yr	7.5	30 ac/yr
Cavity-nest animals invnty	CW111	2.0	1 plan/yr	2.5	1 plan/year
Dead and defective tree habitat improvement	CW221	3.0	20 str/yr	3.5	20 str/year
Pileated wdpkr snag mgmt	CW111	1.5	1 plan/yr	2.0	1 plan/year
Special habitats invnty	CW111	2.0	1 plan/yr	2.5	1 plan/year
Bat/squirrels roost boxes	CW221	4.0	30 str/yr	4.5	30 str/yr
Info & ed sign preparation	CW2	3.0	10 signs/yr	3.5	10 signs/yr
Waterfowl habitat improvemt	CW222	3.0	1 ac/yr	3.5	1 ac/yr
Upland game bird inventory	CW111	2.0	1 plan/yr	2.5	1 plan/year
Maintenance of impvts	CW23	3.3	20+ sites	3.8	20+ sites
Forest-wide					
Prepare management guides for Sensitive species	CT112	4.0	1 plan/yr	5.0	1 plan/yr

*NOTE: Projects are listed by Ranger District with activities specified in the preferred alternative of the Forest Plan listed first for each District. Note also that * means potential Challenge Cost Share project.

Table C-2 - Fish Habitat Improvement Schedule

Fish Priority	PROJECT NAME Activity	Target Species	District	Unit of Measure	Amount Planned by Fiscal Year 1990	1991	1992	1993	1994	1995
1	DEER CREEK Streambank and channel stabilization	Anadromous Fish - coho salmon, steelhead	Mt. Baker	structures acres	60 4	60 4	60 4	60 4	60 4	10 4
2	SAUK RIVER, SUIATTLE RIVER AND TRIBUTARIES Rearing area development	Anadromous Fish - coho salmon, steehead	Darrington	structures acres	50 1	40 2	50 1	50 2	50 1	50 2
3	GREENWATER RIVER & HUCKLEBERRY CREEK Habitat restoration	Coho salmon, spring chinook	White River	structures acres	64 3	46 3	78 10	79 10	75 10	64 12
4	DISTRICT WIDE Resident fish habitat improvement	Rainbow trout, cutthroat trout	North Bend	structures acres	6 0	10 1	20 2	25 2	30 1	30 1
5	DISTRICT WIDE Resident fish habitat improvement	Bull trout and others	Skykomish	structures acres	10 1	5 2	10 1	5 2	10 1	5 5
6	NORTH FORK NOOKSACK Rehabilitation	Spring chinook	Mt. Baker	structures acres	20 1	20 1	20 1	30 --	30 --	20 --
7	DISTRICT WIDE Resident fish habitat improvement	Cutthroat trout	White River	structures acres	20 1	50 3	20 1	20 1	20 1	20 1
8	DISTRICT WIDE Resident fish habitat improvement	Bull trout, cutthroat trout	Mt. Baker	structures acres	50 5	50 5	50 5	50 5	50 5	50 5
9	FINNEY CREEK Fish rehabilitation	Rainbow trout, cutthroat trout	Mt. Baker	structures acres	0 0	30 4	30 4	30 4	30 4	30 4
10	CANYON CREEK Fish rehabilitation	Spring chinook	Mt. Baker	structures acres	70 4	70 4	70 4	70 4	70 4	30 0
11	SOUTH FORK NOOKSACK RIVER Spawning and rearing area improvement	Anadromous Fish - spring chinook	Mt. Baker	structures acres	100 4	100 4	100 4	100 4	100 4	100 0
12	BAKER AND SKAGIT RIVER TRIBUTARIES Rearing area improvement	Anadromous Fish - coho salmon, steelhead	Mt. Baker	structures acres	30	20	50 10	50 --	50 --	50 --
13	SOUTH FORK STILLAGUAMISH RIVER AND TRIBUTARIES I Rearing area and channel improvement	Anadromous Fish - coho, chinook salmon	Darrington	structures acres	10 1	-- 1	10 --	10 1	10 1	10 1
14	SOUTH FORK SKYKOMISH RIVER AND TRIBUTARIES Rearing area improvment	Anadromous Fish - coho salmon	Skykomish	structures acres	15	15	20	20	20	20 2

APPENDIX D
Recreation Implementation Schedules

The following section presents the project schedules for viewsheds, cultural resources, and developed recreation construction and reconstruction. Costs shown in these schedules are planned costs for the first three years and estimated costs in later years. Outyear projects may shift with changing priorities and budgets. If budgets should differ significantly from those projected in the plan, some of these projects will not be accomplished, which will result in a reduction of expected outputs. Budgets could also be greater, which would result in a speed-up of the schedule.

It is expected that the schedules will require updating annually as a result of the budget process and new action plans. Cost estimates contained in the schedules are rough approximations.

The developed recreation construction/reconstruction schedule (Table D-3) shows each project broken down into three phases: planning, design, and construction. These three phases typically occur in three consecutive years. Funds for each phase may come out of several budgets: recreation, Forest road program, or trails.

The following schedules are included:

- Viewshed Plans — Table D-1
- Cultural Resources — Table D-2
- Developed Recreation CIP — Table D-3
- Trailhead Const/Reconst. — Table D-4

Table D-1

Viewshed Plans

Travel Route	District	Cost	Year
Mt. Baker Highway	Mt. Baker	$ 3,000	1990
Mt. Loop Highway	Darrington	$ 3,000	1990
Mt. Baker Highway	Mt. Baker	$ 15,000	1991
Mt. Loop Highway	Darrington	$ 15,000	1991
Skagit River/North Cascade Highway	Mt. Baker	$ 15,000	1992
Baker Lake Highway	Mt. Baker	$ 15,000	1992
Mather Memorial Parkway	White River	$ 15,000	1993
Crystal Mountain Highway	White River	$ 15,000	1993
Middle Fork Snoqualmie	North Bend	$ 15,000	1994
Miller River	Skykomish	$ 15,000	1994
Beckler River	Skykomish	$ 15,000	1995

Cultural Resources Implementation Schedule

Activity	Unit of Measure	Year 1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Inventory											
NHPA Sec 106 surveys 1/	M acres	Variable, expected to average 12 000 ac/yr Dependent upon timber, recreation, etc implementation schedules Surveys are to be completed at time of project environmental assessment approval									
		$90M	$75M	$75M	$75M	$75M	$75M	$75M	$75M	$75M	$75M
NHPA Sec 110 survey 2/	Project	Alpine Lakes Wilderness Naches Trail	Mt Baker Wilderness/Twin Lakes	Jackson Wilderness/Monte Cristo	Glacier Wilderness/Sauk River	Alpine Lakes/ Snoqualmie Mining District	Boulder Wilderness/ Silverton	Northern Pacific RR Corridor	Clearwater Wilderness/ Carbon River	Norse Peak Wilderness/ White River	Mt Baker Wilderness/ Mt Baker
		$8M	$20M	$20M	$20M	$15M	$20M	$20M	$20M	$20M	$15M
Site Recording 3/	Sites	0	70	70	70	70	70	70	70	70	70
			$15M	$15M	$15M	$15M	$15M	$15M	$15M	$15M	$15M
Evaluations/ Nominations 4/	Properties	Kennedy G S Naches Trail	Darrington Barn, Glacier R S	Naches Lithic Scatter	Snow Lake Lithic Scatter	Twin Lakes area sites	Sauk R Logging RR System	Snoqualmie Mining District	Northern Pacific RR Corridor	Everett-Monte Cristo RR	Monte Cristo & Silverton Sites
		$7M	$6M	$25M	$20M	$12M	$12M	$12M	$12M	$12M	$12M
Management Plans	Plans	Stevens Pass Historic District	Forest Inventory Plan	Naches Trail, Verlot R S	Lookouts, Recreation Shelters	Snoqualmie Pass Wagon Rd.	Wilderness Cultural Resources	RR Logging Systems	Northern Pacific RR Corridor	Mining Districts	Lithic Scatters
		$10M	$10M	$7M	$8M	$4M	$12M	$12M	$12M	$12M	$12M

Cultural Resources Implementation Schedule (Cont.)

Activity	Unit of Measure	Year 1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Data Recovery 5/ & Documentation	Sites	Sauk R Lumber Co Bedal Camp, Boulder Cr Br , Bldg 2033	1 data recovery, 2 documentations	Same	Same	Same	Same	Same	Same	Same	Same
		$25M	$30M	$30M	$30M	$30M	$30M	$30M	$30M	$30M	$30M
AIRFA Inventory Updates 6/	Reports		1					1			
			$15M					$15M			
Overview Updates	Reports			1					1		
				$15M					$15M		

1/ Surveys supporting timber sales recreation construction and reconstruction, land exchanges, facility construction/reconstruction, and similar development projects, for compliance with Section 106 of the National Historic Preservation Act Figures are based on experience from 1987-1990

2/Surveys to complete the inventory of Forest cultural resources, and address management issues not related to specific undertakings Responds to Section 110 of the National Historic Preservation Act and 1989 amendments to the Archeological Resource Protection Act

3/ Reduction of the backlog of sites reported but not adequately recorded Responds to Section 110 of the National Historic Preservation Act and the 1989 amendments to the Archeological Resource Protection Act

4/ Evaluation of National Register of Historic Places eligibility to address management issues not related to NHPA compliance "Properties" may include sites portions there of (buildings) or aggregations thereof (geographic and thematic groups) All evaluations will result in nomination of properties found eligible

5/For mitigation of adverse effects of development projects In response to NHPA and 36 CFR 800 Out-year needs vary in response to results of compliance inventories, and cannot be predicted in this context Figures used are based on experience from 1987-1990 and Facilities Master Plan

6/To identify changes in use patterns occurring since compilation of Inventory of Native American Religious Use, Practices, Localities and Resources

Cultural Resources Implementation Schedule (Cont.)
Capital Investment Program

The cultural resource capital investment program includes stabilization, rehabilitation and interpretation projects which maintain or create structures and facilities All dollar amounts are in thousands

Project Name	District	Planning Phase (Year and $)				Design Phase (Year and $)				Construction Phase (Year and $)			
		FY	CR	FRP	Trail	FY	CR	FRP	Trail	FY	CR	FRP	Trail
Iron Goat Trail I	Skykomish	91	16	3	70	92	9	5	23	91	84	32	130
Iron Goat Trail II	Skykomish	92	14	3	10	93	60	6	28	94	161	132	80
Wayside Signs	Mt Baker & Skykomish	92	8	0	0	93	14	0	0	94	16	0	0
Suntop L.O	White River	92	2	0	0	93	6	0	34	94	6	0	104
Lookout Repairs	Mt Baker, Darrington, Skykomish	93	1	0	0	94	3	0	0	95	6	0	0
Barlow Pass Sign	Darrington	93	8	0	0	94	14	0	0	95	16	0	0
Nooksack Mining Interpretation	Mt Baker	93	10	0	0	94	15	0	0	95	20	0	0
Iron Goat III	Skykomish	94	1	1	7	95	2	5	29	96	39	20	47
Taylor River R S Interpretation	North Bend	94	5	0	5	95	8	0	8	96	10	0	10
Kennedy Guard Station Repairs	Darrington	94	10	0	0	95	15	0	0	96	20	0	0
Naches Trail Interpretation	White River	95	10	0	0	96	25	0	0	97	20	0	0
Monte Cristo Historical Tour	Darrington	95	10	8	0	96	10	8	0	97	30	45	0
Silver Springs G S.	White River	95	5	0	0	96	10	0	0	97	30	0	0
Darrington Barn Repairs	Darrington	96	5	0	0	97	10	0	0	98	30	0	0
Koma Kulshan G.S Repairs/Interpretation	Mt Baker	96	5	0	0	97	10	0	0	98	20	0	0
Snoqualmie Wagon Road Interpretation	North Bend	96	5	0	0	97	8	0	0	98	20	0	0

Planned Schedule for Developed Recreation Construction/Reconstruction Projects
All Dollar Figures are Thousand Dollars

Project Name	Funding Program	District	Planning Phase (Year & $)				Design Phase (Year & $)				Construction Phase (Year & $)			
			FY	Rec	FRP	Trail	FY	Rec	FRP	Trail	FY	Rec	FRP	Trail
SCHEDULED PROJECTS														
Gold Basin Mill Pond	Tr CCS	Darrington	89				90				90			17 0
Silver/Twin Rehab	RecCIP	Darrington	88				89				90	28 0		
Gold Cr. Pond 1	RW CCS	North Bend	90	5 0			90				90	32.0	7	33 0
" " "	Partnership										90	115.0		
Shadow of Sentinels	FERC\1	Mt Baker	Koma Kulshan				89				90	100.0		
Nighthawk Picnic	FERC\1	Skykomish	Snohomish PUD				89				90	486 0		
S Fork Boat Launch	FERC\1	Skykomish	Snohomish PUD				89				90	346 0		
Bear Cr VPt	FERC\1	Skykomish	Snohomish PUD				89				90	257 0		
Culmback Dam VPt	FERC\1	Skykomish	Snohomish PUD				89				90	42 0		
Deception Falls Picnic	RecCIP	Skykomish	89	7 0			90	8 0		1 0	91	107.0	56.0	137 0
Heather Meadows 3	RecCIP	Mt Baker	--				--				91	375.5		
Nooksack Falls Overlook	FERC\1	Mt Baker	Nooksack Falls Relicense				92				93			
Barclay Lake TH/Cpg	FERC\1	Skykomish												
Evergreen Lookout	Vol	Skykomish					90				90			
Lonesome Lake	KV/Vol	White River									90	18 0		
Darrington NWS	RecCIP	Darrington	91	12 0	1 0		92	33 5	15 0		93	290 6	99.0	33.5
--Restrooms/info display														
--RV Dump Station														
Mt. Baker Toilets	RecCIP	Mt Baker	91	3 0			92	10.0			93	230.0		
--Douglas Fir Cpg 4												(80)		
--Silver Fir 3												(60)		
--Austin Pass												(40)		
--Twin Lakes TH												(25)		
--Hannegan Pass TH												(25)		
Big Four	RecCIP	Darrington	91	2.2	1 1		92	6.7	8.0		93	53 0	16 4	
The Dalles Campground	RecCIP	White River	91	30.1			92	44.8			93	536 7	190 5	
Shannon Creek	RecCIP	Mt Baker	91	27 0			92	19 0			93	134 0	65 0	6.0
Denny C/Asahel H20	RecCIP	North Bend	91	8 3	5		92	30 0	6 0		93	275 0	19 0	
Darrington Toilets	RecCIP	Darrington	92	15 1	1 0		93	53 5	3 7		94	498.0	18 1	
--Verlot PSC toilets/H20														
--Verlot Cpg toilets/H20														
--Turlo Cpg toilets/H20														
--Verlot RV dump														
--trailhead toilets 2														

1990 PROPOSALS

MBS H20 & San	RecCIP		92	24 0			93	71 5			94	495 9				
--North Bend Toilets		North Bend	92				93				94					
----Denny Cr Cpg 4 toilets																
----Asahel Curtis 1 toilet																
----trailhead toilets 2																
--Skykomish		Skykomish	92				93				94					
----Beckler Water System																
----Beckler 3 toilets																
----trailhead toilets 2																
--White River Sanitation		White River	92				93				94					
----Suntop picnic																
----Trailhead toilets 2																
Mather Parkway Info	RecCIP	White River	91	24 8	4 2	3 3	92	34 4	25 7	4 4	93	291 0	90 5	45 6		
--Silver Cr Restrooms/info																
--Ranger Creek TH																
--Misc Interp																
Baker Lake Basin	RecCIP	Mt Baker	92	18 0	6 0	2 0	93	53 5	33 0	3 5	95	862 5	450 0	42 0		
--Entrance Sta/kiosk																
--Horseshoe/Pan Pt Cpg																
Gold Creek Pond 2	CCS	North Bend	91				92				93	88 0	18 0			
" "	Partnership										93	106 8				
Heavy Maintenance		MBS									91	200 0				
Heavy Maintenance		MBS									92	200 0				
Forest Partnerships		MBS	91	25							91	75.0				
Forest Partnerships		MBS	92	25							92	75 0				

OUTYEAR PROPOSALS

Cascade Interp Center	RecCIP	Skykomish	91	45 0			92	45 0			94	360 0				
Mtn Loop Fed Hwy Comp		Darrington	92	15 0			93	15 0			94	120				
Gold Creek Pond 3	RW CCS	North Bend	92	31 0			93	62 5			94	250 0				
" " "	Partnership										94	375 0				
Road Paving	FRP	Darrington	92		5 0		93		10 0		94		360 0			
--Verlot, Turlo, Lake 22, Bedal, Boardman campgrounds																
Pilchuck Rec Area	RecCIP	Darrington	92	30 0			93	30 0			94	200	2500 0	200		
Companion	Rd CIP															
Mt Baker NRA Trailheads	RecCIP	Mt Baker	92	5 0		10 0	93	10 0		14 0	94	100 0		218 0		
MBS Water & Sanitation	RecCIP		93	85 5	7 5		94	85 5	7 5		96	700	60 0			
--Tinkham Cpg 4 toilets		North Bend										(120)				
--Misc Trailheads 10		MBS										(200)				
--Gold Basin Showers		Darrington										(250)	(35)			
--Sky RV dump station		Skykomish										(15)	(15)			
Silver Spgs Cpg Reconst	RecCIP	White River	93	75 0			94	75 0			96	600 0				
Snoqualmie Pass VIC	RecCIP	North Bend	93	21 0			94	45 0	61 0		96	550 0	49 0	8.0		
Heavy Maintenance											93	200 0				
Forest Partnerships		MBS	93	25 0							93	75.0				

Darrington Info		Darrington	94	75	0			95	75	0			97	500					
--RS Reception														(200)					
--Verlot PSC Info/Remodel														(300)					
Corral Pass Campground	RecCIP	White River	94					95					97	250	0				
Money Creek Cpg Reconst	RecCIP	Skykomish	94					95					97						
Bayview Campground	RecCIP	Mt Baker	94					95					97	999.0					
Heavy Maintenance													94	200	0				
Forest Partnerships		MBS	94	25	0								94	75	0				
Greenwater Rec Area	RecCIP	White River	95					96					97			150	0		
Hwy 2/North Fork Cpg	RecCIP	Skykomish	95					96					98	500.0		200	0		
--Troublesome Ck Campground																			
--San Juan Campground																			
Decline Campground		Darrington	95					96					98	500	0	300	0		
Mountain View Cpg		North Bend	95	75	0	6	0	96	75	0	30	0	2.0	98	500	0	300	0	20 0
Heavy Maintenance		MBS	95											95	200	0			
Forest Partnerships		MBS	95	25	0									96	75	0			
Evans Creek Campground		White River	96					97						98	200	0			
Heather Meadows Phase IV		Mt Baker	96					97						98	300	0			
Miller River Campground		Skykomish	96					97						99					
Heavy Maintenance		MBS	96											96	200.0				
Forest Partnerships		MBS	96	25	0									96	75.0				
Twin Lakes Rehabilitation		Mt Baker	97	5	0		5 0	98						99	85	0		147	0
Clear Creek Conversion		Darrington	97					98						99					
Quartz Creek Horsecamp		Skykomish	97					98						99					
Heavy Maintenance		MBS	97											97	200	0			
Forest Partnerships		MBS	97	25	0									97	75	0			

MISCELLANEOUS PROJECTS

White Chuck Dispersed	KV	Darrington	92	93	95		
Monte Cristo Lake Picnic		Darrington	93	94	95	80	0
Sheep Mountain Picnic		Darrington	93	94	95	80	0
Coplay Lake	KV	White River					
Silver-Fir Cpg Reconst		Mt Baker					
Skagit R System Facil		Mt Baker					
Douglas Fir Cpg Reconst		Mt Baker					
Marble Creek Campground		Mt. Baker					
Suiattle Park-n-launch		Darrington					
Buck Ck Camp		Darrington					
Mt Baker Scenic Byway		Mt Baker					
Bacon Cr. Picnic Area		Mt Baker					
Lake Elizabeth Rec. Site		Skykomish					
Scenic Bicycle Camp		Skykomish					
Stevens Pass Historic District		Skykomish					
Park Creek Campground		Mt. Baker					
Boulder Creek Campground		Mt. Baker					
Mineral Park Campground		Mt. Baker					
Excelsior Campground		Mt Baker					
Nooksack Campground		Mt Baker					
Canyon Cr Campground		Mt Baker					
Perry Creek Campground		Darrington					
Hemple Ck Picnic Area		Darrington					
Dick Sperry Campground		Darrington					
Coal Lake Campground		Darrington					
French Ck Camp		Darrington					
Glacier Peak Viewpoint		Darrington					
Bedal Campground Expansion		Darrington					
Sloan Creek Campground		Darrington					
Twin Bridge Day Use		Darrington					
Wiley Group		Darrington					
Red Bridge Campground		Darrington					

\1 *FERC negotiated recreation mitigation projects*
RecCIP = recreation capital investment program
Rd CIP = roads capital investment program
FRP = forest roads program
CCS = challenge cost share
KV = Knudtson Vandenberg timber sale receipts
Vol = Volunteer
PC = purchaser credit
RW = recreation/wildlife

Table D-4
Planned Schedule for Developed Trailhead Construction/Reconstruction Projects
All Dollar Figures are Thousand Dollars

Project Name		District	Planning Phase (Year & $)				Design Phase (Year & $)				Construction Phase (Year & $)			
			FY	Rec	FRP	Trail	FY	Rec	FRP	Trail	FY	Rec	FRP	Trail
CURRENT PROGRAM														
Gold Basin Mill Pond	TH CIP	Darrington									90	8 0	32 0	
Sunrise Mine TH	KV/PC	Darrington	89				90				91	35.0		
Companion	Rd CIP													
Schreibers TH	FRP	Mt. Baker					89				90			
Loomis/Nooksack Snopark	FERC\1	Mt Baker	Koma Kulshan				89				90	20 0		
Sulphur Cr Snopark	FERC\1	Mt Baker	Koma Kulshan				89				90	20 0		
MARCH 1990 PROPOSALS FOR REGIONAL CIP														
Middle Fk Snoqualmie	TH CIP	North Bend	91		2 0	2 0	92	1 5	20.0	25 9	93	29 0	69 0	129 8
Companion	Rd CIP													
Iron Goat Trailheads	TH CIP	Skykomish	91	6.1	1 2		92	49 1	12.8		93	72 0	51 7	94 2
--Scenic Trailhead														
--Martin Creek Trailhead														
Schreibers Horse Facil	TH CIP	Mt Baker	89				91	5 0			91	77 0		
Barlow Pass TH	TH CIP	Darrington	92	6 0			93	8 0			94	77.0		
Pyramid Snowpark	TH CIP	White River	91		3 3		91		6.7		92	76.0		
Loomis Snowpark	TH CIP	Mt Baker	91		1.0		91	3 0	2.0		92	33.0	39.0	
OUTYEAR PROPOSALS FOR REGIONAL CIP														
Wellington Trailhead	TH CIP	Skykomish	92				93				94			
Beaver Lake TH	CCS	Darrington	92	3 0			93	4 0			94	25 0		
Green Mountain TH		Darrington	92	2 0			93	3 0			94	40 0		
Companion	Rd CIP													
Mc Clellan Butte T H	TH CIP	North Bend	92	1.0	2 0	.5	93	8.0	9 0	2	94	40.7	90 5	5 0
Companion	Rd CIP													
Lake Serene Trailhead		Skykomish	92				93				94			
Companion	Rd CIP													
Naches TH	TH CIP	White River	93		2 0		94		6 0		95	2 0	50.0	
Hannegan Trailhead	TH CIP	Mt Baker	93				94				95	50 0		
Perry Creek TH	TH CIP	Darrington	93	3.0			94	4 0			95	45 0		
Tonga Ridge Trailhead		Skykomish					93				94			
Denny Cr T H		North Bend	94	1 0	2.0		95	2 0	5.0		96	10.0	25.0	
Dickerman TH		Darrington	94	3 0			95	4 0			96	30.0		
West Fork Snowpark		White River	94		2 0		95		4.0		96		70 0	
Mt. Pugh TH		Darrington	95	3 0			96	4 0			97	30 0		
Talapus T.H		North Bend	95	2 0	2.0		96	4 0	5.0		97	12 0	15 0	
Foss River Sno/Necklace TH		Skykomish	95				96				97			
Meadow Mtn/Circle Cr/Crystal														
Lk TH		Darrington	96	3 0			97	5 0			98	50 0		
West Fork Foss Trailhead		Skykomish	96				97				98			
Downey Creek TH		Darrington	97	2 0			98	3.0			99	30 0		
Lake Dorothy Trailhead		Skykomish	97				98				99			

Lost Creek Ridge TH		Darrington	98			99			00	
Beckler River Snowpark		Skykomish	98			99			00	
Ridge Trail TH		Darrington	99	4	0	00	5	0	01	60 0
Surprise Lake Trailhead		Skykomish	99			00			01	
FOREST TRAILHEAD PROGRAM										
Bald Eagle TH	FRP	Darrington	94	2	0	95	3	0	96	15 0
Segelson Snowmobile TH	FRP	Darrington	95	2	0	96	4	0	97	15 0
Mallardy TH	FRP	Darrington	96	2	0	97	3	0	98	20 0
Coal Lake TH	FRP	Darrington	96	2.0		97	3	0	98	20 0
Thorton Lake TH	FRP	Darrington	97	2.0		98	3	0	99	15 0
Sloan Peak Climber TH	FRP	Darrington	98	2	0	99	3	0	00	10 0
Marten Creek TH	FRP	Darrington	99	2	0	00	3	0	01	10.0
Summit Lake TH	FRP	White River	94	2	0	95	3.0		96	30.0
Skookum Flats TH	FRP	White River	95	2	0	96	3.0		97	20 0
Silver Creek Snowpark	FRP	White River	90	2	0	91	2.0		91	20 0
MISCELLANEOUS TRAILHEADS										
Tinkham ORV Area	IAC	North Bend	88	IAC		89	IAC		91	IAC Funds
Cable Drop Staging Area	CCS	Skykomish								
Lake Isabel Trailhead		Skykomish								
White Chuck TH		Darrington								
Boulder River TH		Darrington								
Three Fingers TH		Darrington								
Mt Higgins TH and ROW		Darrington								
White Chuck Bench TH		Darrington								
Halls Peak TH		Darrington								
Suiattle TH		Darrington								
8 Mile TH		Darrington								
Noble Knob		White River								
Goat Creek		White River								
Divide		White River								
Colquhoun		White River								

APPENDIX E

Trail Management Plan and Implementation Schedule

A. INTRODUCTION

This is a plan for management of the trail system of the Mt. Baker-Snoqualmie National Forest. It will be reviewed and updated periodically; it replaces a similar 1979 Interim Trails Plan.

The trail system is an essential ingredient in the management and use of the Forest and its eight wildernesses. It provides access to more than half the Forest that lacks road access; it serves a rapidly growing, diverse clientele of recreational users engaged in a wide variety of activities. The direction taken in management of the trail system will, in turn, influence the management of related resources such as wilderness, recreation, fish and wildlife.

The majority of the trails now in use were developed over the years by prospectors, miners, sheepherders, and for administration and fire suppression by the Forest Service. In addition, some follow Indian trade routes between Eastern and Western Washington; the North Fork of the Sauk being one of these. Some of the trails with historical significance being used in part are: Naches Pass Wagon Road, Elliot Creek Wagon Road, Snoqualmie Pass Wagon Road and the route over Poodle Dog Pass from Silver Creek used by the discovers of the “broad bold ledge of gold” that built Monte Cristo. Portions of the Monte Cristo Railroad, outside the National Forest, have been opened by volunteers. Some historical routes being considered for operation as recreation trails are the Monte Cristo Wagon Road, the Great Northern Railroad-Scenic to Tye (1892-1929) and the Snoqualmie Pass Wagon Road.

Railroad grades and wagon roads generally make good trails because of the attention paid to drainage and water control during design and construction. Most old trails, however, were located by the most economical route between two points, using natural openings and steep grades. The design provided only a way to move supplies, generally by pack string, with some degree of safety. These trails served their purpose at the time because of the low use and little worry about environmental concerns.

With the large increase in recreational use, the majority of these trails are no longer adequate. An example is the trail from the Chiwawa River through Buck Creek Pass to the Glacier Peak mines. It was constructed about 1890, and is still in use today. Water control is difficult or impossible on most of its length.

During the 1950’s and 1970’s many miles of trail were replaced by the rapidly expanding road system. Aircraft were increasingly used to provide access to areas not accessible by road. Grazing in the mountain meadows declined and mining and prospecting were at a low ebb. As a result, the trail system lost most of its traditional reasons for existing. Many miles of trail were abandoned and most of the rest were not maintained to standard.

However, by the 1960’s a new clientele for the trail system had emerged and was rapidly growing--the recreational visitor. There had always been some recreational use of trails, but it now became the primary use. Recreational activities became diversified with day hikers,

backpackers, horsemen, motorbikers, climbers and others competing for use of a trail system that had been originally developed for none of them and was in a general state of disrepair. Bicycle riders and handicapped persons found almost no trails suitable for their use. The season of use expanded from summer and autumn to nearly year around as snow camping, winter mountaineering and cross-country skiing became more popular, and as people increasingly sought snow free trails for winter and early spring trips.

In 1977, the Ice Caves Trail on the Darrington Ranger District was designated as a National Recreation Trail, the first on the Forest. Since 1977 the Deception Falls Trail, Shadow of the Sentinels and Skookum Flats Trails have also been designated. Several more trails are proposed for National Recreation Trail status, but formal designation must await reconstruction of these trails to meet required standards. The criteria for National Recreation Trails states that these trails should be to an acceptable standard to serve anticipated use at the time they are designated, and that they should normally not be located in wilderness.

This Trail Plan is a revision of the 1979 Interim Trails Plan; it is responsive to Management Area assignments made in the Forest Plan and to public comments made in response to the DEIS. It will be coordinated with other plans and land uses, including:

1. Existing land management plans and designated land uses. Some of the Forest landbase has been designated to specific uses or has limitations on its use that affect trail planning, including:

    a. Wildernesses: Glacier Peak, Alpine Lakes, Mt. Baker, H.M. Jackson, Noisy-Diobsud, Boulder River, Norse Peak, Clearwater.

    b. Existing RNA's: Lake Twenty-two, Long Creek and North Fork Nooksack Research Natural Areas; recommended RNAs at North Fork Nooksack addition, Lily Lake, Perry Creek, Green Mountain, and Chowder Ridge.

    c. Municipal Watersheds: such as the Cedar, Tolt, Green, and Sultan.

    d. Alpine Lakes Land Management Plan.

    e. Skagit River Final Management Plan.

    f. Pacific Crest National Scenic Trail.

    g. Mt. Baker National Recreation Area.

All trail planning in these areas must conform to the Forest Plan.

2. Bordering and intermingled lands that are not National Forest. Lands of a variety of ownerships and management border the Forest, or are intermingled with National Forest land inside the Forest boundary. Trail planning must fit this complex situation. These areas include:

    a. Mt. Rainier and North Cascade National Parks.

    b. Canada.

c. Lands managed by the Washington State Department of Natural Resources and Washington State Parks. Washington State trails system. Local County trails system.

d. Intermingled private land ownership.

3. Forest Off-Road Vehicle Plan. This plan, completed in 1977, has been revised and updated (see Appendix H) to interface with the land assignments of the Forest Plan, and new wilderness designations of the 1984 Washington State Wilderness Act.

B. OBJECTIVES

Forest-Wide Objectives and Policies.

The following Forest-wide objectives and specific management policies have been prepared to guide the preparation of this plan and management actions arising from it.

Overall Objectives Applicable to the Entire Forest.

1. To provide a system of trails with routes, construction standards and maintenance standards that compliment the resource capabilities and management objectives of the area served. The system will also provide for necessary administrative access, provide for safe use on various difficulty levels of trails, and have minimum impact on soil, water, visual and other sensitive values.

2. To provide on a Forest-wide basis (not necessarily on each Ranger District) a broad spectrum of trail travel opportunities including: trails at various elevations, trails in diverse settings, and trails suitable to various kinds of users and modes of travel.

3. To proceed from the present trail system to an optimum future system as rapidly as is practicable through reconstruction, relocation, new construction, and the rehabilitation of unneeded trails to a natural condition.

4. To achieve a unified trail system, on and adjacent to the Forest, and assure that the Forest trail system complements management of adjacent land and vice-versa.

5. To assure that the trail system meets the needs of trail users, while remaining consistent with resource capabilities and land allocations.

6. To apply available funds to the highest priority trail reconstruction, construction, and maintenance projects.

7. Trails shall assume the visual quality level of the management area they pass through.

Specific Policies Applicable to the Entire Forest.

1. A broad spectrum of trails will be provided, varying in degree of ease and convenience. Trails will meet the primary objective and difficulty level standards as described in FSH 2309.18.

2. Trails may be provided where soil and vegetation, on and adjacent to the trail route, are suitable for such uses.

3. Each trail shall be managed to a particular "primary objective" (user type). If conflicts arise they will be minimized thru information and education, or as a last resort, closed to users other than the primary objective user.

4. Motorized and/or pack and saddle use of existing trails will be allowed only where the trail, as presently constructed (and soils and vegetation adjacent to the trail), can absorb such use without unacceptable damage.

   In some cases the long range "primary objective" may not exist until the trail is reconstructed to that standard. Closures may exist until the trail meets the planned "primary objective" standard.

5. Existing and potential heavy use areas (focal areas) will receive special attention in planning so that necessary facilities are provided, and trails do not introduce undesirable use. Such planning will be completed prior to major construction and/or reconstruction affecting such focal areas.

6. Hiker-only trails shall, when feasible, be separated from trails open to other kinds of users. Trails open to other kinds of users should not dead-end at a hiker-only trail.

7. Trails for pack and saddle use should, when topographically possible, by-pass focal areas, such as alpine lakes, by at least 200 feet in elevation or 500 yards horizontally.

8. Trail systems should provide for loop trails and interconnecting links where consistent with other needs, constraints, and land allocations.

9. Special emphasis will be given to identification and planning for trails at elevations where the ground is usually snow free for at least half of the year.

10. Seasonal use restrictions will be used where appropriate to protect soil, vegetation, wildlife, and to manage conflicts in use.

11. Maps showing restrictions on the use of trails will be developed and made available to the public.

12. Only system trails are considered safe for use. Only system trails will be signed on the ground and shown on maps. Publishers of guidebooks will be encouraged to follow a similar policy.

13. Priority for use of trail funds will generally be as follows:

a) Maintenance of the existing system.

b) Reconstruction and relocation of existing trails to protect the resources.

c) Reconstruction and relocation of existing trails for user safety and convenience.

Within these priority levels, individual projects will be prioritized based on such factors as environmental protection concerns, user safety, volume of use, and length of season of use.

14. The use of volunteers for trail maintenance will be encouraged.

15. Wheeled motorized vehicles will be prohibited on groomed snowmobile and cross-country ski trails.

Specific Policies Applicable to Certain Management Areas on the Forest.

1. Wilderness.

a. Management objectives will be aimed toward providing a primitive recreational experience in a natural wilderness setting.
b. Trail management objectives will be closely related and coordinated with the WROS zone to be served.

c. A diverse spectrum of opportunities and experiences by difficulty level, mode of travel, distance and kind of destination will be sought.

d. Visitors will be discouraged from establishing additional informal trails.

e. Normally, no new trail construction or major reconstruction will be undertaken until an environmental analysis has been completed for the site specific project.

f. The major objective in trail planning is to minimize the impact of trails on soils, vegetation, visual and other resource values.

g. Trail construction and maintenance in wilderness areas using motorized equipment may be allowed only with approval of the Regional Forester. Approval will be on a one-time, case-by-case basis.

h. Bridges will be provided only when:

- The most suitable and logical crossings cannot be safely negotiated during primary periods of use.

- When less formal devices (i.e., footlogs) are likely to be frequently destroyed by flood waters.

i. Native materials (wood, local rock, bank-run gravel) that blend with the trails environment will be used where such materials are necessary as a part of trail construction.

j. Signing will be held to a minimum and consist of rustic white oak signs showing trail destination.

2. Unroaded Management Areas Outside of Wilderness. This includes all areas of sufficient size to constitute a manageable entity that, based on classification, resource capability, and/or land use planning recommendations, will continue to be managed in a roadless condition for the foreseeable future. The following specific policies will apply to each such area:

   a. The trail system will be based on, and consistent with, the resource capability and management objectives of the area.

   b. In most areas, management objectives will aim at providing a primitive recreational experience in a near-natural setting.

   c. Compared to wilderness, a greater degree of modification of the natural environment will be allowed in trail construction and maintenance, if necessary to achieve standards consistent with management objectives. Non-native materials and motorized equipment may be used.

3. Roaded Management Areas. This includes all areas that are presently roaded or that, based on classification, resource capability and/or land use planning recommendations, will be roaded in the foreseeable future. The following specific policies will apply to such areas:

   a. This Trail Plan and Trail System planning will be an integral part of project planning.

   b. Significant trail opportunities will be identified and managed as the road systems are developed. Examples of "significant trail opportunities" include:

   - Trails from a road to a significant feature or attraction such as a fishing stream or viewpoint.

   - Trails that will be snow-free for at least half the period from November through April.

   - Trails of historical significance.

   - Trails that are part of a continuous route from low to high elevations.

   c. Trails interrupted by logging or road construction will be restored or substitute trails with the same primary objective and difficulty level provided so that the mileage of trails in the same general area is not diminished. Trails will be kept open, and clear directions for users provided during interrupting activities.

d. Where resource capabilities and management objectives permit, consideration will be given to the development of trails suitable for motorized use.

e. Abandoned or closed portions of the road system will be considered for management as trails.

f. Hiker & interpretative trails should be provided near most large campgrounds to provide for visitor use and enjoyment. Some of these should be suitable fot barrier free access.

g. Trails suitable for barrier free users will be provided so as to make recreation opportunities more available to them.

4. Pacific Crest National Scenic Trail. This is a part of the National Trail system by Act of Congress. It is managed for hiker and pack/ saddle use. Standards for construction and maintenance have been established for its entire length. The following specific policies will apply:

   a. Where the trail passes through wilderness; location, design, construction and maintenance standards will be modified to the extent needed to meet the intent of WROS zone through which it passes.

   b. In non-wilderness areas manage to meet standards of ROS zone that the trail passes through.

   c. Management will be fully coordinated with the Wenatchee National Forest and the National Park Service.

   d. Motorized and mountain bike use shall not be allowed on any trail or segment of trail that terminates at the Pacific Crest Trail, unless there is a logical destination point of attraction prior to the PCNST.

   e. Mountain bikes are not allowed on the Pacific Crest Trail, as per Regional Forester closure notice, August 31, 1988.

5. National Recreation Trails. The National Recreation Trails System highlights certain trails that provide outstanding opportunities for recreational use located near centers of population.

   a. Potential National Recreation Trails will be identified that meet the established criteria.

   b. Priority will be given to bringing existing and potential NRT trails to standard.

   c. As they are brought to standard, they will be formally proposed for designation.

6. Areas Where Public Use is Prohibited or Not Encouraged. This includes some municipal watersheds and the Research Natural Areas. The following specific policies will apply to such areas:

a. In Research Natural Areas, research personnel will be consulted about any trail plans or proposals.

b. Public use of existing trails in Research Natural Areas may be allowed to continue, but increases in such use or off-trail use will not be encouraged.

c. Trails in, or on the border of municipal watersheds will not be constructed or reconstructed before local officials have been contacted.

7. Trailhead Policy. A trailhead is the place where a trail connects with a road or a navigable body of water. Trailhead use, and therefore trailhead development, varies greatly. The following specific policies will apply to trailheads:

a. Trailheads are part of the transportation system and will be developed and maintained with Forest Roads Program funds.

b. As a minimum, a trailhead will provide adequate parking for an average peak season weekend day's use. This may be provided by turnouts located within 1/4 mile of the trail. Signs and posters needed to inform the trail user should be provided.

c. Heavier use situations may include off-road parking, horse-handling facilities, toilets and garbage containers. Only under unusual circumstances will such facilities as potable water and camping facilities be provided at trailheads.

d. When a trail will be intersected by new road construction, the needed trailhead facilities should be part of the road construction "package".

C. TRAIL EVALUATION AND ANALYSIS

Based on the objectives and policies stated in Section B, each existing trail has been evaluated. Both long term and short term management have been proposed. New trails have been proposed. A summary of this information follows, in Table E-l.

D. EVALUATION OF THE PROPOSED TRAIL SYSTEM AGAINST MANAGEMENT OBJECTIVES

The trail plan presented in Table E-l reflects the best judgment of the Ranger District personnel. However, they need to be looked at on a Forest-wide basis to see if they fit into a logical, comprehensive network that will meet the needs of recreational visitors and users, protect and maintain fragile resources and be economically feasible to construct, operate and maintain. Accordingly, the entire trail system has been evaluated in the light of several issues, as follows:

1. Is the total trail mileage adequate for future needs? In recent years, use of trails on the Forest has increased steadily and now is about 304,000 visitor days annually. Past data from the Glacier Peak Wilderness, believed to be fairly typical of the medium to high elevation areas on the

Forest, indicates that about 87% of total use occurs between July 1 and September 15 and that about 35% of total use occurs on Saturdays and Sundays. If this is the case, on a typical summer weekend day, the trail system presently receives about 4,200 visitor days of use. The average user spends about 4 hours per day on-trail, so this 4,200 visitor days of use represents use by 12,600 persons, or about 8.8 persons per mile of trail per day. On a typical summer weekday, the comparable figures would be 3,125 visitor days of use, 9,377 persons and 6.5 persons per mile. Thus, the system, as a whole, is not overused and could probably experience twice as much use as at present without seeming overcrowded to the average user. However, there are certain trails in the system that regularly experience heavy overuse. One of the main problems is that users tend to use the same trails every year.

At present, some segments of the system are overcrowded. However, as the inadequate portions of the system are brought up to standard, use could become spread more evenly over the entire system. With the new mileage proposed, the system should be adequate to meet future needs and management objectives.

2. Is the proposed new trail mileage appropriate? The 440 miles of proposed new trail constructed (decades 1 and 2) in the plan are identified to serve several needs:

   a. Provide trails for barrier free use. Only 8.6 miles of such trail now exists. Additional 13.4 miles will be needed and will be considered during trail planning process.

   b. Low elevation trails to provide additional opportunities during winter and early spring.

   c. Medium to high elevation trails that penetrate areas that presently lack trail access, especially in non-wilderness settings.

      New trail construction in wilderness areas are the most controversial. The trailless areas concerned are presently used by persons who enjoy the challenge and solitude of off-trail scrambling. Some contain lakes that at present levels of use, provide quality fishing, but might deteriorate with additional pressure. Thus, while a few new trails are included in the plan, their future construction will depend on the need for these facilities to protect the wilderness resource from deterioration. Construction would occur only after a complete environmental analysis.

      Trail density in wilderness is also of concern. Large areas of Designated Trailless will exist in the wilderness without trail access, and will continue to provide unusual opportunities for solitude.

3. Is an adequate mileage of trails to serve various modes of travel provided?

   a. Hiker. Over 80% percent of all trail use on the Forest is by hikers. Of the existing and proposed trails about 42 percent will be designed and open for hiker use. This is considered to be an adequate share of the Forest trail system.

b. Pack and Saddle. About 8 percent of all trail use on the Forest is by equestrians. About 32 percent of the existing and proposed trails will be designated "primary user" pack and saddle and open to horse use. This is considered to be adequate to disperse use and provide a variety of trail riding experiences.

c. Motorized. Two-wheeled motorized vehicle travel accounts for about 8 percent of the present trail use on the Forest. This mode of travel is probably somewhat depressed by a lack of suitable trails. About 15 percent of the existing and proposed trail mileage will be designated for motorized use, including snowmobiles, and open to motorized use. This alone, is not considered to be adequate. However, there are other sources of opportunities for motorized trail travel that this plan does not fully explore:

- Fairly concentrated networks of trails developed specifically for motorized use.

- A considerable mileage of low standard roads that are normally closed to other forms of motorized travel.

Several areas have been tentatively identified as having potential for development of motorized trails. More detailed planning for these units is presently impeded by several conditions, including:

- An intermingled land ownership pattern where the private landowner has been reluctant to participate.

- Strong public opposition to County motorized trail proposals in the some areas. Very strong opposition to state funding of ORV trails has emerged. This makes the public acceptance of Forest Service proposals in similar areas rather doubtful.

d. Barrier Free. There is no estimate of the present use of the Forest by physically Barrier free persons. The additional three trails totalling 2 miles proposed for Barrier free use is considered to be inadequate to provide opportunities for this segment of the population. About two miles have been constructed to barrier free standards.

e. Mountain Bicycle. Bicycle use of the existing trail system is growing in popularity. Bicycling opportunities for the future will be on paved and unpaved Forest roads and on specifically designated trails for mountain bikes. The roaded bikeways may be physically separate from and parallel to the road. Several routes through the Forest that are now paved or will probably be paved in the future, appear to offer excellent possibilities. They include the Mt. Baker Highway (State Route 542), the Baker Lake Highway, the Mountain Loop Highway, the Beckler River-North Fork Skykomish loop, the Middle Fork Snoqualmie River Road and the White River Highway (State Route 410). As sections of these routes are reconstructed, provision for bicycle travel should be included. Because some of these roads are state highway routes,coordination with state agencies will be needed.

Mountain bike use is on the increase but still is not significant. As use increases beyond its present level, and pressure for such use increases, the forest will provide for this type of recreational experience when and where appropriate. The forest has recognized the need for some mountain bike trails, and has designated 24.9 miles of existing trails for such use. An additional 46.9 miles are proposed in the future.

f. Four-Wheel Drive Routes. This plan deals only with trails, which by definition, are travelways for vehicles less than 40 inches wide. Therefore, this plan makes no provisions far four-wheel drive use. This subject is covered in the Forest 0ff-Road Vehicle Plan, see Appendix Fl, of the Forest Plan.

g. Snow Trails. Ski touring, snowshoeing and snowmobiling are increasingly popular activities on the Forest. Presently, ski touring and snowshoeing use totals about 40,000+ visitor days and snowmobiling about 18,000+ visitor days. Most use occurs on cross country routes or on roads that are snowcovered. Other routes may be desirable and should be planned for.

4. Is the plan economically feasible? The annual maintenance needs identified in the individual trail evaluations total approximately $250,000 for the Forest. This is comparable to current trail maintenance budgets.

Reconstruction costs total $7,400,000 for the existing system. To complete this work over a 10 year period would require more than $740,000 per year. Proposed new construction would cost $5,500,000. To complete this work over a 10 year period would require close to $1,300,000 per year.

Legend for Table E-1
System Trail Inventory

The following table (E-1) shows the system trails on the Forest, listed in numerical order by Ranger District. The first column is the trail number, followed by trail name. Column three shows the trail termini, or where the trail, or trail segment, begins and ends.

County (Co) this column indicates county.

W = Whatcom
SK= Skagit
SN= Snohomish
K= King
P= Pierce

Trail Difficulty (Diffi) is coded in column four with the following codes.

E = Easiest
M = More Difficult
B = Most Difficult

Primary Objective (Pri Obj) or the primary user group for which the trail is to be managed. While, in some cases, other users may use the trail, the trail facility will be managed, designed and maintained to the primary objective (user) standard. See Table H-1 for specific closures.

1= Hiker
2= Pack and Saddle
3= Bicycles
4= Motorbike
6= Snowmobile
7= Cross-country skiing
8= Barrier free
9= Interpretive
10= Jeep Trail
12= Portage Trail

Use refers to the current use level.

X= Extra Heavy - 5,000 plus users per year
H = Heavy - 2,501 - 5,000 users per year
N = Medium - 501 - 2,500 users per year
L = Low - 1 - 500 users per year

Area delineates the type of area the trail passes through; these mileages do not overlap.

Non = Nonwilderness
Wild = Wilderness
NRA = National Recreation Area
RNA = Research Natural Area
W&SR = Wild and Scenic River
Byway = Scenic byways

EX-MI lists the miles of existing trail, these miles are further broken down by miles that are adequate or inadequate.

The final column Propo refer to proposed miles of trail to be constructed.

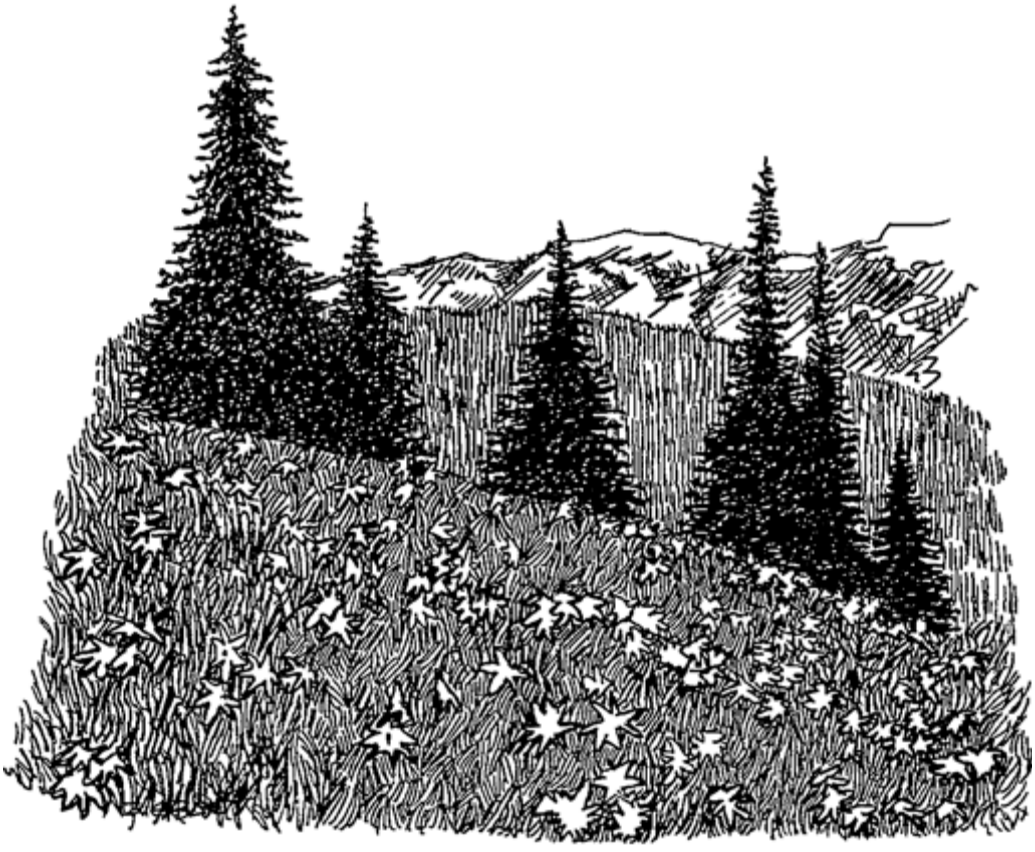

Table E-1 Trail Inventory

	DIST_	TRAIL_NO	TRAIL_NAME	TRAIL_TERMINI	CO	DIFFI	PRI_OBJ	USE	AREA	EX_MI	ADEQ	INADEQ	PROPO
1	01	100	CANYON CREEK 31	CANYON CR CC TO EXCELSIOR PASS	W	M	6	H	NON	9 0	9.0	0.0	0.0
2	01	100 1	BALD MTN 3140	CANYON CR CC TO END OF RD 3140	W	D	6	L	NON	8.0	8 0	0.0	0 0
3	01	100.2	CHURCH LK 3160	RD 31 TO CHURCH LK	W	M	6	H	NON	5.0	5 0	0 0	0 0
4	01	100 3	BEARPAW LK 3170	RD 31 TO ROAD END	W	D	6	M	NON	3.0	3.0	0.0	0.0
5	01	101	GLACIER CREEK 39	THOMPSON CR BR TO LOOKOUT MTN	W	M	6	H	NON	12 0	12.0	0.0	0.0
6	01	101.1	GROUSE BUTTE 3600	RD 39 TO ROAD END	W	M	6	M	NON	4 0	4 0	0 0	0 0
7	01	101.2	GROUSE BUTTE 3620	RD 3600 TO ROAD END	W	M	6	M	NON	2.0	2 0	0 0	0 0
8	01	103	NORTH FORK 34	SHUKSON PA TO TR 104	W	M	7		NON	0 0	0 0	0 0	7 0
9	01	104	SALMON RIDGE	HWY 542 TO HWY 542	W	E	7	H	NON	15 0	15.0	0.0	2.0
10	01	105	HEATHER MEADOWS	HWY 542 TO HWY 542	W	E	7	X	NON	3.0	3 0	0 0	0 0
11	01	105.1	ARTIST POINT	HWY 542 TO ARTIST POINT	W	M	7		NON	0.0	0 0	0 0	2.0
12	01	105 2	TABLE MTN TRAVERSE	HWY 542 TO WILD BDRY	W	D	7		NON	0 0	0 0	0 0	1 0
13	01	105.21	TABLE MTN TRAVERSE	WILD BDRY TO WILD BDRY	W	D	7		WILD	0 0	0 0	0.0	2 0
14	01	105.22	TABLE MTN TRAVERSE	WILD BDRY TO HWY 542	W	D	7		NON	0 0	0.0	0.0	1.0
15	01	106	LOOMIS-NOOKSACK 12	FH 25 TO WANLICK PASS	W	E	6	M	NON	7 0	7.0	0 0	0 0
16	01	106.1	BLUE LAKE 1230	RD 12 TO ROAD END	W	E	6	M	NON	4.0	4 0	0 0	0 0
17	01	106 2	SCHRIEBER MDWS 13	RD 12 TO EASTON GLACIER	W	M	6	X	NRA	7.0	7 0	0 0	0 0
18	01	107	ANDERSON CREEK 1107	RD 11 TO ROAD END	W	M	6	L	NON	9 0	9 0	0 0	0 0
19	01	108	RAINBOW FALLS LOOP	RD 11 TO RD 11	W	M	7	M	NON	7 0	7.0	0 0	0.0
20	01	108.1	BOULDER RIDGE 1131	TR 108 TO END OF RD 1131	W	M	7	L	NON	3 0	3.0	0.0	0 0
21	01	108 2	MARTIN LK 1130	TR 108 TO END OF RD 1130	W	M	7	L	NON	4.0	4 0	0 0	0 0
22	01	109	SEGELSON PASS 17	RD 17 TO FOREST BDRY	SK	M	6	M	NON	15 0	0 0	15 0	0 0
23	01	600	LAKE ANN	HWY 542 TO WILD BDRY	W	M	1	X	NON	0 6	0 6	0 0	0.0
24	01	600 01	LAKE ANN	WILD BDRY TO NATL PARK BDRY	W	M	1	X	WILD	4 2	4.2	0.0	0.0
25	01	601	COUGAR DIVIDE	RD 33 TO TR 682.1	W	M	1	M	WILD	3 0	0.0	3.0	12 3
26	01	602	NOOKSACK FLAT	RD 12020 TO WILD BDRY	W	M	1	L	NON	7 0	4 0	3 0	0 0
27	01	602.01	NOOKSACK FLAT	WILD BDRY TO SEC 18	W	M	1	L	WILD	1 0	0 0	1 0	0 0
28	01	602 1	WANLICK CK	TR 602 TO SCOTT PAPER BRIDGE	W	M	1	L	NON	1 0	0 0	1 0	0 0
29	01	603	PARK BUTTE	RD 13 TO PARK BUTTE L.O.	W	M	2	X	NRA	3 5	3 5	0 0	0.0
30	01	603 1	SULPHUR MORAINE	TR 603 TO TR 603	W	M	1	M	NRA	1 5	0.0	1.5	5.0
31	01	603.2	RAILROAD GRADE	TR 603 TO MEADOW PT	W	M	1	M	NRA	2 0	0.0	2.0	1.0
32	01	603.3	MAZAMA PARK	TR 697 TO WILD BDRY	W	M	2	M	NON	2.0	0 7	1.3	0 0
33	01	603.31	MAZAMA PARK	WILD BDRY TO WILD BDRY	W	M	2	M	WILD	2.0	1 0	1 0	0 0
34	01	603.32	MAZAMA PARK	WILD BDRY TO TR 603	W	M	2	M	NRA	1 0	0 0	1 0	1 0
35	01	604	BLUE LAKE	RD 1230 TO BLUE LK	W	E	1	X	NON	0 7	0 3	0 4	0 0
36	01	604 1	DOCK BUTTE	TR 604 TO DOCK BUTTE	W	M	1	M	NON	1 5	1 0	0 5	0.0
37	01	605	BOULDER RIDGE	RD 1131 TO WILD BDRY	W	M	1	M	NON	2 1	0.5	1.6	0.0
38	01	605.01	BOULDER RIDGE	WILD BDRY TO CRATER MORAINE	W	M	1		WILD	1 5	0 0	0.0	1.5
39	01	606	BAKER RIVER	RD 1168 TO NCNP BDRY	W	E	1	H	NON	1.6	1 6	0 0	0 0
40	01	607	SWIFT CREEK	PARK CR CG TO MOROVITZ RANCH	W	E	8		NON	0.0	0 0	0 0	0 5
41	01	607 01	SWIFT CREEK	MOROVITZ RANCH TO WILD BDRY	W	M	1		NON	0.0	0 0	0 0	2 0
42	01	607 02	SWIFT CREEK	WILD BDRY TO TR 600	W	M	1	M	WILD	7 5	4 0	3 5	0 0
43	01	608	SHUKSAN LAKE	RD 1160 TO SHUKSAN LK	W	D	1	M	NON	2 0	1.2	0.8	0 0
44	01	610	EAST BANK	RD 1107 TO TR 606	W	E	2	H	NON	4 0	3.0	1.0	9.0
45	01	610 1	ANDERSON POINT	TR 610 TO ANDERSON PT	W	E	1	H	NON	0 3	0 3	0.0	0.0
46	01	610 2	NOISY CREEK LOOP	TR 610 TO TR 610	W	M	1	L	NON	1 0	0 0	1 0	1.5
47	01	611	WATSON LAKES	RD 1107 TO WILD BDRY	W	E	1	X	NON	2 0	1 3	0 7	0.0
48	01	611.01	WATSON LAKES	WILD BDRY TO WATSON LKS	W	E	1	X	WILD	0 3	0 0	0 3	0 0
49	01	611.1	ANDERSON BUTTE	TR 611 TO ANDERSON BUTTE	W	M	1	M	NON	1.5	0 4	1 1	0 0
50	01	611.2	ANDERSON LAKES	TR 611 TO TR 763	W	M	1	H	NON	0 4	0 0	0 4	2 0
51	01	612	GEE POINT	RD 1722 TO GEE POINT	SK	M	1	L	NON	1 2	1 2	0 0	0 0
52	01	613	SAUK MOUNTAIN	RD 1030 TO SAUK MT	SK	E	1	X	NON	2 1	1 8	0 3	0 0

Table E-1 Trail Inventory Continued

	DIST_	TRAIL_NO	TRAIL_NAME	TRAIL_TERMINI	CO	DIFFI	PRI_OBJ	USE	AREA	EX_MI	ADEQ	INADEQ	PROPO
53	01	613.1	BALD MOUNTAIN	TR 613 TO TR 763 2	SK	M	1	M	NON	1.5	1.1	0.4	4.0
54	01	613.2	BALD LAKE	TR 613.1 TO LAKE	SK	D	1		NON	0.0	0.0	0.0	0.5
55	01	616	FINNEY PEAK	RD 1735 TO FINNEY PEAK	SK	D	4	L	NON	2 5	1.0	1.5	0.0
56	01	617	BAKER HOT SPNGS	RD 1144 TO HOT SPRINGS	W	E	2	H	NON	0 3	0 3	0.0	0.0
57	01	618	PARK CREEK	RD 11 TO RD 11	W	M	8		NON	0 0	0.0	0.0	2.0
58	01	619	SULPHUR CREEK FALLS	RD 1106 TO FALLS	W	E	1		NON	0.0	0.0	0.0	0 5
59	01	620	CUMBERLAND PASS LOOP	RD 17 TO RD 17	SK	E	1		NON	0.0	0.0	0 0	0.5
60	01	621	IRON MTN LOOP	RD 1755018 TO TR 621	SK	E	4		NON	0.0	0.0	0 0	7.0
61	01	621 1	IRON MTN LOOP	TR 621 TO TR 621	SK	E	4		NON	0.0	0.0	0.0	1 0
62	01	621.2	MILL RIDGE	TR 621 TO FOREST BDRY	SK	M	4		NON	0.0	0.0	0.0	3 0
63	01	622	THREE LAKES	RD 1260 TO BEAR LAKE	W	M	2		NON	0.0	0.0	0.0	4 5
64	01	622.1	HEART LAKE	TR 622 TO WILD BDRY	W	M	1		NON	0.0	0.0	0.0	0.5
65	01	622.11	HEART LAKE	WILD BDRY TO WILD BDRY	W	M	1		WILD	0 0	0.0	0.0	1.5
66	01	622.12	HEART LAKE	WILD BDRY TO TR 622	W	M	1		NON	0 0	0 0	0.0	1.2
67	01	623	SHADOW OF SENTINELS	RD 11 TO RD 11	W	E	8	X	NON	0.5	0.0	0 5	0.0
68	01	624	DRUID GROVE	HWY 542 TO HWY 542	W	E	9		BYWAY	0.5	0.0	0 5	0.0
69	01	625	DAMFINO/BEARPAW LOOP	RD 31 TO RD 3170	W	M	1	H	NON	2.5	1.0	1 5	6.5
70	01	625.1	EXCELSIOR PEAK	TR 625 TO EXCELSIOR PEAK	W	D	1	M	WILD	0.5	0.2	0 3	0 0
71	01	625.2	CHURCH LAKE	TR 625 TO LAKE	W	D	1		NON	0.0	0.0	0.0	0 5
72	01	625.3	BEARPAW LAKE	TR 625 TO LAKE	W	D	1		NON	0.0	0.0	0.0	0.3
73	01	627	JORDAN LAKE	RD 16 TO WILD BDRY	SK	D	1		NON	3.0	3.0	0.0	0.0
74	01	627.01	JORDAN LAKE	WILD BDRY TO LAKE	SL	D	1		WILD	1.0	1.0	0.0	0.0
75	01	628	FALLS LAKE	RD 16 TO LAKE	SK	M	1		NON	1.5	0 0	0.0	0.0
76	01	629	MARTEN LAKE	RD 16 TO LAKE	SK	M	1		NON	1.0	0.0	0.0	0 0
77	01	630	HIGH DIVIDE	HWY 542 TO RD 3060	W	M	2	H	WILD	13.0	8.0	5.0	0 0
78	01	631	DIOBSUD CREEK	RD 1050 TO MP 1 5	SK	M	1	L	NON	1.5	1.2	0.3	0 0
79	01	635	SLIDE LAKE	RD 16 TO WILD BDRY	SK	M	1	H	NON	1.0	0 6	0.4	0.0
80	01	635.01	SLIDE LAKE	WILD BDRY TO SLIDE LK	SK	M	1	H	WILD	0 4	0.0	0.4	0.0
81	01	635.02	ENJAR LAKE	SLIDE LAKE TO ENJAR LAKE	SK	D	1	L	WILD	3.0	3.0	0.0	0.0
82	01	655	LAVA DIVIDE LOOP	RD 1130 TO WILD BDRY	W	D	1		NON	0.0	0.0	0 0	0 5
83	01	655.01	LAVA DIVIDE LOOP	WILD BDRY TO WILD BDRY	W	D	1		WILD	0.0	0.0	0.0	3 0
84	01	655.02	LAVA DIVIDE LOOP	WILD BDRY TO 1130	W	D	1		NON	0 0	0 0	0.0	0.5
85	01	669	ARTIST RIDGE	HWY 542 TO HUNTOON PT	W	E	9	X	BYWAY	1 0	1 0	0.0	0.0
86	01	671	CHURCH MOUNTAIN	RD 3040 TO CHURCH MT	W	M	1	H	NON	4.2	3.2	1 0	0.0
87	01	671.1	FOSSIL PASS	TR 671 TO TR 625	W	M	1		NON	0.0	0.0	0.0	0 5
88	01	672	SILESIA CREEK	TR 675 TO RAPID CR	W	M	2	L	WILD	8.0	2.5	4.7	0.0
89	01	673	GOAT MOUNTAIN	RD 32 TO WILD BDRY	W	M	2	M	NON	1 5	1 5	0.0	0.0
90	01	673.01	GOAT MOUNTAIN	WILD BDRY TO BM 6721	W	M	2	M	WILD	2 7	1.2	1 5	1.0
91	01	673.1	OLD GOAT	TR 673 TO BM 4115	W	M	1	L	WILD	0.5	0.0	0 5	0 0
92	01	674	HANNEGAN PASS	RD 32 TO NCNP BDRY	W	E	2	X	WILD	5.0	4.8	0.2	0 0
93	01	674.1	HANNEGAN PEAK	TR 674 TO HANNEGAN PK	W	M	1	H	WILD	1.0	0.0	1.0	0.0
94	01	674.2	RUTH ARM	TR 674 TO SNOWLINE	W	D	1	M	WILD	2 0	0 0	2.0	0.0
95	01	675	LONE JACK	RD 3065 TO RD 32	W	D	1	L	WILD	2.0	2 0	0.0	4.0
96	01	676	HIGH PASS	TR 685 1 TO TR 686	W	M	1	M	WILD	3.0	2.5	0 5	2 0
97	01	677	HELIOTROPE RIDGE	RD 39 TO LATERAL MORAINE	W	E	1	X	WILD	2.7	2.0	0.7	0.0
98	01	677.1	HOGSBACK ROUTE	TR 677 TO CLIMBERS CAMP	W	M	1	X	WILD	1.0	1.0	0.0	0.0
99	01	677.2	GLACIER VIEW LOOP	TR 677 TO TR 677	W	M	1	L	WILD	2 3	0 0	2.3	0.0
100	01	678	SKYLINE DIVIDE	RD 37 TO WILD BDRY	W	M	2	H	NON	1 5	1 0	0 5	0.0
101	01	678.01	SKYLINE DIVIDE	WILD BDRY TO SEC 35	W	M	2	H	WILD	4.0	2.0	2 0	0 0
102	01	678.1	RANGER CAMP	TR 678 TO BM 5884	W	M	2	M	WILD	0.5	0.3	0.2	0.0
103	01	678.2	DEADHORSE CAMP	TR 678 01 TO DH CAMP	W	D	2		WILD	0.5	0.0	0.5	0.0
104	01	679	GROUSE RIDGE	RD 39 TO GROAT MTN	W	M	1		NON	0.0	0 0	0.0	3.5

Table E-1 Trail Inventory Continued

	DIST_	TRAIL_NO	TRAIL_NAME	TRAIL_TERMINI	CO	DIFFI	PRI_OBJ	USE	AREA	EX_MI	ADEQ	INADEQ	PROPO
105	01	680	NOOKSACK RIVER	GLACIER PSC TO SILVER FIR CG	W	M	3		BYWAY	2 0	0 0	2.0	16 0
106	01	680 1	THOMPSON CREEK	TR 680 TO RD 37	W	M	3		NON	1 5	0 0	0 0	2 5
107	01	681	TABLE MOUNTAIN	HWY 542 TO SUMMIT	W	M	1	X	BYWAY	0 7	0 7	0 0	0.0
108	01	681 01	TABLE MOUNTAIN	SUMMIT TO WILD BDRY	W	D	1	X	NON	0.7	0 3	0.4	0 0
109	01	681 02	TABLE MOUNTAIN	WILD BDRY TO TR 682	W	D	1	M	WILD	1.2	0 5	0 7	0 0
110	01	682	CHAIN LAKES	HWY 542 TO WILD BDRY	W	E	1	X	NON	0 5	0 5	0 0	0 0
111	01	682 01	CHAIN LAKES	WILD BDRY TO WILD BDRY	W	E	1	X	WILD	4 0	3 0	1 0	0.0
112	01	682 02	CHAIN LAKES	WILD BDRY TO TR 684.1	W	E	1	X	NON	1 0	0.5	0.5	0 0
113	01	682.1	PTARMIGAN RIDGE	TR 682 TO SHOLES GLACIER	W	M	1	H	WILD	5.0	3 5	1 5	0.0
114	01	682.2	WELLS CREEK	RD 33 TO WILD BDRY	W	D	1	L	NON	1 0	0 0	1 0	0 0
115	01	682 21	WELLS CREEK	WILD BDRY TO TR 682	W	D	1	L	WILD	2 0	0 0	2 0	0.0
116	01	682.3	HAYES LAKE	TR 682 TO TR 682	W	E	1		WILD	0 3	0.0	0.0	0 0
117	01	684	HEATHER MDWS	HWY 542 TO HWY 542	W	E	1	X	BYWAY	5.0	1.0	4.0	0 0
118	01	684.1	BAGLEY LAKES	SKI AREA TO AUSTIN PASS	W	E	1	X	BYWAY	2 8	1 0	1.8	0.0
119	01	684 2	FIRE AND ICE	AUSTIN PASS TO AUSTIN PASS	W	E	8		BYWAY	0 6	0 0	0 6	0 0
120	01	684 3	WILD GOOSE	TERMINAL LK TO ARTIST PT	W	M	1	H	BYWAY	1 0	0.0	1 0	0.0
121	01	684.4	BLUEBERRY LOOP	SKI AREA TO SKI AREA	W	E	8		BYWAY	0.0	0 0	0 0	0.5
122	01	684.41	PANORAMA DOME	TR 684 4 TO TR 600	W	M	1	H	NON	1 5	0 0	1.5	0 0
123	01	685	TWIN LAKES	RD 3065 TO RD 3065	W	E	1	X	NON	1 0	0 0	1 0	0 0
124	01	685 1	WINCHESTER MT	TR 685 TO WINCHESTER LO	W	M	1	H	WILD	2 1	1 8	0 3	0 0
125	01	686	TOMYHOI LK	RD 3065 TO WILD BDRY	W	M	1	H	NON	0 5	0.5	0 0	0.0
126	01	686.01	TOMYHOI LK	WILD BDRY TO TOMYHOI LK	W	M	1	H	WILD	3.5	3.3	0.2	0.0
127	01	686.1	YELLOW ASTER	TR 686 TO TR 699	W	M	1		WILD	0.0	0 0	0.0	2 0
128	01	687	HORSESHOE BEND	HWY 542 TO HWY 542	W	E	1	X	BYWAY	0 7	0 0	0 7	0 0
129	01	688	BOUNDARY WAY	TR 625 TO MP 2 5	W	M	1	L	NON	2 5	1 6	0 9	0.0
130	01	689	CANYON RIDGE	RD 31 TO RD 3140	W	D	4	L	NON	9 1	5.0	4 1	0.0
131	01	689.1	CANYON CREEK LOOP	TR 689 TO TR 689	W	M	4		NON	0 0	0.0	0.0	12.0
132	01	689.2	HUDSON WAY	TR 689 TO MP 1.5	W	D	4	L	NON	1.5	0.0	1.5	0.0
133	01	696	RIDLEY CREEK	RD 38 TO WILD BDRY	W	M	2	M	WILD	2.5	0 0	2.5	0 0
134	01	696 01	RIDLEY CREEK	WILD BDRY TO TR 603 2	W	M	2	M	NRA	0 5	0 0	0 5	0 0
135	01	697	ELBOW LAKE	RD 38 TO WILD BDRY	W	M	2	M	NON	3 0	0 8	2 2	0 0
136	01	697.01	ELBOW LAKE	WILD BDRY TO WILD BDRY	W	M	2	M	WILD	2 0	0 4	1 6	0.0
137	01	697.02	ELBOW LAKE	WILD BDRY TO TR 602	W	M	2	M	NON	1.2	0.2	1.0	0.7
138	01	697.1	BELL PASS	TR 697 TO TR 603 3	W	M	2		WILD	0.0	0.0	0.0	3.0
139	01	697.2	WISEMAN LAKE	TR 697 TO WISEMAN LK	W	D	1	L	WILD	1.5	1 5	0 0	0 0
140	01	699	KEEP KOOL	RD 3065 TO WILD BDRY	W	M	1	H	NON	0 5	0 0	0 5	0 0
141	01	699 01	KEEP KOOL	WILD BDRY TO BUTTE	W	M	1	H	WILD	3 0	0 0	3 0	0.0
142	01	699.1	TOMYHOI PEAK	TR 699 TO PEAK	W	D	1	L	WILD	3 0	3.0	0 0	0 0
143	01	735	PICTURE LAKE	HWY 542 TO HWY 542	W	E	8	X	BYWAY	0.5	0.5	0 0	0.0
144	01	742	SHANNON RIDGE	RD 1152014 TO NCNP BDRY	W	D	1	M	NON	1.9	1.4	0 5	0.0
145	01	743	LOOKOUT MT	RD 15 TO LOOKOUT MT LO	SK	M	1	M	NON	4.7	4 1	0.6	0 0
146	01	743 1	MONOGRAM LK	TR 743 1 TO NCNP BDRY	SK	M	1	M	NON	0 8	0 0	0 8	0 0
147	01	744	BEAVER POND	PAN PT CG TO PAN PT CG	SK	E	8		NON	0 0	0 0	0 0	0 7
148	01	745	HIDDEN LAKE	RD 1540 TO HIDDEN LAKE LO	SK	E	1	H	NON	4 5	3 5	1 0	0 0
149	01	746	BEAR LAKE	RD 1550 TO BEAR LAKE	SK	M	1	L	NON	1 5	1 5	0 0	0 0
150	01	750	RUTH GORGE	RD 32 TO RUTH GORGE	W	D	8		NON	0 0	0 0	0 0	1 0
151	01	750.01	NOOKSACK CIRQUE	RUTH GORGE TO WILD BDRY	W	M	1	H	NON	3.5	3.0	0 0	0 5
152	01	750.02	NOOKSACK CIRQUE	WILD BDRY TO NCNP BDRY	W	M	1	H	WILD	3 0	2.5	0 5	0.0
153	01	750.1	PRICE LAKE	TR 750 TO NPS BDRY	W	D	1	L	WILD	1.0	1.0	0.0	0.0
154	01	751	BIG CEDAR	SILVER FIR CG TO SILVER FIR CG	W	E	8		BYWAY	0.0	0.0	0.0	1 5
155	01	757	BEARPAW LAKE	RD 3170 TO TR 671	W	D	1	L	NON	1.0	0.0	1.0	3.5
156	01	757.1	CHURCH LAKE	RD 3160 TO TR 757	W	M	1	L	NON	0.5	0 0	0.5	0 0

Table E-1 Trail Inventory Continued

	DIST_	TRAIL_NO	TRAIL_NAME	TRAIL_TERMINI	CO	DIFFI	PRI_OBJ	USE	AREA	EX_MI	ADEQ	INADEQ	PROPO
157	01	762	WHITE SALMON	RD 3075 TO NCNP BDRY	W	D	1	L	WILD	2 0	2.0	0 0	0 0
158	01	763	THUNDER RIDGE	RD 1140 TO STATE RD	SK	M	2	L	NON	6 4	3.6	2.8	18.0
159	01	763.1	ROCKY CREEK	HWY 20 TO TR 763	SK	D	2	L	NON	4 0	0.0	4.0	0 0
160	01	763 2	JACKMAN RIDGE	TR 763 TO LAKE (SEC 6)	SK	M	2		NON	0 0	0.0	0.0	3.0
161	01	763 3	CLEAR LAKE	TR 763 TO LAKE	SK	M	1		NON	0.0	0.0	0.0	3.0
162	01	765	FOUND LAKE	RD 1570 TO WILDERNESS BDRY	SK	D	1	L	NON	1.5	1 0	0.5	0.0
163	01	765.01	FOUND LAKE	WILD BDRY TO LAKE	SK	D	1	L	WILD	2.5	2.5	0.0	0 0
164	01	766	KINDY CREEK	RD 1570030 TO WILD BDRY	SK	M	1	L	NON	0.5	0.5	0 0	0 0
165	01	766.01	KINDY CREEK	WILD BDRY TO END	SK	M	1	L	WILD	1 2	1.2	0 0	0.0
166	01	769	CASCADE RIVER	MARBLE CR CG TO W B.	SK	E	1		WSR	0 5	0.5	0.0	2.5
167	01	769 1	MIDDLE FK CASCADE	TR 769 TO SEC 1	SK	M	1	M	WILD	4.5	2 0	2.5	0.5
168	01	769 2	SOUTH FK CASCADE	TR 769 TO S CASCADE LAKE	SK	D	1	L	WILD	8.5	6 0	2.5	0.0
169	02	"	FRENCH CR LOOP	RD 2010 TO RD 2010	SN	E	1	"	NON	0.0	0 0	0.0	2 0
170	02	"	SWIFT CR.	BEDAL CG TO TR. 716	SN	M	2	"	NON	"	"	"	"
171	02	2000 01	PCNST	SUIATTLE PASS TO SUIATTLE R.	SN	M	2	H	WILD	7 7	7.7	0.0	0 0
172	02	2000.02	PCNST	SUIATTLE R. TO E FK BASIN	SN	M	2	H	WILD	10.8	9.8	1.0	0 0
173	02	2000.03	PCNST	E. FK. BASIN TO MILK CR	SN	M	2	H	WILD	3.3	2.3	1.0	0.0
174	02	2000.04	PCNST	MILK CR TO MICA LAKE	SN	M	2	H	WILD	4.0	3 8	0.2	0.0
175	02	2000.05	PCNST	MICA LAKE TO FIRE CR PASS	SN	M	2	H	WILD	1.1	1 1	0.0	0 0
176	02	2000 06	PCNST	FIRE CR PASS TO TR 639	SN	M	2	H	WILD	5 9	3 9	2 0	0 0
177	02	2000 07	PCNST	TR 639 TO OLD GLA PK. LO	SN	M	2	H	WILD	7 0	4.0	3 0	0 0
178	02	2000.08	PCNST	OLD GLA PK. LO TO TR 1507	SN	M	2	H	WILD	5 6	4.6	1.0	0.0
179	02	632	COAL LAKE	RD 4060 TO SO END LK	SN	E	1	M	NON	0.1	0.1	0.0	0.2
180	02	633	FORKS	RD 41 TO SHELTER	SN	M	1	L	NON	1.3	1 3	0.0	0.0
181	02	638	CRYSTAL LAKE	RD 2710011 TO WILD BDRY	SN	M	1	L	NON	1.3	1.3	0 0	0.0
182	02	638.01	CRYSTAL LAKE	WILD BDRY TO LAKE	SN	M	1	L	WILD	0 2	0.0	0 2	0 0
183	02	638.1	CIRCLE PEAK	TR 638 TO PEAK	SN	M	1	L	NON	2 5	0.5	2.0	2.0
184	02	639	KENNEDY RIDGE	TR 643.01 TO TR 2000	SN	M	2	M	WILD	2.0	1.0	1.0	0.0
185	02	640	MT. HIGGINS	DNR RD TO BM 4849	SK	M	1	L	NON	4.5	1.0	3.5	0.0
186	02	640.1	MYRTLE LAKE	TR 640 TO LAKE SEC 30	SK	E	1	L	NON	0.3	0.2	0 1	0.0
187	02	641	THREE FINGERS	RD 41 TO SADDLE CAMP	SN	M	1	M	WILD	6 2	2.0	4.2	0.0
188	02	641 1	SADDLE LAKE	TR 641 TO LAKE	SN	M	1	M	WILD	0.2	0.0	0.2	0.0
189	02	643	WHITE CHUCK	RD 23 TO WILD BDRY	SN	E	2	X	NON	0.4	0 4	0.0	0.0
190	02	643.01	WHITE CHUCK	WILD BDRY TO TR 643 1	SN	E	2	X	WILD	6.5	4 7	1 8	0.0
191	02	643.1	KENNEDY HP CAMP	TR 643.01 TO HOT SPRINGS	SN	E	1	X	WILD	0 5	0.2	0 3	0.0
192	02	644	MT. PUGH	RD 2095 TO TIMBERLINE	SN	M	2	M	NON	3.5	2.5	1.0	0.0
193	02	645	FALLS CR PASS L	RD 2080 TO RD 4060	SN	M	2	L	NON	4.0	1 0	3.0	0.0
194	02	646	LOST CR RIDGE	RD 49 TO WILD BDRY	SN	M	2	M	NON	4.6	1.5	3 1	0.0
195	02	646.01	LOST CR RIDGE	WILD BDRY TO K HOT SPRINGS	SN	M	1	M	WILD	6 5	3.0	3.5	2.5
196	02	646 1	ROUND LAKE	TR 646 TO ROUND LAKE	SN	M	1	M	WILD	0.7	0.6	0.1	0.0
197	02	647	ELLIOT CREEK	RD 4080 TO WILD BDRY	SN	E	1	H	NON	4.2	4.2	0.0	0.0
198	02	647.01	ELLIOT CREEK	WILD BDRY TO GOAT LAKE	SN	E	1	H	WILD	1.0	1 0	0 0	0.0
199	02	648	SLOAN PEAK	RD 49 TO WILD BDRY	SN	D	1	M	WSR	2 0	2.0	0.0	0.0
200	02	648.01	SLOAN PEAK	WILD BDRY TO TIMBERLINE	SN	D	1	M	WILD	2.5	2.5	0.0	0.0
201	02	649	N FK SAUK	RD 49 TO TR 2000	SN	M	2	M	WILD	8.4	4.9	3.5	0.0
202	02	650	BALD EAGLE	RD 4920 TO WILD BDRY	SN	M	2	L	NON	1.4	1.4	0 0	0 0
203	02	650.01	BALD EAGLE	WILD BDRY TO CURRY GAP	SN	M	2	L	WILD	0.3	0.3	0.0	0.0
204	02	651	RED MOUNTAIN	TR 649 TO SEC 28	SN	M	1	L	WILD	0.9	0.8	0.1	0.0
205	02	652	PILOT RIDGE	TR 649 TO TR 650.01	SN	D	2	L	WILD	11.0	7 0	4.0	0.0
206	02	652.1	BLUE LAKE HIGH	TR 652 TO TR 650.01	SN	D	1	L	WILD	2.0	0.8	0.3	0.0
207	02	652.2	JOHNSON MTN	TR 652 TO JOHNSON MTN	SN	M	1	L	WILD	1.0	1.0	0.0	0.0
208	02	653	NEIDERPRUM	RD 2030 TO WILD BDRY	SN	D	1	L	NON	0.5	0.5	0.0	0.0

Table E-1 Trail Inventory Continued

	DIST_	TRAIL_NO	TRAIL_NAME	TRAIL_TERMINI	CO	DIFFI	PRI_OBJ	USE	AREA	EX_MI	ADEQ	INADEQ	PROPO
209	02	653.01	NEIDERPRUM	WILD BDRY TO SEC 30	SN	D	1	L	WILD	1 5	1 4	0.1	0 0
210	02	654	SQUIRE CREEK	RD 2040 TO W BDRY	SN	M	1	M	NON	0 5	0.0	0 5	0.0
211	02	654 01	SQUIRE CREEK	WILD BDRY TO WILD BDRY	SN	M	1	M	WILD	2 9	0 0	2.9	0.0
212	02	654 02	EIGHT-MILE CR	WILD BDRY TO RD 2065	SN	M	1	L	NON	2 5	0 5	2.0	0.0
213	02	656	PEEK-A-BOO LAKE	RD 2084 TO LAKE	SN	M	1	L	NON	2.5	0.8	1 7	0.0
214	02	657	MEADOW MTN	RD 2710 TO WILD BDRY	SN	M	2	M	NON	7 0	0 0	7 0	0 0
215	02	657 01	MEADOW MTN	WILD BDRY TO TR 643	SN	M	2	M	WILD	10.6	5 0	5.6	0.0
216	02	657.1	MEADOW LAKE	TR 657 TO LAKE	SN	M	2	M	WILD	0.7	0 0	0 7	0.0
217	02	657 2	DIAMOND LAKE	TR 657 TO LAKE	SN	M	2		WILD	0 8	0 0	0.8	0 0
218	02	658	PRAIRIE MTN	RD 2430 TO SUMMIT	SN	M	1		NON	0 0	0.0	0 0	3.0
219	02	659	FROG LAKE	CLEAR CREEK CG TO LAKE	SN	M	1	L	NON	1.0	0 9	0 1	0 0
220	02	660	N FK FALLS	RD 49 TO FALLS	SN	E	1	M	WSR	0.2	0 2	0.0	0.0
221	02	661	BEAR LAKE	RD 4021 TO LAKE	SK	E	8	X	NON	0.3	0.0	0 3	0.3
222	02	663	BOULDER BASIN	TR 2000 TO TIMBERLINE	SN	D	1	M	WILD	1.8	0.0	1 8	0 0
223	02	664	ROUND MTN	RD 1850 TO ROUND MT.	SK	M	1	L	NON	1.6	0 5	1.1	0 4
224	02	665	WHITE CHUCK MT	RD 2436036 TO TIMBERLINE	SN	D	1		NON	0 0	0 0	0.0	1.0
225	02	667	COPPER CREEK	RD 2065 TO WILD BDRY	SN	M	1	L	NON	0 4	0.4	0.0	0.0
226	02	700	PILCHUCK LO	RD 42 TO PILCHUCK L.O.	SN	M	1	X	NON	2.7	0 0	2 7	0 0
227	02	700.1	PILCHUCK CREST	TR 700 TO PINNACLE LAKE	SN	M	1		NON	0 0	0 0	0.0	4.0
228	02	700 2	PILCHUCK CREST	TR 700 1 TO BALD MT.	SN	M	1	-	NON	0 0	0 0	0 0	8.0
229	02	701	HEATHER LAKE	RD 42 TO LAKE	SN	E	1	H	NON	2.0	1.6	0 4	0.3
230	02	702	LAKE 22	FH-7 TO LAKE	SN	E	1	X	RNA	2.7	2.7	0 0	0 5
231	02	703	PINNACLE LAKE	TR 661 TO TR 700.1	SN	M	1	M	NON	1 8	0 3	1.5	1.0
232	02	703 1	PINNACLE LAKE	TR 703 AROUND LAKE	SN	M	1	M	NON	0 0	0 0	0.0	0.2
233	02	704	BOARDMAN LAKE	RD 4020 TO DNR TR	SN	E	1	H	NON	0.8	0.8	0 0	1 4
234	02	704.1	BOARDMAN CAMP	TR 704 TO TR 704	SN	E	1	M	NON	0 2	0 2	0.0	0 6
235	02	704 2	EVANS LAKE	TR 704 TO LAKE	SN	E	8		NON	0 1	0 0	0.1	0.4
236	02	704.3	ASHLAND LK TIE	TR 700 2 TO ASHLAND LK DNR TR	SN	E	1		NON	0 0	0 0	0 0	1 5
237	02	705	BEDAL CREEK	RD 4096 TO WILD BDRY	SN	M	1	L	NON	0.5	0 0	0 5	0 0
238	02	705.01	BEDAL CREEK	WILD BDRY TO SEC 35	SN	M	1	L	WILD	1 5	0 0	1.5	0 0
239	02	706	MALLARDY RIDGE	RD 4032 TO BALD MT TR	SN	M	1		NON	1 0	0.0	1 0	3.3
240	02	706 1	MALLARDY RIDGE	TR 706 TO RD 4032	SN	M	1	-	NON	0 0	0.0	0 0	2.8
241	02	707	SUNRISE MINE	RD 4065 TO VESPER PEAK	SN	M	1	M	NON	3.0	1 5	1.5	0 0
242	02	708	POODLE DOG PASS	COUNTY RD TO WILD BDRY	SN	M	1	H	NON	0 5	0 0	0.5	0 0
243	02	708 01	POODLE DOG PASS	WILD BDRY TO SILVER LAKE	SN	M	1	H	WILD	1 9	0 0	1 9	0 0
244	02	708 1	TWIN LAKES	TR 708 01 TO LAKE	SN	M	1	M	WILD	2 7	2 7	0 0	0 0
245	02	709	BARLOW PT.	FH-7 TO SUMMIT SEC 31	SN	M	1	M	NON	1 2	1 2	0 0	0 0
246	02	710	DICKERMAN MTN	FH-7 TO SUMMIT SEC 24	SN	M	1	M	NON	4 3	2 3	2.0	0 0
247	02	710 01	DICKERMAN EAST	TR 710 TO TR 716	SN		2		NON	0 0	0 0	0 0	1.2
248	02	711	PERRY CREEK	RD 4063 TO FALLS	SN	E	1	H	NON	2 0	1.8	0 2	0.0
249	02	711.01	PERRY CREEK	FALLS TO SEC 18	SN	M	1	H	NON	1 6	0 0	1 6	0 0
250	02	712	INDEPENDENCE LAKE	RD 4060 TO TR 717	SN	E	1	M	NON	0 7	0 0	0 7	3 5
251	02	712 1	NORTH LAKE	TR 712 TO NORTH LAKE	SN	M	1	M	NON	2 5	0 5	2.0	0 0
252	02	713	MARTEN CREEK	FH-7 TO CLEAR CK	SN	M	1	M	WILD	3 3	0 0	3 3	1.5
253	02	714	FRENCH CR VIEW	RD 2010 TO SEC 14	SN	E	1		NON	0 0	0.0	0 0	2.0
254	02	714 1	FRENCH CK	TR 714 TO TR 714 (LOOP)	SN	E	1	-	NON	0 0	0 0	0 0	1 5
255	02	715	SADDLE CREEK	RD 41 TO SADDLE LAKE	SN	M	1	M	WILD	5 8	0 0	5.8	0 0
256	02	716	RIDGE TRAIL	RD 4060 TO BARLOW POINT	SN	M	2		NON	0 0	0 0	0 0	7 7
257	02	716.1	SOUTH LAKE	TR 716 TO SOUTH LAKE	SN	M	1		NON	0 0	0.0	0 0	1 0
258	02	717	DEER CREEK PASS	RD 4052 TO WILD BDRY	SN	M	1	L	NON	0.2	0.0	0 2	0 0
259	02	717.01	DEER CREEK PASS	WILD BDRY TO WILD BDRY	SN	M	1	L	WILD	0.8	0 0	0 8	0 0
260	02	717.02	DEER CREEK PASS	WILD BDRY TO RD 2060	SN	M	1	L	NON	0 5	0 0	0.5	0.0

Table E-1 Trail Inventory Continued

	DIST_	TRAIL_NO	TRAIL_NAME	TRAIL_TERMINI	CO	DIFFI	PRI_OBJ	USE	AREA	EX_MI	ADEQ	INADEQ	PROPO
261	02	718	KELCEMA LAKE	RD 4052 TO LAKE	SN	M	1	M	WILD	0.4	0 0	0.4	0 5
262	02	719	GLACIER BASIN	COUNTY ROAD TO WILD BDRY	SN	M	1	X	NON	1.6	1 4	0.2	0 0
263	02	719.01	GLACIER BASIN	WILD BDRY TO SEC 23	SN	D	1	X	WILD	0.5	0.0	0.5	0 0
264	02	720	CANYON LAKE	RD 4111 TO LAKE	SN	E	1	M	WILD	0.1	0 0	0.1	0 0
265	02	721	LAKE LOUISE	RD 2642 TO LAKE	SK	M	1		NON	0.0	0.0	0.0	2.0
266	02	721.1	ILLABOT PEAK	TR 721 TO PEAK	SK	M	1		NON	0.0	0 0	0.0	1.8
267	02	722	SILVER GULCH	FH-7 TO SEC 29	SN	D	1	L	NON	0.0	0 0	0.0	1.9
268	02	723	ICE CAVES	RD 4059 TO ICE CAVES	SN	E	1	X	NON	1.0	1.0	0.0	0.0
269	02	724	WEDEN CREEK	COUNTY RD TO FOREST BDRY	SN	D	1	M	NON	1 8	0.0	1 8	0.0
270	02	725	VERLOT NATURE	VERLOT CG TO TURLO CG	SN	E	9	H	NON	0 3	0.2	0 1	0.0
271	02	726	THORTON LAKE	RD 27 TO LAKE	SN	M	1		NON	0 0	0.0	0 0	1.5
272	02	727	GOLD BASIN NATURE	FH-7 TO FH-7	SN	E	9		NON	0 0	0.0	0 0	1.0
273	02	728	OLD SAUK	RD 20 TO RD 20	SN	E	8	L	WSR	3 0	0.0	3 0	0.0
274	02	729	SCHWEITZER	FH-7 TO FH-7	SN	E	7	L	NON	10 5	10.2	0.3	0.0
275	02	730	BEAVER CREEK	FH-7 TO FH-7	SN	E	7	L	NON	6 6	6.3	0.3	0.0
276	02	731	WHITE CHUCK BENCH	RD 22 TO RD 23	SN	E	2	L	NON	3.3	0.0	3 3	0.0
277	02	732	NO FK GORGE	RD 20 TO RD 49	SN	E	1		WSR	0.0	0.0	0.0	1 0
278	02	733	OLD GOV'T TRAIL	RD 4063 TO TR 709	SN	E	2	L	NON	1.2	1.2	0.0	3 0
279	02	734	BOULDER RIVER	RD 2010018 TO WILD BDRY	SN	E	1	H	NON	1.0	1 0	0.0	0 0
280	02	734 01	BOULDER RIVER	WILD BDRY TO FORD	SN	E	1	H	WILD	3.3	3.3	0.0	2 5
281	02	736	HALL PEAK LOWLAND	RD 4031 TO TR 723	SN	M	1		NON	0.0	0 0	0.0	5 0
282	02	736 1	MARBLE GULCH	TR 736 TO SEC 30	SN	D	1		NON	0.0	0 0	0.0	2 0
283	02	737	MOUNTAIN LOOP	FH 7 TO MONTE CRISTO LAKE	SN	E	8		NON	0.0	0 0	0.0	2.0
284	*02*	*737 01*	*MOUNTAIN LOOP*	*MONTE CRISTO LAKE TO RD 20*	*SN*	*E*	*1*		*NON*	*0.0*	*0 0*	*0.0*	*12.0*
285	02	738	YOUTH-ON-AGE	RD 4040000 TO RD 4040000	SN	E	8	M	NON	0.3	0 3	0.0	0.0
286	02	739	PALMER CR FALLS	RD 4065 TO FH7/BARLOW PASS	SN	E	8		NON	0.0	0.0	0 0	1.5
287	02	740	BOULDER LAKE	RD 2060014 TO WILD BDRY	SN	D	1		NON	0.6	0 0	0 6	0.0
288	02	740.01	BOULDER LAKE	WILD BDRY TO LAKE	SN	D	1		WILD	1 1	0.0	1 1	0.0
289	02	748	MT FORGOTTEN	RD 20 TO TR 711	SN	~	1	~	NON	0.0	0.0	0 0	4.0
290	02	749	NO FK SAUK LOWLAND	BEDAL CG TO WB	SN	~	1	~	NON	0 0	0.0	0.0	7.5
291	02	749 01	NO FORK SAUK LOWLAND	WB TO TR 650	SN	~	1	~	WILD	0 0	0.0	0.0	5 5
292	02	752	BLACKJACK LO	RD 4031 TO BLACKJACK LO	SN	~	1	~	NON	0.0	0 0	0.0	2.5
293	02	753	CANYON CREEK	RD 4150001 TO RD 41 (SEC 36)	SN	~	1	~	NON	0.0	0 0	0.0	6.0
294	02	754	WHITECHUCK EXTENSION	TR 731 TO 643	SN	~	1	~	NON	0.0	0 0	0.0	6.0
295	02	768	DOWNEY CREEK	RD 26 TO WILD BDRY	SN	M	2	M	NON	0.4	0 4	0.0	0.0
296	02	768.01	DOWNEY CREEK	WILD BDRY TO BACHELOR CREEK	SN	M	2	M	WILD	6 2	4 9	1.3	0.0
297	02	778	CLEAR CR FALLS	RD 2060 TO RD 2060	SN	E	1		NON	0 0	0.0	0.0	0.3
298	02	780	HUCKLEBERRY MT	RD 26 TO WILD BDRY	SN	M	2	L	NON	5 5	3.5	2 0	0 0
299	02	780 01	HUCKLEBERRY MT	WILD BDRY TO SEC 25	SN	M	2	L	WILD	1.5	1.5	0 0	0 0
300	02	781	BUCK CREEK	RD 2600014 TO SEC 12	SN	E	1	L	WILD	1.0	0 9	0.1	0 0
301	02	782	GREEN MTN	RD 2680 TO WILD BDRY	SN	M	2	H	NON	1.0	1 0	0.0	0.0
302	02	782.01	GREEN MTN	WILD BDRY TO GREEN MT LO	SN	M	2	H	WILD	3.0	2.2	0.8	0.0
303	02	783	BEAVER LAKE	RD 20 TO RD 20	SN	E	8	L	WSR	2.5	0 0	2.5	0.0
304	02	784	SUIATTLE	RD 26 TO TR 2000	SN	E	2	H	WILD	10.8	10.8	0 0	0.0
305	02	785	MINERS RIDGE	TR 784 TO TR 2000	SN	E	2	H	WILD	9 9	4.4	5 5	0.0
306	02	785.1	IMAGE LK HIKER	TR 785 TO TR 785	SN	E	1	H	WILD	0 6	0.4	0 2	0 0
307	02	785.2	BACKPACKER CAMP	TR 785 TO IMAGE LAKE CAMP	SN	E	1	H	WILD	0 1	0.1	0.2	0 0
308	02	785.3	MINERS RIDGE LO	TR 785 TO LO	SN	E	2	M	WILD	0 1	0.1	0 0	0 0
309	02	786	DUSTY RIDGE	TR 798 TO CREEK	SN	M	1	L	WILD	3 5	1.5	2 0	0 0
310	02	787	SHEEP CAMP	TR 789 TO SEC 23	SN	M	2	L	WILD	1 0	0.9	0.1	0.0

Table E-1 Trail Inventory Continued

	DIST_	TRAIL_NO	TRAIL_NAME	TRAIL_TERMINI	CO	DIFFI	PRI_OBJ	USE	AREA	EX_MI	ADEQ	INADEQ	PROPO
311	02	788	GRASSY POINT	TR 2000 TO GRASSY PT	SN	M	2	M	WILD	3.5	3.0	0.5	0.0
312	02	789	BUCK CREEK PASS	TR 2000 TO TR 1513 (WEF)	SN	M	2	M	WILD	5.0	0.0	5 0	0 0
313	02	790	MILK CREEK	TR 784 TO TR 2000	SN	M	2	H	WILD	6 5	6 0	0 5	0 0
314	02	791	GAMMA WAY	TR 798 TO SEC 31	SN	M	2	L	WILD	6.0	3 5	2.5	0 0
315	02	792	TRAID CREEK	TR 798 TO TR 1513 (WEF)	SN	M	1	L	WILD	4 7	3.0	1 7	0.0
316	02	793	SULPHUR CR	RD 26 TO WILD BDRY	SN	E	1	L	WSR	0.2	0.2	0 0	0 0
317	02	793.01	SULPHUR CR	WILD BDRY TO SEC 13	SN	E	1	L	WILD	1 6	1 2	0.4	0 0
318	02	794	SULPHUR MTN	TR 784 TO SEC 29	SN	M	2	L	WILD	5 0	2.8	2.2	0.0
319	02	795	MINERS CABIN	TR 785 TO TR 785	SN	E	2	M	WILD	2 1	0 7	1 4	0.0
320	02	797	CANYON LAKE	TR 785 TO LK SEC 28	SN	D	1	L	WILD	7 0	4.4	2 6	0 0
321	02	798	UPPER SUIATTLE	TR 2000 TO TR 792	SN	M	2	M	WILD	4.0	2.0	2.0	0 0
322	02	798.01	UPPER SUIATTLE RIV	TR 798 TO SEC 7	SN	M	1	M	WILD	3.0	2.0	1.0	0 0
323	02	799	FLOWER DOME	TR 789 TO FLOWER DOME	SN	M	2	L	WILD	1.0	0 5	0 5	0.0
324	05	1000	SUNDAY LAKE	RD 5720 TO WILD BDRY	K	E	1	H	NON	0.5	0 0	0.5	0.0
325	05	1000 01	SUNDAY LAKE	WILD BDRY TO LAKE	K	E	1	H	WILD	1.1	1.0	0.1	0 0
326	05	1001	LENNOX CR	RD 5700210 TO WILD BDRY	K	M	1	H	NON	0.2	0.2	0.0	0.0
327	05	1001.01	LENNOX CR	WILD BDRY TO ANDERSON LAKE	K	M	1	H	WILD	3.9	1 0	2.9	0 0
328	05	1002	SNOQUALMIE LK	RD 5630 TO WILD BDRY	K	E	2	M	NON	3 3	3 3	0.0	0.0
329	05	1002.01	SNOQUALMIE LK	WILD BDRY TO DIST BDRY	K	M	2	M	WILD	4 3	1 9	2.4	0.0
330	05	1003	MIDDLE FORK	TR 1035 TO END RD 5620	K	E	2	L	NON	8.8	5 0	3.8	9.0
331	05	1003 1	MIDDLE FORK TIE	TR 1003 TO RD 56	K	E	2	L	NON	0.0	0.0	0 0	0 2
332	05	1003 2	DINGFORD CK TIE	TR 1003 TO RD 5620	K	E	2	L	NON	0.0	0 0	0.0	0 2
333	05	1004	NORDRUM LAKE	TR 1002 TO WILD BDRY	K	D	1	L	NON	0.3	0 0	0.3	0 0
334	05	1004.01	NORDRUM LAKE	WILD BDRY TO N. LAKE	K	D	1	L	WILD	2 3	0 0	2.3	0.0
335	05	1005	DINGFORD CREEK	RD 5620 TO WILD BDRY	K	M	2	M	NON	0 8	0.8	0 0	0.0
336	05	1005.01	DINGFORD CREEK	WILD BDRY TO L MYRTLE LAKE	K	M	2	M	WILD	5.9	2.4	3 5	0 0
337	05	1005 02	DINGFORD CREEK	L. MYRTLE LAKE TO TR 1002	K	D	1	M	WILD	0.0	0.0	0.0	2 6
338	05	1005 1	HESTER LAKE	TR 1005 TO HESTER LAKE	K	M	2	M	WILD	2.5	0 5	2.0	0 0
339	05	1006	MARTEN LAKE	TR 1002 TO WILD BDRY	K	D	1	L	NON	0 5	0 0	0.5	0 0
340	05	1006.01	MARTEN LAKE	WILD BDRY TO M. LAKE	K	D	1	L	WILD	1 0	0 0	1 0	0.0
341	05	1007	PRATT LAKE	RD 9034 TO WILD BDRY	K	M	1	X	NON	2 5	2.5	0 0	0.0
342	05	1007.01	PRATT LAKE	WILD BDRY TO PRATT LAKE	K	M	1	X	WILD	3.5	1.5	2 0	0.0
343	05	1009	MT DEFIANCE	TR 1007 TO THOMPSON LAKE	K	M	1	M	WILD	6.8	5.8	1 0	0.0
344	05	1009 01	THOMPSON LAKE	GRANITE CR RD TO T LAKE	K	D	2	M	NON	1.0	0.5	0 5	0 0
345	05	1010	KALEETAN LAKE	TR 1035 TO KELEETAN LK	K	M	1	H	WILD	2.4	2.4	0.0	0 0
346	05	1011	MELAKWA LAKE	TR 1035 TO TR 1014	K	D	1	M	WILD	2 4	2 4	0.0	0 0
347	05	1012	HIGH LAKES	TR 1013 TO WILDCAT LAKE	K	D	1	H	WILD	3 8	2.5	1 3	0 0
348	05	1013	SNOW LAKE	RD 9040 TO WILD BDRY	K	M	2	X	NON	2 0	2 0	0 0	0.0
349	05	1013.01	SNOW LAKE	WILD BDRY TO WILD BDRY	K	M	2	X	WILD	4 7	4 7	0 0	0.0
350	05	1013 02	SOURCE LAKE	WILD BDRY TO TR 1003	K	M	2	M	NON	0 9	0.9	0 0	0.0
351	05	1013 1	SOURCE LAKE	TR 1013 TO LAKE	K	M	1	X	NON	0.5	0.5	0 0	0 0
352	05	1014	DENNY CREEK	RD 5830 TO WILD BDRY	K	M	1	X	NON	0.8	0.0	0.8	0 0
353	05	1014 01	DENNY CREEK	WILD BDRY TO MELAKWA LAKE	K	M	1	X	WILD	3.5	3 5	0.0	0 0
354	05	1014.02	MELAKWA PASS	MELAKWA LK TO TR 1012	K	D	1	M	WILD	1 5	0.0	1.5	1.0
355	05	1015	MCCLELLAN BUTTE	RD 55 TO RIDGE	K	M	1	X	NON	4 4	4 4	0 0	0.0
356	05	1016	GRANITE MTN	TR 1007 TO WILD BDRY	K	M	1	H	NON	2 0	1 0	1 0	0.0
357	05	1016.01	GRANITE MTN	WILD BDRY TO LOOKOUT	K	M	1	H	WILD	1 1	0.5	0 6	0.0
358	05	1017	TINKHAM TRIALS	BPA ACCESS RD. TO END	K	M	4	L	NON	0.0	0 0	0 0	5.0
359	05	1018	CRATER LAKE	RD 6420 TO RED MTN	K	M	1	L	NON	1.0	0 0	0 0	1.0
360	05	1019	ANNETTE LAKE	RD 55 TO ANNETTE LK	K	M	1	X	NON	3.9	3.0	0.9	0.0
361	05	1019 01	ABIEL PASS	TR 1019 TO TR 2000	K	D	1	M	NON	0.0	0.0	0 0	2.0
362	05	1021	WAGON ROAD	RD 58 TO TR 1036	K	E	9	H	NON	1.0	1.0	0.0	0 0

Table E-1 Trail Inventory Continued

	DIST_	TRAIL_NO	TRAIL_NAME	TRAIL_TERMINI	CO	DIFFI	PRI_OBJ	USE	AREA	EX_MI	ADEQ	INADEQ	PROPO
363	05	1023	ASAHEL CURTIS	RD 9035 TO NATURE LOOP	K	E	9	H	NON	1.3	1.3	0.0	0.0
364	05	1030	DUTCH MILLER GAP	RD 5620 TO WILD BDRY	K	M	2	M	NON	0.6	0.5	0.1	0.0
365	05	1030.01	DUTCH MILLER GAP	WILD BDRY TO DM GAP	K	M	2	M	WILD	6.8	3.1	3.7	0.0
366	05	1030.1	WILLIAMS LAKE	TR 1030 TO W LAKE	K	M	1	M	WILD	1 0	1.0	0.0	0.0
367	05	1031	KELLY BUTTE	RD 510 TO RD 54	K	M	2	L	NON	6 0	1.0	5 0	0.0
368	05	1033	COMMONWLTH BASIN	TR 2000 TO TR 1003	K	M	1	L	WILD	2 5	2.5	0 0	2.0
369	05	1035	PRATT RIVER	TR 1003 TO WILD BDRY	K	M	2	L	NON	7.0	6.0	1.0	2.0
370	05	1035.01	PRATT RIVER	WILD BDRY TO PRATT LAKE	K	M	2	L	WILD	2.0	2 0	0.0	1 0
371	05	1035.1	THOMPSON CREEK	TR 1035.01 TO TR 1009.1	K	M	2	L	NON	0.0	0 0	0.0	3.5
372	05	1036	FRANKLIN FALLS	RD 5830 TO FRANKLIN FALLS	K	E	1	H	NON	1.0	0.5	0.5	0.0
373	05	1037	BARE MOUNTAIN	RD 57 TO WILD BDRY	K	M	1	L	NON	1 1	1.1	0 0	0.0
374	05	1037.01	BARE MOUNTAIN	WILD BDRY TO BARE MT	K	M	1	L	WILD	3.2	3.2	0 0	0.0
375	05	1038	MASON LAKE	RD 9031 TO WILD BDRY	K	D	1	H	NON	1 8	0.3	1.5	0 0
376	05	1038 01	MASON LAKE	WILD BDRY TO TR 1009	K	D	1	H	WILD	1.0	0 0	1.0	0 0
377	05	1039	TALAPUS LAKE	RD 9030 TO WILD BDRY	K	M	1	H	NON	2.0	2.0	0.0	0.0
378	05	1039.01	TALAPUS LAKE	WILD BDRY TO OLALLIE LAKE	K	M	1	H	WILD	1.1	1.1	0.0	0.0
379	05	1039.1	TALAPUS CUTOFF	TR 1039 TO TR 1007	K	M	1	H	WILD	0 2	0.2	0 0	0.0
380	05	1040	MT CATHERINE LOOP	PAC WEST BASE TO PAC WEST BASE	K	E	7	X	NON	6.0	6.0	0 0	0.0
381	05	1041	OLLALIE CREEK	WINDY PASS TO THREE FORKS	K	M	7	M	NON	2 5	2.5	0.0	0.0
382	05	1042	HIDDEN VALLEY	THREE FORKS TO TR #1040	K	M	7	M	NON	2.5	2 5	0.0	0.0
383	05	1250	GOLD CR PONDS	RD 9080 TO RD 9080	K	E	1	M	NON	0.0	0 0	0.0	0.5
384	05	1251	RUSSIAN BUTTE	TR 1035 TO TR 1009N CR	K	M	2	M	NON	0.0	0.0	0.0	5.0
385	05	1252	RAINY LK	TR 1003 TO RAINY LK	K	D	2	M	NON	0 0	0.0	0 0	3.0
386	05	1253	GREEN PASS	RD 52007040 TO TR 2000	K	M	2	L	NON	0.0	0.0	0.0	2.0
387	05	1254	MEADOW MTN	TR 2000 TO MEADOW MTN	K	M	2	L	NON	2.0	0.0	2.0	0 0
388	05	1255	GARDNER RIDGE	RD 9020110 TO TR 1256	K	M	3	M	NON	0.0	0 0	0.0	12.0
389	05	1256	SCOUT LK	RD 5510210 TO ANNETTE LK	K	M	3	M	NON	0.0	0.0	0.0	2.0
390	05	1257	ABIEL PK	TR 1255 TO TR 2000	K	M	1	M	NON	0.0	0.0	0 0	2.5
391	05	1258	HUMPBACK MTN	JOHN WAYNE TR TO TR 1256	K	M	1	M	NON	0.0	0.0	0 0	4.0
392	05	1259	TINKHAM	CAMPGROUND TO CAMPGROUND	K	E	1	M	NON	0.0	0 0	0.0	0.5
393	05	1260	MC LAIN PEAK	RD 5730 TO MC LAIN PK	K	M	1	M	NON	0.0	0.0	0.0	2.5
394	05	1260.1	DAMON	TR 1260 TO RD 6420	K	M	1	M	NON	0.0	0.0	0.0	1.0
395	05	1261	N.F. SNOQUALMIE	RD 5730 TO WILD BDRY	K	D	1	M	NON	0.0	0.0	0.0	0.5
396	05	1261.01	N.F. SNOQUALMIE	WILD BDRY TO TR 1037	K	D	1	M	NON	0 0	0.0	0.0	2 0
397	05	1262	LK PHILIPPA	RD 57 TO LAKE	K	M	1	M	NON	0.0	0 0	0.0	1.0
398	05	1262	THREE FORKS	RD 9070110 TO NORDIC PASS	K	M	7	M	NON	2.5	0 0	0.0	0.0
399	05	1314	GOLD CREEK	PVT. RD TO WILDERNESS BDRY	K	E	1	M	NON	0.5	0.0	0.5	0.0
400	05	1314.01	GOLD CREEK	WILD BDRY TO SEC 25	K	E	1	M	WILD	3 5	0.0	3.5	0 0
401	05	1314.02	GOLD CREEK	SEC 25 TO SEC 27	K	D	1	H	WILD	1.0	0 0	1.0	0 0
402	05	1314 1	ALASKA LAKE	TR 1314 TO TR 2000	K	D	1	M	WILD	0.0	0 0	0.0	2.0
403	05	1344	KENDALL LAKES	RD 2235 TO LAKES	K	D	1	L	NON	1.5	0.0	1.5	0.0
404	06	1050	QUARTZ CREEK	RD 63 TO WILD BDRY	K	M	2	L	NON	0 3	0.3	0 0	0.0
405	06	1050.01	QUARTZ CREEK	WILD BDRY TO CURRY GAP	K	M	2	L	WILD	4 1	4.1	0 0	0.0
406	06	1051	N FK SKYKOMISH	RD 63 TO WILD BDRY	SN	M	2	L	NON	0.5	0 5	0.0	0.0
407	06	1051.01	N FK SKYKOMISH	WILD BDRY TO TR. 2000	SN	M	2	L	WILD	7.5	1 0	6.5	0.0
408	06	1052	BLANCA LK	RD 63 TO WILD BDRY	SN	D	1	X	NON	3 0	2.5	0 5	0.0
409	06	1052.01	BLANCA LK.	WILD BDRY TO BLANCA LAKE	SN	D	1	X	WILD	0.5	0 5	0.0	0 0
410	06	1053	PASS CREEK	TR 1051 TO TR 2000	SN	M	2	L	WILD	3.5	0 0	3.6	0.0
411	06	1054	W CADY RIDGE	RD 63 TO WILD BDRY	SN	M	2	M	NON	2.5	2.1	0.4	0.0
412	06	1054.01	W CADY RIDGE	WILD BDRY TO TR 2000	SN	M	2	M	WILD	3.1	0.0	3 1	0.0
413	06	1054.1	BENCHMARK MTN	TR 1054 TO TR 1054	SN	M	2	M	WILD	0.5	0.0	0.5	0.0
414	06	1055	BARCLAY LK.	RD. 6024 TO BARCLAY LAKE	SN	M	7	X	NON	2.2	2.0	0.2	0.0

Table E-1 Trail Inventory Continued

	DIST_	TRAIL_NO	TRAIL_NAME	TRAIL_TERMINI	CO	DIFFI	PRI_OBJ	USE	AREA	EX_MI	ADEQ	INADEQ	PROPO
415	06	1055	BARCLAY LAKE	RD 6024 TO BARCLAY LAKE	SN	E	1	X	NON	2.2	2.2	0 0	0.0
416	06	1055 01	EAGLE LAKE	BARCLAY LK TO EAGLE LAKE	SN	D	2	M	NON	0.0	0.0	0 0	1 5
417	06	1055.02	PARADISE MEADOWS	EAGLE LK TO RD 6514	K	M	1	L	NON	0 0	0 0	0 0	1.5
418	06	1056	EVERGREEN MTN	RD 6554601 TO LO	SN	M	4	H	NON	1 5	1 4	0.1	0.0
419	06	1056.01	EVERGREEN MTN	LO TO WILD BDRY	SN	M	1	M	NON	1 0	0 0	1.0	1.8
420	06	1056.02	EVERGREEN MTN	WILD BDRY TO TR 1057	SN	M	1	M	WILD	0.0	0 0	0.0	2.2
421	06	1057	MEADOW CREEK	RD 6530 TO WILD BDRY	SN	M	2	L	NON	1.5	1.0	0 5	0.0
422	06	1057 01	MEADOW CREEK	WILD BDRY TO TR 2000	SN	M	2	L	WILD	5.0	4.0	1 0	0.0
423	06	1057 1	W CADY CUTOFF	TR 1057 TO WILD BDRY	SN	M	2	L	NON	0.0	0 0	0 0	1.5
424	06	1057.11	W CADY CUTOFF	WILD BDRY TO TR 1054	SN	M	2	L	WILD	0.0	0 0	0.0	1 5
425	06	1058	TONGA RIDGE	RD 6830310 TO WILD BDRY	K	M	2	H	NON	0.5	0 5	0.0	0 0
426	06	1058.01	TONGA RIDGE	WILD BDRY TO WILD BDRY	K	M	2	H	WILD	4 5	4.0	0.5	0 0
427	06	1058.02	TONGA RIDGE	WILD BDRY TO WILD BDRY	K	M	2	0	NON	0.0	0 0	0.0	1.0
428	06	1058 03	TONGA RIDGE	WILD BDRY TO TR 1059	K	M	2	0	WILD	0.0	0 0	0.0	0 7
429	06	1058 1	FISHER LAKE	TR 1058 TO FISHER LAKE	K	M	1	L	WILD	2.0	0 0	2.0	0.0
430	06	1058.12	TERRACE LK	FISHER LK TO TERRACE LK	SN	D	1	L	WILD	0.0	0 0	0.0	1.5
431	06	1058.2	TONGA RIDGE ALSO	TR 1058 TO WILD BDRY	K	M	2	H	NON	0.2	0 0	0.2	0.0
432	06	1058.21	TONGA RIDGE ALSO	WILD BDRY TO RD 6830	K	M	2	H	WILD	0.2	0.0	0 2	0.0
433	06	1059	DECEPTION CREEK	RD 6088 TO WILD BDRY	K	M	1	L	NON	0.5	0.5	0 0	0.0
434	06	1059.01	DECEPTION CREEK	WILD BDRY TO TR 2000	K	M	1	L	WILD	9.9	1.5	8 4	0 0
435	06	1059 1	DECEPTION CR CUTOFF	RD 6830 TO WILD BDRY	K	M	2	H	NON	0.3	0 3	0 0	0 0
436	06	1059 11	DECEPTION CR CUTOFF	WILD BDRY TO TR 1059 01	K	M	2	H	WILD	0.2	0.2	0 0	0 0
437	06	1059 2	DECEPTION LKS	TR 1059 01 TO TR 2000	K	M	2	L	WILD	1.2	0 0	1.2	0 0
438	06	1060	SURPRISE CREEK	RD 6090 TO WILD BDRY	K	M	1	X	NON	0 3	0 3	0 0	0 0
439	06	1060 01	SURPRISE CREEK	WILD BDRY TO TR 2000	K	M	1	X	WILD	4 4	2 8	1.6	0.0
440	06	1060.1	TRAP PASS	TR 1060 01 TO TR 2000	K	M	2	L	WILD	0 6	0 6	0.0	0 0
441	06	1060.2	SURPRISE CR.	US HWY 2 TO WILD BDRY.	K	D	7	H	NON	0 8	0 8	0.0	0.0
442	06	1060.21	SURPRISE CR	WILD BDRY TO SURPRISE LK.	K	D	7	H	WILD	3 7	3 7	0.0	0.0
443	06	1061	TUNNEL CREEK	RD 6095 TO TR 2000	K	M	2	L	NON	1 6	1 2	0.4	0.0
444	06	1062	NECKLACE VALLEY	RD 68 TO WILD BDRY	K	E	1	H	NON	2 0	2 0	0.0	0.0
445	06	1062	NECKLACE VALLEY	RD 68 TO WILD BDRY	K	M	7	H	NON	2.0	2 0	0.0	0.0
446	06	1062 01	NECKLACE VALLEY	WILD BDRY TO E FK FOSS	K	E	1	H	WILD	2.5	1 5	1.0	0 0
447	06	1062 02	NECKLACE VALLEY	E FK FOSS TO FEOHN LK	K	D	1	H	WILD	4.5	0 0	0.0	1.0
448	06	1062 1	NECKLACE VALLEY	WILD BDRY TO 5 MI BRIDGE	K	M	7	H	NON	5.0	5 0	0 0	0.0
449	06	1063	SURPRISE MTN	TR 2000 TO SURPRISE MTN	K	D	1	M	WILD	1.5	1 5	0 0	0.0
450	06	1064	W FK FOSS	RD 68 TO TROUT LK	K	E	1	X	WILD	1.5	1 3	0 2	0.0
451	06	1064 01	W FK FOSS	TROUT LK TO BIG HEART LK	K	M	1	H	WILD	5.3	3 3	2 0	0.0
452	06	1064 02	W FK FOSS	BIG HEART LK TO CHETWOOD LK	K	D	1	0	WILD	0.0	0.0	0 0	2.0
453	06	1064 1	MALACHITE	TR 1064 TO MALCHITE LK	K	M	1	M	WILD	0.5	0.0	0 5	0.0
454	06	1064 2	OTTER LAKE	TR 1064 TO OTTER LAKE	K	D	1	0	WILD	0.0	0.0	0 0	1.3
455	06	1064 3	W FK FOSS LKS	END OF RD 68 TO TROUT LK	K	D	7	M	WILD	1.5	1.5	0 0	0.0
456	06	1065	SKYLINE	STEVENS PASS TO TR 2000	K	E	1	L	NON	1.0	0.0	0 0	2.0
457	06	1066	LK CLARICE	DECEPTION PASS TO LK CLARICE	K	M	2	H	WILD	4.0	3.5	0 5	0.0
458	06	1066.1	MARMOT LK	TR 1066 TO MARMOT LK	K	M	2	H	WILD	0.7	0.7	0 0	0.0
459	06	1067	JOHNSON RIDGE	RD 6526 TO RD 6530	SN	M	4	L	NON	4 3	3.3	1 0	2.5
460	06	1067.1	JOAN LK	TR 1067 TO JOAN LK	SN	M	1	L	WILD	0 3	0.0	0 3	0.0
461	06	1068	LAKE SERENE	RD 6020110 TO LK SERENE	SN	M	1	0	NON	0.0	0.0	0 0	1.2
462	06	1069	EVANS LK	RD 6840 TO EVANS LAKE	K	E	8	M	WILD	0.0	0 0	0 5	0.5
463	06	1070	HEYBROOK	HWY 2 TO RD 6024	SN	M	3	M	NON	1.0	1 0	0 0	2.8
464	06	1071	ELIZABETH LAKE	RD 6420 TO RD 6420	K	E	1	H	NON	0.5	0 2	0.3	0.0
465	06	1072	LK DOROTHY	RD 6412 TO WILD BDRY	K	E	1	X	NON	0.3	0.3	0.0	0.0
466	06	1072.01	LK DOROTHY	WILD BDRY TO INLET	K	E	1	X	WILD	3.2	2 2	1.0	0.0

Table E-1 Trail Inventory Continued

	DIST_	TRAIL_NO	TRAIL_NAME	TRAIL_TERMINI	CO	DIFFI	PRI_OBJ	USE	AREA	EX_MI	ADEQ	INADEQ	PROPO
467	06	1072 02	LK DOROTHY	INLET TO DIST BDRY	K	M	1	H	WILD	1.0	0.0	1 0	0.0
468	06	1073	BECKLER RIVER	RD 6510 TO RD 6540	K	E	1	0	NON	0 0	0.0	0.0	7 0
469	06	1074	IRON GOAT	RD 6710 TO RD 6700	K	-	8	0	NON	0 0	0.0	0.0	1 0
470	06	1074.01	IRON GOAT	TR 1074 TO TR 1074.1	K	E	1	0	NON	0.0	0 0	0.0	3 6
471	06	1074 1	IRON GOAT	TR 1074 TO STEVENS PASS/HWY 2	K	E	1	L	NON	0.0	0.0	0 0	7.4
472	06	1076	KELLEY CREEK	RD 6710 TO TR 1067 1	K	M	1	L	NON	3 0	0.0	3 0	0.0
473	06	1078	DECEPTION FALLS	HWY 2 TO HWY 2	K	E	9	H	NON	0.5	0.0	0.5	0 0
474	06	1079	TROUBLESOME CR	TROUBLESOME CG TO TROUBLESM CG	SN	E	9	H	NON	0.5	0 5	0.0	0 0
475	06	1079 1	TROUBLESOME CR	TR 1079 TO WILD BDRY	SN	M	1	L	NON	0.0	0.0	0 0	2.0
476	06	1079 12	TROUBLESOME CR	WILD BDRY TO BLANCA LK	SN	M	1	L	WILD	0 0	0.0	0 0	1.5
477	06	1080	LK ISABEL	RD 6010110 TO LAKE	SN	M	1	M	NON	1 0	0.0	1.0	0.0
478	06	1226	RAGGED RIDGE	TR 1080 TO TR 1226.5	SN	M	1	L	NON	0.0	0 0	0.0	11 0
479	06	1226.1	NORTH STAR	TR 1226 TO TR 1226	SN	M	1	L	NON	0.0	0 0	0.0	5.0
480	06	1226 2	LK ISABEL	TR 1226 TO LK ISABEL	SN	M	1	L	NON	0.0	0.0	0 0	0.5
481	06	1226 3	N.F SULTAN	RD 6330 TO TR 1226	SN	N	1	L	NON	0 0	0.0	0 0	8.5
482	06	1226.4	RAGGED RIDGE CONN.	TR 1226 TO TR 1226.3	SN	M	1	L	NON	0 0	0.0	0.0	1 0
483	06	1230	CONGLOMERATE	RD 6300 TO EAGLE LK	SN	M	1	L	NON	0.0	0.0	0.0	10 0
484	06	1230.1	CONGLOMERATE PT	CONGLOMERATE PT TO TR 1230	SN	M	1	L	NON	0.0	0 0	0.0	3.0
485	06	1231	SAN JUAN CR	RD 6500110 TO TR 1230	SN	M	1	L	NON	0.0	0.0	0 0	3.0
486	06	1232	BOULDER CR	RD 6548220 TO TR 1230	SN	M	1	L	NON	0.0	0.0	0 0	1.5
487	06	1233	TOWNSEND LOOP	RD 6540 TO TR 1230	SN	M	1	L	NON	0.0	0.0	0.0	6.0
488	06	1233.1	4TH JULY CR	TR 1233 TO TR 1230	SN	M	1	L	NON	0 0	0.0	0.0	1 5
489	06	1234	TROUT CR	RD 6300 TO EAGLE LK	SN	D	1	L	NON	0.0	0.0	0.0	6.0
490	06	1235	SUNSET LK	TR 1234 TO TR 1230.1	SN	M	1	L	NON	0.0	0 0	0.0	1.0
491	06	1236	FROZEN MTN	RD 6031 TO RD 6240	K	M	1	L	NON	0.0	0 0	0.0	4.5
492	06	1237	CRATER LK	TR 1236 TO TR 1018	K	M	1	L	NON	0.0	0.0	0.0	4.0
493	06	1237.1	CEMENT LK	TR 1237 TO CEMENT LK	K	D	1	L	NON	0 0	0.0	0 0	1.0
494	06	1237.2	PALMER MTN	TR 1237 1 TO PALMER MTN	K	D	1	L	NON	0 0	0.0	0 0	1.0
495	06	1238	SILCA MTN	TR 1056 01 TO TR 1239	SN	M	1	L	NON	0 0	0.0	0 0	4 5
496	06	1238 1	FROG MTN	TR 1238 TO FROG MTN	SN	D	1	L	NON	0 0	0.0	0.0	1 5
497	06	1239	W. CADY CR	RD 6580110 TO TR 1057 1	SN	M	2	K	NON	0 0	0.0	0.0	2 5
498	06	1240	ALPINE BALDY	RD 6660 TO TR 1076	K	M	1	L	NON	0 0	0.0	0.0	6 5
499	06	1240.1	FERNOW POTHOLES	TR 1240 TO POTHOLES	K	M	1	L	NON	0.0	0 0	0.0	1 5
500	06	1241	VALHALLA	TR 1076 TO TR 2000 (UNION GAP)	SN	M	1	L	NON	0.0	0 0	0.0	6.5
501	06	1242	CABLE DROP	RD 6020 TO RIVER	SN	M	12	L	NON	0.0	0 0	0 0	0.3
502	06	1243	SAUCER LK	TR 2000 TO CUP LK	SN	M	1	L	WILD	0.0	0.0	0 0	1.0
503	06	1244	PEACH LK	TR 2000 TO PEACH LK	SN	M	1	L	WILD	0 0	0.0	0 0	0.5
504	06	1245	MT PERSIS	RD 6220 TO MT PERSIS	K	D	1	L	NON	0 0	0.0	0.0	2.0
505	06	1590	SMITHBROOK ROAD	HWY 2 TO MP 2.5	SN	M	6	-	NON	2 5	2.5	0.0	0.0
506	06	2000	PCNST	STEVENS PASS TO WILD BDRY	SN	M	2	H	NON	4.7	4.2	0.5	0 0
507	06	2000	PCNST	WILD BDRY TO TRAP PASS	K	M	2	H	NON	7.5	7.0	0.5	0 0
508	06	2000	PCNST	TRAP PASS TO DECEPTION PASS	K	M	2	H	NON	9.9	9 9	0.0	0.0
509	06	6024	BARCLAY CR. RD	US HWY 2 TO END RD 6024	SN	D	7	X	NON	6.2	6 2	0 0	0.0
510	06	6410	MILLER RIVER RD	MILLER RIV CMP GR TO RD 6412	K	M	7	M	NON	6.0	6 0	0 0	0.0
511	06	6412	E FK MILLER RIVER RD	RD 6410 TO ROAD END	K	M	7	M	NON	4 6	4.6	0 0	0.0
512	06	6420	MONEY CR RD	SNOWLINE TO END RD	K	D	7	M	NON	7.0	7.0	0 0	0.0
513	06	650.02	BALD EAGLE	CURRY GAP TO BALD EAGLE MTN.	K	D	2	M	WILD	7 6	6.0	1 6	0.0
514	06	650 03	BALD EAGLE	BALD EAGLE MTN. TO TR 2000	K	M	2	M	WILD	2 0	0.0	2 0	0.0
515	06	6500	LOWER BECKLER RIV	US HWY 2 TO RD 6530	K	E	7	M	NON	6 5	6.5	0 0	0 0
516	06	6500	U BECKLER/NO.FK LOOP	RD 6500 TO RD 6550 TO RD 6500	SN	D	6	M	NON	16.0	16.0	0.0	0.0
517	06	6800	FOSS RIV. RD.	BN RR TRESTLE TO RD 6830	K	E	6	X	NON	6 0	6.0	0.0	0.0
518	06	6830	TONGA RIDGE RD	JCT. w/RD 6800 TO RD. END	K	D	6	X	NON	16.0	16.0	0.0	0.0

Table E-1 Trail Inventory Continued

	DIST_	TRAIL_NO	TRAIL_NAME	TRAIL_TERMINI	CO	DIFFI	PRI_OBJ	USE	AREA	EX_MI	ADEQ	INADEQ	PROPO
519	06	6960	UPPER MILL CR ROAD	HWY 2 TO MP 5.0	K	M	6		NON	5.0	5 0	0 0	0.0
520	07		LONESOME LAKE	RD 7530 TO RD 7530	P	E	8	L	NON	0 0	0 0	0 0	0 8
521	07	1140	EVANS 1140	RD 7920 TO RD 7920	P	M	4	X	NON	2 7	2 4	0 3	0 0
522	07	1140 1	EVANS 1140 1	TR 1140 TO TR 1140	P	M	4	X	NON	1 4	1 4	0 0	0 0
523	07	1145	EVANS 1145	JEEP RD 520 TO TR 1147	P	M	4	X	NON	3 0	3 0	0 0	0 0
524	07	1145 1	EVANS 1145 1	TR 1145 TO RIDGE	P	M	4	X	NON	0 1	0 1	0 0	0 0
525	07	1146	EVANS 1146	RD 7920 TO RD 7920	P	M	4	X	NON	2 9	2.9	0 0	0 0
526	07	1147	EVANS 1147	RD 7930 TO RD 7930	P	M	4	X	NON	1 0	1.0	0 1	0.0
527	07	1148	EVANS 1148	TR 1147 TO RD 7930	P	M	4	X	NON	1.2	1.1	0.1	0.0
528	07	1150	EVANS 1150	RD 7920 TO TR 1150	P	E	4	X	NON	1 6	1.6	0.0	0.0
529	07	1151	EVANS 1151	RD 7930 TO JEEP 519	P	M	4	X	NON	1.6	1.5	0.1	0.0
530	07	1153	EVANS 1153	RD 7920 TO JEEP RD 102	P	D	4	X	NON	0.8	0.8	0.0	0.0
531	07	1154	EVANS 1154	TR 1153 TO JEEP TR 311	P	D	4	X	NON	1.7	0.3	1.4	0.0
532	07	1154 1	EVANS 1154 1	RD 7920 TO TR 1154	P	M	4	X	NON	0.3	0.0	0 3	0.0
533	07	1155	RAINIER VIEW	RD 7174 TO WILD BDRY	P	M	2	M	NON	0.5	0.5	0 0	0.0
534	07	1155 01	RAINIER VIEW	WILD BDRY TO TR 1188	P	M	2	M	WILD	1.7	1 2	0 5	0 0
535	07	1156	BULLION BASIN	RD 7190410 TO TR 2000	P	M	2	H	NON	2.2	1.7	0 5	0.0
536	07	1157	ECHO LAKE	TR 1176 TO TR 1185	P	D	2	L	WILD	0.0	0 0	0 0	2 0
537	07	1158	RIDGETOP	TR 1184 TO TR 1157	P	M	2	L	WILD	0.0	0 0	0 0	2 0
538	07	1159	CEDAR LAKE	FOR BDRY TO CEDAR LAKE	P	M	1	M	WILD	1 0	0 0	1 0	0.0
539	07	1160	PYRAMID PK	TR 2000 TO PEAK	P	M	2	M	NON	0 7	0 0	0 7	0 0
540	07	1161	GOAT LAKE	TR 1191 TO TR 2000	P	M	2	H	NON	2 5	0 0	2 5	0 0
541	07	1162	JOHN MUIR NATURE TR	DALLES CG	P	E	8	H	NON	0.8	0.4	0 4	0 2
542	07	1162.1	DALLES RIVER TR	DALLES CG TO RD 73	P	E	3	M	NON	0.8	0.4	0 4	0 0
543	07	1163	CRYSTAL MTN	RD 7190510 TO TR 1192	P	E	2	H	NON	9.1	8 6	0 5	0 0
544	07	1163.1	CRYSTAL MTN	TR 1163 TO RD 7176	P	M	2	M	NON	0 0	0 0	0 0	4.0
545	07	1164	SKOOKUM PASS	TR 1194 TO TR 1182	P	M	1		NON	0.0	0 0	0.0	6 0
546	07	1165	TIN SHACK	TR 1176 TO TR 2000	P	M	2	M	WILD	4.5	2 0	2 5	0 0
547	07	1166	STOOL CAMP	TR 1165 TO TR 2000	P	M	2	M	WILD	1.5	1 0	0 5	0 0
548	07	1167	SNOQUERA FALLS	TR 1199 TO TR 1199	P	D	1	H	NON	2.4	2 0	0 4	0 0
549	07	1168	CMP SHEPPARD CUTOFF	TR 1167 TO TR 1197	P	M	1		NON	0 0	0 0	0 0	2 0
550	07	1169	BUCK CREEK	TR 1194 TO TR 1199	P	E	1	M	NON	0.5	0 4	0 1	0 0
551	07	1170	GRASS MTN	TR 1171 TO FOR BDRY	P	M	4	L	NON	6.0	3.0	3 0	0 0
552	07	1171	CHRISTOFF	RD 7130 TO CHRISTOFF	K	D	4	M	NON	3.3	0 0	3 3	0.0
553	07	1172	DIVIDE	RD 7032 TO CHRISTOFF	K	M	4	M	NON	8.5	6 5	2 0	0 0
554	07	1172.1	BENE LAKE	TR 1172 TO CHRISTOFF	K	M	4	M	NON	1 0	0.0	0 0	0 0
555	07	1173	DALLES RIDGE	RD 7250210 TO TR 1184	P	M	2	M	NON	1 8	1.0	0 8	0 0
556	07	1173 1	DALLES RIDGE	RD 7140 TO RD 7265	P	M	1	M	NON	3.8	0 0	0 0	0 0
557	07	1174	DOE FALLS	TR 1183 TO FALLS	P	M	1	M	NON	0 5	0 0	0 5	0 0
558	07	1175	NACHES PASS WEST	RD 7033 TO RD 7065210	P	M	1	H	NON	0.7	0 0	1 5	0 0
559	07	1175 01	NACHES PASS WEST	RD 7065210 TO NACHES PASS	P	M	11	X	NON	5.0	1 9	2 3	0 0
560	07	1176	GREENWATER	RD 7033 TO WILD BDRY	P	E	2	X	NON	2.3	0 0	2 3	0.0
561	07	1176 01	GREENWATER	WILD BDRY TO WILD BDRY	P	M	2	X	WILD	9.4	7.9	1 5	0.0
562	07	1176 02	GREENWATER	WILD BDRY TO RD 7174	P	M	2	X	NON	0.2	0.0	0.2	0.0
563	07	1177	SUMMIT LAKE	RD 7810 TO WILD BDRY	P	E	2	H	NON	0 7	0.4	0.3	0.0
564	07	1177 01	SUMMIT LAKE	WILD BDRY TO SUMMIT LK	P	E	2	H	WILD	1 8	1.8	0 0	0 0
565	07	1177 02	SUMMIT LAKE	SUMMIT LAKE TO TR 1178	P	D	1	L	WILD	2 3	0 0	2 3	0 0
566	07	1178	CLEARWATER	RD 7450 TO WILD BDRY	P	M	2	L	NON	0 1	0 1	0 0	0 0
567	07	1178 01	CLEARWATER	WILD BDRY TO WILD BDRY	P	M	2	L	WILD	7 8	5 2	2 6	0 0
568	07	1178 02	CLEARWATER	WILD BDRY TO RD 7720	P	M	2	L	NON	2 3	0 0	2 3	0 0
569	07	1178.1	LYLE LAKE	WILD BDRY TDO TR 1178	P	M	1	L	WILD	2 0	0 0	2 0	1 0
570	07	1179	CARBON	RD 74 TO TR 1177	P	M	2	L	WILD	9 4	6 4	3 0	0 0

Table E-1 Trail Inventory Continued

	DIST_	TRAIL_NO	TRAIL_NAME	TRAIL_TERMINI	CO	DIFFI	PRI_OBJ	USE	AREA	EX_MI	ADEQ	INADEQ	PROPO
571	07	1179.1	BEARHEAD	TR 1179 TO BEARHEAD MTN	P	M	2	L	WILD	0 8	0.8	0 0	0 0
572	07	1180	FROG MTN	RD 74 TO RD 7450210	P	M	4	L	NON	3 1	1.0	2 1	0 0
573	07	1181	CLEARWEST PK	RD 7430 TO CLEARWEST PK	P	M	4	M	NON	0 8	0.8	0 0	0 0
574	07	1182	HUCKLEBERRY CR	RD 7340 TO NPS BDRY	P	E	1	M	NON	0 9	0.9	0.0	0 0
575	07	1183	SUNTOP	RD 7160210 TO LO	P	E	4	M	NON	5 5	3.3	2.2	0 0
576	07	1184	NOBLE KNOB	RD 72 TO RD 7222	P	M	2	H	NON	2 9	0.0	0.0	0 0
577	07	1184.01	NOBLE KNOB	RD 7222 TO RD 7174	P	M	4	H	NON	5 0	3.0	2 0	0 0
578	07	1184.1	GEORGE LK	TR 1184 TO LAKE	P	M	2	M	NON	0 3	0.3	0.0	0 0
579	07	1185	LOST LK	TR 1176 TO TR 1184	P	M	2	H	WILD	5 1	3.1	2.0	0.0
580	07	1186	MAGGIE CREEK	TR 1176 TO TR 2000	P	M	2	M	WILD	5 0	4.0	1 0	0 0
581	07	1187	ARCH ROCK	TR 1176 TO TR 2000	P	D	2	M	WILD	3 1	0.0	3.1	0 0
582	07	1188	CASTLE MTN	TR 1176 TO TR 2000	P	M	2	L	WILD	4 1	0.5	3 6	1 0
583	07	1189	GOAT FALLS	RD 7176 TO FALLS	P	E	1	M	NON	0 5	0.5	0 0	0 0
584	07	1190	SAND FLAT	RD 7190 TO RD 7176	P	E	2	M	NON	2 7	2.0	0 7	3 5
585	07	1191	NORSE PEAK	RD 7190410 TO WILD BDRY	P	M	2	X	NON	4 8	4.5	0 3	0 0
586	07	1191.01	NORSE PEAK	WILD BDRY TO TR 2000	P	M	2	X	WILD	0 4	0.4	0 0	0 0
587	07	1191.1	NORSE PEAK VIEW	TR 1191 TO NORSE PEAK	P	M	2	H	NON	0 7	0.0	0 7	0 0
588	07	1192	SILVER CREEK	RD 7190410 TO TR 2000	P	E	2	H	NON	2.1	1.9	0.2	0 0
589	07	1193	HENSKIN LK	TR 1163 TO TR 2000	P	M	3	H	NON	0 7	0.5	0 2	0 0
590	07	1194	SKOOKUM FLATS	RD 73 TO NPS BDRY	P	E	1	H	NON	8.2	5.5	2 7	0 0
591	07	1195	COLQUHOUN PK	RD 7036050 TO PEAK	P	D	4	L	NON	0.5	0 0	0 5	0.0
592	07	1196	DEEP CREEK	TR 1199 TO TR 1184	P	M	3	M	NON	4.0	3 0	1 0	0.0
593	07	1197	RANGER CREEK	TR 1199 TO TR 1173	P	M	3	M	NON	5.8	4 0	1.8	0.0
594	07	1198	PALISADE	TR 1199 TO TDR1197	P	M	3	M	NON	6.6	5 0	1.6	0.0
595	07	1199	WHITE RIVER	RD 7174 TO TR 1197	P	E	2	H	NON	3.1	2.0	1.1	0.0
596	07	1199 01	WHITE RIVER	TR 1197 TO HWY 410	P	E	3	H	NON	4.0	3.6	0.4	0.0
597	07	1200	EVANS CR-JEEP 102	RD. 7920 TO RD 7920	P	D	11	X	NON	4.8	4.8	0.0	0.0
598	07	1201	EVANS CR-JEEP 120	RD. 7920 TO RD 7920	P	E	11	X	NON	1 0	1.0	0.0	0 0
599	07	1202	EVANS CR-JEEP 197	TR 196 TO TR 198	P	D	11	X	NON	0 6	0.3	0 3	0.0
600	07	1203	EVANS CR-JEEP 198	RD. 7920 TO RD 7920	P	D	11	X	NON	1 8	1.8	0 0	0 0
601	07	1203.1	EVANS CR-JEEP 196	RD 7920 TO TR 198	P	D	11	X	NON	0.5	0 5	0 0	0.0
602	07	1204	EVANS CR-JEEP 199	RD. 7920 TO TR 519	P	E	11	X	NON	1.0	1 0	0 0	0.0
603	07	1205	EVANS CR-JEEP 311	RD. 7930311 TO RD 7920	P	M	11	X	NON	2.3	2 3	0 0	0.0
604	07	1205 1	EVANS CR-JEEP 310	EVANS CR CG TO TR 311	P	E	11	X	NON	0.5	0 5	0.0	0.0
605	07	1206	EVANS CR-JEEP 519	RD 7930 TO RD 7920	P	E	11	X	NON	3.0	3.0	0.0	0.0
606	07	1206 1	EVANS CR-JEEP 517	TR 519 TO TR 519	P	M	11	X	NON	0 5	0.5	0.0	0.0
607	07	1206.1	EVANS CR -JEEP 519A	JEEP 519 TO JEEP 519	P	M	11	M	NON	0 5	0.5	0 0	0.0
608	07	1207	EVANS CR-JEEP 520	RD 7930 TO RD 7930	P	E	11	X	NON	3 0	3.0	0 0	0 0
609	07	1208	EVANS CR -JEEP 510	RD. 7920 TO END OF JEEP 510	P	E	11	X	NON	1 2	1 2	0 0	0.0
610	07	1209	EVANS CR.-JEEP 519	TR 102 TO RD 7920	P	M	11	X	NON	0 0	0 0	0 0	1.0
611	07	1210	COPLEY LK	RD 7840 TO RD 7840	P	E	8	M	NON	0.0	0 0	0.0	0.5
612	07	2000	PCNST	TR 1318 TO WINDY GAP	P	E	2	M	NON	7.7	7 7	0 0	0.0
613	07	2000	PCNST	WINDY GAP TO WILD BDRY	P	E	2	M	NON	3.4	2 4	1.0	0.0
614	07	2000	PCNST	WILD BDRY TO WILD BDRY	P	M	2	X	WILD	12.8	9 8	3.0	0.0
615	07	2000	PCNST	WILD BDRY TO CHINOOK PASS	P	M	2	X	NON	9 8	9.3	0 5	0 0
616	07	7030	GREENWATER/NACHES	RD 7030 LOT TO RD 7030 LOT	P	M	6	M	NON	38 0	38.0	0 0	0 0
617	07	7184	SILVER SPRINGS	SILVER SPRINGS CG TO HWY 410	P	M	7	M	NON	1 0	0 7	0 3	0 0
618	07	7300	HUCKLEBERRY XC	RD 7315 TO HUCKLEBERRY CR	P	E	7	M	NON	4 7	4 7	0 0	0 0
619	07	7315	SUNTOP XC	RD 73 TO LOOKOUT	P	M	7	M	NON	5.2	5 2	0 0	0.0

Legend for Table E-2
10 Year Trails Capital Investment Program

The following table (E-2) shows the Capital Investment Program for the trail system over the next ten years. The first column is the PROJECT NUMBER, followed by TRAIL NAME, and TRAIL NUMBER.

PRIMARY OBJECTIVE, or the primary user group that the trail is intended to serve, is listed next. These mileages do not overlap, although many different groups may use a trail besides the primary users with the exception of the hiker only trails. For instance, hikers may use a pack and saddle trail.

1 = Hiker
2 = Pack and Saddle
3 = Mountain Bike
4 = Motorbike
5 = ATV
6 = Snowmobile
7 = Cross-country skiing
8 = Handicap
9 = Interpretive
10 = Jeep

MI refers to the miles within the project, while TYPE refers to reconstruction (R) or construction (C).

AREA delineates the type of area the trail passes through; these mileages do not overlap.

Non = Nonwilderness
Wild = Wilderness
NRA = National Recreation Area
RNA = Research Natural Area
W&SR = Wild and Scenic River

The capital investment process usually involves three phases: PLAN refers to the year planning is done, PRE-C refers to the year pre-construction is done and C-RE is the year construction or reconstruction is done.

The last three columns designate the dollars required for planning (P), preconstruction (PC) and construction/reconstruction (RC).

Table E-2 TRAIL CAPITAL INVESTMENT

MT. BAKER RANGER DISTRICT

PRJ #	TRAIL NAME	MI.	AREA	TYPE	YR.
103	BOULDER RIDGE	2.0	NON	R	91
103	BOULDER RIDGE	1.6	WILD	R	91
107	HIGH DIVIDE	14.5	WILD	C	93
107	HIGH DIVIDE	6.0	NON	C	93
113	MAZAMA PARK	1.0	NRA	R	94
113	MAZAMA PARK	2.5	WILD	R	94
113	MAZAMA PARK	2.0	NON	R	94
113	RAILROAD GRADE	3.0	NRA	R	94
115	NOISY CR LOOP	2.5	NON	R	92
115	BAKER RIV BRIDGE	0.1	NON	R	92
115	EAST BANK +BR	8.0	NON	R	92
116	BELL RIDGE	3.0	WILD	R	94
116	ELBOW LK.	1.5	WILD	R	95
116	ELBOW LK.	5.0	NON	R	95
117	RIDLEY CR.	3.5	WILD	R	95
118	CHAIN LKS.	5.0	WILD	R	93
118	CHAIN LKS.	1.0	NON	R	93
118	TABLE MTN. #2	0.7	WILD	R	93
118	TABLE MTN. #2	1.0	NON	R	93
119	THUNDER RID #1	9.0	NON	C	96
119	ANDERSON LKS.	2.0	NON	C	96
119	WATSON LK.	2.0	NON	R	96
120	WINCHESTER MT.	2.0	WILD	R	93
121	RUTH GORGE	1.1	NON	R	93
121	NOOKSACK CIRQUE	3.0	NON	R	93
122	RAILROAD GRADE	3.0	NRA	R	94
123	SWIFT CR.	7.5	WILD	R	93
123	SWIFT CR. +BR	0.1	NON	C	93
123	SWIFT CR.	2.5	NON	C	93
124	BEAVER POND	0.5	NON	C	96
125	PARK CR. FALLS	2.0	NON	C	96
126	SULPHUR CR. FALL	1.0	NON	C	96
134	HELIO. BRIDGES	0.2	WILD	R	92
135	BAGLEY LK BRIDGE	0.1	NON	R	91
135	BAGLEY LAKES	2.5	NON	R	91
135	WILD GOOSE	1.0	NON	C	91
135	PANORAMA DOME	2.5	NON	R	91
135	BLUEBERRY HILL	0.5	NON	C	91
143	YELLOW ASTER	2.5	WILD	R	93
146	RUTH ARM	2.0	WILD	R	92
147	CASCADE RIVER	3.0	NON	R	94
147	CASCADE RIVER	13.5	WILD	R	94
148	HIDDEN LK.	4.5	NON	R	94
149	BLUE LK.	1.0	NON	R	95
150	DOCK BUTTE	4.0	NON	R	95
151	THREE FORKS	4.5	NON	C	95
151	HEART LK.	2.7	NON	C	95
151	HEART LK.	0.5	WILD	C	95

PRJ #	TRAIL NAME	MI.	AREA	TYPE	YR.
152	BALD MTN.	4.0	NON	C	97
152	CLEAR LK.	3.5	NON	C	97
152	THUNDER RID. #2	9.0	NON	C	97
152	ROCK CR.	4.0	NON	R	97
152	JACKMAN RIDGE	3.0	NON	C	97
153	NOOKSACK RIVER	18.1	NON	C	98
153	THOMPSON CREEK	6.0	NON	R	98
154	SKYLINE DIVIDE	2.0	NON	R	98
154	SKYLINE DIVIDE	4.0	WILD	R	98
155	BIG CEDAR	1.5	NON	C	98
156	DRUID GROVE	0.5	NON	R	98
157	TWIN LKS.	1.0	NON	R	99
158	LONE JACK	5.0	WILD	R	99
159	SILESIA	7.2	WILD	R	99
160	GOAT MTN.	3.0	NON	R	99
160	GOAT MTN.	2.0	WILD	R	99
161	LOOKOUT MTN.	4.7	NON	R	99
162	LAVA DIVIDE	1.0	NON	C	99
162	LAVA DIVIDE	3.0	WILD	C	99
163	GROUSE RIDGE	3.5	NON	C	99
164	COUGAR DIVIDE	15.3	WILD	C	99

Table E-2 TRAIL CAPITAL INVESTMENT

DARRINGTON RANGER DISTRICT

PRJ #	TRAIL NAME	MI.	AREA	TYPE	YR.
204	POODLE DOG +RW	0.5	NON	R	94
204	POODLE DOG +RW	1.2	WILD	R	94
206	PILCHUCK-R/W	2.5	NON	R	91
207	WEDEN CR.	1.5	NON	R	91
208	HEATHER LK.	2.6	NON	R	92
209	MEADOW MTN.	9.0	WILD	R	94
209	MEADOW MTN.	5.0	NON	R	94
211	KENNEDY H.SP.-BR	0.1	WILD	R	91
214	PEEK A BOO	1.7	NON	R	95
216	LAKE 22	0.8	NON	C	93
217	MILK CR. BRIDGE	0.1	WILD	R	91
218	DOWNEY CR.	2.5	WILD	R	93
218	DOWNEY CR.	0.5	NON	R	93
219	LOST CR. RIDGE	3.0	NON	R	95
220	BEAVER LK. +BR	2.5	NON	R	96
221	DICKERMAN MTN.	2.0	NON	R	97
221	DICKERMAN EAST	1.5	NON	R	97
222	UPPER WHITECHUCK	1.8	WILD	R	96
223	HALLS CR LOWLAND	5.0	NON	C	97
225	CIRCLE PEAK	2.5	NON	R	95
226	MARBLE GULCH	2.0	NON	C	97
227	RIDGE #1	2.0	NON	C	96
229	SQUIRE CR./8 MILE	3.6	WILD	R	99
228	SUNRISE MINE +RW	3.5	NON	R	94
230	PERRY CR.	1.8	NON	R	95
231	PILCHUCK CREST#1	7.0	NON	C	93
233	MT. HIGGINS	3.9	NON	C	98
234	RIDGE #2	1.5	NON	C	98
235	MYRTLE LK.	0.3	NON	R	98
237	CRYLTAL LK.	1.2	WILD	R	98
238	EVANS LK.	0.5	NON	C	99
238	EVANS LK.	0.1	NON	R	99
239	RIDGE #3	4.5	NON	C	00
240	SLOAN PEAK +BR.	2.0	NON	R	00
240	SLOAN PEAK +BR.	2.5	WILD	R	00
245	BIG FOUR LOOP	0.5	NON	C	97
246	MALLARD RIDGE	3.0	NON	C	98
247	THORTON LK	1.5	NON	C	99
248	ELLIOT CR.	4.0	NON	R	00
251	VERLOT NAT. TR.	0.3	NON	R	93
252	GREEN MTN.	4.0	WILD	R	00
253	GLACIER BASIN	1.5	WILD	R	96
254	SNOW GULCH	1.5	NON	C	99

Table E-2 TRAIL CAPITAL INVESTMENT

NORTH BEND RANGER DISTRICT

PRJ #	TRAIL NAME	MI.	AREA	TYPE	YR.
504	DUTCH MILLER	1.3	NON	R	91
504	DUTCH MILLER	10.0	WILD	R	91
505	MID. FK.#2 +BR	5.8	NON	C	92
506	HESTER LK.	2.5	WILD	R	92
506	DINGFORD CR.	7.5	WILD	R	92
506	DINGFORD CR.	1.8	NON	R	92
508	MARTIN LK.	1.0	WILD	C	94
508	MARTIN LK.	0.5	NON	R	94
509	PRATT RIV.+BR,RW	8.0	NON	R	92
509	PRATT RIV +BR,RW	0.4	WILD	C	92
512	MASON LK.	1.0	WILD	R	94
512	MASON LK.	1.8	NON	R	94
514	SUNDAY LK. +BR/RW	1.0	WILD	R	94
514	SUNDAY LK. +BR/RW	0.5	NON	R	94
516	SNOQ LK +BR	4.0	WILD	R	94
516	SNOQ. LK +BR	3.5	NON	R	94
517	MCCLELLAN B.+R/W	4.4	NON	R	93
519	TALAPUS LK.	2.0	NON	R	97
519	TALAPUS LK.	1.1	WILD	R	97
520	GOLD CR./ALASKA LK	5.2	WILD	C	98
522	SNOW LK. +R/W	0.5	NON	C	93
523	HUMP BACK CR +BR	0.1	NON	R	93
525	TINKHAM NAT. TR.	0.8	NON	C	93
526	THOMPSON CR.	1.0	NON	C	95
526	THOMPSON CR.	7.5	WILD	C	95
527	COMMONWEALTH	6.0	WILD	C	96
527	COMMONWEALTH	0.5	NON	C	96
528	MELAKWA/DENNY +BR	3.5	WILD	R	96
529	MID. FORK #4 +BR	0.2	NON	C	93
530	ROCK CR.	3.8	WILD	R	95
530	ROCK CR.	1.0	NON	R	95

Table E-2 TRAIL CAPITAL INVESTMENT

SKYKOMISH RANGER DISTRICT

PRJ #	TRAIL NAME	MI.	AREA	TYPE	YR.
602	WEST CADY	3.1	WILD	R	94
602	WEST CADY	2.5	NON	R	94
602	BENCHMARK MTN.	0.5	WILD	R	94
603	NO. FORK SKY	5.0	WILD	R	93
604	BALD EAGLE	6.0	WILD	R	94
605	W. FK. FOSS +BR	6.5	WILD	R	93
605	MALACITE LK.	0.5	WILD	R	93
606	NECKLACE VAL.+BR	4.0	WILD	R	93
607	LK. DOROTHY	4.2	WILD	R	95
608	SURPRISE LK.	4.4	NON	R	95
610	LK. SERENE	3.0	NON	C	91
611	IRON G.#1 +BR RW	4.6	NON	C	93
613	MEADOW CK..	0.5	WILD	R	94
613	MEADOW CK..	1.0	WILD	R	94
614	TONGA RIDGE	0.5	WILD	C	95
614	TONGA RIDGE	1.0	NON	C	95
614	TONGA RIDGE	0.5	WILD	R	95
615	DECEPTION CR.	8.7	WILD	R	96
617	EAGLE LK.	2.0	NON	R	95
617	PARADISE MDWS.	1.5	WILD	C	95
618	DECEPTION LK.	1.2	NON	R	96
620	TUNNEL CR.	0.2	WILD	R	92
620	TUNNEL CR.	0.2	NON	R	92
620	TUNNEL CR.	0.2	WILD	R	92
621	W. FK. FOSS #2	2.0	NON	C	95
622	IRON GOAT #2	2.6	NON	C	94
623	IRON GOAT #3	3.2	NON	C	95
624	PCNST REROUTE	3.0	WILD	C	91
626	MEADOW CR. EXT.	0.5	WILD	C	93
627	INDEX RIV. ACC.	0.3	NON	C	92
629	BLANCA LK.	0.5	NON	R	92
630	HEYBROOK	0.5	NON	R	94
631	PCNST - SKY	1.5	WILD	R	94
632	LK. CLARICE	0.5	NON	R	95
633	ELIZABETH LK.	0.5	NON	R	95
634	SKYLINE	3.0	NON	R	95
635	JOHNSON RIDGE	1.0	NON	R	96
635	JOHNSON RIDGE	2.5	WILD	C	96
635	JOAN LK.	0.3	WILD	R	96
637	EVANS LAKE	0.5	WILD	R	96
637	EVANS LAKE	0.5	NON	C	96
639	LK. ISABEL	1.0	NON	C	96
640	KELLEY CR.	3.0	WILD	R	97
641	SURPRISE MTN	1.5	WILD	R	97
642	TRAP PASS	0.6	WILD	R	97
643	RAGGED RID. 1226	8.5	NON	C	98
644	BECKLER RIV.	7.0	NON	C	98
645	HAYBROOK	12.5	NON	C	99

Plan - Appendix E

PRJ #	TRAIL NAME	MI.	AREA	TYPE	YR.
646	TROUBLESOME CR.	1.5	NON	C	98
646	TROUBLESOME CR.	1.5	WILD	C	98
647	MT. PERSIS	0.8	NON	C	98
648	FROZEN LK.	4.5	NON	C	99
649	CRATER LK.	4.0	NON	C	00
650	CONGLOMERATE	10.0	NON	C	00

Table E-2 TRAIL CAPITAL INVESTMENT

WHITE RIVER RANGER DISTRICT

PRJ #	TRAIL NAME	MI.	AREA	TYPE	YR.
703	RAINIER VIEW	2.2	WILD	R	92
704	CASTLE MTN.	1.5	WILD	R	94
706	THE DALLES NAT. TR.	0.8	NON	R	92
709	GOAT LK.	2.5	NON	R	92
710	SUNTOP	2.2	NON	R	95
711	SEQUERA FALLS	1.0	NON	R	99
713	PALLISADES	1.6	NON	R	94
714	BULLION BASIN	0.5	NON	R	93
715	CLEARWATER	4.9	WILD	R	95
716	CARBON	3.0	WILD	R	96
717	LYLE LK.	2.0	WILD	C	94
719	SAND FLATS	4.7	NON	R	95
720	NACHES WEST	3.8	NON	R	96
721	ARCH ROCK	3.1	NON	R	96
722	BUCK CR. BRIDGE	0.1	NON	R	94
723	GREENWATER BR	0.1	NON	R	95
724	NOBLE KNOB #2	4.7	NON	R	96
725	WHITE RIVER	1.5	NON	R	97
726	DEEP CR.	1.0	NON	R	97
727	RANGER CR.	1.8	NON	R	98
728	SILVER SPRINGS	0.3	NON	R	97
730	EVANS CR. #1	3.0	NON	R	91
731	SUMMIT LK. #2	2.3	WILD	C	94
736	PCT/WRRD #3	9.0	NON	R	93
737	NOBLE KNOB #1	7.9	NON	C	94
738	COPLEY LK. N.T.	1.0	NON	C	94
739	SKOOKUM FLATS	2.7	NON	R	99
742	EVANS CR. #2	5.0	NON	C	96
740	ECHO LK.	2.0	WILD	C	00

NOTE:

The following is the key and definitions which will help with interpreting this table. It takes at least three (3) years to get a trail ready for construction/reconstruction, therefore the environmental assessment and the preconstruction (survey) of each project will start prior to the year indicated.

PJT # -- is the project number for that project it is not the trail number. Duplicate numbers means that these trails will be constructed/reconstructed at the same time.

TRAIL NAME --- The official name of the trail.

MI. -- is the miles to be constructed/reconstructed not necessarily the length of the trail.

AREA -- this denotes the area in which the trail is. Wild is designated Wilderness and non is those lands outside of Wilderness. NRA is the designated Mt. Baker National Recreation Area.

TYPE -- this is the type of activity. C is new construction and R is reconstruction of the old trail on its present location.

YR. -- is the year that the construction/reconstruction is desired. Funding will dicatate the actual projects as well as the year.

APPENDIX F
Wilderness Rehabilitation

The following locations or areas currently are exceeding the standards set by the Limits of Acceptable Change. Corrective action is planned on all of these sites within the next five years. On many of the site rehabilitation will be an ongoing process over several years. A large portion of the cost of rehabilitation includes on-site monitoring and maintenance following the initial work.

Mt. Baker District — $5,000 annually X 8 Sites = $40,000

Table Mt./Chain Lakes
Lake Ann
Hannigan Pass
Heliotrope Ridge (Kulshan Cabin Route)
High Divide (Excelsior to High Pass)
Anderson-Watson Lakes
Skyline Divide
Elbow Lake

Darrington District — $5,000 annually X 15 Sites = $75,000

Goat Lake
Kennedy Hot Springs
Goat Flats
North Lakes Area
Image Lake
Boulder Basin
White Pass
Boulder Lake
Slide Lake
Kelcema Lake
Silver Lake/ Twin Lake
Glacier Basin
Lime Ridge
Bath Lakes
Ptarmigan Traverse

Skykomish District — $5,000 annually X 6 Sites = $30,000

Lake Dorothy
West Fork Foss (Trout, Copper, Malachite, Little Heart, and Big Heart Lakes)
Blanca Lake
Surprise Lake/Glacier Lake
Hope Lake/Mig Lake
Tonga Ridge/Fisher Lake

North Bend District $5,000 annually X 19 Sites = $95,000

Ridge and Gravel Lake - (Shared responsibility w/Cle Elum District)
Talapus Lake
Snow Lake
Melakwa Lake
Pratt Lake
Snoqualmie/ Deer Lake/ Bear Lake
Ollalie Lake
Mason Lake
Rainbow Lake
Chain Lake
Williams Lake
Island Lake
Myrtle Lake
Paradise Lake Claim Site
Sunday Lake
Crawford Lake
Nordrum Lake
Bear Lakes Cabin Site

White River District $5,000 annually X 7 Sites = $37,000

Summit Lake
Hidden Lake
Airplane Meadows
Echo Lake
Arch Rock Area
Lyle Lake
Cedar Lake

APPENDIX G
Land Adjustment Plan

The goal of landownership adjustment is to achieve an ownership pattern that best accommodates the land and resource objectives of this plan. The public and private lands within the Forest have been classified and examined for acquisition or exchange with the intent of eventually achieving the optimum land ownership pattern. All land has been placed in one of the following groups:

Group I - This group includes those lands where Congress has either directly or indirectly instructed the Forest Service to retain ownership and acquire non-Federal lands.

Group II - Landownership direction for Group II lands is to retain National Forest ownership and acquire private lands as the opportunity and/or need occurs.

Group III - These lands will be available for land adjustment and usually will provide most of the land considered in exchange projects.

Group IV - Lands in this group are normally made available to exchange for private lands in Groups I, II, or III.

Group V - More intensive study and planning are necessary before landownership decision area made.

The classification of an area into a land ownership group is contained in the Forest management prescriptions, the acreages within each group are summarized in Table G-1. Guidance for land exchange within the Alpine Lake Management Unit and the Skagit Wild and Scenic River is contained within those plans, and has been included by reference within this plan.

Table G-1
Landownership Classification - In Acres

Group I	721,718
Group II	312,255
Group III	527,620
Group IV	9,102
Group V	13,241
Alpine Lakes	117,650
Skagit River	15,036

Group I lands shall be assigned the highest priority for acquisition, followed by Groups II and III. The highest priority of lands to be used in exchanges for private lands are in Group IV areas, followed by Group III.

A estimate of the acres to be exchanged during the first decade of the plan follows. In this projection, the acres shown are the non-Federal acres being acquired by the United States, a similar acreage of National Forest Land should be considered as going into private ownership.

Table G-2
Acres Exchanged by Year

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
M-Acres	8.6	15.5	43.2	22.0	22.0	22.0	22.0	22.0	22.0	22.0

The above table includes the following exchanges within the first three years.

Yr.	Exchange Name	Non-Federal Acres	Federal Acres
90	DNR #3	4239	4396
91	City Of Tacoma	6000	1010
91	Snohomish PUD	1500	4150
91	Champion International	1375	1481
92	Weyerhaesuer	31300	13100
92	Murray Pacific Corp	1073	790

A detailed map of the land exchange program is available for review at the Forest Supervisors Office.

APPENDIX H
Off-Road Vehicle Use and Trail Closure Plan

Introduction

This Off-Road Vehicle Plan for the Mt. Baker-Snoqualmie National Forest will be implemented by the issuing of closure orders, as authorized in 36 CFR 261.50. Closures or restrictions established by the orders will be reviewed and updated every five years.

The Off-Road Vehicle (ORV) plan for this Forest has been prepared in response to a 1972 Executive Order, which calls on all federal land management agencies to inventory ORV opportunities and adopt regulations governing this type of use. The CRY Plan included in this Appendix has been updated and is now part of the Forest Plan.

The operation of motorized vehicles will be permitted on all roads, trails and general forest areas on National Forest lands except where noted as closed in this plan.

This plan is a result of the area assignments made in the Forest Plan, and is responsive to the management objectives of the Plan.

As described in this CRY Plan, most trails on this Forest are not open to motorized use. Of those trails that are open in summer, almost all are suited to motorized vehicles of no more than 40 inches in width. The reasons for this lack of suitability are explained, trail-by-trail, in the plan. In most cases, lack of suitability is due to steep terrain with unstable soils, fragile vegetation, heavy hiking use, designated wilderness, or trail construction standards that physically do not allow ORV use.

However, nearly all of the 2,829 miles of forest roads are open to motor vehicle use, in both summer and winter. Of this total, 1,483 miles are open only for high clearance vehicles.

Most of the National Forest land without roads or trails is not well suited to cross-country vehicle use because of dense vegetation in the low and middle elevations, fragile vegetation in the highcountry, and universally rugged terrain. There are, however, a number of trails on the forest which might be suitable for off-road vehicle use with reconstruction and periodic maintenance.

During the coming years, all Ranger Districts will identify these trails and estimate the cost of developing them into useable CRY routes. With public involvement, a priority will be determined among these projects, and reconstruction will be scheduled as funds are available. In some cases it may be possible to accomplish these reconstruction projects with a minimum of funding by utilizing volunteer labor from ORV user groups and/or State Interagency Committee funding.

Definitions

Off-Road Vehicles - Any motorized vehicle designed for or capable of cross-country travel on or immediately over land, water, sand, snow, ice, marsh, swampland, or other terrain including but not limited to, such vehicles as four-wheel-drive, motorcycle, snowmobile, amphibious, and air cushion vehicles; except that such term excludes (1) any registered motorboat, (2) any military, fire, emergency or law enforcement vehicle when used for official or emergency purposes, and (3) any vehicles whose use is expressly authorized by the Chief, Forest Service, under a permit, lease, license, or contract.

Official Use - An employee, agent, or designated representative of the Federal Government or one of its contractors in the course of his/her employment, agency, or representation.

Trail - A designated path or way of varying width which is commonly used by and maintained for hikers, horsemen, snow travelers, bicyclists, or for motorized vehicles with a total width of 40 inches or less.

National Forest Land(s) - National Forests, National Grasslands, and other lands and interest in land administered by the Forest Service.

Four-Wheel Motorized Vehicles - This term is intended to apply to all four-wheeled and four-wheel-drive vehicles.

Bicycles - This term is intended to include all human powered two wheel vehicles such as mountain bikes.

Two-wheel Motorized Vehicles - This term is intended to apply to all two-wheeled motorized vehicles and to smaller three-wheeled vehicles which are 40 or less in width.

Over-snow Vehicle - This term is intended to apply to all motorized vehicles designed or adapted for over-the-snow travel, such as snowmobiles.

General Conditions

1. The operation of motorized vehicles will be permitted on all roads, trails and general forest areas on National Forest land, except where noted as closed in this Plan. However, it should be known that quad-wheelers and three wheelers that are not licensed for State Highway use are currently prohibited from being used on Forest Development roads.

2. Closures of short duration for specific reasons, such as fire situations, weather, road construction, wildlife, and/or timber harvest activities, may be implemented as the need arises on both existing and planned future roads and trails. In addition, signing along roads may be necessary to inform the public of off-road restrictions due to wildlife habitat areas.

3. All roads closed in “Cedar River Watershed”, North Bend Ranger District, per agreement with City of Seattle.

4. All roads in Tacoma “Green River Watershed” west of Lester are closed.

5. The following trails, roads, and areas on National Forest land within the boundary of the Mt. Baker-Snoqualmie National Forest will be closed to motorized use, or otherwise restricted as to width, season of use, or area of operation:

Contents: Specific closures are listed in Table H-1, by Ranger District.

Mt. Baker Ranger District
Facility: TRAILS

NUMBER	NAME	LENGTH (MILES)	REMARKS	CLOSURES					
				SNOW-MOBILES	4-WHEEL MOTOR VEHICLE	2-WHEEL MOTOR VEHICLE	BICYCLES	PACK & SADDLE STOCK	LLAMAS
600	Lake Ann	4 8	Enters Wilderness	FY	FY	FY	FY	FY	FY
601	Cougar Divide	15 3	Enters Wilderness	FY	FY	FY	FY	FY	FY
602	Nooksack Flats	7.0	Important elk calving & summer range	FY	FY	FY	FY	FY	
603	Park Butte	3.5	User conflicts, heavy summer use		FY	FY	FY	11/1-8/15	
603 1	Sulphur Moraine	6 5	User conflicts, heavy summer use		FY	FY	FY	FY	FY
603 2	Railroad Grade	3 0	User conflicts, heavy summer use.		FY	FY	FY	FY	FY
603 3	Mazama Park	5 0	Enters Wilderness.	FY	FY	FY	FY	11/1-8/15	
604	Blue Lake	0.5	Fragile subalpine lake		FY	FY	FY	FY	
604.1	Dock Butte	1.5	Steep trail through subalpine meadows.	FY	FY	FY	FY		
605	Boulder Ridge	3 6	Enters Wilderness	FY	FY	FY	FY	FY	FY
606	Baker River	1 6	Enters No. Cascades National Park	FY	FY	FY	FY	FY	FY
607	Swift Creek	10 0	Enters Wilderness.	FY	FY	FY	FY	FY	
608	Shuksan Lake	2.0	Steep trail, not designed for ORV or bike use	FY	FY	FY	FY	FY	
610	East Bank	13.0	Sensitive wildlife nesting habitat	FY	FY	FY	FY		
610 1	Anderson Point	0 3	Leads to hiker only camp	FY	FY	FT	FY	FY	
610 2	Noisy Creek	2 5	Enters Wilderness.	FY	FY	FY	FY	FY	FY
611	Watson Lakes	2.3	Enters Wilderness.	FY	FY	FY	FY	FY	FY
611.1	Anderson Butte	1.5	Enters Wilderness	FY	FY	FY	FY	FY	FY
611 2	Anderson Lakes	2 4	Fragile subalpine lake	FY	FY	FY	FY	FY	FY
612	Gee Point	1 5			FY			11/1-7/15	
613	Sauk Mountain	2.1	26 switchbacks, safety hazard for vehicles.	FY	FY	FY	FY	FY	FY
613 1	Bald Mountain	5.5	Fragile subalpine lake & meadows	FY	FY	FY	FY	FY	FY
613 2	Bald Lake	0.5	Subalpine lake	FY	FY	FY	FY	FY	FY
614	Thompson Creek	4 0			FY	FY		11/1-8/15	
616	Finney Peak	1 6			FY			11/1-7/15	
618	Park Creek	2.0	Proposed nature trail.	FY	FY	FY	FY	FY	FY
619	Sulphur Cr Fall	0 5	Proposed nature trail	FY	FY	FY	FY	FY	FY
620	Cumberland Pass	0 5	Proposed nature trail	FY	FY	FY	FY	FY	FY
621	Iron Mountain	7.0	Proposed ORV trail.		FY			FY	
621.1	Mill Ridge	3.0	Proposed ORV trail		FY			FY	
622	3 Lakes	4.5	Proposed trail to subalpine lake and meadows	FY	FY	FY		11/1-7/15	
622.1	Heart Lake	3.0	Proposed trail will enter Wilderness.	FY	FY	FY	FY	FY	
623	Shdw of Sentinl	0.5	Nature trail with heavy use	FY	FY	FY	FY	FY	FY
624	Druid Grove	0.5	Within Research Natural Area	FY	FY	FY	FY	FY	FY
625	Damfino/Bearpaw	9.0	Accesses Wilderness.		FY	FY	FY	FY	
625.1	Excelsior Peak	0 5	Enters Wilderness.	FY	FY	FY	FY	FY	
625.2	Church Lake	0.5	Proposed scramble trail		FY	FY	FY	FY	FY
625 3	Bearpaw Lake	0.3	Proposed scramble trail.		FY	FY	FY	FY	FY
627	Jordan Lake	3.0	Enters Wilderness	FY	FY	FY	FY	FY	FY
628	Falls Lake	1 5	Steep scramble trail	FY	FY	FY	FY	FY	FY
629	Martin Lake	1 0	Steep scramble trail	FY	FY	FY	FY	FY	FY
630	High Divide	13 0	Enters Wilderness.	FY	FY	FY	FY	11/1-8/15	
631	Diobsud Creek	1 5	Enters Spotted Owl Habitat Area	FY	FY	FY		FY	
635	Slide Lake	1 2	Enters Wilderness	FY	FY	FY	FY	FY	FY
636	Enjar Lake	3.0	Enters Wilderness	FY	FY	FY	FY	FY	FY
655	Lava Divide	4 0	Proposed trail will enter Wilderness	FY	FY	FY	FY	FY	
669	Artist Point	1 1	Area closure in Heather Mdws due to heavy use.	FY	FY	FY	FY	FY	FY

NUMBER	NAME	LENGTH (MILES)	REMARKS	CLOSURES					
				SNOW-MOBILES	4-WHEEL MOTOR VEHICLE	2-WHEEL MOTOR VEHICLE	BICYCLES	PACK & SADDLE STOCK	LLAMAS
671	Church Mountain	4 2	Switchbacks through fragile subalpine meadows		FY	FY	FY	FY	
671.1	Fossil Pass	0 5	Proposed trail to fragile subalpine meadows		FY	FY	FY	FY	
672	Silesia Creek	8 0	Enters Wilderness	FY	FY	FY	FY	11/1-8/15	
673	Goat Mountain	5 2	Enters Wilderness	FY	FY	FY	FY	11/1-8/15	
673 1	Old Goat	0 5	Enters Wilderness	FY	FY	FY	FY	11/1-8/15	674 Hannegan
Pass	5.0	Enters Wilderness		FY	FY	FY	FY	11/1-8/15	
674.1	Hannegan Peak	1 0	Enters Wilderness	FY	FY	FY	FY	FY	FY
674.2	Ruth Arm	2 0	Enters Wilderness	FY	FY	FY	FY	FY	FY
675	Lone Jack	5 0	Enters Wilderness	FY	FY	FY	FY	FY	
676	High Pass	4 0	Enters Wilderness	FY	FY	FY	FY	FY	FY
677	Heliotrope Rdg	2.7	Enters Wilderness	FY	FY	FY	FY	FY	FY
677 1	Hogsback Route	1.0	Enters Wilderness	FY	FY	FY	FY	FY	FY
677 2	Glacier View	2.3	Enters Wilderness	FY	FY	FY	FY	FY	FY
678	Skyline Divide	3.5	Enters Wilderness	FY	FY	FY	FY	11/1-8/15	
678 1	Ranger Camp	0 5	Enters Wilderness	FY	FY	FY	FY	11/1-8/15	
678 2	Deadhorse Camp	0.5	Enters Wilderness	FY	FY	FY	FY	11/1-8/15	
680	Nooksack River	18.0	Proposed Mt Bike Trail	FY	FY	FY			
681	Table Mountain	2.5	Enters Wilderness	FY	FY	FY	FY	FY	FY
682	Chain Lakes	6.5	Enters Wilderness	FY	FY	FY	FY	FY	FY
682.1	Wells Creek	3.0	Enters Wilderness	FY	FY	FY	FY	FY	FY
682 2	Hayes Lake	0.3	Enters Wilderness	FY	FY	FY	FY	FY	FY
683	Ptarmigan Rdg	5.0	Enters Wilderness	FY	FY	FY	FY	FY	FY
684	Heather Mdws.	5 0	Area closure in Heather Mdws due to heavy use	FY	FY	FY	FY	FY	FY
684 1	Bagley Lakes	2.8	Area closure in Heather Mdws due to heavy use	FY	FY	FY	FY	FY	FY
684.2	Fire and Ice	0.5	Area closure in Heather Mdws due to heavy use	FY	FY	FY	FY	FY	FY
684.3	Wild Goose	0.6	Area closure in Heather Mdws due to heavy use	FY	FY	FY	FY	FY	FY
684 4	Panorama Dome	0.5	Area closure in Heather Mdws due to heavy use	FY	FY	FY	FY	FY	FY
685	Twin Lakes	1.0	Fragile subalpine lake and meadows	FY	FY	FY	FY	FY	
685.1	Winchester Mt.	2.1	Enters Wilderness	FY	FY	FY	FY	FY	FY
686	Tomyhoi Lake	4.0	Enters Wilderness	FY	FY	FY	FY	FY	FY
686.1	Yellow Aster	4.0	Proposed trail will enter Wilderness	FY	FY	FY	FY	FY	FY
686.2	Yellow Atr Bt	0 5	Proposed trail will enter Wilderness	FY	FY	FY	FY	FY	FY
686.3	Tomyhoi Peak	2.3	Enters Wilderness	FY	FY	FY	FY	FY	FY
687	Horseshoe Bend	0 7	Family hike near campground Stair sections	FY	FY	FY	FY	FY	FY
688	Boundary Way	2 5			FY	11/1-8/15	11/1-8/15	11/1-8/15	
689	Canyon Ridge	9 1			FY	11/1-8/15	11/1-8/15	11/1-8/15	
689 1	Canyon Creek	12 0	Proposed ORV trail		FY	11/1-8/15	11/1-8/15	11/1-8/15	
689.2	Hudson Way	1 5			FY	11/1-8/15	11/1-8/15	11/1-8/15	
696	Ridley Creek	3 5	Enters Wilderness	FY	FY	FY	FY	11/1-8/15	
697	Elbow Lake	6 9	Enters Wilderness	FY	FY	FY	FY	11/1-8/15	
697.1	Bell Pass	3.0	Proposed trail will enter Wilderness	FY	FY	FY	FY	11/1-8/15	
698	Welcome Pass	2.8	Enters Wilderness	FY	FY	FY	FY	11/1-8/15	
699	Keep Kool	2.5	Enters Wilderness	FY	FY	FY	FY	FY	
735	Picture Lake	0 5	Area closure in Heather Mdws due to heavy use	FY	FY	FY	FY	FY	FY
742	Shannon Ridge	1 9	Accesses No Cascades National Park	FY	FY	FY	FY	FY	FY
743	Lookout Mtn	4 7	Accesses No Cascades National Park	FY	FY	FY	FY	FY	
743A	Monogram Lake	0 7	Accesses No Cascades National Park	FY	FY	FY	FY	FY	FY
744	Beaver Pond	0 7	Proposed nature trail	FY	FY	FY	FY	FY	FY
745	Hidden Lake	4 5	Accesses No Cascades National Park	FY	FY	FY	FY	FY	FY
746	Bear Lake	0.5	Not designed for motorcycles		FY	FY		FY	

NUMBER	NAME	LENGTH (MILES)	REMARKS	CLOSURES					
				SNOW-MOBILES	4-WHEEL MOTOR VEHICLE	2-WHEEL MOTOR VEHICLE	BICYCLES	PACK & SADDLE STOCK	LLAMAS
750	Ruth Gorge	0.5	Proposed nature trail	FY	FY	FY	FY	FY	FY
750.1	Nooksack Cirq	6 5	Accesses No Cascades National Park.	FY	FY	FY	FY	FY	FY
750 2	Price Lake	1 0	Accesses No Cascades National Park.	FY	FY	FY	FY	FY	FY
751	Big Cedar	1 0	Proposed nature trail	FY	FY	FY	FY	FY	FY
762	White Salmon	2 0	Accesses No Cascades National Park	FY	FY	FY	FY	FY	FY
763	Thunder Ridge	18.0	Proposed trail to subalpine lakes & meadows.	FY	FY	FY	FY	11/1-7/15	
763.1	Rocky Creek	4.0	Proposed trail to subalpine lakes & meadows	FY	FY	FY	FY	11/1-7/15	
763 2	Jackman Ridge	3 0	Proposed trail to subalpine lakes & meadows	FY	FY	FY	FY	11/1-7/15	
763 3	Clear Lake	3 0	Proposed trail to subalpine lakes & meadows	FY	FY	FY	FY	FY	
765	Found Lake	4 0	Enters Wilderness	FY	FY	FY	FY	FY	FY
766	Kindy Creek	1.0	Enters Wilderness	FY	FY	FY	FY	FY	
769	Cascade River	3 0	Proposed trail that will enter Wilderness	FY	FY	FY	FY	FY	FY
769 1	M. Fk Cascade	5 5	Enters Wilderness.	FY	FY	FY	FY	FY	FY
769 2	S. Fk Cascade	8 5	Enters Wilderness	FY	FY	FY	FY	FY	FY

Mt.Baker Ranger District
Facility: ROADS

ROAD #	NAME	LENGTH (miles)	REMARKS	SNOW-MOBILES	COMMERCIAL VEHICLES	2, 3 & 4 WHEEL MOTORIZED VEHICLES
1043	Upper Olson	3.2	Entire length Close between projects for AIRFA	FY		FY
1060	Bacon Creek	6.5	Entire length Bald Eagle winter use area	FY	11/15-4/1	
1064	West Bacon	2.3	Entire length. Bald Eagle winter use area	FY	11/15-4/1	
11	Baker Lake Hwy	10.6	Beyond jct of Rd 1168. Bald Eagle Nest	FY		FY
1107	Anderson Creek	1.4	Beyond MP 9 0. (sign w/monitoring) Mtn Goat MR	FY	11/1-6/15	12/25-6/1
1107022	Trail Ridge	0.9	Closed beyond MP 1.0 between projects (AIRFA)	FY		FY
1114	Sulphur Cr. Cutoff	2.0	Entire length (Gated) X-C Ski Rte & Wildlife Hab	FY	**** 12/1 - 4/15 ****	
1122	Lower Sandy Creek	2.2	Entire length (sign w/monitoring) Wildlife Habit.	FY	**** 12/1 - 4/15 ****	
1124	Sandy Creek	3.2	Entire length (sign w/monitoring). Wildlife Habit.	FY	**** 12/1 - 4/15 ****	
1130	Marten Lake	9 0	Entire length X-C Ski Rte / Wildlife Habitat	FY	12/1-4/15	12/25-4/15
1131	Boulder Ridge	4 7	Entire length (sign w/monitoring) Mtn. Goat MR	FY	11/1-6/15	12/25-6/15
1144	Morovitz Creek	2 9	Up to Baker Hot Springs (sign w/monitoring) X-C Ski Route and Wildlife Habitat	FY	**** 12/1 - 4/15 ****	
1146	Black Bear	0 3	Entire length (sign w/monitoring) Wildlife Habitat	FY	**** 12/1 - 4/15 ****	
1152	Shuksan Creek	7 5	MP 0 0 to MP 7 5 (sign w/monitoring) Wildlife Hab	FY	12/1-4/15	12/25-4/15
1152	Shuksan Creek	2 0	Beyond MP 7 5 (sign w/monitoring) Mtn Goat MR	FY	11/1-6/15	12/1-6/15
1152014	Shannon Creek	3 5	Entire Length (sign w/monitoring) Mtn Goat MR	FY	11/1-6/15	12/1-6/15
1160	East Shannon	6 0	Entire length (sign w/monitoring) Mtn Goat MR	FY	11/1-6/15	12/1-6/15
12	Loomis Nooksack	9 7	Beyond jct of Rd 1240, Elf calving area	FY	**** 12/1 - 7/1 ****	
1240	Loomis Creek	3 1	Entire Length (sign w/monitoring) Mtn Goat MR	FY	11/1-6/15	12/1-6/15
1200100	Beaver Pond	1 3	Entire length Wildlife Habitat (Gated)	FY	**** 12/1 - 4/15 ****	
1303	Dillard Ridge	3 3	Entire length Mtn Goat MR (Gated)	FY	11/1-6/15	12/1-6/15
1420	Thunder Lakes	2 8	Beyond MP 4 0 (sign w/monitoring) Mtn Goat MR	FY	11/1-6/15	12/1-6/15
1420011	North Jackman	2 2	Entire length Close between projects(Bald Eagle)	FY	FY	FY
1540015	Sibley Burn	1 7	Entire length (sign w/monitoring) Mtn Goat MR	FY	**** 11/1 - 6/15 *****	
1550	Irene Creek	6 0	Entire length Bald Eagle winter use area	FY	11/15-4/1	12/25-4/1
1551	Irene Ridge	1 4	Entire length Close between projects for AIRFA	FY	----	FY
16	Illabot Creek	2 0	Beyond MP 22.0 Mtn Goat MR (sign w/monitoring)	FY	11/1-6/15	12/1-6/15
16	Illabot Creek	1 3	Beyond MP 24 0, close between projects for AIRFA	FY	----	FY
1610021	Suiattle Mtn	0 85	Entire length Mtn Goat MR (Gate)	FY	11/1-6/15	12/1-6/15
1621	Louise	0 5	Entire length Mtn Goat MR (sign w/monitoring)	FY	11/1-6/15	12/1-6/15
1707	Upper Gee	4 8	Entire length Spotted Owl Habitat Area	FY	2/15-8/15	----
3035	Four Mile	0 8	Close between project use Mtn Goat MR	FY	11/1-6/15	12/1-6/15
3066	Swamp Creek	1 8	Entire length Mtn. Goat MR (sign w/monitoring)	FY	11/1-6/15	12/1-6/15
3070	Razorhone	3 0	Entire Length. X-C Ski Rte & Wildlife Habitat	FY	12/1-4/15	12/25-4/15
3071	Anderson Creek	3.0	MP 0 0 to MP 3 0 X-C Ski Rte & Wildlife Habitat	FY	12/1-4/15	12/25-4/15
3071	Anderson Creek	3 0	Beyond MP 3 0 Close between proj Mtn Goat MR	FY	11/1-6/15	FY
31	Canyon Creek	12 7	Beyond jct of Rd 3120 Groomed snowmobile trail		12/1-4/15	12/25-4/15
3120	West Church	6.1	Entire length Wildlife Hab (sign w/monitoring)	FY	12/1-4/15	12/25-4/15
3122	Little Mountain	2 9	Entire Length Mtn Goat MR (sign w/ monitoring)	FY	11/1-6/15	12/1-6/15

Mt.Baker Ranger District
Facility: ROADS CONTINUED

ROAD #	NAME	LENGTH (miles)	REMARKS	SNOW-MOBILES	COMMERCIAL VEHICLES	2, 3 & 4 WHEEL MOTORIZED VEHICLES
32	Hannegan	3 0	MP 0 0 to MP 3.0 X-C Ski Rte & Wildlife Habitat	FY	12/1-4/15	12/25-4/15
32	Hannegan	2 5	Beyond MP 3.0 Mtn Goat MR (sign w/monitoring)	FY	11/1-6/15	12/25-6/15
33	Wells Creek	11 2	Beyond MP 0.8 Mtn Goat MR (Gate)	FY	**** 11/1 - 7/1 *****	
3600	Grouse Butte	2.0	Beyond jct. w/Rd#3620, Mtn Goat MR (sign w/monitor)	FY	11/1-6/15	12/1-6/15
3630	Elk Horn	1 9	Entire length. Mtn Goat MR (sign w/monitoring)	FY	11/1-6/15	12/1-6/15
37	Dead Horse	12.3	MP 0 0 - MP 12 3, X-Country Ski Route	FY		
37	Dead Horse	1 5	MP 4 5 to MP 6 0 (sign w/monitoring) Wildlife Hab	FY	12/1-4/15	12/25-4/15
37	Dead Horse	5 5	Beyond MP. 12 3, Mtn Goat MR (sign w/monitoring)	FY	11/1-6/15	12/25-6/15
38	Middle Fk Nooksack	6 0	Beyond MP. 9 0 Mtn Goat and wildlife hab (sign)	FY	11/1-6/15	12/1-6/15
39	Glacier Creek	1 4	Beyond jct of Rd 3600 Mtn Goat MR (sign w/monit)	FY	11/1-6/15	12/1-6/15
3910	Thompson Creek	3 0	Beyond MP 1 3, wildlife habitat (w/monitoring)	FY	12/1-4/15	12/1-4/15
3940	Smith Basin	1 5	Entire length, Mtn Goat MR (sign w/monitoring)	FY	11/1-6/15	12/1-6/15

NOTE: Selected roads which are physically closed to motorized vehicles over 40 inches in width may be made available to motorcycle, quad-wheeler, or three-wheeler use if such use is not in conflict with other land management objectives, such as important wildlife habitat, erosion control in sensitive soil areas, etc. The roads which are open to use would be signed rather than those prohibited so as to portray a positive message.

Mt.Baker Ranger District
Facility: AREAS

NUMBER	NAME	LENGTH (MILES)	REMARKS	CLOSURES					
				SNOW-MOBILES	4-WHEEL MOTOR VEHICLE	2-WHEEL MOTOR VEHICLE	BICYCLES	PACK & SADDLE STOCK	LLAMAS
	North Fork Nooksack		Area closed to motorized and mechanized use to preserve its natural characteristics for future research opportunities.	FY	FY	FY	FY		
	Noisy-Diobsud Wilderness			FY	FY	FY	FY		
	Mt. Baker Wilderness			FY	FY	FY	FY		
	Mt. Baker National Recreation Area		Area closed to vehicles over 40", motorcycles, and bicycles because of fragile subalpine vegetation and user conflicts Snowmobile use is permitted when snow depth is 2' or more when measured at Schriebers Meadow.		FY	FY	FY		
	Twin Lakes		All trails and areas off road within the Twin Lakes area are closed to motorized and mechanized use to protect wilderness values, wildlife habitat, and fragile subalpine vegetation	FY	FY	FY	FY		
	Middle Fork Nooksack		Area including Road #38, is closed to all motorized use at the Forest Boundary in order to protect elk, deer and mountain goat winter range	FY	--12/1-6/15--				
	South Fork Nooksack		Closure to protect elk wintering and calving grounds.	FY	------- 12/1-7/1-------				

Darrington Ranger District
Facility: TRAILS

NUMBER	NAME	LENGTH (MILES)	REMARKS	CLOSURES					
				SNOW-MOBILES	4-WHEEL MOTOR VEHICLE	2-WHEEL MOTOR VEHICLE	BICYCLES	PACK & SADDLE STOCK	LLAMAS
783	Beaver Lake	3 5	Designed as a special purpose nature trail ORV use would disrupt wildlife spring and summer, and would disturb deer in winter. User conflicts would also arise Potential for major soil erosion		FY	FY	FY		
632	Coal Lake	0 1	The purpose of the trail is to serve campsites and fishing along the lake shore. This area is heavily used by campers and fisherman. There would be a user conflict Also, it is located in a sensitive area (lake shore).		FY	FY		FY	
633	Forks	1.5	The potential exists for trail bike use if the trail is relocated and reconstructed. On its present location it cannot support ORV use		FY	FY		FY	
634	Circle Peak	4.5	Location and standards not suitable for ORV use.			FY	FY		
634.1	Circle Creek	1.5	Location and standards not suitable for ORV use			FY	FY		
638	Crystal Lake	1.0	Wilderness access with no intermediate destination points	FY	FY	FY	FY	FY	
640	Mt Higgins	4.5	Trail not located or designed for ORV use. Waterbars and dips could not be maintained with ORV use and are necessary to prevent resource damage.		FY	FY		FY	
640 1	Myrtle Lake	0.3	Water and soils problems Resource damage around the lake would occur from ORV use.		FY	FY			
643	White Chuck	0.4	Access to Wilderness with no intermediate destination points.	FY	FY	FY	FY		
644	Mt Pugh	3 5	Used by climbers and backpackers. Trailtread is narrow and outsloped Minimal maintenance in recent years Tight switchbacks which could not be maintained with ORV use	FY	FY	FY			
645	Falls Creek	3.5	Not constructed or located for ORV use. Brushy, with water and soil problems.		FY	FY	FY		
646	Lost Creek Rdg	4.6	Not suitable for ORV use due to soils and use problems. User conflicts	FY	FY	FY	FY		
647	Elliot Creek	3.3	Wilderness access with no intermediate destination points	FY	FY	FY	FY	FY	
648	Sloan Peak	2.0	Wilderness access Open to snowmobile and Mtn. bikes from Rd 49 to Sauk River.		FY	FY		FY	

NUMBER	NAME	LENGTH (MILES)	REMARKS	CLOSURES					
				SNOW-MOBILES	4-WHEEL MOTOR VEHICLE	2-WHEEL MOTOR VEHICLE	BICYCLES	PACK & SADDLE STOCK	LLAMAS
650	Bald Eagle	1 4	Wilderness access with no intermediate destination points Not constructed to ORV standards.	FY	FY	FY	FY		
653	Neiderprum	0.5	Wilderness access and mostly in wilderness soils problems	FY	FY	FY	FY		
654	Squire Creek	0 5	Wilderness access and mostly in wilderness soils problems	FY	FY	FY	FY		
654 1	Eight Mile Ck	0.3	Wilderness access and soils problems	FY	FY	FY	FY		
656	Peek-a-boo Lake	2 5	Not located or constructed for ORV use Long stretches of narrow outsloping tread Soil and water problems would arise with ORV use.	FY	FY	FY			
657	Meadow Mountain	3.0	Wilderness access and soils problems	FY	FY	FY	FY		
659	Frog Lake	1 0	Not constructed for ORV use potential major soils problems.			FY	FY		
660	North Fork Sauk Falls	0.2	This is a very short trail to a scenic point Not suitable for ORV use		FY	FY	FY	FY	
661	Bear Lake	0.3	A very short trail which has been heavily developed to provide opportunities for all types of hikers. Part of the shoreline of Bear Lake is a marshy meadow. There would be a conflict with the present heavy hiker and backpacker use. The area around Bear Lake is already showing the effects of overuse Additional traffic would be unacceptable		FY	FY	FY	FY	
664	Round Mountain	1 6	Climber route Abandoned in mid 1950's and not maintained since Impassable to ORV travel. Even if reconstructed it would be too steep for ORV use without significant resource damage		FY	FY			
667	Copper Creek	0.4	Wilderness access with no intermediate destination points	FY	FY	FY	FY		
700	Pilchuck LO	3.0	This is a heavily used trail and there would be extreme conflict with hikers and climbers Parts of this trail are on D.N R. and State Park land. The trail leads into alpine country that is already suffering the effects of overuse	FY	FY	FY	FY	FY	
701	Heather Lake	2.0	This is a heavily used trail that leads to a sensitive (wet boggy) area along the lake A lot of the trail is puncheon over wet areas This is a popular hiker trail and there would be a user conflict	FY	FY	FY	FY	FY	

NUMBER	NAME	LENGTH (MILES)	REMARKS	CLOSURES					
				SNOW-MOBILES	4-WHEEL MOTOR VEHICLE	2-WHEEL MOTOR VEHICLE	BICYCLES	PACK & SADDLE STOCK	LLAMAS
702	Lake 22	2 7	This trail is located in the Lake 22 Research Natural Area Additional use would be unacceptable User conflicts.	FY	FY	FY	FY	FY	
703	Pinnacle Lake	1 8	The location around Bear Lake is showing the effects of heavy use already Much of its margin is marshy and any more traffic here would be undesirable. The upper portion of this trail leads through alpine country, some of it wet.		FY	FY		FY	
704	Boardman	0 8	Unstable soils and user conflicts		FY	FY	FY	FY	
705	Bedal Creek	1 5	Wilderness access and potential for significant soil problems.	FY	FY	FY	FY	FY	
707	Sunrise Mine	2 5	Potential for major soil erosion problems		FY	FY	FY	FY	
708	Poodledog Pass	0 5	Wilderness access and user conflicts	FY	FY	FY	FY	FY	
709	Barlow Point	1 2	This short trail is part of the Monte Cristo Historic Tour, with heavy public use		FY	FY		FY	
710	Dickerman Mountain	4.3	This trail leads into fragile alpine meadows that could not handle vehicular traffic Much of the trail is on steep slopes with unstable soils.	FY	FY	FY	FY	FY	
711 & 711.01	Perry Creek	3.6	Proposed RNA The present trail leads through a canyon that is famous for its fern population At least 17 species and many unique hybrids have been found along the sides of the trail Some of these are delicate and relatively rare	FY	FY	FY	FY	FY	
712 & 712 01	North Lake	3 2	ORV's would conflict with the established use pattern and major potential for soils problems.		FY	FY	FY	FY	
717	Deer Pass	0 2	Wilderness access with no intermediate destination points	FY	FY	FY	FY	FY	
719	Glacier Basin	1.6	Wilderness access with potential for major user conflicts.	FY	FY	FY	FY	FY	
723	Ice Caves	1.0	This is a special purpose trail It is designed to accommodate hikers. It presently sees well over 8500 visitors per year. There would be a definite user conflict. Potential for major soil erosion problems and loss of unique low elevation alpine meadows.	FY	FY	FY	FY	FY	
724	Weden Creek	1 8	Potential for major soil erosion problems and destruction of subalpine vegetation type.	FY	FY	FY	FY	FY	
725	Verlot Nature	0.3	Designed as hiker only trail User and soil conflict problems.	FY	FY	FY	FY	FY	

NUMBER	NAME	LENGTH (MILES)	REMARKS	CLOSURES					
				SNOW-MOBILES	4-WHEEL MOTOR VEHICLE	2-WHEEL MOTOR VEHICLE	BICYCLES	PACK & SADDLE STOCK	LLAMAS
728	Old Sauk	3 0	Located a wild and scenic river corridor. In a zone of fragile soil and water conditions. Several stream crossings which would suffer water quality problems from ORV use.		FY	FY			
729	Scheitzer	10.5	Maintained opportunity for exclusive snow foot winter Recreation use			.....12/1 to 4/1			
730	Beaver Creek	6.6	Maintained opportunity for exclusive snow foot winter Recreation use			. ..12/1 to 4/1. ..			
731	White Ch Bench	6 0	Potential for major soil erosion problems.		FY	FY			
733	Old Government Trail	2.0	ORV use would conflict established use patterns.			FY	FY		
734	Boulder River	1 0	Wilderness access and potential for major soil erosion problems and user conflicts	FY	FY	FY	FY	FY	
738	Youth-on-Age	0.3	Designed and maintained for disabled persons.	FY	FY	FY	FY	FY	
768	Downey Creek	0 4	Wilderness access with no intermediate destination points.	FY	FY	FY	FY		
780	Huckleberry Mtn	5.5	Wilderness access with no intermediate destination points Steep trail. Accesses fragile alpine areas.	FY	FY	FY	FY		
781	Buck Creek	1 0	Wilderness access with no intermediate destination point. Potential for major soil problems	FY	FY	FY	FY	FY	
782	Green Mountain	1 0	Proposed RNA Provide access to wilderness with no intermediate designation points	FY	FY	FY	FY		
784	Suiattle	10 6	Wilderness. One mile outside Wilderness with no focal point between trailhead and Wilderness boundary.	FY	FY	FY	FY		
793	Sulphur Creek	1 8	Wilderness access with no intermediate destination points	FY	FY	FY	FY		

Darrington Ranger District
Facility: ROADS

NUMBER	NAME	LENGTH (MILES)	REMARKS	CLOSURES					
				SNOW-MOBILES	4-WHEEL MOTOR VEHICLE	2-WHEEL MOTOR VEHICLE	BICYCLES	PACK & SADDLE STOCK	LLAMAS
1800014	Cascade Cutoff		Not presently maintained to a level suitable for motorized use		FY	FY			
1855000	Coney Pass		Not presently maintained to a level suitable for motorized use		FY	FY			
188000	Bolt Camp	4 5	Road presently closed and not maintained Proposed management for ORV activity.						
189000	Round Mtn Rd	4 7	Closed to provide opportunity for non-motorized winter recreation activities	12/1-4/1	12/1-4/1				
2010000	French Ck Rd	6 3	From milepost 3.6 to end to provide opportunity for non-motorized winter recreation activities	12/1-5/1	12/1-5/1				
2080000	Falls Creek	7 0	Seasonal closure at MP 2 for wildlife habitat		10/15 to 6/1. . ..				
2095000	Pugh Mountain		Seasonal closure for wildlife habitat		10/15 to 6/1 .				
2097	Skull Creek	1.9	Closed from gate at M P 7 to end to protect winter, summer Mtn Goat habitat.	FY	FY	FY			
2130000	No Side Dans Cr		Closed to avoid conflicts with adjacent private land.		FY	FY			
2140000	Prairie Mtn Road		Entire length to provide opportunity for non-motorized winter recreation activities.	12/1-4/1	12/1-4/1	12/1-4/1			
2211000	Sauk View		Not presently maintained to a level suitable for motorized use.		FY	FY			
2311000	Pugh Ridge	5 0	Summer goat and deer range Steep grades with soil problems	FY	FY	FY			
2400015	Strom		Not presently maintained to a level suitable for motorized use		FY	FY			
2420040	N. Side Divide	1 2	Closed to protect summer mountain goat habitat		FY	FY			
2420060	Tathum Spur		Not presently maintained to a level suitable for motorized use		FY	FY			
2436000	Upper Black Oak		Proposed closure to highway vehicles to allow for management for OHV activity						
2510000	Conrad Creek	2 3	Closed at M P 7 to protect wildlife habitat Not maintained.		FY	FY			

NUMBER	NAME	LENGTH (MILES)	REMARKS	CLOSURES					
				SNOW-MOBILES	4-WHEEL MOTOR VEHICLE	2-WHEEL MOTOR VEHICLE	BICYCLES	PACK & SADDLE STOCK	LLAMAS
2514000	Target Lake		Closed to protect wildlife habitat		FY	FY			
2540000	Marsh Creek		Not presently maintained to a level suitable for motorized use		FY	FY			
2600017	Buck Camp		Not presently maintained to a level suitable for motorized use		FY	FY			
2642016	Middle Grade		Not presently maintained to a level suitable for motorized use.		FY	FY			
2650000	Big Creek	9 8	Closed to protect wildlife habitat Not maintained.		FY	FY			
2710000 2710011	Meadow Mtn High	5 0 1.6	Roads closed to control use impacts generated by ease of access to popular wilderness destination.			FY	FY		
2720000	Meadow Sky	2 5	Not presently maintained to a level suitable for motorized use		FY	FY			
2800018	Dog	1 1	Not presently maintained to a level suitable for motorized use		FY	FY			
2840016	Low Middle	1 0	Not presently maintained to a level suitable for motorized use		FY	FY			
2860000	South	1 5	Not presently maintained to a level suitable for motorized use		FY	FY			
2900000	Rinker Ridge	9 0	Proposed closure to highway vehicles to allow for management for OHV activity						
2920000	Old North Mtn		Not presently maintained to a level suitable for motorized use			FY	FY		
4025000	East Boardman	0 8	Closed for erosion control Not maintained		FY	FY			
4031000	Bender Creek		Proposed closure to highway vehicles to allow for management for OHV activity						
4020023	Cedar Flats		Proposed closure to highway vehicles to allow for management for OHV activity						
4041000	Silver		Not presently maintained to a level suitable for motorized use		FY	FY			
4052000	Deer Creek Rd	4 4	Closed to prevent user conflict in an area that receives heavy snow play use	FY	12/1-4/1				
4054000	Double Eagle	3 0	Closed to protect winter mountain goat habitat	FY					
4080	Elliot Creek	0.7	Closed to control Wilderness access	FY	FY	FY	FY		
4110018	318Z	0.3	Closed for erosion control. Not maintained		FY				

NUMBER	NAME	LENGTH (MILES)	REMARKS	CLOSURES					
				SNOW-MOBILES	4-WHEEL MOTOR VEHICLE	2-WHEEL MOTOR VEHICLE	BICYCLES	PACK & SADDLE STOCK	LLAMAS
4110031	Green Mt Vista	0 7	Closed at gate. Provides access to radio repeater	FY	FY	FY			
4200000	Mt Pilchuck Rd		Closed seasonally at gate to provide for non-motorized winter use	-------12/1 to 4/1-----					
4930	June Mtn	2.5	Seasonal closure for wildlife habitat	--------4/1 to 8/1-----					

Darrington Ranger District
Facility: AREAS

NUMBER	NAME	LENGTH (MILES)	REMARKS	CLOSURES					
				SNOW-MOBILES	4-WHEEL MOTOR VEHICLE	2-WHEEL MOTOR VEHICLE	BICYCLES	PACK & SADDLE STOCK	LLAMAS
	Glacier Peak Wilderness		Designated Wilderness	FY	FY	FY	FY		
	Boulder River Wilderness		Designated Wilderness	FY	FY	FY	FY		
	Henry M. Jackson Wilderness		Designated Wilderness	FY	FY	FY	FY	FY	
	Green Mtn RNA		Closed to preserve RNA values	FY	FY	FY	FY	FY	
	Perry Creek RNA		Closed to preserve RNA values	FY	FY	FY	FY	FY	
	Lake 22 RNA		Closed to preserve its natural characteristics for future research opportunities	FY	FY	FY	FY	FY	
	Long Creek RNA		Closed to preserve RNA values	FY	FY	FY	FY	FY	

North Bend Ranger District
Facility: TRAILS

NUMBER	NAME	LENGTH (MILES)	REMARKS	CLOSURES					
				SNOW-MOBILES	4-WHEEL MOTOR VEHICLE	2-WHEEL MOTOR VEHICLE	BICYCLES	PACK & SADDLE STOCK	LLAMAS
1000	Sunday Lake	0.5	Wldnss access with no intermediate destinations	FY	FY	FY	FY	FY	
1000.01	Sunday Lake	1.1	Wilderness	FY	FY	FY	FY	FY	
1001	Lennox Creek	0 2	Wldnss access with no intermediate destinations	FY	FY	FY	FY	FY	
1001.01	Lennox Creek	3 9	Wilderness	FY	FY	FY	FY	FY	
1002	Snoqualmie Lk	3.3	Wilderness access with user conflicts	FY	FY	FY	FY	FY	
1002.01	Snoqualmie Lk	4 3	Wilderness, Heavy use	FY	FY	FY	FY	FY	
1003	Middle Fork	17 0	Non-wilderness, Heavy use.	FY	FY	FY	FY		
1004	Nordrum Lake	0.3	Wldnss access with no intermediate destinations	FY	FY	FY	FY	FY	
1004.01	Nordrum Lake	2.3	Wilderness	FY	FY	FY	FY	FY	
1005	Dingford Crk	0.8	Wldnss access with no intermediate destinations	FY	FY	FY	FY		
1005 01	Dingford Crk	5 9	Wilderness	FY	FY	FY	FY		
1005.1	Hester Lake	2.5	Wilderness	FY	FY	FY	FY		
1006	Marten Lake	1 0	Wldnss access with no intermediate destinations	FY	FY	FY	FY	FY	
1007	Pratt Lake	2.5	Wldnss access with no intermediate destinations	FY	FY	FY	FY	FY	
1007.01	Pratt Lake	3 2	Wilderness, heavy use area.	FY	FY	FY	FY	FY	
1009	Mt. Defiance	6.8	Wilderness	FY	FY	FY	FY	FY	
1009.1	Thompson Lake	1.0	Wldnss access with no intermediate destinations	FY	FY	FY	FY	FY	
1010	Kaleetan Lake	4 0	Wilderness	FY	FY	FY	FY	FY	
1011	Melakwa Lake	3.0	Wilderness	FY	FY	FY	FY	FY	
1012	High Lakes	3 8	Wilderness	FY	FY	FY	FY	FY	
1013	Snow Lake	2 0	Wldnss access with no intermediate destinations	FY	FY	FY	FY		

NUMBER	NAME	LENGTH (MILES)	REMARKS	CLOSURES					
				SNOW-MOBILES	4-WHEEL MOTOR VEHICLE	2-WHEEL MOTOR VEHICLE	BICYCLES	PACK & SADDLE STOCK	LLAMAS
1013.01	Snow Lake	1 3	Wilderness	FY	FY	FY	FY		
1013.1	Rock Creek	0.9	Wldnss access with no intermediate destinations	FY	FY	FY	FY		
1013.11	Rock Creek	3.4	Wilderness	FY	FY	FY	FY		
1013.2	Source Lake	0 5	Wilderness access, extra heavy use.	FY	FY	FY	FY	FY	
1014	Denny Creek	0 8	Wilderness access, extra heavy use.	FY	FY	FY	FY	FY	
1014.01	Denny Creek	3.5	Wilderness, extra heavy use	FY	FY	FY	FY	FY	
1015	McClellan Butte	1 0	Iron Horse Trail access.	FY	FY	FY			
1015.01	McClellan Butte	3 4	User conflict, extra heavy use.	FY	FY	FY	FY	FY	
1016	Granite Mtn	1 1	Wldnss access with no intermediate destinations	FY	FY	FY	FY	FY	
1016.01	Granite Mtn	2 0	Wilderness, extra heavy use.	FY	FY	FY	FY	FY	
1018	Crater Lake	1 0		FY	FY	FY	FY	FY	
1019	Annette Lake	1.0	Iron Horse Trail access	FY	FY	FY			
1019.01	Annette Lake	2 9	User conflict, extra heavy use.	FY	FY	FY	FY	FY	
1019.1	Abiel Pass	1 0		FY	FY	FY	FY	FY	
1021	Wagon Road	1.0	User conflict, interpretive trail	FY	FY	FY	FY	FY	FY
1023	Asahel Curtis	1.3	User conflict, interpretive trail	FY	FY	FY	FY	FY	FY
1030	Dutch Miller Gp	0 6	Wldnss access with no intermediate destinations	FY	FY	FY	FY		
1030.01	Dutch Miller Gp	6 8	Wilderness	FY	FY	FY	FY		
1030.01	Williams Lk	1 0	Wilderness	FY	FY	FY	FY	FY	
1031	Kelly Butte	1 0	Not designed or constructed for motorized use.	FY	FY	FY			
1031.1	Kelly Butte	5 0	Not designed or constructed for motorized use	FY	FY	FY			
1033	Comnwlth Basin	2 5	Wilderness	FY	FY	FY	FY	FY	
1035	Pratt River	7 0	*No motorized access to protect wilderness*	FY	FY	FY	FY		
1035.01	Pratt River	1 0	Wilderness	FY	FY	FY	FY		

NUMBER	NAME	LENGTH (MILES)	REMARKS	CLOSURES					
				SNOW-MOBILES	4-WHEEL MOTOR VEHICLE	2-WHEEL MOTOR VEHICLE	BICYCLES	PACK & SADDLE STOCK	LLAMAS
1036	Franklin Falls	1.0	User conflicts, extra heavy use	FY	FY	FY	FY	FY	FY
1037	Bare Mountain	1.1	Wldness access with no intermediate destination	FY	FY	FY	FY		
1037 01	Bare Mountain	3 2	Wilderness	FY	FY	FY	FY	FY	
1038	Mason Lake	1 8	Wldness access with no intermediate destination	FY	FY	FY	FY	FY	
1038 01	Mason Lake	1.0	Wilderness	FY	FY	FY	FY	FY	
1039	Talapus Lake	2.0	Wldness access with no intermediate destination	FY	FY	FY	FY	FY	
1039.01	Talapus Lake	1.0	Wilderness, extra heavy use	FY	FY	FY	FY	FY	
1039.1	Talapus Cutoff	0 2	Wilderness, extra heavy use	FY	FY	FY	FY	FY	
1040	Mt Catherine Loop	6 0	X-Country Ski Trail	FY					
1040	Olallie Crk	2 3	X-Country Ski Trail	FY					
1041	Hidden Valley	2.5	X-Country Ski Trail	FY					
1314	Gold Creek	0.5	Wldness access with no intermediate destination	FY	FY	FY	FY	FY	
1314.01	Gold Creek	3.5	Wilderness	FY	FY	FY	FY	FY	
1314.2	Gold Creek	1 0	Wilderness	FY	FY	FY	FY	FY	
1344	Kendall Peaks	1.5	User conflict	FY	FY	FY	FY	FY	
1262	Grand Junct.	2 5	X-Country Ski Trail	FY					

North Bend Ranger District
Facility: ROADS

NUMBER	NAME	LENGTH (MILES)	REMARKS	CLOSURES				
				SNOW-MOBILES	4-WHEEL MOTOR VEHICLE	2-WHEEL MOTOR VEHICLE	BICYCLES	PACK & SADDLE STOCK	LLAMAS
5630	Taylor River		Rd 5640 to Marten Creek		Closed to motor vehicles over 40" for FY.				
5630	Taylor River		Marten Creek to road end.		Closed to all motorized vehicles				
5640	Quartz Creek		Rd 5630 to road end.		Closed to motor vehicles over 40".				
5740120	Bear Creek		Rd. 57 to road end		Closed to all motorized vehicles.				
9031	Bandera		M P 3.3 to road end		Closed to all motorized vehicles				
9070	Cold Creek		User conflict during winter Pac-West ski run		--12/01 - 3/31--				
9070110	Hyak Lake		User conflict during winter Pac-West ski run. Closed to all motorized vehicles for season		--12/01 - 3/31--				
9080	Gold Creek		User conflict during winter.		Closed to motorized vehicles when posted.				
9090	Coal Creek		Closed to reduce overuse at Kendall Peak Lakes and Wilderness Closed to all motorized vehicles.		Closed to all motorized vehicles.				

North Bend Ranger District
Facility: AREAS

NUMBER	NAME	LENGTH (MILES)	REMARKS	CLOSURES					
				SNOW-MOBILES	4-WHEEL MOTOR VEHICLE	2-WHEEL MOTOR VEHICLE	BICYCLES	PACK & SADDLE STOCK	LLAMAS
	Alpental, Snoqualmie Summit, Ski Acres, Pacific West Ski Areas		User conflict with developed ski areas and skiers Note Roads 9070 and 9070110 are open during those periods when they are free of snow.	FY	FY	FY			
	Annette Lake Recreation Area		Special area. See specific trail or road for specific closures.						
	Denny Creek Recreation Area		Special area See specific trail or road for specific closures						
	Alpine Lakes Wilderness Area		All backcountry areas within wilderness not covered by specific closures.	FY	FY	FY	FY		
	Cedar River Wtshd		Public access restricted						

Skykomish Ranger District
Facility: TRAILS

NUMBER	NAME	LENGTH (MILES)	REMARKS	CLOSURES					
				SNOW-MOBILES	4-WHEEL MOTOR VEHICLE	2-WHEEL MOTOR VEHICLE	BICYCLES	PACK & SADDLE STOCK	LLAMAS
1050	Quartz Creek	4 4	Wilderness access with no intermediate destination points	FY	FY	FY	FY		
650	Bald Mtn	9 6	Entire trail is in wilderness	FY	FY	FY	FY		
1051	North Fork Skykomish	8 0	Wilderness access with no intermediate destination points.	FY	FY	FY	FY		
1053	Pass Creek	3 6	Entire trail is in wilderness	FY	FY	FY	FY		
1052	Blanca Lake	3.5	Wilderness access with no intermediate destination points. All campsites within 100 feet of lake; limited campsites; sanitation concerns around lakeshore. This is a heavily used trail, very steep, user conflicts, and resource problems at lake.	FY	FY	FY	FY	FY	FY
1054	W Cady Ridge	6 0	Wilderness access with no intermediate destination points.	FY	FY	FY	FY		
1055	Barclay Lake	2 2	Conflict with other users Fragile lakeshore Trail not constructed to accommodate wheeled vehicles	FY	FY	FY	FY	FY	FY
1056	Evergreen	1 5	Not designed or constructed for vehicles wider than 40 inches Trail is not wide enough to accommodate 3 wheel vehicle Closed to ORV and mountain bikes until reconstructed	FY	FY	CUR	CUR		
1057	Meadow Creek	6 5	Wilderness access with no intermediate destination points.	FY	FY	FY	FY		
1058	Tonga Ridge	6 0	Wilderness access with no intermediate destination points.	FY	FY	FY	FY		

NUMBER	NAME	LENGTH (MILES)	REMARKS	CLOSURES					
				SNOW-MOBILES	4-WHEEL MOTOR VEHICLE	2-WHEEL MOTOR VEHICLE	BICYCLES	PACK & SADDLE STOCK	LLAMAS
1058 1	Fisher Lake	2 0	Trail goes through fragile meadows Entirely in wilderness. Designated as hiker only in Alpine Lakes plan	FY	FY	FY	FY	FY	FY
1059	Deception Crk	10 3	Wilderness access with no intermediate destination points. Designated as hiker only trail in Alpine Lakes plan from Deception Ck trailhead to jct of 1059 1	FY	FY	FY	FY		
1059 1	Deception Ck C/O	0.3	Wilderness access with no intermediate destination points	FY	FY	FY	FY		
1059 2	Deception Lks.	1.2	Entire trail in wilderness	FY	FY	FY	FY		
1060	Surprise Creek	4.5	Wilderness access with no intermediate destination points Unsafe for pack & saddle stock due to existing trail structures. Designated as hiker only in Alpine Lakes Plan	FY	FY	FY	FY	FY	FY
1060 1	Trap Pass	0.6	Entire trail in wilderness Designated as hiker only trail	FY	FY	FY	FY	FY	
1061	Tunnel Creek	1.6	Wilderness access with no intermediate destination points Unsafe for pack & saddle stock until trail is reconstructed.	FY	FY	FY	FY	CUR	
1062	Necklace Valley	7.5	Wilderness access with no intermediate destination points Designated as hiker only in Alpine Lakes Plan.	FY	FY	FY	FY	FY	
1063	Surprise Mtn.	1 5	Entire trail in wilderness. Designated as hiker only in Alpine Lakes Plan	FY	FY	FY	FY	FY	
1064	W Fork Foss	6.8	Wilderness access with no intermediate destination points Designated as hiker only in Alpine Lakes Plan	FY	FY	FY	FY	FY	
1064.1	Malachite Lake	0.5	Entire trail in wilderness. Designated as hiker only in Alpine Lakes Plan Limited camping at lake	FY	FY	FY	FY	FY	FY
1066	Lake Clarice	4.0	Entire trail in wilderness	FY	FY	FY	FY		
1066.1	Marmot Lake	0 7	Entire trail in wilderness Fragile lakeshore, resource damage is occurring around lake. Limited camping around lake	FY	FY	FY	FY	FY	FY

NUMBER	NAME	LENGTH (MILES)	REMARKS	CLOSURES					
				SNOW-MOBILES	4-WHEEL MOTOR VEHICLE	2-WHEEL MOTOR VEHICLE	BICYCLES	PACK & SADDLE STOCK	LLAMAS
1067	Johnson Ridge	4 6	Closed to 4 wheel vehicles due to width of trail Closed beyond Scorpion Mtn to 2/3 wheel vehicles and mountain bikes because it enters wilderness User conflicts.	FY	FY			FY	FY
1068	Evans Lake	0 5	Wilderness access with no intermediate destination points. Short trail, under water during high water. Designated as hiker only in Alpine Lakes Plan	FY	FY	FY	FY	FY	FY
1070	Heybrook	1.0	Conflict with other users Heavy use during early and late seasons. Favorite lowland trail	FY	FY	FY	FY	FY	FY
1071	Lake Elizabeth	0.5	Conflict with fishermen and other day users Trail not constructed to accommodate motorized and stock use	FY	FY	FY	FY	FY	FY
1072	Lake Dorothy	0 3	Wilderness access with no intermediate destination points. Designated as hiker only in Alpine Lakes Plan.	FY	FY	FY	FY	FY	
1078	Deception Falls	0 5	Nature trail - user conflict, designed as barrier free trail.	FY	FY	FY	FY	FY	FY
1079	Troublesome Cr	0 5	Nature trail - user conflict	FY	FY	FY	FY	FY	FY
2000	PCNST	22 1	National Scenic Trail Closed by law	FY	FY	FY	FY		

Skykomish Ranger District
Facility: ROADS

NUMBER	NAME	LENGTH (MILES)	REMARKS	CLOSURES					
				SNOW-MOBILES	4-WHEEL MOTOR VEHICLE	2-WHEEL MOTOR VEHICLE	BICYCLES	PACK & SADDLE STOCK	LLAMAS
6022	Heybrook LO	3 8	Hazardous railroad crossing User conflicts, protection of wildlife habitat	FY	FY	FY			
6517	East Eagle	1.5	Closures to protect goat winter range, gated Not maintained for traffic.	FY	FY	FY	FY	FY	FY

Skykomish Ranger District
Facility: AREAS

NUMBER	NAME	LENGTH (MILES)	REMARKS	CLOSURES					
				SNOW-MOBILES	4-WHEEL MOTOR VEHICLE	2-WHEEL MOTOR VEHICLE	BICYCLES	PACK & SADDLE STOCK	LLAMAS
	Stevens Pass		User conflict with developed ski area & skiers Pack & saddle stock and llamas permitted on Pacific Crest Trail only	FY	FY	FY	FY		
	Alpine Lake Wilderness		Wilderness	FY	FY	FY	FY		
	HMJ		Wilderness	FY	FY	FY	FY		
	MT Index Scenic Area		User conflicts and uncompatible with ALW Plan.	FY	FY	FY			

FY - Full Year Closure
CUR - Closed Until Reconstructed

White River Ranger District
Facility: TRAILS

NUMBER	NAME	LENGTH (MILES)	REMARKS	CLOSURES					
				SNOW-MOBILES	4-WHEEL MOTOR VEHICLE	2-WHEEL MOTOR VEHICLE	BICYCLES	PACK & SADDLE STOCK	LLAMAS
1155	Rainier View	2 2	Access to Wilderness	FY	FY	FY	FY		
1156	Bullion Basin	2 2	Access to Pacific Crest Trail & Wilderness with no intermediate destination points.	FY	FY	FY	FY		
1159	Cedar Lake	1 0	Wilderness	FY	FY	FY	FY	FY	
1160	Pyramid Peak	0 7	Accessed from the Pacific Crest Trail	FY	FY	FY	FY		
1162	John Muir N.T	0.8	Campground use	FY	FY	FY	FY	FY	FY
1162 1	Dalles River	0 8	Campground use	FY	FY	FY		FY	FY
1163	Crystal Mtn	9 0	Crystal Mountain Ski Area	FY	FY	FY			
1167	Snoquera Falls	2.4	Designed for foot traffic only	FY	FY	FY	FY	FY	
1169	Buck Creek	0 5	Hiker suspension bridge only	FY	FY	FY		FY	FY
1170	Grass Mountain	6 0	Mixed ownership	FY	FY				
1171	Christoff	3 3	Mixed ownership	FY	FY				
1172	Divide	8 1	Mixed ownership		FY				
1173	Dalles Ridge	1.8	Access to Wilderness with no intermediate destination points	FY	FY	FY			
1174	Doe Falls	0 5	Designated for foot traffic only	FY	FY	FY	FY	FY	
1175	Naches Pass W	0 6	Steep Historic Cliffs	FY	FY	FY	FY	FY	FY
1175 01	Naches Pass W	5.1	Open Rd. 7065 to east						
1176	Greenwater	12.0	Heavily used access to Wilderness	FY	FY	FY	FY		
1177	Summit Lake	0 3	Wilderness access with no intermediate destination points	FY	FY	FY	FY		
1178	Clearwater	10 2	Wilderness. Impassable to horses.	FY	FY	FY	FY		
1178.1	Lyle Lake	2 0	Wilderness	FY	FY	FY	FY		
1179	Carbon	9 4	Wilderness Impassable to horses.	FY	FY	FY	FY		
1179.1	Bearhead	0 8	Wilderness	FY	FY	FY	FY		
1180	Frog Mountain	3.1	Not designed or constructed for vehicles wider than 40 inches.	FY	FY				
1181	Clearwest Peak	0 8	Not designed or constructed for vehicles wider than 40 inches.	FY	FY				
1182	Huckleberry	0.9	Access to National Park, hiker only trail	FY	FY	FY	FY	FY	FY

NUMBER	NAME	LENGTH (MILES)	REMARKS	CLOSURES					
				SNOW-MOBILES	4-WHEEL MOTOR VEHICLE	2-WHEEL MOTOR VEHICLE	BICYCLES	PACK & SADDLE STOCK	LLAMAS
1183	Suntop	8 3	Steep, rutted.	FY	FY				
1184	Noble Knob	7 9	All of 1184 is closed to mountain bikes because of Wilderness	FY	FY	FY	FY		
1185	Lost Lake	5.1	Wilderness	FY	FY	FY	FY		
1186	Maggie Creek	5 0	Wilderness	FY	FY	FY	FY		
1187	Arch Rock	3 1	Wilderness	FY	FY	FY	FY		
1188	Castle Mtn	4.1	Wilderness	FY	FY	FY	FY		
1189	Goat Falls	0 5	Designed for foot traffic only	FY	FY	FY	FY	FY	FY
1191	Norse Peak	5 5	Heavily used access to Wilderness.	FY	FY	FY	FY		
1191 1	Norse Peak	0.8	Heavily used access to Wilderness	FY	FY	FY	FY		
1192	Silver Creek	2 1	Crystal Mountain Ski Area	FY	FY	FY			
1193	Henskin lake	0.7	Crystal Mountain Ski Area	FY	FY	FY			
1194	Skookum Flat	8 2	Foot path that includes steps. (National Scenic Trail)	FY	FY	FY		FY	FY
1195	Colquhoun Peak	0.5	Not designed or constructed for vehicles wider than 40 inches.	FY	FY				
1196	Deep Creek	4.0	Steep grade, not designed or constructed for vehicles wider than 40 inches.	FY	FY	FY			
1197	Ranger Creek	5.8	Steep grade, not designed or constructed for vehicles wider than 40 inches.	FY	FY	FY			

White River Ranger District
Facility: JEEP TRAILS

NUMBER	NAME	LENGTH (MILES)	REMARKS	CLOSURES			
				SNOW-MOBILES	4-WHEELED VEHICLES	MOTOR-CYCLES	MOUNTAIN BIKES
102	1200	4 8	Evans Ck ORV Area - 4 Wheel Drive Trails				
120	1201	1.0	Evans Ck ORV Area - 4 Wheel Drive Trails				
197	1202	0 6	Evans Ck ORV Area - 4 Wheel Drive Trails				

White River Ranger District
Facility: MOTORCYCLE TRAILS

NUMBER	NAME	LENGTH (MILES)	REMARKS	CLOSURES					
				SNOW-MOBILES	4-WHEEL MOTOR VEHICLE	2-WHEEL MOTOR VEHICLE	BICYCLES	PACK & SADDLE STOCK	LLAMAS
1140	1140	2.7	Evans Ck ORV Area - Motorcycle Trails	FY	FY				
1140A	1140 1	1 4	Evans Ck. ORV Area - Motorcycle Trails	FY	FY				
1145	1145	3.0	Evans Ck ORV Area - Motorcycle Trails	FY	FY				
1145A	1145.1	0 1	Evans Ck ORV Area - Motorcycle Trails	FY	FY				
1146	1146	2 9	Evans Ck. ORV Area - Motorcycle Trails	FY	FY				
1147	1147	1 0	Evans Ck ORV Area - Motorcycle Trails	FY	FY				
1148	1148	1 2	Evans Ck ORV Area - Motorcycle Trails	FY	FY				
1150	1150	1.6	Evans Ck ORV Area - Motorcycle Trails	FY	FY				
1151	1151	1 6	Evans Ck ORV Area - Motorcycle Trails	FY	FY				
1153	1153	0 8	Evans Ck. ORV Area - Motorcycle Trails	FY	FY				
1154	1154	1.7	Evans Ck ORV Area - Motorcycle Trails	FY	FY				
1154A	1154 1	0 3	Evans Ck ORV Area - Motorcycle Trails	FY	FY				

White River Ranger District
Facility: JEEP TRAILS

NUMBER	NAME	LENGTH (MILES)	REMARKS	CLOSURES			
				SNOW-MOBILES	4-WHEELED VEHICLES	MOTOR-CYCLES	MOUNTAIN BIKES
102	1200	4 8	Evans Ck ORV Area - 4 Wheel Drive Trails				
120	1201	1 0	Evans Ck ORV Area - 4 Wheel Drive Trails				
197	1202	0 6	Evans Ck ORV Area - 4 Wheel Drive Trails				
198	1203	1 8	Evans Ck ORV Area - 4 Wheel Drive Trails				
196	1203 1	0 5	Evans Ck. ORV Area - 4 Wheel Drive Trails				
199	1204	1.0	Evans Ck ORV Area - 4 Wheel Drive Trails				
311	1205	2 5	Evans Ck ORV Area - 4 Wheel Drive Trails				
110	1205.1	0 5	Evans Ck ORV Area - 4 Wheel Drive Trails				
518	1209	1 0	Evans Ck ORV Area - 4 Wheel Drive Trails				
519	1206	3 0	Evans Ck ORV Area - 4 Wheel Drive Trails				
517	1206 1	0 5	Evans Ck. ORV Area - 4 Wheel Drive Trails				
520	1207	3.0	Evans Ck ORV Area - 4 Wheel Drive Trails				

White River Ranger District
Facility: AREAS

MAP CODE	NAME	REMARKS	CLOSURES				
			SNOW-MOBILES	4-WHEELED VEHICLES		MOTOR-CYCLES	MOUNTAIN BIKES
1	Crystal Mountain Ski Area	Developed ski and summer resort area User conflict and resource damage if ORV's permitted off existing road system Motorized use permitted on existing surfaced roads. Snowmobile use prohibited anywhere within the area, including roads, due to safety hazards and user conflicts.	FY	FY	FY	FY	
2	The Dalles Recreation Residence Tract	Lack of plowed parking areas for snowmobile staging areas is principal problem resulting in safety hazards, conflicts among users and blocked roads.	FY				
3	Deep & Silver Creeks Recre-ation Tracts	Lack of plowed parking areas for snowmobile staging areas is principal problem resulting in safety hazards, conflicts among users and blocked roads	FY				
4	Camp Sheppard Organization Camp	Lack of plowed parking areas for snowmobile staging areas is principal problem resulting in safety hazards, conflict among users and blocked roads.	FY				
5	Buck Creek Organization Camp	Lack of plowed parking areas for snowmobile staging areas is principal problem resulting in safety hazards conflicts among users and blocked roads	FY				
6	Alta Crystal Resort	Lack of plowed parking areas for snowmobile staging areas is principal problem resulting in safety hazards, conflict among users and blocked roads					
7	Huckleberry Camp (Military)	Lack of plowed parking areas for snowmobile staging areas is principal problem resulting in safety hazards, conflicts among users and blocked roads	FY				
	Norse Peak Wilderness	Wilderness	FY	FY	FY	FY	FY
	Clearwater	Wilderness	FY	FY	FY	FY	FY

Appendix I
Watershed Rehabilitation Program

The Watershed Rehabilitation Program will include inventories, project development, implementation and monitoring of needed Watershed Rehabilitation Projects throughout the Forest. Each area listed will be inventoried as a unit for all road related, in-unit and instream Watershed Rehabilitation Projects. Projects will include vegetative slope stabilization, grass seeding, road drainage improvement, sidecast removal, amelioration of soil disturbance and compaction, instream structures and other projects needed to improve or protect watershed resources.

Inventory and project development will be in year one. In year two, project development will continue. Implementation and establishment of photopoints will begin in year two and continue for two to three years. Year three to five will also involve monitoring to determine if measures have been correctly implemented, and to determine additional needs.

The areas listed represent a 10 year plan. Work will begin on each district or working circle area on those areas identified by the cumulative effects ID teams as having major watershed problems.

Average cost for each project area will be $600,000 for the inventory through implementation progress. (Based on 1990 dollars.)

Table I-1
Watershed Rehabilitation Program

Ranger District	Drainages	AZ Number
Mt. Baker	Deer Creek/Higgens Creek	32
	Little Deer Creek	29
	Canyon Creek (Nooksack River drainage)	4
	Finney Creek	30
	South Fork Nooksack River/Wanlick Creek	11
	Upper North Fork Nooksack River	9
	Lower North Fork Nooksack River/Glacier Creek	6
	Bacon	23
	Baker Lake Basin	15
	Anderson Creek	16
	Shannon Creek	15
	Sandy Creek	15
	Dillard Creek	15
	Cascade River	26
	Illabot Creek	26
	White Creek	2
Darrington	Canyon Creek (South Fork Stillaguamish)	40
	North Fork Stillaguamish	37
	South Side Green Mountain - South Fork Stillaguamish through Wiley Creek	46
	Lime and Circle Creeks (Suiattle)	40
	Rat Trap Creek (Suiattle)	39
	Murphy Goodman Brown Creeks (Sauk River)	39
	Dan's Creek	49
	South Fork Sauk	49
	South Side South Fork Stillaguamish (Pilchuck)	46
	North Side South Fork Stillaguamish to Barlow Pass	48
	South Side South Fork Stillaguamish Sweitzer to Black Jack Creeks	48
	Grade Big Tenas (Suiattle)	48
	Conrad-Black-Straight Creeks (Suiattle)	
Skykomish	Beckler River (emphasis on Eagle Creek)	60
	Martin Creek	59
	Silver Creek and Salmon Creek	54
North Bend	Upper Green (including Sunday Creek)	81
	North Green (emphasis McCain and Friday Creek)	82
	South Green (emphasis Rock Creek and Champion Creek)	83
	South Fork Snoqualmie River (emphasis Garcia system)	77
White River	Greenwater (emphasis Pyramid Creek)	84
	West Fork White River	91
	Evans Creek	93

Table 1-2
Capital Investment Projects

Ranger District	Location		Cost
Mt. Baker	Hurst Creek	Slope/Channel Stabilization Risk of debris jam and sluiceout contributing sediment to the North Fork Nooksack.	$25,000
	Sulpher Creek	Slope Stabilization Mass wasting contributing sediment directly into Sulpher Creek and Baker River.	$50,000
	Rockport Water System	Creek Stabilization Protect drinking water source from potential sedimentation.	$20,000
Darrington	Benson Creek	4111 Road	$75,000
	Sapphire	Canyon Creek north side of Green Mountain	$30,000
	Trout Creek		$20,000
	Silver Creek Slide		$14,000
	Rapid River Burn		$18,000
North Bend	Friday Creek Slide		$8,500
	West Creek Slide		$7,000
	Mason Creek Slide		$15,000
White River	5 Creeks Slide		$6,500
	Dallas Burn		$12,000
	Greenwater		$16,000
	FSR# 7550		$14,000
	Dinner Creek Slide		$6,000

Table I-3
Rehabilitation Needs within Heavy Use Recreation Sites

Ranger District	Location	Cost
Skykomish	Blanca Lake	$9,000
	West Fork Foss	$21,200
	Little and Big Heart	$13,700
	Dorothy Lake	$15,000
North Bend	Snow Lake	$13,000
	Melawka Lakes	$23,000
	Talapus Lake	$23,000
	Island Lake Trail	$24,000
	Hansen Creek Mining	$8,000
	Dutch Miller Trail	$5,000
White River	Pyramid Dispersed Recreation Recreation Camp (Greenwater)	$14,000
	Dispersed Recreation Camp in Sec. 20 (Greenwater)	$18,000
	Coplay Lake	$11,000
	Lonesome Lake	$12,000

APPENDIX J
Noxious Weed Control

Project Name	Cost - $ Per Year	Outputs - Acres Per Year
Blue Bind Horse Pasture and Prairie Mountain Road 1/	1,000	30

1/ Same site, ten acres, treated three times a year. Treatment consist of hand pulling tansy ragwort. Estimated to continue for the next 10 years.

APPENDIX K
Special Use Permits Activity Schedule

Special Use Permits - Activity Schedule for Decade 1

Category 1/

Ranger Dist.	100	200	300	400	500	600	700	800	900	Total
Mt. Baker	21	80	0	9	35	40	12	2	8	99
Barrington	8	6	1	5	1	1	3	4	6	35
Skykomish	18	6	2	8	8	12	2	8	12	76
North Bend	42	2	6	8	8	2	6	6	2	82
White River	212	10	0	1	0	2	1	2	70	298
TOTAL	301	32	9	31	52	21	24	22	98	590

1/ Category
100- Recreation
200-Agriculture
300-Community and Public Information
400-Feasibility
500-Industry
600-Energy Generation & Transmission
700-Transportation
800-Communications
900-Water
700-Transportation
800-Communications

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RECORD OF DECISION

MT. BAKER-SNOQUALMIE NATIONAL FOREST

Land and Resource Management Plan

Final Environmental Impact Statement

Mt. Baker-Snoqualmie National Forest

King, Pierce, Skagit, Snohomish, and Whatcom Counties Washington State

USDA Forest Service

June 1990

RECORD OF DECISION

TABLE OF CONTENTS

SECTION I

INTRODUCTION

BASIS AND NEED FOR DECISION

This Record of Decision (ROD) documents my decision and rationale for approving the Land and Resource Management Plan (Forest Plan) for the Mt Baker-Snoqualmie National Forest.

Throughout this ROD, I have used some technical terms which may be foreign to a large segment of the public. In some cases I have been able to explain the term, but in other cases explanations would have made this document unnecessarily long. The reader is encouraged to refer to the final, Environmental Impact Statement (EIS), Glossary which defines terms used in this document.

A draft EIS and proposed Forest Plan were filed with the Environmental Protection Agency (EPA) on January 8, 1988. Additional details on meetings, notices, and documents preceding the final EIS and Forest Plan are available in the final EIS, Appendices A and J.

Authority

The final EIS and Forest Plan were developed under the National Forest Management Act (NFMA) and its implementing regulations (SB CFR 219). The final EIS satisfies requirements of the National Environmental Policy Act of 1969 (NEPA) and Council on Environmental Quality regulations (40 CFR 1500).

The Forest Plan is part of a framework for long-range planning established by the Forest and Rangeland Renewable Resources Planning Act (RPA). The Forest Plan establishes general direction for 10 to 15 years. and must be revised at least every 15 years [SB CFR 219.10(q)]. The Forest Plan replaces previous resource management plans, including the:

Multiple Use Plan, Glacier Ranger District
Multiple Use Plan, Baker River Ranger District
Multiple Use Plan, Darrington Ranger District
Multiple Use Plan, Monte Cristo Ranger District
Multiple Use Plan, Skykomish Ranger District
Multiple Use Plan, North Bend Ranger District
Multiple Use Plan, White River Ranger District
Timber Management Plan, Mt. Baker National Forest
Timber Management Plan, Snoqualmie National Forest
Wilderness Management Plan, Glacier Peak Wilderness
Land Adjustment Plan, Snoqualmie National Forest
Land Adjustment Plan, Mt. Baker National Forest

All outstanding and future permits, contracts, cooperative agreements, and other instruments for occupancy and use of lands included in this Forest Plan will be brought into agreement with this Plan, subject to valid existing rights of the parties involved. This will be done as soon as practicable, and generally within three years of the date of this Plan.

AFFECTED AREA

The Mt. Baker-Snoqualmie National Forest is located on the west slopes of the Cascade Range of northwestern Washington. The planning area includes the entire Forest located in portions of King, Pierce, Skagit, Snohomish, and Whatcom counties.

The Forest is currently headquartered in Seattle, but will relocate to Mountlake Terrace in the summer of 1990. Ranger District Offices are in Sedro Wooley, Darrington, Skykomish, North Bend, and Enumclaw.

PUBLIC INVOLVEMENT

Pursuant to the intent of NFMA, the Mt Baker-Snoqualmie National Forest conducted a large-scale public involvement program Format activities included a Notice of Intent to Prepare an EIS printed, in the Federal Register, a format public comment period on draft documents, and many meetings, presentations, and information distributions. In addition to formal activities, Forest employees informally explained the purpose of the Forest Plan and how to effectively participate in the process. Special public involvement activities were also conducted for the Hydrologic Cumulative Effects analysis process (See final EIS, Appendix H and J).

On the basis of public response received on the draft EIS, the Forest conducted new Wild and Scenic Rivers eligibility and suitability studies, modified some alternatives, and developed two new alternatives. The Forest also performed additional analyses and changed some management emphases in the Preferred Alternative. My staff and I were briefed on the public comments, the final EIS, and the Forests changes to the draft Forest Plan. I used this information to make my decision.

Issues

Land and resource management planning began with identification of issues and concerns through contacts with local civic and community organizations: individuals, local, state and federal agencies: private industries; adjacent landowners: various interest groups, American Indian tribes, and Forest Service employees. Public comments and management concerns were analyzed, and ten major issues were identified. Between the draft EIS and the final EIS, the ten issues were revisited and adjustments made based on responses to the draft EIS. The primary adjustments were to more clearly describe the issues, combine issues that were closely linked, and develop separate issues where a facet of a previous issue had become more visible and important to the public. As a result of these adjustments, nine issues which are described in detail in the final EIS, Chapter 1 and Forest Plan, Chapter III are specifically addressed in this ROD in Section III, Rationale for the Decisions. The issues deal with:

- Development versus Nondevelopment of the Forest
- Timber Supply
- Old Growth Ecosystems and Fish/Wildlife/Plant Diversity
- American Indian Religious and Cultural Use
- Recreation Opportunities
- Wild and Scenic Rivers
- Management of Municipal Watersheds
- Effects of Timber Management and Related Activities
- Adjacent and Intermingled Lands

WHAT THE FOREST PLAN IS, AND IS NOT

As a tong-range strategy for managing the Mt. Baker-Snoqualmie National Forest, the Forest Plan and accompanying final EIS are programmatic. The Forest Plan provides management direction to produce goods, services and uses in a way that maximizes long-term net public benefits. It is not a plan for day-to-day administrative activities of the Forest; it does not address such matters as vehicle and equipment management or organizational structure. The Forest Plan emphasizes application of various management practices to achieve multiple-use goals and objectives in an environmentally sound and economically efficient manner

It is vital for the reviewer to understand what the Forest Plan does not do: it does NOT:

- Maximize any single resource use or public service;
- Propose the use of any resource beyond the physical or biological capability of the land to sustain that use;
- Propose management of any resource based solely on values in the market place.

The Forest Plan does not emphasize site-specific decisions, but through Standards and Guidelines and Management Area direction, it significantly influences design, execution, and monitoring of site-specific activities (see Forest Plan, Chapter IV).

Standards and Guidelines are principles specifying conditions or levels of environmental quality to be achieved. They are the rules that govern our resource management practices and are the key to successful implementation of the plan. Standards and Guidelines will not be violated to achieve annual targets. A Management Area consists of one or more areas of land which have similar management objectives and a common management prescription.

SECTION II

DECISIONS

SUMMARY OF THE DECISION

My decision is to approve, adopt, and implement the Forest Plan which accompanies the final EIS. This decision is referred to as Alternative J (Preferred Alternative) for management of the Mt. Baker-Snoqualmie National Forest. Alternative J is a modification of the draft EIS Preferred Alternative and is a response to public comments and updated information and methodologies. Differences between the draft Preferred Alternative and final Preferred Alternative include more acres allocated to dispersed recreation opportunities: more acres included in Spotted Owl Habitat Areas; more protection for water resources; more acres allocated to scenic viewshed protection; recommendations for increased Wild and Scenic River designation; recommendation for increased numbers of Special Areas; protection of more old-growth; fewer acres allocated to timber production; and more acres maintained in an undeveloped condition.

The Forest Plan establishes multiple-use goals and desired future conditions. These are discussed in detail in the Forest Plan, Chapter IV.

Although the allowable sale quantity (ASQ) has dropped from the level in the DEIS Preferred Alternative, I have decided that a Supplement to the DEIS is not necessary for a variety of reasons. The rationale for this decision is based on my review of the staff paper discussing the socioeconomic effects of the reduced ASQ, all of which are disclosed in the ROD and FEIS, Chapter IV. The staff paper also reviewed the CEQ regulations requiring the issuance of a supplement. This rationale is set forth below.

First, the effects were carefully analyzed utilizing the most current available data and are fully disclosed in the planning documents. Based on this information, I conclude that the reduction in the ASQ will not have a significant effect on the human environment. Further, the reduction was based on response to the public comments on the Draft EIS and updated information and methodologies, which came to light after the Draft was released.

Second, I reviewed the CEQ Regulations. I find that the changes made between the Draft Preferred Alternative and the Alternative Selected in this Record of Decision are not substantial in terms of the negative impacts on the human environment. Rather, the environmental impacts are lessened and the Selected Alternative provides for recovery from the environmental effects of past development activities. I do not project substantially different environmental impacts from the Preferred Alternative in the Draft EIS; the environmental impacts will occur at lower intensities, less frequently, and will be mitigated more carefully.

Third, the environmental circumstances today are not significantly different than at the time of the Draft EIS. The areas in identified in the Plan as being in an environmentally unsatisfactory condition were largely in that condition when the Draft EIS was issued. I do not project the Selected Alternative will significantly change the circumstances on these lands in the near future.

Fourth, no significantly new information was used in developing the Selected Alternative. The Forest simply updated existing information and methodologies. This resulted in applying the information differently in response to public comments received on the Draft EIS.

As set forth in this Record of Decision and the FEIS, Chapter IV, I have given the environmental consequences of this Forest Plan the “hard look” required by the U.S. Supreme Court and am making an informed decision. Further, my decision not to issue a Supplement to the Draft EIS is based on the foregoing rationale, which is also set forth in the Staff paper in the Planning Record, and is not an arbitrary and capricious decision. Agency decisions made in this manner are accorded the most extreme deference by the courts

ELEMENTS OF THE DECISION

The program decisions I make here are accompanied by the necessary supporting environmental analysis and disclosure required by law and regulation. Additional environmental analysis for these decisions is neither expected nor required. These decisions may be revisited or reassessed during implementation, but they do not have to be. These decisions establish or identify the following:

- Forest-wide goals and objectives.

- Forest-wide desired future condition.
- Forest-wide Standards and Guidelines.
- Management Area goals and location.
- Management Area desired future condition.
- Management Area Standards and Guidelines.
- Monitoring program and evaluation process.
- Lands suitable and selected for timber harvesting.
- Forest-wide allowable sale quantity.
- Location of additional Special Areas (SA'sJ.
- Incorporation of the Alpine Lakes Area Land Management Plan and the Skagit Wild and Scenic River Management Plan.

Intended Activities

I also intend to carry out certain scheduled activities. Unlike the programmatic decisions listed above, these are not accompanied by all, supporting NEPA analysis and disclosure required by law and regulation. Additional environmental analysis will be done during Forest Plan implementation. These proposed and probable activities are displayed in activity schedules in the Forest Plan, Appendices A through K.

It is important to note that all proposals in the Forest Plan can be accomplished from physical, biological, economic, social, and legal perspectives. It is not certain that these proposals will be accomplished. First, outputs specified in the Forest Plan are estimates and projections based on available inventory data and assumptions.

Second, all activities, many of which are interdependent, may be affected by annual budgets. The Forest Plan is implemented through various site-specific projects, such as timber sales, wildlife habitat improvements, and campground development. Budget allocations for any given year covered by the Forest Plan may cause projects to be rescheduled. However, the goals and land use allocations described in the Forest Plan would not change unless the Forest Plan itself were changed. If actual budgets are significantly different from those projected over a period of several years, the Forest Plan may have to be amended and, consequently, would reflect different outputs and environmental conditions. The significance of changes related to budgets or other factors is determined in the context of the particular circumstances.

During implementation, when the various projects are designed, site-specific analyses are performed. These analyses will be disclosed in an environmental document and may lead to an amendment or revision of the Forest Plan. Any resulting documents are to be tiered to the final EIS for the Forest Plan, pursuant to 40 CFR 1508.28.

Recommendations

I also am recommending certain decisions to others with the authority to make those final decisions. Like my final decisions, recommendations are accompanied by all supporting NEPA analysis and disclosure required by law and regulation. However, authority to make a final decision on these issues is not mine. If others with higher authority accept the recommendation, the resulting final decision will not ordinarily be revisited or reassessed by the Forest Service during implementation of the Forest Plan.

My recommendations include identification of:

- Location of additions to the Research Natural Area system.
- Additions to the National Wild and Scenic Rivers System.

SECTION III

RATIONALE FOR THE DECISIONS

I approached my decisions by first looking at major issues and public comments on them and then comparing the responses of various alternatives to the issues. I present my rationale for these decisions in the same manner below.

During the period between the draft and final EIS, Mt. Baker-Snoqualmie National Forest employees held numerous meetings with interested members of the public. Forest employees used the information gathered at these meetings along with written responses to the draft EIS to develop the alternatives presented in the final EIS. Information gathered from the meetings and written responses were also used to develop recommendations to me.

In arriving at these decisions, my staff and I were thoroughly briefed on the Plan and alternatives presented in the FEIS. I gave particular attention to how the selected alternative responded to public issues and management concerns. In my judgment, Alternative J maximizes net public benefits and best responds to the issues. It balances adequate protection of the environment with production of both monetary and non-monetary resource outputs.

RATIONALE FOR RESOLVING EACH ISSUE

The response of each alternative to the nine major issues was a primary consideration in choosing the selected alternative. The alternatives and their resolution of issues are discussed below, and are disclosed in greater detail in the final EIS, Chapters I and II.

ISSUE 1: Development versus Nondevelopment of the Forest

Two major questions emerged in assessing this issue:

- How should the released, “roadless” areas as identified in the Roadless Area Review and Evaluation II (RARE II) be allocated and how will the resources be managed?

- At what rate should the Forest Service enter those “roadless” areas that are allocated for development?

Portions of all twenty-five roadless areas identified in the second Roadless Area Review and Evaluation (RARE II) remain unroaded at this time. Of the 785,000 acres identified as roadless in RARE II, 341,000 acres were added to the National Wilderness Preservation System by the 1984 Washington State Wilderness Act. Approximately 403,000 acres of the remaining roadless acres outside of Wilderness on the Mt Baker-Snoqualmie National Forest are currently unroaded. The other 42,000 acres of RARE II roadless areas no longer remain roadless as a result of development activities including timber harvesting and road building since 1984. Boundaries and current acreages of roadless areas are displayed in the final EIS, Appendix C.

The allocation and management of unroaded areas remains a highly controversial issue. These areas equal approximately 51 percent of the roadless areas inventoried in RARE II, and 23 percent of the net Forest acres. These roadless lands were released from wilderness consideration by the 1984 Act. However, the legislation did not settle the issue.

The commercial forest land within the roadless areas was included in the calculation of the annual potential yield in the amended Timber Management Plans. However, timber on these lands was not available for harvest from 1972

until passage of the Washington State Wilderness Act in 1984. As a result, harvest levels between 1972 and 1984 were based on a larger land base than was actually available for harvest. Thus, for more than ten years, timber harvest on the Forest was concentrated on about 1/2 of the land base used to determine the annual potential yield in the Timber Management Plans. Approximately 155,700 acres, or 39 percent, of the unroaded areas are tentatively suitable for timber production.

In response to the draft EIS, some organizations and individuals referred to the roadless areas, but many more focused less on the RARE II remnants and more on the general issue of whether the remaining unroaded and undeveloped lands on the Forest should be managed for commodity production/roaded recreation or remain undeveloped. This key issue encompasses facets of nearly all the other Issues, Concerns, and Opportunities.

Some elected officials, State agencies, environmental groups, many hikers, some Indian Tribes, and wildlife organizations want the unroaded areas to remain undeveloped and unroaded. Their concerns include: protection of wildlife habitat and old growth (especially low-elevation old growth), providing non-motorized recreation opportunities, and protection of water, soil, cultural, and scenic values. They also want to maintain the option of future consideration for wilderness. A number of individuals and groups support a proposal for Sackcountry Areas, roughly corresponding to five roadless areas.

Timber companies, trade organizations, energy-related industries, and some individuals feel that the 1984 Washington State Wilderness Act “released” these lands for multiple uses. They are concerned that nondevelopment will limit the amount of timber and minerals available for use, affect the local and regional economy, and lead to future wilderness designation. Many people felt there is a need for more motorized access to the roadless areas, to encourage recreation. Individuals, primarily living outside the Seattle metropolitan area, are concerned about saving timber jobs.

The Forest evaluated a range of alternatives that would maintain various amounts of the areas as undeveloped. The range of roadless area assigned to unroaded allocations in the alternatives is from 54 percent to 93 percent. Alternatives with lesser amounts of roadless areas assigned to unroaded allocations were not considered reasonable for several reasons. First, fifty-five of the parcels are less than 1,000 acres in size and are generally “slivers” that remained after Congress established the wilderness boundaries in the Washington Wilderness Act of 1984. Secondly, the general character of many of the roadless parcels can be described as high elevation, steep terrain, with difficult or impossible development opportunities. Also, as stated above, only 155,700 acres of tentatively suited timber lands occur in the roadless areas. Finally, significant amounts of roadless areas are needed to provide wildlife habitat to meet management requirements.

It is my decision to proceed with implementation of the selected alternative which directs that approximately 77 percent (309,000 acres) of inventoried roadless area acres be maintained in a roadless character. The remaining approximately 23 percent (94,000 acres) are allocated to various levels of development involving roading and production of both market and nonmarket outputs to meet the demands for a broad range of Forest goods and services. Only 15% of the tentatively suitable lands are allocated to non-development.

The acres to be managed for multiple uses in an unroaded condition increased about 50,000 acres between the draft and final EIS. The increase is the net result of several changes in allocations made between the draft and final EIS. While some areas allocated to development in the draft EIS preferred alternative are allocated to unroaded uses in the final EIS preferred alternative, there are also areas that have been changed from unroaded allocations in the draft EIS to development allocations in the final EIS. Overall in the selected alternative, net increases occurred in allocations to unroaded uses, including: dispersed recreation uses, spotted owl habitat, special areas (botanic,

scenic), pileated woodpecker and pine marten habitat, mountain goat habitat, and mountain hemlock zone. Many of the changes in allocations involved roadless areas. The multiplicity of uses accommodated in these unroaded allocations cannot be provided for in designated wilderness. Uses that may occur in the unroaded areas that cannot occur in wilderness include structural wildlife habitat improvements; recreation facility developments such as trail shelters, sanitary facilities, and primitive camp sites; and under certain conditions, special uses such as small hydroelectric facilities and electronic sites. In addition, the use of mechanical equipment will be allowed in the maintenance and administration of lands in the unroaded allocations.

Management of the roadless areas on the Forest will proceed according to the land use allocation. Approximately 20,000 acres of the 94,000 acres of roadless area allocated to development will be affected by development (including timber sales) in the next 10 years and no longer meet the definition of roadless as used in RARE II. By the end of fifteen years. an additional 12,000 acres of roadless areas will be affected by development. Proposed development activities scheduled for roadless areas will receive appropriate environmental analysis and documentation before they are implemented

I make this decision with the firm belief that it provides an equitable balance between development and preservation of roadless areas. Land use allocations are displayed on the Forest Plan Map and additional discussion of roadless areas can be found in Chapter II and Appendix C of the final EIS. In addition, all of the roadless areas, whether or not they are allocated to roadless or developed uses, will be managed for a variety of uses and not as wilderness.

ISSUE 2: Timber Supply

This issue includes the following major questions:

- What is the capability arid suitability of the Mt. Baker-Snoqualmie National Forest to produce timber?

- What should the timber harvest level be considering all, resources on the forest and their relationship to social, economic, and environmental factors including local, regional, and national demands?

Related issues and concerns are:

- How the National Forest timber supply affects jobs and the local and regional economy?
- What is the rate of harvest of old growth? (See discussion on page ROD-12)
- What is the rate of entry into the unroaded areas? (See previous section)
- What are the social and environmental effects?
- How will wood residue be utilized?

The 1953 Timber Management Plans address timber volume on the basis of board-foot measure. As amended in 1984 in response to the Washington State Wilderness Act, the Timber Management Plans projected an annual potential yield of 203.8 million board feet (MMBF). This included 7 PJWBF of salvage material. These terms are defined in the final EIS, Glossary. Potential yield (PY) in the 1953 Plans was calculated using different assumptions, land base, yield tables, utilization standards, etc. than used to calculate ASQ in this Forest Plan The two terms are not directly comparable. PY is most comparable to Timber Sale Program Quantity (TSPQ) because both PY and TSPQ include salvage (dead) volume; ASQ includes only net live (green) volume. The potential yield in the amended Timber Management Plans assumed that all tentatively suited lands in the roadless areas not included

in the wildernesses would be available for timber production. Actual annual harvest of chargeable timber averaged 230 M~BF for the period of 1979 to 1988. The draft Forest Plan proposed an average annual ASQ of 34.8 million cubic feet (MMCF) (170 MMBF).

Many of the issues raised and subjects discussed during the planning process affect ASQ. Some of these issues include: land selected as suitable for timber production; silvicultural practices; cumulative effects on other resources - especially watersheds, fish and wildlife; achieving other resource objectives; and effects on jobs and local communities.

Public opinion is divided as to appropriate sale level for the Forest. Support for maintaining or increasing the timber supply comes from timber industry (management & employees). some elected officials, some community leaders, businesses dependent on the timber industry, county school boards, and economic development agencies. Many individuals want the timber supply to be maintained, primarily to protect jobs. Many individuals, environmentalists, some recreation users, wildlife and some hunting interests, fishing organizations, Indian tribes, some community leaders, and State Wildlife agencies strongly support restricting or reducing the timber harvest, especially in low-elevation old growth Their concerns include protecting roadless areas from development, and the effects of timber harvest and related activities on wildlife, fisheries, water quality, soils, scenery, and recreation opportunities.

The Forest's five-county zone of influence including Whatcom, Skagit, Snohomish, King, and Pierce Counties, Washington contains a very large population (2.6 million) and a highly diversified economy. These five counties account for over 60 percent of all wage and salary employment in the State of Washington. Employment in the forestry and lumber and wood products manufacturing sectors account for less than one and one-half percent of employment in the five counties. By individual counties, Skagit County had over four percent of its wage and salary jobs in these sectors in 1988. Whatcom, Pierce, and Snohomish Counties had between two and three percent of their employment in the forestry and lumber and wood products manufacturing sectors. King County employment in those sectors was less than one percent of total employment in 1988. The forest products industry has already experienced major changes over the last decade. A shakeout of marginal mills plus extensive modernization, coupled with new products and expanding markets have led to high levels of wood products in the past three years, but with about 25 percent fewer employees than required for similar output levels in the late 1970's. This trend in employment reduction is expected to continue, as new processes and technologies emerge in wood products manufacturing, regardless of the ASQ set by this Plan.

The Forest considered alternatives with 1st-decade average annual ASQ's ranging from 13.8 MMCF (65 MMBF) to 41.7MMCF (204 MMBF) in the final EIS. No alternative was developed with an annual average ASQ above 41.7 MMCF (204 MMBF) since that level is achieved in the No Change Alternative which does not incorporate all the NFMA management requirements and therefore could not be implemented. For details of the timber management program for the various alternatives see FEIS Chapter II, page 11-75. The draft EIS considered alternatives with 1st-decade average annual ASQ's ranging from 16.1 MMCF (79 MMBF) to 41.7 MMCF (204 MMBF). The lowering of the range of ASQ levels considered is due in large part to changes in management requirements and methods of meeting management requirements made between the DEIS and FEIS, to be responsive to comments received on the DEIS. Management requirements that were changed between the DEIS and FEIS included increasing the northern spotted owl habitat requirements from 1,000 acres per Spotted Owl Habitat Area to 2,200 acres per Spotted Owl Habitat Area. Also the amount of habitat set aside for mountain goat was increased between the DEIS and FEIS to correct an error made in the DEIS. Another major change in ASQ resulted from a change in the method of meeting the water quality management requirement. As a result of review and comment on the DEIS, the Forest revisited the methods used to meet the water quality management requirement. It was apparent the methods used in the DEIS

would not assure compliance with the various water quality laws. To insure compliance, the Forest developed and implemented a hydrologic cumulative effects analysis process. See Chapter II of the PUS, Chapter III of Appendix B of the FEIS, and Appendix H of the FEIS for a full discussion of management requirements and the effects of meeting those requirements.

Two alternatives in the draft EIS proposed to manage timber on harvest schedules that would depart from nondeclining flow. Public comments generally opposed departure schedules because the public perceived these alternatives could pose unacceptable risks of adverse environmental impacts and not provide timber supplies needed to sustain local economies over the long-term. A departure alternative was also believed to be inappropriate since the Forest has been in a “de facto” departure mode during most of the 1970’s and early 80’s. This was the result of riot being able to harvest timber from roadless areas but basing harvest levels as though those areas would eventually become available.

After considering all factors, it is my decision to implement the selected alternative with a 1st-decade ASQ of 22.4 MMCF (108 MMBF) annually. Tree species offered for sale will be mixed conifer and hardwoods. The selected alternative manages timber on a nondeclining flow harvest schedule. I selected this harvest level because it reflects a balance between jobs, demand for wood products, income to the Treasury, and protection of the various nonmarket values desired by Forest users.

ASQ will be monitored and controlled on the basis of cubic-foot measure for the Forest Plan. Board-foot volume associated with the cubic-foot volume (i.e., board foot/cubic foot conversion ratio) varies from stand to stand depending on the size and form of the trees. Both board-foot and cubic-foot measure are displayed here, since board-foot has been and continues to be the customary unit of measure. The stands expected to be harvested in the plan period will yield approximately 108 M~BF per year associated with the ASQ of 22.4 MMCF. This will be used as a goal in the early part of the plan period; the transition from use of board-foot measure to use of cubic-foot measure should be made during this plan period.

The annual ASQ of 22.4 MMCF (108 MMBF) of timber under this plan is the average upper limit of chargeable wood to be sold from suitable Forest land during the first decade of the planning period. It is not an actual proposal for timber sale offerings. The annual timber sale offerings also include non-chargeable material and depend on budget appropriations, multiple-use objectives and market conditions.

Chargeable volume, ASQ, is comprised of categories of timber which were used in making growth and yield predictions during development of the plan. Chargeable volume, ASQ, is from those lands designated as being suitable for timber production. Other non-chargeable volume, not used in yield calculations because it did not meet Regional utilization standards, or standards for soundness, or is mortality salvage, or because it is harvested from lands not suitable for timber production, may also be sold as part of the annual Timber Sale Program Quantity (TSPQ). TSPQ is made up of the ASQ plus those non-chargeable items listed above. Standards and Guidelines for the Management Areas allow for limited situations (such as catastrophic loss) when volume will be removed from lands not suitable for timber production (e.g. salvage from a Special Area). Generally, this is only done when removal of the timber would promote the goals and desired future condition of the management area.

To achieve the TSPQ, yearly targets are developed. These yearly timber targets can be higher or lower than the average annual ASQ, provided the chargeable volume does not cumulatively exceed the ASQ level set by the Plan over the first decade.

In addition to the ASQ, I estimate that 3.1 MMCF (14 MMBF) of mortality salvage and material unsuitable for sawlogs will be offered annually during the 1st decade. This material includes the approximate historic level of salvage, firewood, posts and poles, as well as a small amount of cull logs and chips.

Timber will be managed on about 348,000 acres, of which about 49% will be managed on long rotations of 100 years or more, to meet nontimber resource objectives. Approximately 2,865 acres are projected to be clearcut annually. Precommercial thinning is scheduled to occur on approximately 1,000 acres annually. Commercial thinning is scheduled to occur on about 200 acres annually to improve stand density and species mix. These terms are defined in the final EIS, Glossary. Approximately 6.1 MMCF (29 MMBF), or 27 percent of the average annual ASQ depends on the application of projected intensive management practices, including thinning, fertilization, and planting of genetically superior seedlings. If these intensive management practices are not carried out, because of inadequate funding or other scheduling priorities, the ASQ will be reduced and the Plan will be amended. The ASQ includes volume scheduled from inventoried roadless areas and from elsewhere on the Forest. If the volume scheduled from the inventoried roadless areas cannot be achieved, that volume will not be replaced by volume scheduled elsewhere. Average annual volume scheduled from inventoried roadless areas is estimated to be 6.3 MMCF (30 MMBF), which accounts for 28 percent of the total ASQ. A full discussion of the timber management program for the selected alternative is presented in the Forest Plan, Chapter 4, page 4-48.

In the selected alternative, approximately 32,000 acres are allocated to the mountain hemlock zone management area. It is my decision to conduct a study in that management area to determine what portion, if any, of the mountain hemlock zone can be successfully reforested and thus returned to the tentatively suitable land base. To carry out this study, a total of 250 acres of this management area will be harvested (in 25 plots of approximately equal size) to test various silvicultural systems. This study will be completed within 15 years.

Even-aged management will be the primary silvicultural system, because it is well suited, ecologically and economically, for timber management of the commercial tree species found in the major species zones of the Forest. Those zones are: 1) Western hemlock; 2) Pacific silver fir; and 3) Mountain hemlock and subalpine fir. All of the ASQ assumes the use of even-aged silvicultural practices (Final EIS, Appendix F, Selection of Harvest Cutting Method). Uneven-aged silviculture practices will be considered in the project planning process as individual stands are investigated for harvest opportunities. Actual selection of harvest methods - clearcut, selection or shelterwood - will be made at the project level, based on site-specific conditions and Management Area objectives. Factors to be considered in choosing togging methods include cost effectiveness, protecting inherent site productivity, and satisfying management objectives for a stand.

The Forest is in the midst of completing an updated vegetation inventory. Preliminary data for old growth is expected to be available for use in late 1990 or early 1991. Final data and information for managed stands, mature and over-mature stands, and the vegetative resource inventory is scheduled to be available in 1995. A comparison will be made of the timber stand information used in the forest planning process (based on a 1976 inventory) and the information from the new inventory including the preliminary data to determine if the Plan's ASQ can be achieved. If differences between the inventories are judged to be significant by the Forest Supervisor, adjustments may be made to the projected ASQ and a Plan amendment issued.

ISSUE 3: Old-Growth Ecosystems and Diversity of Plant and Animal Communities

This issue can be addressed by answering the question:

> What management direction is needed and where should action be taken that will maintain and/or enhance old growth and diversity to meet multiple use objectives?

The response to this question is broken into two separate sections: Old Growth Ecosystems and Diversity of Plant and Animal Communities.

Old Growth Ecosystems

The future of old-growth is a major issue on the Mt. Baker-Snoqualmie National Forest and there is growing national interest. In the past, much of the focus for this issue has been spotted-owl habitat; it now has a much wider scope. Its value in providing biological diversity, wildlife and fisheries habitat, recreation, aesthetics, water quality, as well as industrial raw material received considerable public comment in response to the draft US.

Environmental groups, wildlife societies and organizations, many individuals, Indian Tribes, and State wildlife agencies want the remaining old-growth forests protected. Old growth is also important to American Indians for religious and cultural purposes.

Timber company representatives, industry trade associations, some State and local agencies, and many individuals feel these resources are an important contribution to timber production and maintaining local economies. Some feel that converting these stands into second growth timber is important for increasing long-term forest productivity.

The issue is more complex because of the lack of a widely accepted definition of old growth. Old-growth stands can be defined by age, by stand condition, by diameter, by ecological characteristics, by a combination of some or all of those factors. The most recent timber inventory completed on the Mt. Baker-Snoqualmie in 1976 was based on tree type and size.

Recently, the public and scientific community have focused on a definition of old growth based on the structural components of the stand. Several of the structural components are of key importance in an old-growth forest, including: individual, live, large, dead, down logs in streams: standing dead trees or snags; large, dead, down logs on the land: and multi-storied canopy of mixed species. These structural features are unique to an old-growth forest ecosystem, setting it apart from young growth and, especially from managed stands. Most of the distinctive compositional and functional features of old-growth forests can be related to these structural features. These structural components make possible much of the uniqueness of the old-growth forest in terms of flora and fauna (composition) and the way in which energy and nutrients are cycled (function).

There are a number of definitions of old growth. Franklin et al. (1988) establishes numerous characteristics to define old growth; the stand characteristics vary by species. The Pacific Northwest Regional Guide (1984) defines old growth, also varying by species. Neither of these definitions could be used on this Forest when the planning process began; the 1976 inventory did not include enough information about understory and dead and down logs to allow a direct translation into either the definition from the Regional Guide or Franklin et al. (1986).

For the purpose of the draft and final EIS, the definition of old growth on the Mt. Baker-Snoqualmie National Forest is designed to use the tree type and size information available in the 1976 vegetation inventory. The definition is: "stands containing mature and large sawtimber, with trees that are at least 21 inches in diameter at breast height (4-1/2 feet from the ground)." The mean age for mature large sawtimber on the Mt. Baker National Forest is 241 years; on the Snoqualmie National Forest it averages 267 years.

The most recent (1976) vegetation inventory for the Forest, updated to reflect harvest through 1988, indicates there are about 643,500 acres of old growth as defined above within the Forest. Approximately 232,500 acres (36%) are located in wilderness and not available for harvest. An additional 134,400 acres (21%) outside wilderness are considered unsuited for timber production. These lands are either withdrawn from timber production or are unsuited for timber production because of highly unstable soils and difficulty in reforesting the area.

In the final EIS, the Forest considered alternatives that protected from 411,000 to 563,000 acres of the inventoried old-growth acres, with 1st-decade harvests of old-growth ranging from approximately 42,000 acres to 12,000 acres. The amount of protected old growth includes the 232,500 acres of old growth in wilderness, and the 134,400 acres not suitable for timber production because of potential irretrievable or irreversible resource damage (a total of 366.900 acres). The remaining protected old growth includes that needed to meet wildlife and riparian management requirements (MR's) and allocations for other resource objectives that do not allow timber production.

In the selected alternative, about 503,000 acres of old growth are maintained in allocations not suitable for timber production, including 232,500 acres in designated wilderness, and 134,400 acres not suitable for timber production because of potential irretrievable or irreversible resource damage. Approximately 135,800 acres (21%) of old growth are not suited for timber production because of resource allocations such as wildlife habitat and riparian MR's, and unroaded recreation allocations. The remaining 140,800 acres (22%) are allocated to prescriptions allowing timber production.

The draft Forest Plan proposed to maintain approximately 337.000 acres of the 1976 inventory of old growth in allocations not suitable for timber production (e.g., wilderness, unstable land, regeneration difficulty, dispersed recreation, special areas, spotted owl habitat, mountain goat habitat, Research Natural Areas. etc.). No acres were allocated specifically for old-growth management for amenity value. Of the 196,000 acres of old growth included in the suitable land base, 43,794 acres would have been harvested in the 1st decade.

Franklin, J.F., K. Cromack, Jr., W. Denison, A. McKee, C. Maser, J. Sedell, F. Swanson, and G. Juday. 1986. Interim definitions for old-growth Douglas-fir and mixed conifer forests in the Pacific Northwest and California. USDA Forest Service, Research Note PNW-447.

After considering public comments about old-growth values, I have selected Alternative J, which maintains approximately 503,000 acres of old growth in allocations not suitable for timber production (e.g. dispersed recreation, special areas, spotted owl habitat, mountain goat habitat, Research Natural Areas, etc.) No areas are specifically allocated for old-growth management for amenity values

Old-growth and mature forest inventories are being updated on the Mt. Baker- Snoqualmie as quickly as possible, to reflect new concepts of older forest values and importance The new inventory, is structured to allow the use of a variety of definitions of old growth based on a variety of vegetation characteristics (not just size of trees, as required by the current inventory) to determine the acres of old growth. With the completion of the new inventory, the Forest will use the Regional Guide definition of old growth and compare the old growth information in the Plan with the new old growth information. If necessary, adjustments to allocations and standards and guidelines related to old growth will be made by amendment to the Plan.

As more complete information about old-growth on the Mt. Baker-Snoqualmie becomes available, it will be shared with the public. My current decision about the amount of old-growth to maintain for the future could be reviewed in light of the updated inventory information. At the end of the 1st decade, over 525,000 acres of the 1976 inventory old-growth is expected to remain.

Based on the information I have available today, the 503,000 acres of widely dispersed and varied old-growth stands in allocations not suited for timber production should adequately preserve representative old-growth forest types on the Mt. Baker-Snoqualmie in the future. While I have chosen to manage some areas containing old growth on extended rotations to meet a variety of resource objectives, I have not elected to “manage” old-growth stands solely for their intrinsic values by extending rotations because of the silvicultural uncertainties about this technique. Some limited trials may be conducted to determine whether silvicultural treatments can be used to hasten development of old-growth characteristics in some of the Forest’s younger stands. Additional information about old growth on the Forest can be found in the final US. Chapter III, “Old Growth” and Chapter IV, “Diversity, Vegetation.”

Diversity of Plant and Animal Communities

A public issue and management concern related to the old-growth issue is the maintenance and/or enhancement of diversity of plant and animal communities within the objectives of multiple use management. There is increasing recognition within the scientific community that ecosystem diversity is important, this issue also received considerable public comment. This issue focuses not only on the desirability of maintaining wildlife populations, but on levels of management needed to provide both the quantity and adequate balance of habitats for various species.

The Forest provides habitat for a variety of wildlife species, including four Federally listed threatened and endangered species. The variety of elevation, aspect, soil depth, climate, and vegetation create a naturally diverse mosaic of habitats within the Forest boundary. An important facet of this issue is the distribution and protection of suitable habitat to ensure species viability through genetic exchange.

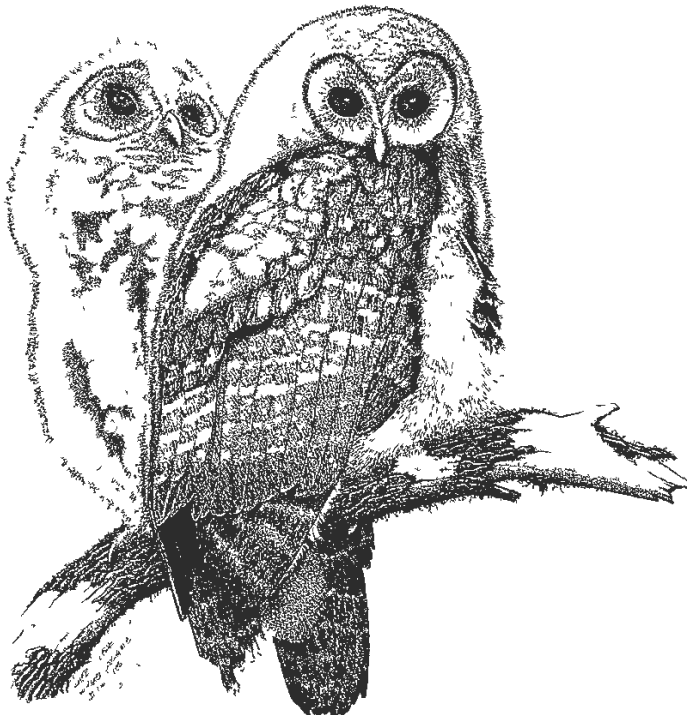
Many respondents to the draft EIS believed national forest management should focus on wildlife. State Department of Wildlife officials, individuals, environmentalists, hunters, and recreationists have expressed concern for the population and habitat needs of all wildlife species, including big game such as deer, elk, and mountain goat. Many other individuals and timber industry groups are concerned that the Forest is unnecessarily setting aside large amounts of forest land for species that may be more adaptable than thought. Many comments received on the draft EIS expressed the feeling that those species adversely affected by timber activities would be protected in lands

currently unavailable to timber production, such as wilderness and dispersed recreation areas. Numerous other comments received on the draft EIS expressed concerns that timber production activities have detrimental effects on species that are dependent on mature conifer forests. Cavity-nesting species are harmed by removal of trees that provide snags and hollow trees.

All management activities will protect habitat values for listed threatened, endangered, and sensitive species and species proposed for listing. The Forest Plan, Chapter IV, provides direction consistent with the Endangered Species Act and recovery plans for listed species.

Since the draft EIS was released, several actions have taken place regarding the northern spotted owl which influence how I will provide for the needs of this species on the Mt. Baker-Snoqualmie National Forest First, a Supplement to the EIS for an Amendment to the Pacific Northwest Regional Guide was issued in July. 1988. The December 6, 1988, Record of Decision for the Supplement identifies standards and guidelines for spotted owl habitat management. The analysis in the Supplement considered the conflicting views and scientific information of others. It provided new criteria for establishing “Spotted Owl Habitat Area” (SOHA) networks on forests in Washington and Oregon, including the Mt Baker-Snoqualmie National Forest. While the draft EIS considered a total of 1,000 acres for each SOHA on the Forest, the Supplement now requires management or dedication of 2,200 acre SOHA’s and a network of habitat areas to ensure distribution of spotted owls across the Forest.

Second, on April 28, 1989, the FWS announced its intention to develop a proposal to list the northern spotted owl as threatened throughout its range. On June 23, 1989, a proposal to list the northern spotted owl was published in the Federal Register. The FWS is expected to decide if the northern spotted owl will be listed as a threatened species sometime in the summer of 1990.



Finally, Section 318 of the Interior and Related Agencies Appropriations Bill for Fiscal Year 1990, Public Law 101-121 which expires September 30, 1990, directed additional interim habitat protection for the spotted owl. (A SOHA is to include 2,600 acres on the Mt. Baker-Snoqualmie National Forest.) It also provided that the December 8, 1988, Record of Decision accompanying the Final Supplement to the EIS for an Amendment to the Pacific Northwest Regional Guide, be reviewed and revised as appropriate by September 30, 1990. Any new information gathered subsequent to the issuance of the Record of Decision as well as the Interagency guidelines for conservation of northern spotted owls developed by the Interagency Scientific Committee are to be considered in this review.

This committee, chaired by Dr. Jack Ward Thomas, was appointed by the Chief of the Forest Service and the Directors of the U.S. Fish and Wildlife Service (FWS). Bureau of Land Management, and the National Park Service. Recommendations by the Committee were made on April 4. 1990. Those recommendations are under consideration by the Chief of the Forest Service and any decisions related to those recommendations that affect the Mt. Baker-Snoqualmie National Forest will be incorporated into the Forest Plan by amendment.

I have chosen not to conference with the U.S. Fish and Wildlife Service on the spotted-owl habitat provisions in the Forest Plan. Rather, I am directing the Forest Supervisor to ensure that the requisite conferencing with U.S. Fish and Wildlife Service is done on a project-by-project basis. As new information about spotted owl needs becomes available, i.e., through the Interagency Scientific Committee or through revision of the Supplement as mandated by Section 318 of the 1990 Appropriation Act, the Forest Plan may be amended to comply with new standards and guidelines to ensure population viability of the species. Listing of the owl as a threatened or endangered species may also result in an amendment to incorporate new management direction for the owl. Appropriate consultation or conferencing actions will then be taken.

After consideration of public comments and federal and state agency concerns about spotted owl population viability, I have decided to implement the selected alternative which establishes a network of 76 spotted owl habitat areas. This level of habitat protection meets Supplement guidelines. Slightly more than 40% of the network sites are known to have been occupied by spotted owl pairs in the last five years; 82% are known to have had one or more spotted owls. Each of these SOHAs has been expanded to 2,600 acres for Fiscal Year 1990 to comply with the provisions of Section 318.

The spotted owl network consists of dedicated SOHAs, habitat in wilderness, and other habitat in management areas without scheduled timber harvests. The selected alternative will maintain about 94 % of the roughly 500,000 acres of identified suitable spotted owl habitat on the Forest to the end of Decade 1. This network is distributed throughout the Forest and takes into account both suitable habitat and location of known spotted owls. Refer to the final EIS, Chapter III and the Forest Plan, Chapter IV for further discussion of spotted-owl direction.

I have decided to provide habitat for a wide range of species, not limited to those proposed or listed by the U.S. Fish and Wildlife Service as threatened or endangered. I will accomplish this through utilization of the best current information on habitat needs of Management Indicator Species. This decision meets requirements of laws and regulations that govern protection of wildlife habitats.

In both the draft EIS and final EIS, allocation of lands were made to emphasize the protection, maintenance, and/or improvement of wildlife habitat. Specific allocations were made for 1) habitat for old-growth dependent species such as the northern spotted owl; 2) habitat for mature and old-growth forest dependent species such as the pine martin and pileated woodpecker; 3) riparian dependent species and fish habitats; 4) deer and elk habitat; 5) mountain

goat habitat; and 6) threatened and endangered species habitat (specifically the northern bald eagle). The acres allocated for these habitats are in addition to habitat that exists within other allocations that do not specifically emphasize wildlife or wildlife habitat.

In the draft EIS, the range of acres allocated specifically for wildlife habitat ranged from about 84,000 acres to 313,000 acres. The preferred alternative in the draft EIS allocated 104,000 to wildlife habitat emphases. The final 518 had alternative allocations for wildlife habitat ranging from approximately 115.000 acres to 345,000 acres. The increased acres in all alternatives in the final EIS reflect changes in spotted owl habitat requirements discussed above as well as changes brought about in response to public comments on the draft EIS.

After considering the public comments concerning all aspects of wildlife and wildlife habitat, I have selected Alternative J which allocates 174,000 acres specifically to the protection, maintenance, and/or improvement of wildlife habitat above and beyond that provided in other allocations. In the selected alternative, the following wildlife habitat allocations are made:

54,200 acres for northern spotted owl and associated species;
19,300 acres for pine martin, pileated woodpecker and associated species;
47,000 acres for riparian dependent species and fish habitats;
24,000 acres for deer and elk habitat;
17,100 acres for mountain goat habitat: and
2,800 acres for northern bald eagle habitat.

The marbled murrelet, a small robin-sized sea bird that nests in mature and old-growth habitat within 30-40 miles of the coast, has recently become a species of interest. However, little information about its habitat needs is available. For the plan period (10-15 years) I believe the mature conifer areas, the SOHA's and other areas that contain mature and old-growth habitat such as riparian areas, dispersed recreation areas, and Special Areas will provide sufficient habitat for the marbled murrelet. As additional information about the habitat needs of this species becomes available, the Forest Plan can be modified to incorporate it.

ISSUE 4: American Indian Religious and Cultural Use

Questions surrounding this issue include:

- What policy and management direction is needed to comply with the Native American Religious Freedom Act and various treaties?

- How can inventoried religious and cultural use areas be protected within the objectives of multiple use management?

In 1981, an inventory of religious use, practices, and localities on the Mt. Baker-Snoqualmie National Forest was completed. Over 300 cultural use areas and sites were identified, totaling nearly 450,000 acres or 26 percent of the net Forest acres. About 34 percent of these areas are in designated wilderness. Some sites cover less than one acre; other larger areas average between 3,000 and 15,000 acres. Use-areas and sites are located throughout the Forest but are concentrated in the northern half.

The inventoried use areas can be placed in five broad categories: cedar sites, ceremonial flora, spirit sites, legendary sites, and cemeteries and archaeological sites. There is a wide variation in compatibility between types of management activities and categories of religious, ceremonial, and cultural use.

Since the completion of the 1981 inventory, the Forest has initiated a consultation process with the Tribes. When proposed projects fall within an inventoried use-areas, the proposed activity is reviewed in detail with representatives of the Tribe(s) which may be affected. As more management activities are proposed, there is the potential for increased conflict.

It is my decision to implement the selected alternative which ensures the availability of sites and areas within the Forest for religious and ceremonial use by American Indians. This availability is assured by including allocations in the selected alternative that prevent development and limit access in some parts of the Forest. For religious and cultural sites and areas that occur in allocations where development may occur, the Plan requires consultation with affected tribal groups to develop protection and mitigation measures when development threatens those sites and areas.

ISSUE 5: Recreation Opportunities

The two major questions raised about this issue included:

- To what extent can the Mt. Baker-Snoqualmie National Forest provide recreation opportunities and how should they be managed?

- How many miles of trails should be provided and in what locations?

The Mt. Baker-Snoqualmie National Forest contains some of the most scenic areas in the Region Its proximity to the major metropolitan areas along Puget Sound and the variety of opportunities available is reflected in the continual growth of recreation use. Use exceeds 5 million RVD's (1989). It is expected that the demand for recreation on the Forest will grow through the end of the century.

The Recreation Opportunities issue includes several sub-issues or facets. The more significant ones are: developed recreation needs and opportunities; dispersed recreation needs and opportunities including roadless and undeveloped areas; trail needs and opportunities; and wilderness use and management.

Public comment on the draft EIS reconfirmed that recreation use - of all types - is a major public issue on the Mt Baker-Snoqualmie. One of the few areas of consensus, respondents agreed that recreation is a vitally important function of the Forest, and that more trails are needed. Opinion is divided on what types of recreation opportunities should be provided.

Many groups and individuals - including hikers, horse users, some off-road vehicle users, naturalists, wildlife advocates, and environmentalists - want to preserve the opportunities for unroaded dispersed recreation outside of wilderness. They prefer more remote, natural appearing recreation settings. National Forest lands are the major supplier of non-motorized dispersed recreation in the Puget Sound area Many other recreationists spoke to the need for better recreation access for young families and the elderly, more ORV areas, more snowmobile opportunities, and more campgrounds.

A majority of people commenting on the draft EIS want more trails. There was support from environmentalists and many recreation/commodity groups for the "Trails 2000" proposal, which included both new trail construction and reconstruction of existing trails. ORV and horse users want more trails open for their use. Many hikers feel that trails should be closed to motorized use.

Conflicts between recreation and other Forest resources are frequently mentioned. For example, the effects of clearcutting are generally not compatible with the values of many recreation users. Some users dislike the expanding road system needed for timber harvest, while others feet roads are important for their activities and access.

Many of the recreation attractions and opportunities are found within eight wildernesses; wilderness totals nearly 42% of the net Forest acres. A key issue is the level of management required to accommodate the high recreation demand within these areas, while protecting the wilderness resource. Some recreation and environmental groups, who fought for years to gain wilderness status for favorite areas, now find themselves debating the need for management actions within the wilderness, including limiting use. Important aspects of this issue are should additional trails be built and/or relocated to disperse recreation use away from heavily used areas; should roads that provide easy access to popular areas remain open to public use?

Some recreation uses are incompatible with each other; others cause resource damage because of the level or type of use. There is little public consensus regarding the quantity and type of recreation experiences the Forest should provide. The ability of the Forest to supply opportunities for all types of recreation and to resolve the problems of incompatible uses is a major issue to be addressed.

Developed Recreation

Developed recreation will, continue to be an important program on the Forest. By the end of Decade 1, demand for developed recreation will likely range from 2.8 to 3.6 million RVD's; this range is still below the existing practical developed capacity of the Forest. The Forest does experience overuse at some campgrounds on heavy-use weekends. By the end of the fifth decade, the demand range will be 6.7 to 8.2 million RVD's. New construction to meet this demand is described below.

The emphasis for the first decade will be placed on improving existing popular campgrounds. Also, those campgrounds that are non-fee and capable of a favorable cost/revenue ratio will be converted to fee status by the installation of facilities required to meet the criteria as fee sites. This is not expected to have a substantial displacement on the users of non-fee facilities.

A top priority will be rehabilitation of existing sites that currently need heavy maintenance. In Decade 1, an average of 10% of the existing units per year will be reconstructed, rebuilding most of the sites within the next 10 years. This equates to about 170 units, or four campgrounds per year on the Forest. After the first decade, it is expected the facilities would be in good enough condition that reconstructive maintenance could be reduced to 5% per year.

As early as the latter years of Decade 1, some new construction of developed campgrounds is anticipated, as more capacity may be needed. As many as 100 units (500 PAOT's) may be added This will most likely be expansion of existing campgrounds rather than new site development, but several new sites are proposed late in the first decade.

An additional emphasis will be construction/reconstruction of developed recreation facilities for the day user. Picnic sites, vistas, interpretation and nature walks are the types of recreation experiences anticipated to be in the highest demand. Recreation management will emphasize day-use facilities located in the Mountain Loop Scenic Byway, Mt. Baker Scenic Byway, Mather Memorial Parkway, and Stevens Pass Historic District. Planned construction for Decade 1 includes the completion of: Heather Meadows, Dalles Discovery Trail, Gold Basin Mill Pond, and Gold Creek Pond day-use sites. To increase day-use capacity, 8 to 12 day-use sites averaging 20 units each will be added in the next few decades. This will result in an 800-1200 PAOT increase in capacity.

All ski areas that have expansion capacity under approved Ski Area Master Plans are expected to add development facilities. Expansion should be commensurate with expected improvements in service, and permitted on the basis of actual public need. It is anticipated that some ski areas will have base-area expansion, particularly to enhance overnight and mid-week resort opportunities.

Public information and interpretative services will be expanded in the first decade of the Plan and thereafter to respond to public demand. Expansion will encompass staffing as well as facilities, displays, equipment, and published materials. Emphasis will continue towards sharing of information services with other agencies and partnerships with private outlets where possible. Emphasis will also be given to intensifying the Forests public outreach programs to allow certain segments of the public to become more familiar with recreation opportunities on the National Forest.

Dispersed Recreation

The assignment of land in the Plan will result in 15% of the total Forest acres (273,400 acres) being available for nonwilderness, unroaded dispersed recreation. These acres will provide the opportunity for 155,105 RVD's. The majority of these opportunities will be in the semi-primitive nonmotorized recreation opportunity spectrum (ROS) class.

An additional 93,100 acres will remain unroaded during the first decade, although assigned to management prescriptions that project future development. This will result in an additional 51,205 RVD's of unroaded recreation, available through the first decade.

The primary management activities in the assigned unroaded recreation areas over the next decade will provide alternatives to impacting wilderness, and help reduce conflict between different recreation user groups in other areas. Increased trail construction, greatly increased reconstruction, and maintenance will aid in accomplishing this goal. Approximately 200 miles of new nonwilderness trail will be constructed in the first decade. Twenty miles of wilderness trail will be constructed. Another 493 trail miles will be reconstructed during the first decade.

Dispersed winter sports activities, such as cross-country skiing and snowmobiling, will continue to be encouraged. Where opportunities exists, both winter and summer dispersed recreation will be enhanced through timber sale activity by providing use sites, parking, trail access, and vegetative improvement. Additional Sno-Park facilities will be encouraged where the need is demonstrated.

Roaded recreation will occur on 37% of the Forest (530,550 acres). These figures represent the roaded natural and roaded modified ROS classes combined. This will provide the opportunity for 3,277,000 RVD's of recreational opportunities in a roaded environment in Decade 1. The capacity for roaded recreation well exceeds demand until Decade 4.

Commercial outfitters and guides will continue to be utilized as a method of meeting public demand, but new permits will be limited to a level that permits a balance between the individual non-guided user and those availing themselves of guide services.

Trails

The "Trail Management Plan" in Forest Plan Appendix E provides direction for the management of the Forest's approximately 1.384 miles of system trails. The direction for trail management attempts to reduce recreational conflicts between user groups. Whenever practical, these different uses (trait bikes, horses, hikers and mountain bikes) will be separated if conflicts cannot be avoided or minimized through public information and education.

Generally, trails will be constructed or reconstructed as needed for resource protection and to complement the objectives of the management prescriptions. When possible, through-trails will be routed away from areas of concentrated use, such as lakes and popular focal-points, to avoid unnecessary visitor encounters and environmental impacts.

Each trail will have a "primary objective" for management. While there may be other users allowed on any given trail, the trail standards and maintenance activities will reflect the standards for that primary objective and difficulty level that the trail is to be managed for.

The Forest policy is to restore trail mileage disrupted by management activities or to replace them with equal miles in the same general location. The intent is to not diminish the trail miles in the local area. The cost of this will be charged to the management program causing the dislocation. Loop trails will be favored. Special emphasis will be given to the planning and construction of low-elevation, snow-free trails. The presence of a trait will not limit the management options.

The reconstruction of existing trails will be emphasized over the construction of new trails, if budgetary constraints force prioritization.

The following types and amounts of trails are provided for in the Forest Plan:

- Pacific Crest National Scenic Trail: There are 96 miles of this trail located within the Mt. Baker-Snoqualmie National Forest, along the crest of the Cascade Mountains.

- National Recreation Trails: The Forest has four trails totaling about 10 miles that have received national recognition for outstanding recreational values. An additional 13 trails, totaling about 37 miles, are proposed for National Recreation Trail status.

- Wilderness Trails: There are currently 580 miles of system trails in wilderness; this represents 42 percent of the total trail mileage on the Forest. Approximately 20 miles of new trail will be constructed within wilderness during the first decade of the Plan.

- Nonwilderness Trails: There are 803 miles of nonwilderness trails on the Forest. Of these, 425 miles are closed to motorized use. The current emphasis on hiker-only and horse trails will remain in effect. The Plan calls for the construction of 134 miles of new trail outside of wilderness to provide alternative recreation opportunities to relieve overuse of wilderness trails.

- Cross-country Ski Trails: There are approximately 129 miles of these trails. Many additional miles of skiing opportunities exist on snow-covered Forest roads. Expansion of ski touring trails is anticipated in the first decade. Groomed trails (with a pre-set track) will also expand as demand grows and funds become available.

- Snowmobile Routes: The miles of roads and trails available for snowmobile use will vary from year to year based on weather conditions, wildlife habitat management, and logging activities Over 200 miles of Forest roads and trails will be available for this use. In addition, certain areas of the Forest, such as Easton Glacier, have been identified as unroaded snowmobile areas.

- Off-road Vehicle and 4x4 Routes: Four-wheel driveways are very low standard travel-ways to be used by short wheelbase vehicles. There are approximately 25.7 miles of this type of route available on the Forest. The most popular areas for this type of use are Naches Pass Wagon Road, Evans Creek ORV Area, and the Greenwater Drainage.

I have decided to implement the selected alternative which rehabilitates all, existing campgrounds in the next 10 years and emphasizes construction of day-use facilities, including: Heather Meadows, Dalles Discovery Trail, Gold Basin Mill Pond, and Gold Creek Pond day-use sites. Unroaded dispersed recreation opportunities will be increased through the allocation of 273,400 acres to unroaded recreation emphasis. Complementing the unroaded recreation allocation will be the construction of approximately 200 miles of trails outside wilderness in the next 10 years.

Wilderness

The 721,718 acres of wilderness on the Mt. Baker-Snoqualmie National Forest will be managed to preserve the areas' wilderness character for the use and enjoyment of visitors, and administered in a manner consistent with the Wilderness Act of 1964.

The physical, social, and managerial settings within wilderness will be managed to meet standards set under Limits of Acceptable Change (LAC's) in the wilderness recreation spectrum (WRS). Five zones are established under the WRS, listed in the table below.

Wilderness Recreation Spectrum

Zone	Acres	RVD's
Transition	15,078	226,170
Trailed	49,015	183,806
General Trailless	457,000	114,250
Dedicated Trailless	207,930	14,945
Special Area	9,017	Not Estimated
Total	721,716	539,171

The overall wilderness management goal will be to reduce or eliminate the adverse effects associated with human use, when use approaches or exceeds the established LAC. Specific management actions will be undertaken at overused sites where LAC's are now exceeded, or where the level of use or impacts is approaching levels specified for that WRS class.

Several areas within wilderness presenting unique management problems, such as the existence of structures, RNA's, and a popular climbing route, are assigned to the special area WRS class. The intent of this class is to allow changes in management guidelines for unique situations; areas do not qualify for this class for administrative convenience in dealing with overuse. The historic lookouts at Winchester Mountain, Park Butte, Miners Ridge, Three Fingers, Green Mountain, and Granite Mountain will be allowed to remain as non-conforming uses. The Coleman Glacier Climbing Route on Mt. Baker will have special LAC's in recognition of the unique opportunities present. An interdisciplinary team will examine the recreational use of Mt. Baker and recommend further refinements in these guidelines. The USGS Glacial Research Station in the Glacier Peak Wilderness and authorized electronic sites in wilderness will continue to operate under special use permit.

There are several large areas without trail access where cross-country trips, as long as a week, are possible. They provide for a pristine wilderness experience but generally occur in extremely fragile alpine areas that are vulnerable to overuse The intent is to manage these dedicated trailless areas to prevent overuse.

Standards and Guidelines permit using some naturally occurring fires (i.e. lightning caused) to accomplish wilderness vegetation management objectives such as maintaining vegetation diversity and allowing natural processes to prevail. The parameters under which these fires will be permitted to burn will be closely monitored and suppression actions will be taken immediately on those fires that exceed prescriptions. Under these guidelines, it is expected that most fires will be less than 10 acres in size, though it is possible that once every 20 years or so, an individual fire may approach 1000 acres in size. It is expected that approximately 75 acres per year will be burned where naturally occurring fires are used to accomplish wilderness vegetation management objectives No areas have been identified where planned, human-induced prescribed burning is needed to modify fuel accumulations to meet wilderness fire protection needs.

I have decided to implement the selected alternative. Under the direction of the selected alternative, the 721,718 acres of wilderness will be managed to reduce or eliminate the adverse effects of human use.

ISSUE 6: Wild and Scenic Rivers

- How should the potential wild and scenic rivers of the Forest be managed and their values protected?

There is one federally designated Wild and Scenic River on the Forest (the Skagit, designated in 1978). In the draft EIS, the results of an eligibility study of other rivers for inclusion in the National Wild and Scenic Rivers System were presented. That study found five of 47 studied rivers to be eligible for designation. The preferred alternative in the draft EIS further dictated the study of those five rivers to determine if they were suited for designation.

There was considerable public comment on the DEIS eligibility study, plus support for many more miles of wild and scenic rivers than recommended for suitability study in the draft EIS. There was also some opposition to more designation.

Between draft and final plans, eligibility criteria were re-evaluated which resulted in additional rivers being found eligible. A total of 51 rivers were identified and studied for their eligibility and 47 of these were determined to be eligible. There was public and other agency involvement in this process. Suitability studies for all 47 rivers were also completed, again in response to public comment on the draft.

As a result of these studies, it is my decision to implement the selected alternative which found 30 rivers suitable for inclusion in the National Wild and Scenic River System. The rivers or portions of rivers listed on the next page will be recommended to Congress for designation. Chapter 4 of the Forest Plan describes the segments recommended and the recommended classification (Wild, Scenic, or Recreational). This recommendation is a preliminary administrative recommendation that will receive further review and possible modification by the Chief of the Forest Service, Secretary of Agriculture, and the President of the United States. The Congress has reserved the authority to make final decisions on designation of rivers to be included in the National Wild and Scenic Rivers System. Until Congressional action, the values contributing to a rivers particular classification will be protected on National Forest lands. Forest lands in the 1/4 mile corridor on each side of the 30 suitable rivers will be managed to maintain the rivers' eligibility. Standards and guidelines for managing suitable rivers are provided in the Forest Plan, Chapter IV.

Included in my recommendation for Wild and Scenic River designation is the North Fork Nooksack River. Located on the North Fork Nooksack, studied under Section 5(d) of the Wild and Scenic Rivers Act, and recommended for Recreational designation, is a segment of river on private land that contains a hydroelectric facility owned and operated by Puget Sound Power and Light. The Forest's suitability study found the continued presence and operation of this facility would not have a direct and adverse effect on the values for which the river would be established as part of the National Wild and Scenic Rivers System. This facility has been in place since the early 1900's and has never been licensed by the Federal Energy Regulatory Commission (FERC). This project is currently being considered for licensing by FERC. It is our opinion that FERC is not precluded from licensing this project prior to Congressional action on this recommendation because the river is being evaluated by the Forest Service under authority of Section 5(d) of the Act and the project is on private land.

Rivers Recommended for Inclusion in the National Wild And Scenic River System

North Fork Nooksack	West Cady Creek
South Fork Nocksack	South Fork Skykomish
Bell Creek	Tye River
Baker River	Miller River (to fork)
Noisy Creek	West Fork Miller River
Diobsud Creek	East Fork Miller River
Illabot Creek	Foss River (to fork)
Buck Creek	West Fork Foss River
Downey Creek	East Fork Foss River
White Chuck River	Deception Creek
North Fork Sauk River	North Fork Snoqualmie River
Boulder River	Middle Fork Snoqualmie River
South Fork Stillaguamish	Taylor River
North Fork Skykomish	Pratt River
Troublesome Creek	White River

ISSUE 7: Management of Municipal Watersheds

- What activities should be permitted within municipal watersheds?

- What measures should be taken that will maintain or enhance water quality?

Maintaining high quality water is an objective of many people and agencies, including: state and federal agencies, municipalities, fish and some wildlife interests (Indian tribes, sports groups, and some recreation and environmental groups), and the State fisheries agency. These interests believe that timber harvest, road construction, mining, and some recreation activities are detrimental to water quality, primarily due to sedimentation and pollution. Most of the above interests support actions to limit, restrict, or prohibit developmental activities in the watersheds.

Municipalities are concerned that increased access and recreation use will result in the need to install filtration facilities to assure potable water to the consumer.

Timber and energy industries, rockhounders, plus a number of hunters feel that development can occur and any adverse impacts to water supply and quality can be mitigated. They believe that limiting or prohibiting activities unduly restricts the industry's ability to maintain or increase supplies of timber, electric power, and minerals. Hunters feel that big game populations could actually be enhanced with controlled hunts in the watersheds.

Significant portions of the watersheds supplying the cities of Seattle, Bellingham, Everett, and Tacoma are located on the Mt. Baker-Snoqualmie National Forest. Water is also provided for a number of smaller municipalities, ski areas, and other recreation sites. About 136,400 acres, (7.9 percent of the Forest) supplies municipal water to 1.4 million people. Water quality is high; only one municipality filters water, others use only disinfectant.

Currently, a wide range of activities occur within the municipal watersheds. Some watersheds have not been accessed by roads and remain primarily in a natural condition. Other watersheds have been developed, with extensive timber harvesting and road construction. Recreation is permitted or encouraged in some watersheds; in others, poor access and municipal opposition has limited recreation opportunities.

It is my decision to implement Alternative J which continues the Memorandum of Understanding and Cooperative Agreements in effect for these watersheds. In the case of the Cedar River Watershed, the existing Cooperative

Agreement will be renegotiated to reestablish the goals and objectives for' that watershed. Until a new agreement is established, no new land exchanges affecting national forest land will occur. Pending the new agreement, the 1962 Cooperative Agreement remains in effect.

ISSUE 8: Effects of Timber Management and Related Activities

- What management direction is needed for timber harvest and road construction activities to benefit or maintain the quality of other resources?

Environmentalists, Indian Tribes, State Fish and Wildlife agencies and some recreationists are concerned about the effects of timber harvest and related road construction on other resource outputs and uses, such as fish and wildlife habitat, water quality, scenery, and dispersed unroaded recreation. There are approximately 1,500 stream miles and over 12,000 acres of lakes on the Forest that serve as both seasonal and year-round spawning and rearing habitat for anadromous and resident species.

The timber industry and businesses who depend on these industries believe that Forest Service management is too responsive to these other resource needs and place unnecessary limitations on timber harvest activities that reduce supplies and/or increase costs. Concern for the hydrologic cumulative effects of management activities has increased since the DEIS was released.

Management for the commercial production of timber includes a number of activities: road construction and/or reconstruction, timber harvest, preparation of the land for planting seedlings, possible thinning, fire, insect and disease control, et cetera. These activities have direct and indirect effects on other resources, including: fish and wildlife habitat, recreation uses, cultural values, and soil and water. Also, recreation opportunities are changed, and the visual condition of the Forest changes. The visual impact of clear-cutting and toss of habitat for some wildlife species is a major concern of environmentalists, wildlife advocates, and some hunting interests.

Each step in the process of timber harvesting, including road construction, may have a number of short-term and long-term impacts. Timber harvesting may enhance elk habitat (there is increased forage in clearcuts), but reduce the visual quality and the amount of wildlife habitat available for species dependent on mature conifer forests.

The Forest Plan establishes allocations and standards and guidelines that ensure the scenic values of the forest are protected through the use of the Visual Resource Management program. The Plan also provides for necessary habitat for wildlife through allocations and standards and guidelines to protect habitat values and the establishment of means to meet wildlife management requirements.

In preparing the draft EIS, the Forest recognized the need to develop ways to meet the riparian area and water quality management requirements set forth in 36 CFR 219.23(d) and 219.27(f).

For forest planning, riparian areas were evaluated and modeled as average widths by stream class. For Class I and II streams, the average width of riparian areas is considered to be 200 feet on each side of the stream. For Class III streams, the average width on each side of the stream is generally 100 feet. Riparian areas for lightly incised Class III streams were determined to be approximately 10 feet on each side of the stream. The determination of these average widths was made based on an evaluation of past management practices in streamside zones and the effects of those activities. Actual widths and boundaries of riparian areas will be determined during project planning. Those boundaries may be greater or lesser that the averages shown above.

During preparation of the DEIS, the Forest developed allocations and standards and guidelines that addressed the riparian area management requirements. The Forest also recognized the need for a process to address hydrologic cumulative effects in a way that was responsive to the riparian and water quality management requirements. However, no methodology was identified that could be directly adopted to develop such a process for the Forest. As a result, in the draft EIS, while standards and guidelines were developed to respond to riparian area management requirements, consideration of hydrologic cumulative effects on water quality management requirements were limited to focusing on: 1) identifying the major causes of adverse cumulative effects on water quality and/or quantity; and 2) identifying watershed potentials for unacceptable adverse cumulative effects.

In response to the draft EIS, the management of riparian areas and fish habitat, and the cumulative effects of management activities on fish/fish habitat were raised as major concerns by individuals, Indian Tribes, and State and Federal agencies. There were a total of 117 substantive comments from the public on fishery resources; 66 of these comments directly or indirectly addressed cumulative effects of forest practices on fishery and water quality values. In addition, 60 of the 75 substantive comments regarding the management of riparian areas were directed to impacts or effects to riparian values from forest management activities over space and time. The general public comments also included a number of comments in this area, including; “cumulative effects analysis for fish is inadequate;” “cumulative effects of forest activities on watersheds and water resources are not addressed;” “need more MMR’s for soils, watershed;” and “protect vital watersheds.”

There were two predominant areas of concern: the relationship between timber management activities (harvesting, road construction) and the viability of fish and fish habitat. (For example, what are the effects of sedimentation and bedload movement generated by Forest management activities to on- and off-Forest fishery resources, over space and time?) A second area of concern was the effectiveness of Best Management Practices to protect and maintain fish habitat and riparian areas, and the effectiveness of fish habitat restoration/improvement as a measure to mitigate the effects of forest management activities, over space and time. In one section of their input, The State strongly recommended, in place of BMP’s, the need for MR’s be developed for fish, in order to provide strengthened Forest-wide requirements for the protection of habitat.

In the analysis and evaluation of comments on the draft EIS, the Forest reconfirmed that the standards and guidelines developed in the draft EIS to meet the riparian management requirements were appropriate. The Forest also identified the need to develop, prior to issuing the FEIS and Forest Plan, ways to ensure that hydrologic cumulative effects did not violate the water quality management requirements.

In development of the Forest’s hydrologic cumulative effects analysis process, various strategies and actions were employed to insure that adequate ways of meeting the riparian and water quality management requirements were

the end result of that analysis. Included were additional public consultation, a literature search and work to determine if predictive models to determine hydrologic effects on westside Cascade watersheds were available. No suitable model was found, and the Forest proceeded to develop a Forest-specific process (discussed in detail in Appendix K of the final EIS). Because no predictive model was found to tie sediment production to fish habitat capability, fisheries were included as a major component of hydrologic cumulative effects analysis. The procedure to address hydrologic cumulative effects considered alt watersheds, and was applied in alt alternatives (except Alternative NC). It's intent, again, was to insure that effects of management activities prescribed by the Forest Plan meet the water quality and riparian management requirements established in 36 CFR 219.

During the development and application of the process in the summer and fall of 1989, meetings were held with State and Federal agencies, timber industry representatives. members of the academic and scientific communities, and representatives of environmental groups. The purposes of the meetings were to describe the process being used, solicit reactions to the process, and identify opportunities to improve the process.

The meeting with timber industry representatives created considerable interest and apprehension on their part as expected. In a letter dated October 6, 1989, they stated their understanding of the issues that were presented at the meeting and requested additional information that has been subsequently given to them. They also stated in their letter that they would submit written comments in the near future. No additional comments were received as of the date this Record of Decision was signed.

The meeting with members of the scientific community resulted in several useful comments. Comments made by the scientists at the meeting and subsequent written comments indicate they had a favorable impression of the procedure.

As a result of the various public meetings and reviews, the Forest concluded (and I concur) that the procedure (resulting from the hydrologic cumulative effects analysis) used to insure forest management activities do not violate water quality and riparian area management requirements is the best process available for this Forest at this time.

I have decided to adopt the selected alternative which will: 1) emphasize maintenance and/or improvement of water quality; 2) maintain adequate sources of large woody debris along streamsides and provide areas for future recruitment of material; and 3) emphasize improving and/or enhancing both anadromous and resident fish habitat. Management of the riparian areas in allocations suited for timber production will allow for timber harvest when riparian area objectives can be met. In addition to the previous riparian area standards and guidelines, the selected alternative also provides new standards and guidelines that incorporate limits on final harvest acres by watershed to meet the water quality and riparian management requirements.

Research in the area of hydrologic cumulative effects of forest management activities is receiving considerable attention by the scientific and academic community, industry, and State and County agencies. Any new research findings concerning hydrologic cumulative effects and forest management will be reviewed and if appropriate, incorporated into the process used by the Forest. The Forest will continue to work with the scientific and academic community to refine and further validate the hydrologic cumulative effects analysis process used in the Forest Plan. As additional experience and knowledge is gained in the area of hydrologic cumulative effects analysis, the Forest will review, evaluate, and if necessary amend the standards and guidelines developed as a result of that analysis.

My decision to implement Alternative J was made with full consideration for the concerns expressed about the effects of timber management and related activities, believe that unacceptable adverse effects will be prevented or mitigated through a number of actions discussed earlier in this Record of Decision. Included in these actions are the direction for management of roadless areas, old growth, fish and wildlife habitat, and application of the hydrologic cumulative effects analysis constraint.

ISSUE 9: Adjacent and Intermingled Lands

- How should National Forest lands adjacent to lands of non-federal owners be managed?

- What management activities should be conducted on National Forest lands that are located near private developments?

The land ownership pattern within and adjacent to the National Forest boundary and the management of intermingled Federal and Private lands is a major public issue.

A few environmental groups have proposed legislative land exchanges that would exchange high elevation, low timber site class private lands for low elevation, high site federal lands. Some of the major industrial timber land owners are supportive of these types of exchanges Independent mill operators and loggers who depend on National Forest timber and some public interest groups are strongly opposed to such exchanges, as the exchanges would further reduce timber supplies available to them.

Environmentalists, State Fish and Wildlife agencies, Indian Tribes and some sporting groups believe that management activities, such as timber harvest, should be delayed or deferred on National Forest lands to mitigate the cumulative effects of large-scale timber harvest on private lands that are intermingled with Federal tends. Independent mill operators and loggers are opposed to any delays or deferrals that would reduce timber supplies available to them

In many areas of checkerboard ownership, adjacent land owners have completely removed the old-growth timber (in approximately 640 acre blocks), leaving the timber present on National Forest land more vulnerable to wind-throw. Removing these blocks of old growth has also had the effect of reducing the amount of habitat available for wildlife species dependent on old-growth habitat. In areas of intermingled lands, the objectives and subsequent land practices of all owners affect the management of adjacent lands. Management of National Forest land affects adjacent lands of non-Federal landowners, and activities on non-Federal lands affect management of National Forest land.

Urban growth is steadily moving east toward the Forest boundary. Forest lands. regardless of ownership, are affected by this growth. Resources such as wildlife, water, and air do not recognize ownership boundaries, but they are directly impacted as shopping centers, subdivisions, and residences - plus an increased network of roads - spread closer to the Forest boundary. A question to be addressed: should National Forest land management practices be altered to compensate for these encroachments? Timber industry, adjacent land owners, County planners, and environmentalists are all involved in this concern.

A land ownership adjustment plan for the Forest was developed and included in the Forest Plan (Appendix G) to establish guidance for exchange, purchase, donation and transfer of land.

It is my decision to implement the selected alternative which incorporates standards and guidelines to maintain and protect resource values on national forest lands.

While the Forest Plan cannot address the management of off-Forest resources, it was developed with the recognition of the inter-relationships of the Forest lands and adjacent lands.

My decision t_0 proceed with the Forest Plan will not affect the land purchase program, which is authorized and funded annually by Congress. Land exchange opportunities are not expected to change. The exchange program will be utilized, where possible, to help attain desired future conditions in the Forest Plan.

ALTERNATIVES CONSIDERED

Eleven alternatives were analyzed in detail in the draft EIS. The final EIS analyzes eight alternatives in detail. They include five from the draft EIS, one modified alternative from the draft, and two new alternatives (one of which is based on the Preferred alternative in the draft EIS). The final EIS eliminated five draft EIS alternatives from detailed study because few public comments supporting those alternative were received and the issues were better resolved in other alternatives. (See the final EIS, Chapter II). A new alternative is the Forest Service selected alternative. Alternative J, which falls within the decision space described in the draft EIS. Tradeoff analysis and environmental consequences are presented in the final EIS, Chapters II and IV.

Alternative NC (No Change)

The No Change Alternative has been developed in response to decisions made regarding an appeal, brought by the Northwest Forest Resource Council on May 19, 1986. The appeal centered on a decision by the Regional Forester to "require inclusion of minimum management requirements (MR's) in the Current Direction Alternative for each Forest Plan." The substance of the appeal was that a "true no-action alternative representing current management plans" was not included in Forest Plan draft EIS's.

The No Change Alternative is designed to represent the 1963 Timber Management Plans as amended, and consequently does not comply with all provisions of the National Forest Management Act (NFMA) and regulations promulgated by the Secretary of Agriculture to implement NFMA.

The purpose of the Timber Management Plans was to determine potential yield for harvestable timber on the Forest and not to be an integrated resource management plan. Alternative NC would optimize timber production from suitable timber land determined by pre-NFMA criteria ASQ for Alternative NC would average 41.7 MMCF (203.8 MMBF) annually in the first decade. It is estimated that about 50% of existing roadless areas would be developed under this alternative. Management practices to protect water quality would be insufficient to meet state water quality standards. A PNV for this alternative was not estimated, as the Timber Management Plans did not include nontimber resources and would not be comparable to the other alternatives.

Alternative A (No Action)

Alternative A was developed to continue management of the Forest under the direction of previously existing plans (including the amended 1983 Timber Management Plans), policies and direction, updated to incorporate the requirements of the National Forest Management Act of 1978. This is the "No Action" alternative required by the Council on Environmental Quality Regulations for implementing the National Environmental Policy Act (NEPA). The goal of Alternative A is to provide maximum timber outputs while maintaining or exceeding current recreation, wildlife, fisheries, and visual resource outputs.

Annual ASQ for this alternative would be 31.0 MMCF (152 MMBF) in the first decade. Approximately 30% of the 403,000 acres of roadless areas would be assigned to development in this alternative. The remaining 70% would be retained for a variety of undeveloped uses including wildlife habitat, special areas, and unroaded dispersed recreation. Spotted owl habitat is inventoried, identified, and protected following the direction in the SFEIS amending the Regional Guide. Habitat capability would be provided for 108 pairs of spotted owls in Decade 1. Approximately 36,000 acres of land otherwise suited for timber production are in designated Spotted Owl Habitat Areas. Fifteen rivers totaling 287 miles (215 within the Forest) would be recommended for addition to the Wild and Scenic Rivers System.

Alternative B (RPA)

The goal of Alternative B is to simultaneously produce high levels of timber, anadromous fish, commonly hunted species of big game, and dispersed unroaded recreation, as specified in the 1980 RPA Program.

Annual ASQ for this alternative would be 26.3 MMCF (128 MMBF) in the first decade. Approximately 34% of the 403,000 acres of roadless areas would be assigned to development in this alternative. The remaining 66% would be retained for a variety of undeveloped uses including wildlife habitat, special areas, and unroaded dispersed recreation. Spotted owl habitat is inventoried, identified, and protected following the direction in the SFEIS amending the Regional Guide. Habitat capability would be provided for 108 pairs of spotted owls in Decade 1. Approximately 79,000 acres of land otherwise suited for timber production are in designated Spotted Owl Habitat Areas. High timber goals preclude recommending any additions to the Wild and Scenic Rivers System.

Alternative C

The goal of Alternative C is to emphasize primitive and semi-primitive nonmotorized recreation (accomplished through retention of existing roadless areas and, over time, reversion of some roaded areas to unroaded condition); protect scenery, fish, and wildlife habitat; and protect sites and areas important to American Indians for religious and cultural use.

Annual ASQ for this alternative would be 13.7 MMCF (87 MMBF) in the first decade. Approximately 7% of the 403,000 acres of roadless areas would be assigned to development in this alternative. The remaining 93% would be retained for a variety of undeveloped uses including wildlife habitat, special areas, and unroaded dispersed recreation Spotted owl habitat is inventoried, identified, and protected following the direction in the SFEIS amending the Regional Guide. Habitat capability would be provided for 115 pairs of spotted owls in Decade 1. Approximately 38,000 acres of land otherwise suited for timber production are in designated Spotted Owl Habitat Areas. All 47 eligible rivers totaling 806 miles (441 within the Forest) would be recommended for addition to the Wild and Scenic Rivers System. Five potential Research Natural Area additions are recommended - North Fork Nooksack Addition, Lily Lake, Perry Creek, Green Mountain, and Chowder Ridge.

Alternative G-Modified

The goal of Alternative G-Modified is to emphasize maintenance of natural ecosystems and diversity of native plants and animals, emphasize providing uses not found on private lands, and produce timber in a way that is consistent with the other goals and is non-damaging to soils.

Annual ASQ for this alternative would be 18.3 MMCF (89 MMBF) in the first decade. Approximately 9% of the 403,000 acres of roadless areas would be assigned to development in this alternative. The remaining 91% would be retained for a variety of undeveloped uses including wildlife habitat, special areas, and unroaded dispersed

recreation. Spotted owl habitat is inventoried, identified, and protected following the direction in the SFEIS amending the Regional Guide. Habitat capability would be provided for 115 pairs of spotted owls in Decade 1. Approximately 113,000 acres of land otherwise suited for timber production are in designated Spotted Owl Habitat Areas. All 47 eligible rivers totaling 796 miles (441 within the Forest) would be recommended for addition to the Wild and Scenic Rivers System. Five potential Research Natural Area additions are recommended - North Fork Ncoksack Addition, Lily Lake, Perry Creek, Green Mountain, and Chowder Ridge. Special Area designation is recommended for areas at Twin Sisters, Monte Cristo, Baker Lake, and Naches Pass.

Alternative H

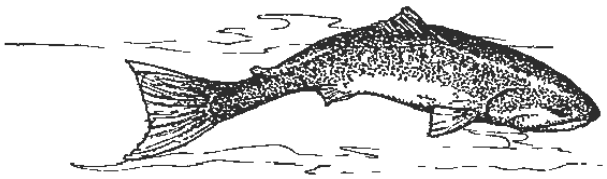
The goal of Alternative H is to provide an increased emphasis on unroaded recreation; protection of scenic values in the foreground and middleground of heavily traveled highway corridors; increasing big game populations; plus emphasis on timber production on tentatively suitable acres not assigned to other objectives.

Annual ASQ for this alternative would be 24.1MMCF (118 MMBF) in the first decade. Approximately 24% of the 403,000 acres of roadless areas would be assigned to development in this alternative. The remaining 76% would be retained for a variety of undeveloped uses including wildlife habitat, special areas, and unroaded dispersed recreation. Spotted owl habitat is inventoried, identified, and protected following the direction in the SFEIS amending the Regional Guide. Habitat capability would be provided for 111 pairs of spotted owls in Decade 1. Approximately 61,000 acres of land otherwise suited for timber production are in designated Spotted Owl Habitat Areas. Five rivers totaling 154 miles (71 within the Forest) would be recommended for addition to the Wild and Scenic Rivers System Five potential Research Natural Area additions are recommended - North Fork Nooksack Addition, Lily Lake, Perry Creek, Green Mountain, and Chowder Ridge.

Alternative I

Alternative I is a new alternative and was not displayed in the draft EIS. The goal of Alternative I is to emphasize those resources with an established price in the market place: timber production, anadromous fish, developed recreation, and minerals. In addition, emphasis is placed on enhancement of game wildlife and fish habitat and the development and maintenance of an extensive trail system to accommodate a wide variety of users on a year-round basis. Other resources are managed at levels that do not reduce the outputs from the market resources.

Annual ASQ for this alternative would be 26.6 MMCF (130 MMBF) in the first decade. Approximately 36% of the 403,000 acres of roadless areas would be assigned to development in this alternative. The remaining 64% would be retained for a variety of undeveloped uses including wildlife habitat, special areas, and unroaded dispersed recreation. Spotted owl habitat is inventoried, identified, and protected following the direction in the SFEIS amending the Regional Guide. Habitat capability would be provided for 108 pairs of spotted owls in Decade 1. Approximately 93,000 acres of land otherwise suited for timber production are in designated Spotted Owl Habitat Areas High timber goals preclude recommending any additions to the Wild and Scenic Rivers System.



Alternative J (Preferred)

This is the Preferred Alternative. It is a new alternative and was not displayed in the DEIS. Beginning with the draft EIS Preferred Alternative (H), Alternative J was developed to respond to public comment and updated information. Differences between the draft and this Preferred Alternative include a considerable increase in trail mileage, an increase in the number of rivers recommended for addition to the National Wild and Scenic Rivers System; allocation of three Special Areas (Botanic, Scenic, and Recreation/Education); an increased emphasis on unroaded recreation; and greater protection of scenic values on travel corridors. Timber production is emphasized on suitable acres assigned to a timber harvest prescription; other resources will be managed at levels commensurate with the objectives of the alternative.

Annual ASQ for this alternative would be 22.4 MMCF (108 MMBF) in the first decade. Approximately 23% of the 403,000 acres of roadless areas would be assigned to development in this alternative. The remaining 77% would be retained for a variety of undeveloped uses including wildlife habitat, special areas, and unroaded dispersed recreation. Spotted owl habitat is inventoried, identified, and protected following the direction in the SFEIS amending the Regional Guide. Habitat capability would be provided for 111 pairs of spotted owls in Decade 1. Approximately 54,000 acres of land otherwise suited for timber production are in designated Spotted Owl Habitat Areas. Thirty rivers totaling 452 miles (276 within the Forest) would be recommended for addition to the Wild and Scenic Rivers System. Five potential Research Natural Area additions are recommended - North Fork Nooksack Addition, Lily Lake, Perry Creek, Green Mountain, and Chowder Ridge. Special Area designation is recommended for areas at Mather Memorial Parkway, Heather Meadows, and Sulphur Creek.

ALTERNATIVES WITH A HIGHER PRESENT NET VALUE

Present net value (PNV) is used to measure the economic efficiency of each alternative. PNV is the difference between the sum of the total discounted benefits of a course of action over some time period, and the total discounted costs of carrying out that course of action over the same time period. Benefits and costs used to calculate PNV are those which have a market price or which can be assigned a market price equivalent, and therefore PNV does not measure all factors that differ between alternatives.

The selected alternative has a PNV of $2258.8 million. The following four alternatives have higher PNV's:

Alternative	PNV (MM$)
B (RPA)	2343.2
I	2342.9
A	2283.5
H	2260.0

Alternative B has the highest PNV, because of its combined emphasis on both timber production and recreation. Noncash benefits are the major contributor to PNV on the Mt. Baker-Snoqualmie National Forest. Although recreation levels remain relatively constant over the span of alternatives, the type and value of recreation does vary. In Alternative B, timber benefits are increased by 15% over Alternative J and increased emphasis on roaded recreation make it's PNV just slightly higher than that of Alternative I. The tradeoff in PNV among Alternatives I, A, and H is more directly related to ASQ, and although A has the highest ASQ, PNV is decreased due to the intensive silvicultural activities associated with timber maximization.

Alternative B has a high emphasis on managing all tentatively suitable lands for timber production As a consequence scenic quality will deteriorate for almost all lands accessible by road. Other non-market amenities will be allocated only in areas not suitable for timber production.

Similar comparisons can be made for the other alternatives with higher PNV's. Alternative J strikes a more realistic balance between environmental concerns and economic returns. It provides better biological stability and provides greater overall benefits recognizing the importance of non-priced values such as visual resources, wildlife habitat, fish, and more primitive recreation activities.

Spatially, the selected alternative better addresses public concerns about recreation, wildlife and logging activities. These concerns will often mean forgoing timber opportunities for a more balanced activity, like reduced harvest rates in scenic viewshed, middleground, or deer and elk habitat.

These added resource provisions in the selected alternative either remove land from timber production or reduce the intensity of timber management on some lands, and this lowers PNV. For detailed comparisons of the alternatives, see the final EIS, Chapter II, "Comparisons of the Alternatives."

ENVIROMENTALLY PREFERABLE ALTERNATIVE

The environmentally preferable alternative causes the least change to the biological and physical environments and protects, preserves, and enhances historic, cultural, and natural resources. All alternatives considered in detail satisfy legal and environmental standards, except the No Change Alternative does not meet NFMA management requirements.

The environmentally preferable alternative is Alternative C. This alternative schedules less intense development activity, retains more acres in an unroaded and undeveloped condition, and programs less ground-disturbing activity during the next 10 to 15 years than in the Forest Plan.

Additional information on the environmentally preferable alternative and other alternatives considered is in the final EIS, Chapter II.

Alternative C emphasizes old growth, wildlife, fish habitat, and undeveloped, dispersed and unroaded recreation on the Forest. These are largely nonmonetary resources which generally do not have established market values. This alternative has an annual ASQ of 67 MMBF (13.7 MMCF), and a road construction program of 7 miles during the 1st decade. About 93% of roadless areas would be maintained in unroaded condition.

I did not select the environmentally preferable alternative because:

- It does not achieve a reasonable balance between concerns for maintaining environmental quality and satisfying demands of society for commodity and non-commodity outputs from the Mt. Baker-Snoqualmie National Forest.

- The Forest Plan has a more balanced response to issues and concerns. It recognizes the needs for protection of old-growth habitats and values, unroaded dispersed recreation, and protection of water quality while still providing for commodity uses (e.g. timber production) at a higher level than is provided by the environmentally preferable alternative.

Alternative J, the Forest Plan, recognized and provides for landscape, resource, vegetation and animal diversity through land use allocations and management areas identified and displayed in the final EIS, Alternative J Map

Alternative J provides appropriate environmental safeguards at an acceptable direct economic cost. This alternative incorporates the perspective that the Forest Service is the trustee of the environment for succeeding generations. All practicable means to avoid or minimize environmental harm have been adopted. I believe Alternative J provides for the proper and continued use and development of Mt. Baker-Snoqualmie National Forest resources in a manner that maintains economic stability, yet retains local natural and cultural heritages, such as fish and wildlife habitat, water quality and quantity, outdoor recreation opportunities, scenic quality, and American Indian religious and cultural use sites and areas.

This Forest Plan has been developed with public participation. which included involvement, coordination, and comments from federal, state and local agencies including the State of Washington; the affected Indian Tribes; the U.S. Fish and Wildlife Service; representatives of county and city governments; industry groups; other special interest groups; and individuals.

Numerous efforts were made to ensure that the selected alternative considered the goals of other public agencies. Comments and letters from agencies were reviewed and analyzed extensively; numerous meetings and field trips were conducted with officials from other agencies and actions were taken to address their concerns.

I believe Alternative J is compatible with and complementary to the goals of other agencies and American Indian tribes. Coordination with many agencies, groups, and individuals will continue as projects are implemented.

I select Alternative J because, in my judgment, it maximizes net public benefit. The term “net public benefit” is necessarily subjective. Many people may disagree with this evaluation, and in fact, therein lie the controversies surrounding these decisions. Due to the controversial nature of the decisions I am making. I have shared with you, the reader, the factors I considered. I compared the selected alternative to the “environmentally preferable alternative” and to alternatives with higher present net values. I recognized that “environmentally preferable” is also a subjective term, and explained the basis for that subjective conclusion.

In arriving at these decisions, I have been thoroughly briefed on the Plan and alternatives presented in the FEIS. I gave particular attention to how the selected alternative responded to public issues and management concerns. In my judgement, Alternative J maximizes net public benefits and best responds to the issues. It balances adequate protection of the environment with production of both monetary and non-monetary resource outputs.

SECTION IV

IMPLEMENTATION

SCHEDULES

The Forest Plan will be implemented through identification, selection, and scheduling of projects to meet its management goals and objectives. These projects are displayed in the Forest Plan, Appendices A through K.

Project schedules will be available for review at the Ranger District Offices and Supervisor's Office. Schedules of possible projects will routinely change as projects are implemented or removed from the lists for other reasons, and as new projects take their place. Adjustments to schedules may occur based on results of monitoring, budgets, and unforeseen events.

The Forest Plan provides direction in the form of goals and objectives, standards and guidelines, monitoring requirements, and probable scheduling of management practices. It does not cover projects on specific sites except in a broad manner. Each proposed project will be subject to site-specific analysis in compliance with NEPA. This process may result in a decision not to proceed with the proposed project, even though the project is compatible with the Forest Plan.

The Forest Plan's scheduled projects are translated into multi-year program budget proposals. The schedule is used for requesting and allocating funds needed to carry out planned management direction. Upon approval of a final budget for the Forest, the annual work program will be updated and carried out.

The Forest program of work will implement management direction of the Forest Plan Outputs and activities in individual years may differ significantly from those shown in Forest Plan, Chapter IV, depending on final budgets, new information derived from updated inventories and monitoring, and any future amendments or revisions of the Forest Plan.

All timber sales offered after issuance of the Forest Plan will comply with direction contained in it. Timber Sales now under contract will be administered under provisions of existing contracts. Changes to existing timber sale contracts may be proposed on a case-by-case basis where overriding resource considerations are present.

The Forest Plan incorporates the Pacific Northwest Region's FEIS for Managing Competing and Unwanted Vegetation. In implementing the Forest Plan through project activities, the Forest will comply with the Record of Decision issued by the Regional Forester dated December 8, 1988, and the Mediated Agreement of May, 1989. Use of all vegetation management techniques is allowed only when other methods are ineffective or will unreasonably increase project costs. Emphasis must be on prevention and early treatment of unwanted vegetation and full public involvement in all aspects of project planning and implementation. Information about the vegetation management FEIS, ROD, and Mediated Agreement are available at the Forest Supervisor's Office.

The Forest Plan will be implemented 30 days after the Notice of Availability of the Forest Plan, EIS, and Record of Decision appears in the Federal Register.

MONITORING AND EVALUATION

The Monitoring and Evaluation Program is the management control system for the Forest Plan. It will be used to provide information on progress and results of implementation. One result of monitoring will be an assessment of needs for amending or revising the Plan. Monitoring and evaluation are discussed in more detail in the Forest Plan, Chapter 5.

Monitoring is intended to keep the Forest Plan current and responsive to change. Monitoring and evaluation each have a distinctly different purpose and scope. Monitoring consists of gathering data, observations, and information. During evaluation, the data and information are analyzed and interpreted. This process allows determination of whether conditions are within the bounds and intent of Plan direction. Forest Plan monitoring is not a substitute for existing monitoring activities. Many activities are currently being monitored on the Forest to comply with administrative and legal responsibilities. (FSM - Admin. Review Procedures).

Monitoring and evaluation will provide information to:

- Compare planned to applied management standards and guidelines to determine if objectives are achieved (36 CFR 219.12(k)].

- Quantitatively compare planned versus actual outputs and services (36 CFR 219.12(k)(1)].

- Measure effects of prescriptions, including significant changes in land productivity [36 CFR 219.12(k)(2)].

- Determine planned costs versus actual costs associated with carrying out prescriptions [36 CFR 219.12(k)(3)].

- Determine population trends of the management indicator species and relationship to habitat changes (36 CFR 219.19(a)(6)].

- Evaluate effects of National Forest management on adjacent land, resources, and communities [36 CFR 219.7(f)].

- Identify research needs to support or improve National Forest management [36 CFR 219.28].

- Determine if lands are adequately restocked [36 CFR 219.12(k)(5)(i)].

- Determine, at least every 10 years, if lands identified as unsuitable for timber production have become suitable (36 CFR 219.12(k)(5)(ii)].

- Determine whether maximum size limits for harvest areas should be continued (36 CFR 219.12(k)(5)(ii)].

- Ensure that destructive insects and disease organisms do not increase to potentially damaging levels following management activities [36 CFR 219.12(k)(5)(iv)].

Results of evaluations will lead to the following types of decisions:

- Continue practice, no change necessary.

- Refer the problem to the appropriate Forest officer for corrective action.

- Modify the management practice through Plan amendments.

- Modify land designation through Plan amendments.

- Revise output schedules.

- Revise unit output costs.

- Revise the Plan.

Three types of monitoring and evaluation will be conducted:

- IMPLEMENTATION MONITORING - Implementation monitoring will determine if plans, prescriptions, projects, and activities are implemented as designed and in compliance with Forest Plan objectives and Standards and Guidelines.

- EFFECTIVENESS MONITORING - Effectiveness monitoring will determine if plans, prescriptions, projects, and activities are effective in meeting management direction, objectives, and the Standards and Guidelines.

- VALIDATION MONITORING - Validation monitoring will determine whether initial data, assumptions, and coefficients used to develop the Plan are correct; or if there is a better way to meet forest planning regulations, policies, goals, and objectives.

Evaluation of results of the site-specific monitoring program will be documented in an annual evaluation by the Forest Interdisciplinary Team. Any need for further action is recommended to the Forest Supervisor.

Actions directed by the Forest Supervisor could include one or more of the following:

- A determination that no action is needed.
- District Ranger(s) may be directed to improve application of management direction.
- Management direction for a particular piece of land may be modified as a Forest Plan amendment.
- The Standards and Guidelines may be modified as a Forest Plan amendment.
- The projected schedule of outputs may be modified as a Forest Plan amendment.
- The needed action may singly or cumulatively be so significant as to cause the Forest Supervisor to initiate revision of the Forest Plan.

If, through monitoring and evaluation, it is determined that management objectives cannot be achieved without violating the Standards and Guidelines, the plan will be amended. In amending the plan, one or more of the following can be changed; allocations, management prescriptions, projected outputs, or standards and guidelines.

MITIGATION

Mitigation measures will minimize or eliminate potential conflicts or adverse effects of implementation. Mitigation measures have been developed through interdisciplinary efforts and incorporated into the Forest Plan at different levels in several different ways.

The Standards and Guidelines and Management Area prescriptions in the Forest Plan, Chapter 4 are a fundamental and integral part of these measures, and as such they are a basic and essential part of the Forest Plan.

All practicable means to avoid or minimize environmental harm from the selected alternative have been adopted (40 CFR 1505.2(c)).

The land use allocations play an important role in mitigation through separation of incompatible uses.

National Forest Management Act requirements were incorporated into the planning process and are reflected in land use allocations and Standards and Guidelines.

"General Water Quality Best Management Practices" (USDA 1988) are incorporated by reference under requirements of Section 319 of the Clean Water Act.

Additional mitigation measures are developed and implemented at the project level, tiered to and consistent with the measures listed above.

AMENDMENT AND REVISION PROCESS

This Forest Plan may be changed either by an amendment or a revision. Such changes may be made as a result of monitoring or project analysis (see Forest Plan, Chapter 5). An amendment may become necessary as a result of situations such as:

- Recommendations of the Interdisciplinary Team based on their review of monitoring results.

- Determination that an existing or proposed permit, contract, cooperative agreement, or other instrument authorizing occupancy and use is not consistent with the Forest Plan, but should be approved, based on project level analysis.

- Adjustment of management area boundaries or prescriptions.

- Changes necessitated by resolution of administrative appeals.

- Changes needed to improve monitoring plans or information and assumptions used in the Plan.

- Changes made necessary by altered physical, biological, social, or economic conditions.

Based on an analysis of the objectives, guidelines, and other aspects of the Forest Plan, the Mt. Baker-Snoqualmie National Forest Supervisor shall determine whether a proposed amendment would result in a significant change to the Forest Plan. If the change is determined to be significant, the Forest Supervisor shall follow the same procedure as that required for development and approval of the Forest Plan. If the change is not determined to be significant, the Forest Supervisor may implement the amendment after appropriate public notice and compliance with NEPA. The procedure is described by 36 CFR 219.10(e) and (f), 36 CFR 219.12(k), FSM 1922.51-52 and FSH 1909.12.

As Regional Forester, I will approve significant amendments and the Forest Supervisor will approve "nonsignificant" amendments. The determination of significance must be documented in a decision notice and would be appealable under 36 CFR 217. A mailing list will be maintained to provide notification and invitation to comment on proposed amendments.

The amendment documentation will include as a minimum:

- A statement of why the Forest Plan is being amended (some possible reasons are mentioned above).

- The actual amendment will be described.

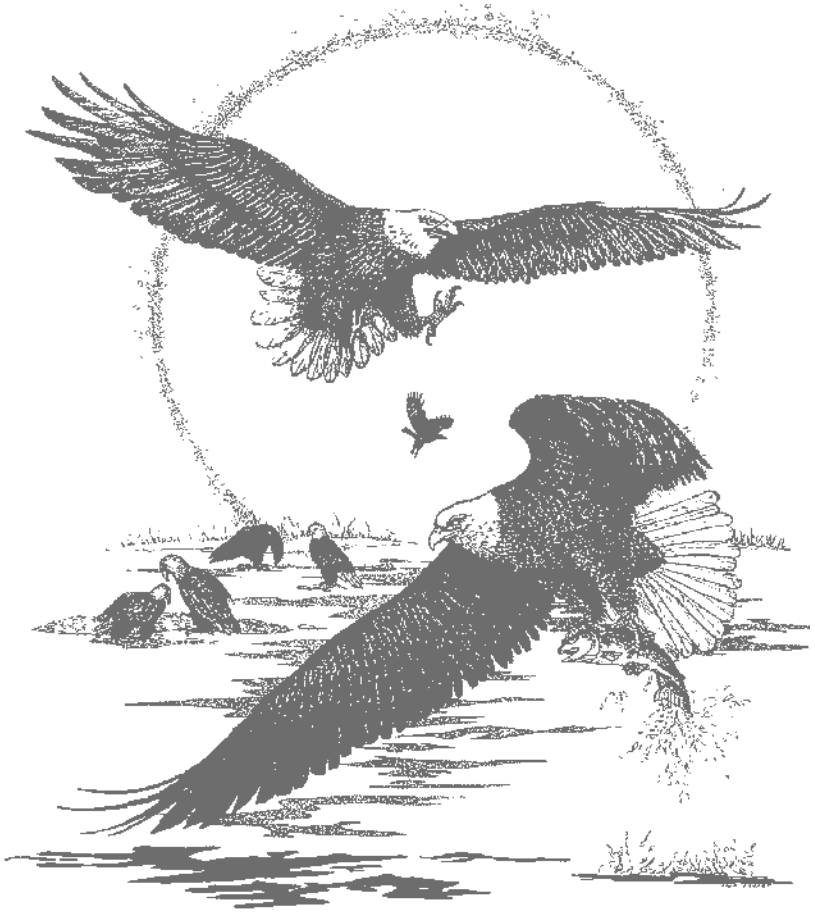
- Rationale for the amendment.

- A statement of significance related to FSM 1922.51. This is the NFMA significance and relates to changes to the Forest Plan.

- A statement of NEPA compliance (40 CFR 1500-1508, FSM 1950, and FSH 1909.15) regarding effects on the environment and how effects disclosed in the Plan EIS may change as a result of the amendment.

- A statement of appeal rights.

NFMA requires revision of the Forest Plan at least every 15 years. However, it may be revised sooner if physical conditions or demands on the land and resources have changed sufficiently to affect overall goals or uses for the entire Forest. If a revision becomes necessary, procedures described in 36 CFR 219.12 will be followed.



SECTION V

APPEAL RIGHTS

This decision may be appealed in accordance with the provisions of 36 CFR 217 by filing a written notice of appeal within 90 days of the date specified in the published legal notice. The appeal must be filed with the Reviewing Officer:

F. Dale Robertson, Chief
USDA Forest Service
P.O. Box 96090
Washington, D.C. 20090-6090

A copy must be sent simultaneously to the Deciding Officer:

John F. Butruille
Pacific Northwest Region
USDA Forest Service
319 S.W. Pine
P.O. Box 3623
Portland, OR 97208-3623

The notice of appeal must include sufficient narrative evidence and argument to show why this decision should be changed or reversed (36 CFR 217.9).

Requests to stay the approval of this Land and Resource Management Plan shall not be granted [36 CFR 21 7.10(a)].

For a period not to exceed 20 days following the filing of a first level notice of appeal, the Reviewing Officer shall accept requests to intervene in the appeal from any interested or potentially affected person or organization [36 CFR 217.14(a)].

Decisions on site-specific projects are not made in this document.

The schedule of proposed and probable projects for the first decade is included in the appendices to the plan. Final decisions on these proposed projects will be made after site-specific analysis and documentation in compliance with NEPA.

I encourage anyone concerned about the Plan or Environmental Impact Statement to contact Doug MacWilliams, Forest Supervisor, in Seattle, Washington, 206-442-5400, before submitting an appeal. It may be possible to resolve the concern or misunderstanding in a less formal manner.

6/8/90

JOHN F BUTRUILLE
Regional Forester - USDA Forest Service
Pacific Northwest Region
319 SW Pine, P.O. Box 3623
Portland, OR 97204-3623

Date

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