



United States
Department of
Agriculture

Forest
Service

Pacific
Northwest
Region

December 2002



I-90 Wilderness Study

Study Report and Draft Legislated Environmental Impact Statement

**Cle Elum and Leavenworth Ranger Districts,
Okanogan and Wenatchee National Forests
Kittitas and Chelan Counties, Washington State**



ACRONYMS

AMA	Adaptive Management Area
BLM	Bureau of Land Management
BOM	Bureau of Mining
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
DEIS	Draft Environmental Impact Study
EIS	Environmental Impact Study
EPA	Environmental Protection Agency
FMP	Fire Management Plan
FSH	Forest Service Handbook
GF	General Forest
IRA	Inventory Roadless Area
NEPA	National Environmental Policy Act
NFS	National Forest System
OMB	Office of Management and Budget
RE-1	Developed Recreation
RE-2a	Dispersed Recreation, Unroaded, Motorized
ROD	Record of Decision
RR	Riparian Reserve
SI-1	Classified Special Areas - Scenic and/or Recreation
ST-1	Scenic Travel – Retention
ST-2	Scenic Travel – Partial Retention
WS-1	Scenic River
WS-2	Recreational River
WS-3	Wild River
USC	United States Code
USGS	United States Geological Survey
USDA	United States Department of Agriculture

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, gender, religion, age, disability, political beliefs, sexual orientation, or marital or family status. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 14th and Independence Avenue, SW, Washington, DC 20250-9410 or call (202) 720-5964 (voice and TDD). USDA is an equal opportunity provider and employer.

I-90 Wilderness Study

Study Report and Draft Legislated Environmental Impact Statement

Okanogan and Wenatchee National Forests

Chelan and Kittitas Counties, Washington State

Lead Agency:

USDA Forest Service

SONNY J. O'NEAL
FOREST SUPERVISOR
Okanogan and Wenatchee
National Forests
215 Melody Lane
Wenatchee, WA 98801

For Information Contact:

FLOYD ROGALSKI
NATURAL RESOURCE PLANNER
803 West Second Street
Cle Elum, WA 98922
509-674-4411, ext. 315

ABSTRACT: Title VI of the Omnibus Consolidated and Emergency Supplemental Appropriations Act for Fiscal Year 1999 (also known as the Interstate 90 Land Exchange Act) directed the Secretary of Agriculture to review an area of land comprising approximately 15,000 acres for suitability for preservation as Wilderness and to complete a study report for presentation to Congress within three years of enactment of the legislation. A study area comprised of ten parcels each separated by definable geographic features was subsequently created. This legislated environmental impact statement describes the attributes of each parcel, addresses the issues as formulated from internal review and external public involvement, and makes a recommendation as to the suitability of each parcel for preservation as wilderness. Each of the ten parcels is evaluated independently and each recommendation can be accepted or rejected without impacting the recommendation of a subsequent parcel. A Record of Decision will be issued by the Secretary of Agriculture upon transmittal of the final legislated environmental impact statement and study report to Congress.

Reviewers should provide the Forest Service with their comments during the review period of the draft environmental impact statement. This will enable the Forest Service to analyze and respond to the comments at one time and to use information acquired in the preparation of the final environmental impact statement, thus avoiding undue delay in the decision making process. Reviewers have an obligation to structure their participation in the National Environmental Policy Act process so that it is meaningful and alerts the agency to the reviewers' position and contentions. Vermont Yankee Nuclear Power Corp. v. NRDC, 435 U.S. 519, 553 (1978). Environmental objections that could have been raised at the draft stage may be waived if not raised until after completion of the final environmental impact statement. City of Angoon v. Hodel (9th Circuit, 1986) and Wisconsin Heritages, Inc. v. Harris, 490 F. Supp. 1334, 1338 (E.D. Wis. 1980). Comments on the draft legislated environmental impact statement should be specific and should address the adequacy of the statement and the merits of the alternatives discussed (40 CFR 1503.3).

Send Comments to:

**I-90 WILDERNESS STUDY
ATTN: FLOYD ROGALSKI**
803 West Second Street
Cle Elum, WA 98922

509-674-4411, ext. 315

Date Comments Must Be Received By:

PLEASE SEE TRANSMITTAL LETTER



Table of Contents

SUMMARY	I
CHAPTER 1 PURPOSE AND NEED	1-1
1.1 PURPOSE AND NEED FOR ACTION	1-1
1.2 DOCUMENT STRUCTURE.....	1-1
1.3 BACKGROUND	1-2
1.4 DECISION FRAMEWORK	1-4
1.5 PROPOSED ACTION.....	1-6
1.6 LOCATION.....	1-6
1.7 PUBLIC INVOLVEMENT	1-10
1.8 POTENTIAL WILDERNESS CRITERIA	1-11
1.9 ISSUES	1-12
1.10 ISSUES OUTSIDE THE SCOPE OF THIS LEIS.....	1-15
1.11 PLANNING RECORD LOCATION AND AVAILABILITY	1-15
1.12 Other Related Efforts	1-16
1.13 NEPA REQUIREMENTS.....	1-16
CHAPTER 2 ALTERNATIVES CONSIDERED	2-1
2.1 INTRODUCTION	2-1
2.2 DEVELOPMENT OF ALTERNATIVES.....	2-2
2.3 ALTERNATIVES CONSIDERED BUT ELIMINATED FROM DETAILED STUDY	2-3
2.4 ALTERNATIVES CONSIDERED IN DETAIL	2-3
2.5 COMPARISON OF ALTERNATIVES	2-49
CHAPTER 3 AFFECTED ENVIRONMENT, ANALYSIS OF WILDERNESS VALUES AND ENVIRONMENTAL CONSEQUENCES	3-1
3.1 INTRODUCTION	3-1
3.2 GENERAL INFORMATION.....	3-1

3.3	HOW DO THE ALTERNATIVES RESPOND TO THE ISSUES.....	3-3
CHAPTER 4	CONSULTATION, COORDINATION, AND PREPARERS.....	4-0
CHAPTER 5	DISTRIBUTION	5-1
CHAPTER 6	LITERATURE CITED	6-1
CHAPTER 7	GLOSSARY TERMS USED.....	7-1
CHAPTER 8	INDEX.....	A-1
APPENDIX A	TITLE VI—INTERSTATE 90 LAND EXCHANGE ACT OF 1998, SECTION 610	A-1
APPENDIX B	ENERGY AND MINERAL RESOURCE ASSESSMENT.....	B-1

Figures

FIGURE S- 1 - VICINITY MAP	III
FIGURE S- 2 - I-90 WILDERNESS STUDY AREA.....	IV
FIGURE S-3- PARCEL COMPARISON FOR THE PROPOSED ACTION.....	X
FIGURE 1-1 PROCESS FOR HANDLING WILDERNESS PROPOSALS	1-5
FIGURE 1-2 VICINITY MAP.....	1-7
FIGURE 1-3 I-90 WILDERNESS STUDY AREA	1-8
FIGURE 1-4 PARCEL COMPARISON FOR THE PROPOSED ACTION	1-9
FIGURE 2-1- WILDERNESS STUDY AREA.....	2-2
FIGURE 2-2- PARCEL 1 245 ACRES.....	2-6
FIGURE 2-3- PARCEL 2 141 ACRES.....	2-8
FIGURE 2- 4- PARCEL 3 217 ACRES.....	2-10
FIGURE 2- 5- PARCEL 4 3,096 ACRES	2-12
FIGURE 2-6 LOGGED AREA	2-13
FIGURE 2- 7 LOGGED AREA	2-14
FIGURE 2- 8- PARCEL 5 - 193 ACRES	2-16
FIGURE 2- 9- PARCEL 6 1,169 ACRES	2-17
FIGURE 2- 10- LOGGED AREA	2-18
FIGURE 2- 11- PARCEL 7 5,178 ACRES	2-20
FIGURE 2- 12- PARCEL 7 NORTH SECTION	2-21
FIGURE 2- 13- PARCEL 7 SOUTH SECTION	2-22
FIGURE 2- 14- PARCEL 8 4,210 ACRES	2-24
FIGURE 2- 15- PARCEL 9 918 ACRES.....	2-26
FIGURE 2- 16- PARCEL 10 600 ACRES	2-28
FIGURE 2- 17- PARCEL 2A 223 ACRES.....	2-30
FIGURE 2- 18- PARCEL 3A 996 ACRES.....	2-32
FIGURE 2- 19- PARCEL 3B 205 ACRES.....	2-34
FIGURE 2- 19- PARCEL 4A.....	2-36
FIGURE 2- 20- PARCEL 4B.....	2-38
FIGURE 2- 21- PARCEL 5A 149 ACRES.....	2-40
FIGURE 2- 22- PARCEL 6A 1,174 ACRES.....	2-42
FIGURE 2- 23- PARCEL 7A 5,105 ACRES.....	2-44
FIGURE 2- 24- PARCEL 7A NORTH SECTION.....	2-45
FIGURE 2- 25- PARCEL 7A SOUTH SECTION.....	2-46
FIGURE 2- 26- PARCEL 10A 575 ACRES	2-48
FIGURE 3-1- POTENTIAL CHANGES IN LAND MANAGEMENT GOALS	3-20
FIGURE 3-2- POTENTIAL CHANGE IN TRAIL MANAGEMENT	3-23
FIGURE 3-3- SUMMARY OF MINERAL RESOURCE POTENTIAL AND DEGREE OF CERTAINTY RATINGS	3-24
FIGURE 3-4- SITE PROBABILITY, INVENTORY HISTORY AND DOCUMENTED SITES/TYPES.....	3-27

SUMMARY

Purpose And Need For Action



The purpose of this I-90 Wilderness Study environmental impact statement is to carry out the direction outlined in the Omnibus Consolidated and Emergency Supplemental Appropriations for Fiscal Year 1999 (House of Representatives – October 19, 1998), Title VI—Interstate 90 Land Exchange Act, also referred to in its short title form of ‘Interstate 90 Land Exchange Act of 1998’ (see Appendix A). Section 610 of the Act established an approximately 15,000-acre Alpine Lakes Wilderness Study Area along the southern boundary of the existing Alpine Lakes Wilderness and directed the Secretary of Agriculture to review this area of land as to its suitability for preservation as wilderness. This environmental impact statement responds to the goals and objectives outlined in the legislated action and direction and is therefore termed a legislated environmental impact statement (LEIS).

The U.S.D.A. Forest Service, hereafter called the Forest Service, has prepared this Draft Legislated Environmental Impact Statement (LEIS) for the I-90 Wilderness Study in compliance with the National Environmental Policy Act (NEPA) and other relevant federal laws and regulations. This draft LEIS discloses the direct, indirect, and cumulative environmental impacts that would result from the proposed action and alternatives. The process for development of the I-90 Wilderness Study draft LEIS must comply with Forest Service direction for review and approval of wilderness proposals resulting from special studies (FSH 1909.12, section 7.32). Ultimately, the President of the United States will finalize the recommendation with respect to the suitability of any parcel for preservation as wilderness and will transmit this recommendation to Congress. This draft LEIS and supporting activities have been conducted in accordance with these requirements.

NEPA REQUIREMENTS

The Regulations for Implementing the Procedural Provision of the National Environmental Policy Act are found at 40 CFR Parts 1500-1508. These are referred to as the Council on Environmental Quality Regulations. This LEIS is being prepared following the requirements of 40 CFR 1506.8. These regulations identify a legislated environmental impact statement as “...the detailed statement required by law to be included in a recommendation or report on a legislative proposal to Congress.” This proposal is the result of a process required by statute (Interstate 90 Land Exchange Act), thus providing for both the draft and final LEIS preparation and circulation. As a congressionally legislated action, comments made by other agencies or the public will be forwarded to the Congressional committees with jurisdiction along with the Forest Service responses. A major difference between a standard Forest Service EIS process and the LEIS process is that a Record of Decision will not be issued by a Forest Service responsible official following the conclusion of the NEPA process. The Secretary of Agriculture is the responsible official who will sign the record of decision at the time the study report and LEIS is transmitted to Congress. The proposal

then awaits legislative action by the Congress. These decisions will not be subject to administrative appeal.

The nature of the proposed action is programmatic; that is, it is broad scale in nature and would not result in project level, site-specific actions. Any project that involves modification of the landscape resulting from the implementation of this proposal would require site-specific analysis consistent with the NEPA process prior to project approval.

The National Marine Fisheries Service and the US Fish and Wildlife Service addressed the management of any areas that would be designated as wilderness. Both agencies concluded that the study being a programmatic action did not warrant consultation at this time and that site-specific analysis following the NEPA process would be conducted and proposed actions consulted on when site-specific projects are identified.

Decision Framework

The I-90 Wilderness Study LEIS is the result of legislated action and as such follows a set of procedures developed specifically for special studies outside the forest planning process that are initiated by Congress. When the final study report/LEIS is complete it is transmitted to the Secretary of Agriculture for review.

Following approval by the Secretary's Office, the study report/LEIS is transmitted to the Office of Management and Budget (OMB) for review. OMB coordinates the final review by other Federal agencies. Recommended changes resulting from this interagency review are usually incorporated into the transmittal letter to the president. If changes are significant it may be necessary to revise the study report and/or the LEIS. Upon clearance by OMB, the Secretary signs a transmittal letter to the President and forwards the combined study report and LEIS to the president.

When the President finalizes the recommendation, the study report/LEIS is transmitted to the Congress. The Secretary signs and dates the record of decision at the time the study report and LEIS is transmitted to Congress. Copies of the study report and LEIS and the record of decision are then distributed to the public. The LEIS and a copy of the record of decision are simultaneously filed with the Environmental Protection Agency (EPA). The EPA publishes a Notice of Availability in the Federal Register. The proposal then awaits legislative action by the United States Congress since only Congress has the power to actually designate an area as wilderness.

Proposed Action

The Forest Service proposes to recommend approximately 15,000 acres of National Forest System land, identified as the "Wilderness Study Area" on the vicinity maps (see figures S-1, and S-2), as suitable for inclusion in the Wilderness Preservation System as an addition to the Alpine Lakes Wilderness. This recommendation would be made in a Study Report for transmittal to the President of the United States by fall of 2002 in accordance with the process described in Forest Service Handbook 1909.12, 7.32 (Proposals Resulting from Special Studies). Upon finalization of the recommendation by the President and subsequent

Congressional action to designate the Study Area as wilderness, the lands would be managed in accordance with Forest Service wilderness policies and management direction.

The Wenatchee National Forest Land and Resource Management Plan would be amended, as part of this proposal, to assign the WI-1/Congressionally Reserved management allocation, standards and guidelines to the area designated as wilderness.

Location

The area that is the focus of the proposal includes National Forest System lands located east of Snoqualmie Pass and north of Interstate 90, on the eastern slopes of the Cascade Mountains. The study area is composed of ten individual parcels, each adjoining the southern boundary of the Alpine Lakes Wilderness Management Area and ranging in size from 141 acres to 5,178 acres. Nine of the parcels are within the Cle Elum Ranger District and one is within the Lake Wenatchee-Leavenworth Ranger District of the Okanogan-Wenatchee National Forests, Kittitas and Chelan Counties, Washington State. All of the parcels except Parcel 9 were allocated partially or entirely as Alpine Lakes Adjacent Inventoried Roadless Areas under the 1990 Wenatchee National Forest Land and Resource Management Plan.

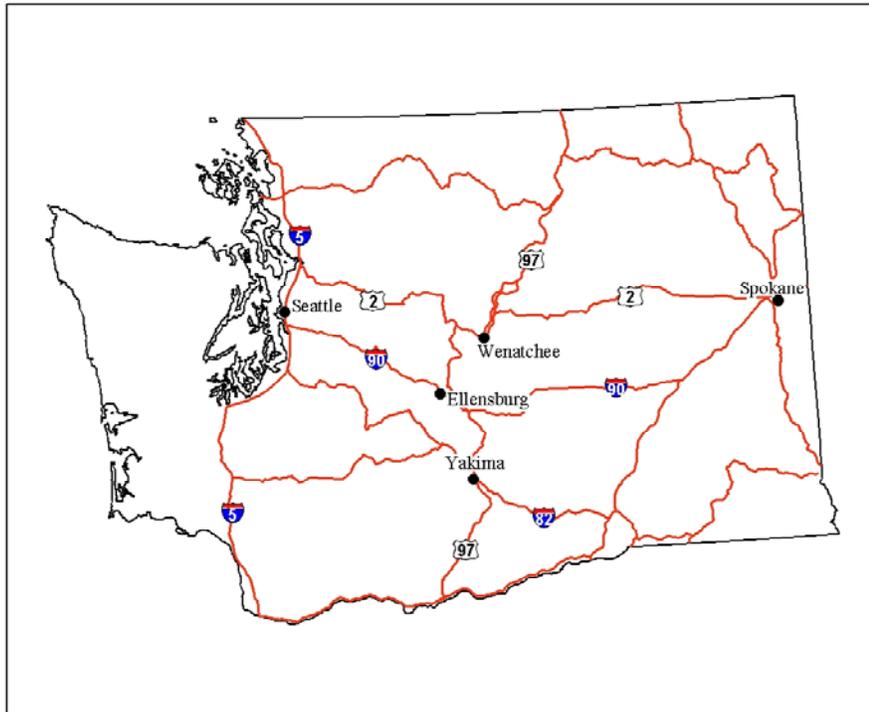


Figure S- 1 - Vicinity Map

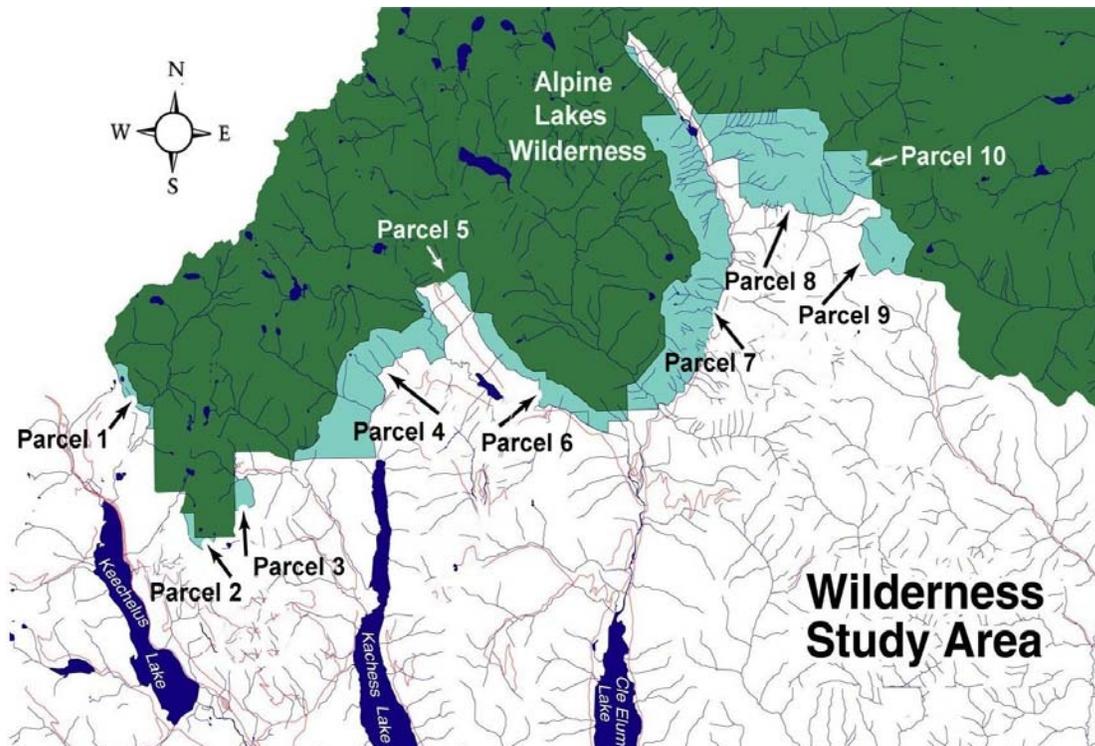


Figure S- 2 - I-90 Wilderness Study Area

Public Involvement and Issue Development

Public involvement for the Wilderness Study began informally on October 19, 1998, with the signing of the Interstate 90 Land Exchange Act of 1998. At that time interested individuals and groups requested information as to the timeline of the Wilderness Study that was referenced in the Act.

The official public involvement process for the study began with the publication of the Notice of Intent to Prepare a Legislated Environmental Impact Statement in the Federal Register on May 04, 2001. News releases, letters and meetings between April 2001 and February 2002 were used to invite public participation in identifying the issues associated with the Proposed Action. Public involvement is an ongoing process and will continue through completion of the final EIS.

This public involvement process, along with agency team discussions, generated numerous comments. Comments were received in the form of letters, phone conversations and notes from meetings and have been reviewed and summarized to form the issues that have been used to focus the analysis and develop the alternatives to the Proposed Action.

Potential Wilderness Criteria

The 1964 Wilderness Act provides a definition of wilderness that was used to develop issues and indicators for these LEIS. Section 2 (c) of the Wilderness Act provides a definition of wilderness:

“A wilderness, in contrast with those areas where man and his own works dominate the landscape, is hereby recognized as an area where the earth and its community of life are untrammelled by man, where man himself is a visitor who does not remain. An area of wilderness is further defined to mean in this Act an area of undeveloped Federal land retaining its primeval character and influence, without permanent improvements or human habitation, which is protected and managed so as to preserve its natural conditions and which (1) generally appears to have been affected primarily by the forces of nature, with the imprint of man’s work substantially unnoticeable; (2) has outstanding opportunities for solitude or a primitive and unconfined type of recreation; (3) has at least five thousand acres of land or is of sufficient size as to make practicable its preservation and use in an unimpaired condition; and (4) may also contain ecological, geological, or other features of scientific, educational, scenic, or historical value.”

Forest Service Handbook (FSM) 1909.12 provides direction for the evaluation of potential wilderness. The FSM directs careful evaluation of potential wilderness to determine the mix of land and resource uses that best meet public needs. An area recommended for wilderness must meet the tests of capability, availability, and need. In addition to the inherent wilderness quality it possesses, an area must provide opportunities and experiences that are dependent upon or enhanced by a wilderness environment.

The criteria specified in FSM 1909.12, which are summarized below, were also used to develop issues and indicators in this LEIS:

Capability is the degree to which an area contains the basic characteristics that make it suitable for wilderness designation without regard to its availability or need as wilderness. The area must be natural, or have the appearance of being natural and free from disturbance, which allows the normal interplay between biotic species inhabiting the area to continue. Social, economic, and environmental factors must blend together with natural features to make the area desirable and manageable as wilderness. Desirable areas offer many outstanding opportunities for adventure and challenge, primitive recreation opportunities, and feelings of solitude. Manageability considerations include the ability to manage the area’s natural character as wilderness. Factors such as shape, location and the area’s relationship to external influences and boundary location are also considered.

Availability requires the determination that the lands are also available in terms of value of and need for the wilderness resource as compared to the value of and need for other resources. To be available for wilderness, the values of the wilderness resource, both tangible and intangible, should offset the value of resources that formal wilderness designation would forego. These values are not based on yield,

the greatest dollar return, or the greatest unit output. Consideration of current constraints or encumbrances is important.

Need is determined by the degree to which an area contributes to the local and national distribution of wilderness. Evidence of current or future public need for additional designated wilderness in the general area under consideration should exist. The need is demonstrated through the public involvement process, including public input to environmental analysis.

Based on comments received during public involvement, internal staff comments, and consultation with other government agencies and Indian Tribes, four key issues were identified that were determined to be major and within the scope of this LEIS. These issues were used to guide the development and evaluation of the wilderness alternatives. *These issues are grouped into (a) capability and (b) availability.* The third factor, need, is not evaluated since Congress directed the study. These issues are used to formulate the alternatives, to focus the effects analysis, and to develop mitigation measures.

Capability

Issue A: Does the I-90 Wilderness Study Area satisfy the definition of wilderness found in the Wilderness Act of 1964 and does it meet the criteria for wilderness recommendations in FSH 1909.12?

Based on the direction in the I-90 Land Exchange Act that directed this study, at least parts of the study area are considered as potentially suited for designation as wilderness. This issue addresses which parcels, or portions thereof, meet the criteria.

Indicators for this issue:

1. Appearance of the area indicates that the main influences have been the forces of nature
2. Human intervention is substantially unnoticeable
3. Outstanding opportunities exist for solitude or a primitive and unconfined type of recreation
4. The land area is of sufficient size as to make practicable its preservation and use in an unimpaired condition
5. Ecological, geological or other features of scientific, educational, scenic or historical value may be present
6. Acres that meet the above indicators.

Issue B: Can manageable boundaries be identified that are easily recognized by the forest visitor and that reduce inadvertent incursions of prohibited uses (motorized and mechanized use) across the wilderness boundary?

Many wildernesses do not have maintained boundary signing, making it difficult for the forest visitor to know when the wilderness is being entered and therefore when wilderness rules apply. The use of natural features such as streams and ridgelines are easier for the visitor to recognize.. The use of natural features, where opportunities exist, would reduce the need to maintain signing and reduce the number of situations where visitors are unclear about the wilderness boundary. Official recorded surveys would still need to be completed when the potential for constructive encroachments exists.

Indicator for this issue:

Linear and geographic features used for boundaries that both serve as a barrier to prohibited uses and that are also easily recognized by the public

Availability

Issue C: What components of the natural ecosystem would be managed as wilderness if the lands are reallocated?

The study area contains lands that have generally been managed for scenic values and dispersed recreational activities in a natural ecosystem setting. The lands contain features that could potentially be impacted if management activities were initiated that focused on resource use or alteration. Management activities could change the character of the land from its current setting to one of being noticeably modified such that it would no longer be available for wilderness eligibility.

Indicator for this issue:

1. Miles of stream managed as wilderness
2. Acres of riparian habitat managed as wilderness
3. Acres of upland habitat managed as wilderness
4. Acres of forest managed as wilderness
5. Change in management direction by acres

Issue D: How would recreation uses be impacted by a wilderness designation and what would be the changes to existing access?

Recreation uses including hiking, biking, horseback riding, driving, skiing, snowmobiling, and outfitter/guiding all occur in various parts of the study area. The designation of wilderness would protect some of these uses, restrict some of these uses, and modify others. Current access to the study area is primarily by foot, but some areas do offer opportunities for access by motorized means. This is especially true of winter uses. Changes in use patterns would occur on lands designated as wilderness.

Indicators for this issue:

1. Change in uses permitted
2. Impacts to outfitter/guides

3. Changes in developed access routes by type of use

OTHER ISSUES

The following issues were identified during the public involvement process. Consideration of these issues showed that the variation in their indicators by alternative was not substantial and did not influence the design of the alternatives. However, these non-key issues are used in Chapter 3 in evaluating the effects of the alternatives.

Issue E: How would minerals and mineral potential be impacted?

Mineral prospecting, exploration, development, and production has occurred on several of the parcels in the past and one parcel in the Cle Elum River valley is encumbered by several active claims. The designation of wilderness would have no impact on existing claims, but could have impacts on how mining is conducted on these claims, and would impact future mineral exploration as wilderness is withdrawn from mineral entry. Mineral resource potential varies from parcel to parcel and by the type of commodity within a parcel from “none” to “high”. In general, the parcels assigned a high mineral potential would have the greater impact from wilderness designation, but each parcel has significant variability in its mineral potential for specific commodities (e.g. hardrock, non-energy minerals vs. oil and gas).

Indicators for this issue:

1. Relative level of mineral potential
2. Number of active claims being impacted
3. Change in land allocation of area

Issue F: Would there be changes to heritage resource management?

Generally heritage resource management concerns are addressed only prior to ground disturbing land management activities. With few projects within the study area to date little heritage inventory work has been completed. As such and with a wilderness designation, opportunities to inventory the area may be limited. Heritage resources, including traditional cultural properties, that may be eligible for inclusion on the National Register of Historic Places, or that have special meaning to American Indian tribes, may remain unknown and undocumented. Treaty rights will not be affected.

Indicator for this issue:

1. Change in area receiving wilderness designation
2. Change in management of heritage properties

Issue G: How would wilderness designation impact the ability to carry out fire suppression?

A primary area of concern with respect to fire suppression in wilderness involves the effects of fire size and fire behavior on the wilderness resource if changes in fire suppression activities occur as a result of wilderness designation. .

Indicators for this issue:

1. Change in permitted suppression action

Issues Outside the Scope of this EIS

An issue that was raised and determined to be outside the scope of this LEIS and the rationale for discarding the issue follow.

Issue: Analyzing more area for wilderness recommendation, perhaps all roadless areas on the ranger district, was raised as an issue, as was considering removing areas from the existing Alpine Lakes Wilderness.

Rationale: The I-90 Land Exchange Act contains the direction for this special study. It clearly identified the lands that were to be studied and did not make the provisions for the addition or subtraction of lands to be included in the study, nor did it suggest evaluating removal of lands from existing wilderness.

Quantitative Comparison of the Ten Parcels of the I-90 Wilderness Study Area
Proposed Action*

Parcel Number	1	2	3	4	5	6	7	8	9	10
Attribute:										
County	Kittitas	Kittitas	Kittitas	Kittitas	Kittitas	Kittitas	Kittitas	Kittitas	Kittitas	Chelan
Acres	245	141	217	3,096	193	1,169	5,178	4,210	918	600
Watershed	Yakima	Yakima	Yakima	Yakima/ Cle Elum	Cle Elum	Icicle Creek				
Allocation	AMA/IRA	AMA/IRA	AMA/IRA	AMA/IRA	AMA/IRA	AMA/IRA	AMA/IRA	AMA/IRA	AMA	SI1/IRA
Lake Name	Upper Kendall Peak			Three Queens			Opal		Ann	
Lake Areas	6			2			2		3	
Stream Length/Class (Miles)										
1				3.64		0.89	3.88			
2	0.61			0.99			0.28		0.15	
3	0.81	0.10	0.81	6.09	0.39	0.11	5.19	8.15	0.93	2.76
4	1.67	0.47	1.47	8.93	0.76	4.50	35.97	26.67	8.13	
Trails by Use (Miles)										
Hiker	0.56	1.00		1.19			0.39	0.97		
Hiker/Horse				0.16	0.22	1.86	2.44	8.04	1.47	1.32
Hiker/Horse/ Mtn. Bike				1.38		1.55				
4 X 4										0.57
Winter Recreation	Winter recreation occurs in varying extents in all parcels with the majority of motorized use in Parcels 8, 9 and 10. Statistics are not available to quantify the extent of this use.									

Figure S-3- Parcel Comparison For the Proposed Action

* Data is computer generated in this document and may vary from actual physical measurement.

ALTERNATIVES

Alternative Development

The alternatives developed were defined by the purpose and need, Forest Plan direction, the 1964 Wilderness Act, Forest Service Manual and Handbook direction, Interstate 90 Land Exchange Act of 1998, comments received during public involvement and the major issues described in Chapter 1. The alternatives carried forward and subjected to detailed study must be reasonable, meet the purpose and need, and address the major issues identified during the public involvement process. They must also meet the criteria of capability, availability and need that would make the parcels that are the subject of this study suitable for wilderness designation (FSH 1909.12, section 7.2). The alternatives analyzed are considered to meet these criteria.

The I-90 Wilderness Study Area is comprised of ten separate parcels that, while being in close proximity, are physically separate, sharing only the current Alpine Lakes Wilderness Area's boundary. Because of this separation and the apparent independence of each area, the ten parcels have been analyzed independently, see figures 2-2 through 26. It was determined that there was no benefit in packaging or grouping the parcels to formulate alternatives except for the no action and the proposed action alternatives. When comparing alternatives, the proposed action parcels are identified as 1, 2, etc. When variations of the parcel boundaries were determined to be appropriate, the alternatives to the proposed action are identified as 1a, 1b, 2a, 2b, etc.

Specific details of individual parcels are found in Chapter 2 of this document.

ALTERNATIVES CONSIDERED IN DETAIL

Alternative 1 – No Action

Manage the Wilderness Study Area within the standards and guidelines of the existing Forest Plan.

The Forest Service is following legislated direction in preparing the I-90 Wilderness Study Area EIS. The No Action alternative is developed to establish a baseline of information with which to compare the other alternatives and to meet CEQ regulation (40 CFR 1502.14(d)). Under the No Action alternative management practices would continue in accordance with current Forest Plan direction, emphasizing adaptive management with the land allocation being AMA. Projects could be proposed that would permit activities that would further the goals and objectives of the Snoqualmie Pass AMA as directed by the Forest Plan. No wilderness expansion would occur. The No Action alternative does **not** make a determination as to the suitability of the area for preservation as wilderness.

Alternative 2 – Proposed Action

Manage the Wilderness Study Area as wilderness within the standards and guidelines of the existing Forest Plan.

Alternative 2 proposes the addition of the legislatively defined Wilderness Study Area to the Alpine Lakes Wilderness in response to Title VI of the Omnibus Consolidated and

Emergency Supplemental Appropriations Act for Fiscal Year 1999 (referred to as the Interstate 90 Land Exchange Act). If the area is designated by Congress as wilderness it would be managed under the existing Forest Plan wilderness direction for the Alpine Lakes Wilderness (USDA Forest Service 1981). Any existing wilderness-like character of the area would be preserved and unimpaired, leaving the area in a natural state for future generations to use and enjoy.

The following is a brief parcel-by-parcel proximity reference; figures of the parcels are located in Chapter 2 of this draft LEIS and are accompanied by the appropriate parcel description:

Parcel 1- Parcel 1 contains 245 acres of land ranging from the valley bottom of the Gold Creek drainage to the ridges near Upper Kendall Peak Lake.

Parcel 2- Parcel 2 contains 141 acres of land near Mount Margaret. The boundary partially follows the Rampart Ridge Trail and is south of Stonestrow Lake.

Parcel 3- Parcel 3 contains 217 acres of land located in the headwaters of the west fork of Box Canyon Creek.

Parcel 4- Parcel 4 contains 3,096 acres of land located in the vicinity of Chikamin Ridge and includes lands near Mineral Creek, Kachess River and Cooper River. The parcel includes lands that were helicopter logged.

Parcel 5- Parcel 5 contains 193 acres of land and is located in the upper Cooper River drainage.

Parcel 6 - Parcel 6 contains 1,169 acres of land. This parcel is located on the southwestern slopes of Polallie Ridge near Cooper Lake and Salmon La Sac. The boundary includes land which is privately owned and would not be designated.

Parcel 7 - Parcel 7 contains 5,178 acres of land along the Cle Elum River between Salmon La Sac and Tucquala Lake (Fish Lake). This parcel is located on the eastern slopes of Goat Mountain.

Parcel 8 - Parcel 8 contains 4,210 acres of land on the western slopes of the Wenatchee Mountains. This parcel is near Tucquala Lake (Fish Lake). Within this parcel are Scatter Creek and Silver Creek. Fortune Creek lies to the south of Parcel 8.

Parcel 9 - Parcel 9 contains 918 acres of land on the western slopes of the Wenatchee Mountains. This parcel contains Lake Ann and is accessed primarily by the Fortune Creek Road.

Parcel 10 - Parcel 10 contains 600 acres of land on the eastern slopes of the Wenatchee Mountains. This is the only parcel not within Kittitas County. It lies in Chelan County and contains the headwaters of Van Epps Creek and the historic Van Epps mining area. The area was previously excluded from wilderness designation because of a patented mining claim that has subsequently become public land.

Alternatives to the Proposed Action

As mentioned above, the development of other action alternatives was focused on specific parcels rather than the area as a whole. The following discussion will concentrate on alternative(s) that modify an individual parcel boundary from the legislated proposal in response to issues brought forward during Public Involvement.

Parcel 1 - There are no alternatives to the Proposed Action for Parcel 1. The parcel exhibits the basic wilderness characteristics with respect to natural characteristics (remoteness, solitude, freedom from disturbance, challenge, primitiveness) and possesses an easily managed boundary. The Proposed Action can adequately address the Key Issues for Parcel 1.

Parcel 2a - There is one alternative to Parcel 2; this alternative is identified as Parcel 2a. Parcel 2a contains 223 acres of land. This alternative was developed to address *Issue 3 – the establishment of boundaries that are recognizable to the forest users*.

The I-90 Land Exchange, Section 604(d) Public Law 105-277, provided for a donation of lands that, if qualified as wilderness, be managed as part of the adjacent Alpine Lakes Wilderness. The wilderness boundary established by this donation follows a 4200-foot contour. To maintain a recognizable boundary, Parcel 2a boundary would join this contour and use dominant landscape features and continuous contour lines, when possible, to establish the new boundary.

Parcel 3a and 3b - There are two alternatives to Parcel 3; these alternatives are identified as Parcel 3a and Parcel 3b. Parcel 3a contains 996 acres of land and Parcel 3b contains 205 acres of land. Geographic boundaries are utilized in Parcel 3a that capture more of the primitive area as wilderness. Parcel 3b is similar to Parcel 3, but eliminates the area north of the West Fork of Box Canyon Creek that has previously seen timber harvest activities. These alternatives to Parcel 3 were developed to address *Issue 1 – the appearance that the main influences have been the forces of nature* and *Issue 3 – the establishment of boundaries that are recognizable to the forest users*.

Parcels 4a and 4b - There are two alternatives to Parcel 4; these alternatives are identified as Parcel 4a and Parcel 4b. These alternatives to Parcel 4 were developed to address *Issue 1 – the appearance that the main influences have been the forces of nature*, *Issue 3 – the establishment of boundaries that are recognizable to the forest users*, *Issue 4 – the impact to recreational uses*, and *Issue 5 – changes to existing access*.

There are **two options** in the vicinity of the Cooper River and Pete Lake Trail #1323. The options have minimal impacts on the overall parcel configuration and are therefore treated as options rather than alternatives. These options may be selected with either of the alternatives for this parcel.

Parcel 5a - Parcel 5a is the alternative to Parcel 5 and contains 149 acres. The boundary would follow the 4200-foot contour for its entire length. This alternative addresses *Issue 1 – the appearance that the main influences have been the forces of nature*.

Parcel 6a - Parcel 6a is the alternative to Parcel 6 and contains 1,174 acres. This individual parcel alternative addresses *Issue 3 – the establishment of boundaries that are recognizable to the forest users* and *Issue 4 – the impact to recreational uses*.

Parcel 7a - There is one alternative to Parcel 7 identified as Parcel 7a and contains 5,105 acres. There are two changes in this alternative that address *Issue 3 – the establishment of boundaries that are recognizable to the forest users*, *Issue 4 – the impact to recreational uses* and *Issue 6 – impacts to mineral activities*.

Parcel 8 - There are no alternatives to the Proposed Action for Parcel 8. The parcel exhibits the basic wilderness characteristics with respect to natural characteristics, (remoteness, solitude, freedom from disturbance, challenge, primitiveness) and possesses an easily managed boundary. The Proposed Action can adequately address the Key Issues for Parcel 8.

Parcel 9 - There are no alternatives to the Proposed Action for Parcel 9. The parcel exhibits the basic wilderness characteristics with respect to natural characteristics, (remoteness, solitude, freedom from disturbance, challenge, primitiveness) and possesses an easily managed boundary. The Proposed Action can adequately address the Key Issues for Parcel 9.

Parcel 10a - Parcel 10a is identified as an alternative to Parcel 10 and it contains 575 acres. The acreage is reduced from that in the Proposed Action by less than ten acres by maintaining a buffer of 50-feet on either side of the existing four-wheel drive trail that would permit continued mechanized access to the historic mining site. This alternative addresses *Issue 4 – the impact to recreational uses* and *Issue 5 – changes to existing access*.

Comparison of Alternatives

CAPABILITY

Issue A: Does the Wilderness Study Area satisfy the definition of wilderness found in the Wilderness Act of 1964 and does it meet the criteria for wilderness recommendations in FSH 1909.12?

No Action Alternative

The area generally shows that the main influences have been the forces of nature. Trails are minimal, past timber harvest was accomplished through helicopter logging, and mineral exploration has been at a low level. With the AMA and SI-1 planning allocations, this is likely to remain the situation although management options do exist within these allocations that would permit some level of management activities.

Proposed Action And Alternatives To The Proposed Action

All Proposed Action and Alternatives to the Proposed Action parcels were selected because they similarly met the requirements of this issue. Some use changes would occur under these alternatives but the features on the landscape would not be altered through human actions and the elements of the definition found in the Wilderness Act of 1964 would be met.

All parcels meet the minimum standards of being capable of providing outstanding opportunities for solitude or a primitive and unconfined type of recreation. The relative degree to which this condition is met varies by proximity to travel corridors, slope, aspect and the visual appearance and sounds of activities outside of the study area.

All parcels border the Alpine Lakes Wilderness. If a parcel were designated wilderness, the common boundary between the existing wilderness and adjacent parcel would be invisible, making a minimum size requirement irrelevant.

A wilderness designation would permanently change the management of lands within the proposed parcels to a natural unimpaired state for resources such as water and wildlife. The unique plant life of the Wenatchee Mountains associated with the serpentine derived soils in Parcels 8, 9, and 10 would be protected. All parcels would continue to exhibit outstanding vistas.

Issue B: Can manageable boundaries be identified that are easily recognized by the forest visitor and that reduce inadvertent incursions of prohibited uses (motorized and mechanized use) across the wilderness boundary?

No Action Alternative

All boundaries would remain as currently designated for the Alpine Lakes Wilderness.

Proposed Action and Alternatives to the Proposed Action

Parcel	Dominant Feature	Subordinate Feature
1	Streams, ridgelines	Saddle near Upper Kendall Peak Lake
2	None	Contour lines
2a	Ridge lines	Contour lines
3	Streams	Non dominant ridge lines
3a	Streams, most prominent ridge lines	None
3b	Streams	Non dominant ridge lines
4	Section lines, stream channel	Boundary would meander crossing trails and contour lines
4a Option 1	Section lines, stream channel, trails	Contour lines
4a Option 2	Section lines, stream channel, trails	Contour lines
4b Option 1	Section lines, stream channel, trails	Contour lines
4b Option 2	Section lines, stream channel, trails	Contour lines
5	None	Contour line
5a	None	Contour line
6	Section aliquot parts, Cooper River, major draw	Contour line
6a	Section line, trails, major draw	Contour line
7	Cle Elum River, Tacquala Lake, section lines	None
7a	Parallel line to the Cle Elum River, Tacquala Lake, section lines	None
8	Ridgelines, section lines, stream channels	Contour line
9	Ridgelines	Saddles, contour lines
10	Ridgeline	None
10a	Ridgeline, trails	None

AVAILABILITY

Issue C: What components of the natural ecosystem would be managed as wilderness if the lands are reallocated?

No Action Alternative

The No Action Alternative does not provide for management changes from current management direction. The study area lands would be managed as AMA and SI-1. The goals and objectives of the Aquatic Conservation Strategy including the Riparian Reserve guidelines would be followed.

Proposed Action and Alternatives to the Proposed Action

The components of the natural ecosystem that would be managed as wilderness if the lands are reallocated are displayed in the following figure.

Parcel	Miles of stream managed as wilderness	Acres of riparian habitat managed as wilderness	Acres of upland habitat managed as wilderness	Acres of general forested lands managed as wilderness	Change in management direction by acres
1	3	70	175	196	245
2	1	12	129	127	141
2a	1	13	210	183	223
3	2	30	187	212	217
3a	8	45	951	878	996
3b	2	24	181	199	205
4	19	525	2,570	2707	3,096
4a Option 1	20	526	2359	2602	2,885
4a Option 2	23	632	2455	2803	3,087
4b Option 1	17	438	2118	2287	2,556
4b Option 2	20	544	2214	2488	2,758
5	1	19	174	186	193
5a	1	11	138	144	149
6	6	60	1109	1128	1,169
6a	6	15	1159	1149	1,174
7	45	674	4504	3878	5,178
7a	42	608	4497	3817	5,105
8	35	293	3917	2868	4,210
9	9	66	852	566	918
10	3	45	555	386	600
10a	2	30	545	362	575

Issue D: How would recreation uses be impacted by a wilderness designation and what would be the changes to existing access?

No Action Alternative

The No Action alternative would allow all existing lawful uses to continue. There would be no new wilderness-related impacts to permitted outfitters and guides. Land use direction would remain consistent with the existing and future forest planning documents. Currently Parcels 1-9 are allocated AMA, and Parcel 10 is SI-1.

Proposed Action and Alternatives to the Proposed Action

Any action alternative would result in the prohibition of mineral entry (subject to valid existing rights), commercial activities with the exception of outfitters and guides (e.g., timber sales), and mechanical transport (e.g., snowmobiles, mountain bikes, motorbikes). The construction of roads and infrastructure developments (subject to existing private rights) would also be prohibited. Mechanical transport for acknowledged emergencies (e.g., medical airlift, fire suppression) involving health and safety of persons in the area would be permissible.

The maximum group size limitation of any combination of people and stock that does not exceed 12 would be enforced. The use of certified processed feed pellets would be required. Parcels 8 and 9 have documented outfitter/guide use that could be impacted if these parcels were designated wilderness. All parcels designated as wilderness would be managed under the land allocation of wilderness.

Alternatives to the Proposed Action have specifically adjusted boundaries in Parcels 4a, 4b, 6a and 10a to allow continued use of mountain bikes. The boundary is adjusted in Parcel 10a to allow continued use of four-wheel drive vehicles. An alternative boundary is adjusted in Parcel 7a to allow continued use of motorized watercraft to access recreation opportunities on the western shore of Tacquala Lake. This boundary adjustment would also allow placer mining activities to continue along the entire length of the Cle Elum River.

The only changes to developed access routes would occur in Proposed Action Parcels 4, 6, 7 and 10. Parcel 4 would require the prohibition of mountain bikes on Little Kachess Trail #1312, Tired Creek Trail #1317 and Pete Lake Trail #1323. Parcel 6 would also see mountain bikes prohibited on Cooper River Trail #1311. Tacquala Lake mechanized boat access to the western shore would be prohibited in Parcel 7. Parcel 10 would require the prohibition of mechanized equipment (e.g., motorbike, mountain bike, 4-wheel drive) on Van Epps Trail #4W302.

OTHER ISSUES

Issue E: How would minerals and mineral potential be impacted?

All Alternatives - The extent of mineralization and the related encumbrances will not be influenced by the minor boundary changes suggested by the alternatives, therefore, this discussion relates to the proposed action alternative and provides specificity as appropriate for various types of mineral potential.

No Action Alternative

As part of the Interstate 90 Land Exchange Act of 1998, all parcels were withdrawn from entry and appropriation under the U.S. mining and mineral leasing laws until December 31, 2003 or until Congress decides otherwise. Depending on Congressional action, the parcels could become available for entry and appropriation as stated in the Act.

Proposed Action and Alternatives To The Proposed Action

Isolated sections within parcels 2, 4, 6, 7, and 8 have outstanding oil and gas estates. None of the parcels were classified as lands prospectively valuable for oil and gas. Because of the low to non-existent occurrence and/or potential for oil and gas resources, there would be no measurable impacts as a result of wilderness designation.

Active lode and placer mining claims on file with the Bureau of Land Management are located within parcel 7 along and just west of the Cle Elum River. The Federal Government owns the surface and entire mineral estate for parcels 1, 3, 5, 9, and 10. The Federal Government owns the surface estate, and locatable mineral estate to Parcels 2, 4, 6, 7, and 8. Nine (possibly 10) active lode and placer claims are located along and just west of the Cle Elum River within parcel 7. Subject to a valid existing rights determination, claimants would retain the right to develop and produce locatable minerals from their existing claim(s) under an approved plan of operations if the parcel is included in the Alpine Lakes Wilderness. If Congress designates the proposed parcels as wilderness, the parcels would be permanently withdrawn from future mineral entry. Active claims in Parcel 7, if determined to have valid existing rights, could be developed to produce valuable minerals in wilderness under the Proposed Action. Alternative Parcel 7a is similar to the Proposed Action Parcel 7 but the evidence of mining activity would be minimized by providing a 50-foot buffer westerly of the high-water mark of the Cle Elum River. The 50-foot buffer would accommodate placer mining activities along the Cle Elum River, which are largely restricted to the streambed. Parts of 9 (possibly 10) active claims extend past the buffer into Parcel 7. Subject to valid existing rights, claimants would retain the right to develop and produce valuable minerals from within the claim boundaries.

In Parcels 1, 2, 3, 4, 5, 6, and 7 any coal deposits would be non-economic and only of nominal value. Because of the low to non-existent occurrence and/or potential for coal resources, there would be no measurable impacts as a result of wilderness designation.

No commercial geothermal resources are known to occur within the parcels. Because of the low to non-existent occurrence and/or potential for geothermal resources, there would be no measurable impacts as a result of wilderness designation.

Certain lands within some of the parcels are located in powersite withdrawals that predate the Interstate 90 Land Exchange Act. Parcels 4, 7, and 8 contain lands withdrawn on December 6, 1928, under Power Site Classification No. 215, Washington No. 42 by Order of the Secretary of Interior. The Mining Claims Rights Restoration Act of 1955 opened lands withdrawn or reserved for power development to mineral entry provided that the subject lands are not under license, permit, or preliminary permit. The powersite withdrawals in Parcels 4, 7, and 8 are not currently under license or permit. Some active claims in Parcel 7 that predate the I-90 Land Exchange Act, and postdate the 1955 Act are located within the powersite withdrawals. Parcels 1, 2, 3, 5, 6, 9, and 10 are not encumbered by withdrawals

that predate the I-90 Land Exchange Act of 1998. If Congress designates the proposed additions as wilderness, a request would be made to the Bureau of Land Management (BLM) to vacate the lands encumbered by powersite withdrawals and the parcels would be permanently withdrawn from mineral entry and appropriation under the mining and mineral leasing laws, subject to valid existing rights.

Many of the parcels have sand and gravel as well as hard rock common variety mineral material resources suitable for use as aggregate, embankments, retaining walls, building stone, landscaping, etc. The potential for the occurrence of such resources is high. No permits would be issued for the removal of mineral materials commonly known as common varieties under the Minerals Act of July 31, 1947, as amended and supplemented.

**Issue F: Would there be changes to heritage resource management?
(Treaty rights will not be affected)**

All Alternatives – As stated in Chapter 1, the extent of inventory work is directly related to funding and therefore is project driven. With few land management projects having been proposed in the wilderness study area it is unlikely that any major inventory projects would be scheduled regardless of a possible wilderness designation.

All 10 parcels would have been largely unsuited for permanent indigenous habitation except along major drainages and adjacent to lakes and high mountain passes. Because of mineral deposits all 10 parcels would be rated high for potential sites associated with mining. Inventory work would continue as funding, generally project specific, becomes available.

National Forest System lands encompassing Parcels 1-10 were ceded to the United States under the Yakima Treaty of 1855. As such, the Confederated Tribes and Bands of the Yakama Nation retain certain rights and privileges reserved under that treaty. The United States government incurred the duty to protect the interests of Indian tribes. The Forest Service has the legal obligation to exercise statutory and other legal authorities to protect tribal land, assets, resources, and treaty rights, as well as a duty to carry out the mandates of Federal law with respect to American Indian and Alaska Native tribes. These authorities and obligations would not change as a result of wilderness designation.

Issue G: How would a wilderness designation impact fire management activities?

All Alternatives – Fire fighter and public safety is the first priority in every wildland fire management activity. The Agency Administrator has complete authority to declare a suppression action be taken at anytime during the life of the fire.

No Action Alternative

No lands would be designated wilderness. Suppression action would follow the guidelines found in the Fire Management Plan (FMP) for the Okanogan-Wenatchee National Forests, June 2002. Parcels 1 through 9 would be managed as Snoqualmie Pass AMA; the actions guided by the FMP would be directed at meeting the goals and objectives for the Forest Plan. Generally, those actions would be directed at maintenance and enhancement of late-successional habitat. Parcel 10 would be managed as SI-1.

Parcels 1, 2, 3, and the western half of Parcel 4 are within Fire Management Areas (FMA) designated as not suitable or compatible for wildland fire use based on social and political concerns and the inability to meet the LMP objectives through wildland fire use.

The eastern half of Parcel 4 and Parcels 5, 6, 7, 8, 9, and 10 are in FMAs designated suitable and compatible for wildland fire use based on the forest plan.

Any wildland fire can be extinguished, and any fire occurring in an area compatible or suitable, can if it meets specific decision criteria, be managed for resource benefits if consistent with forest plan direction.

Proposed Action and Alternatives to the Proposed Action

In Riparian Reserves fuel treatment and fire suppression strategies, practices, and activities would minimize disturbances of riparian ground cover and vegetation.

Any lands allocated as wilderness would be managed in accordance with Forest Plan direction, guidelines in the Fire Management Plan and managed for wilderness values as specified by the Wilderness Act of 1964 and FSM 2324.2 and FSM 5142. Program objectives for fire management in wilderness is to allow lightning-caused fires to play, as nearly as possible, their natural ecological role. Any wildland fire could be extinguished, but any fire occurring in an area compatible or suitable based on the forest plan, could if it meets specific decision criteria, be managed for resource benefits. Lands designated as wilderness would be managed as suitable following guidance in the Fire Management Plan and Forest Plan.

CHAPTER 1

PURPOSE AND NEED



CHAPTER 1 PURPOSE AND NEED

1.1 PURPOSE AND NEED FOR ACTION*



The purpose of this I-90 Wilderness Study environmental impact statement is to carry out the direction outlined in the Omnibus Consolidated and Emergency Supplemental Appropriations for Fiscal Year 1999 (House of Representatives – October 19, 1998), Title VI—Interstate 90 Land Exchange Act, also referred to in its short title form of ‘Interstate 90 Land Exchange Act of 1998’ (see Appendix A). Section 610 of the Act established an approximately 15,000-acre Alpine Lakes Wilderness Study Area along the southern boundary of the existing Alpine Lakes Wilderness and directed the Secretary of Agriculture to review this area of land as to its suitability for preservation as wilderness. This environmental impact statement responds to the goals and objectives outlined in the legislated action and direction and is therefore termed a legislated environmental impact statement (LEIS).

The U.S.D.A. Forest Service, hereafter called the Forest Service, has prepared this Draft Legislated Environmental Impact Statement (LEIS) for the I-90 Wilderness Study in compliance with the National Environmental Policy Act (NEPA) and other relevant federal laws and regulations. This draft LEIS discloses the direct, indirect, and cumulative environmental impacts that would result from the proposed action and alternatives. The process for development of the I-90 Wilderness Study draft LEIS must comply with Forest Service direction for review and approval of wilderness proposals resulting from special studies (FSH 1909.12, section 7.32). Ultimately, the President of the United States will finalize the recommendation with respect to the suitability of any parcel for preservation as wilderness and will transmit this recommendation to Congress. This draft LEIS and supporting activities have been conducted in accordance with these requirements.

1.2 DOCUMENT STRUCTURE

The document is organized into the following sections:

Chapter 1. Purpose of and Need for Action: In this chapter the proposed action is explained along with the legislated EIS process and how it differs from the more typical EIS process. The location and general character of the study area are described. The purpose and need for action is presented to aid the reader in understanding the reason for the wilderness proposal and study. The public involvement process is outlined and issues that were identified during this process are described. The chapter concludes with a list of the requirements and authorities related to this EIS.

Chapter 2. Alternatives: This chapter provides a detailed description of the proposed action, the no action alternative and alternatives to the proposed action that meet the legislated direction. These alternatives were developed in response to significant issues raised during the

* Drawing by Cheryl Ziebart, Graphic Artist, Mt. Baker-Snoqualmie National Forest

public involvement process. This discussion also includes mitigation measures where relevant and a summary table comparing the alternatives with respect to their environmental consequences. The chapter concludes with a discussion of alternatives not carried forward in detailed analysis.

Chapter 3. Affected Environment and Environmental Consequences: This chapter describes the affected environment and the environmental effects of implementing the alternatives, including the no action and proposed action alternatives. The resource area affected, the issues and the subsequent environmental consequences organize these descriptions.

Chapter 4. List of Prepares and Consultation and Coordination: This chapter provides a list of prepares and their qualifications. Other consultation that took place during the development of this environmental impact statement is also documented.

Chapter 5. Distribution: Included here is the listing of all recipients of this draft environmental impact statement.

Chapter 6. Literature Cited: The documents referenced in the text of this document are listed for reference.

Chapter 7. Acronyms and Glossary Terms Used: Located in this chapter the reader will find a list of acronyms and unique terms used in the preparation of this document.

Chapter 8. Index: This chapter provides a word listing and page references that will help the reader locate specific key words or topics in the environmental impact statement.

Appendices: The appendices provide supplemental information to support the analyses presented in the environmental impact statement.

Additional documentation may be found in the project planning record located at the Cle Elum Ranger Station, 803 West Second Street, Cle Elum, Washington.

1.3 BACKGROUND

This abbreviated history relative to this study will help the reader understand some key events that have lead to this project.

Although the concept of wilderness reserves within the National Forest System (NFS) was a topic of discussion throughout the first half of the twentieth century, in response to the concern and the desire to preserve and protect “primitive areas” in their natural condition, it required Congressional action to finally establish and protect the wilderness resource.

Public Law 88-577, known more commonly as the Wilderness Act, was passed by Congress and signed into law by President Lyndon B. Johnson on September 3, 1964. This Act established a National Wilderness Preservation System for the permanent good of present and future generations, and eloquently established the ideal to which management of the wilderness would hereafter aspire:

“A wilderness, in contrast with those areas where man and his own works dominate the landscape, is hereby recognized as an area where the earth and its community of life are untrammelled by man, where man himself is a visitor who does not remain. An area of wilderness is further defined to mean in this Act an area of undeveloped Federal land retaining its primeval character and influence, without permanent improvements or human habitation, which is protected and managed so as to preserve its natural conditions and which (1) generally appears to have been affected primarily by the forces of nature, with the imprint of man’s work substantially unnoticeable; (2) has outstanding opportunities for solitude or a primitive and unconfined type of recreation; (3) has at least five thousand acres of land or is of sufficient size as to make practicable its preservation and use in an unimpaired condition; and (4) may also contain ecological, geological, or other features of scientific, educational, scenic, or historical value. (16 U.S.C. 1131).”

The Alpine Lakes Wilderness was designated in 1976 when President Gerald Ford signed the Alpine Lakes Area Management Act into law. A total of 364,000 acres were added to the wilderness system within the Alpine Lakes in an area straddling the Cascade Mountains and administered by the Wenatchee and Mt. Baker-Snoqualmie National Forests.

Adjoining this boundary, within the area known as the Alpine Lakes Management Unit that surrounds the wilderness but is outside the Alpine Lakes Wilderness boundary, were also several parcels of undeveloped and unroaded NFS lands. The management direction for this area was established in the 1981 Alpine Lakes Area Land Management Plan, which was later incorporated in its entirety into the 1990 Wenatchee National Forest Land and Resource Management Plan.

The 1994 Amendment to the Wenatchee National Forest Land and Resource Management Plan, also known as the Northwest Forest Plan, directed the Forest Service to develop a comprehensive plan for the Snoqualmie Pass Adaptive Management Area (AMA) with an emphasis for providing late-successional forest on the “checkerboard” lands of this area. As directed by the Northwest Forest Plan, the Snoqualmie Pass Adaptive Management Area Plan was completed in 1997. This planning effort focused on the different philosophies of industrial forest management, National Forest management and the problems that this would cause when trying to develop a plan for late-successional forest on checkerboard lands in the AMA. The planning effort concluded that the best approach to take to meet the directed emphasis was land exchange in order to consolidate the checkerboard pattern of ownership and provide for a consistent management approach. The decision was made in this plan that lands acquired within the boundaries of the AMA would be given the allocation of Adaptive Management Area and the underlying allocation from the 1990 Forest Plan (AMA ROD, page 4). These lands are located in the vicinity of Interstate 90.

The Northwest Forest Plan specifies that direction for congressionally reserved land allocations, which include wilderness, is not altered by the Northwest Forest Plan (ROD page 6). The standards and guidelines of the Northwest Forest Plan (page C-8, direction for congressionally reserved areas) state that management of congressionally reserved areas is to follow direction written in the applicable legislation or plans, and that direction from the Northwest Forest Plan applies to congressionally reserved areas to the extent that it is consistent with the legislated direction. When consistent with legislation, Northwest Forest Plan direction applies to

congressionally withdrawn areas if it provides greater benefits to late-successional forest-related species. Wilderness areas were allocated as “congressionally withdrawn”.

On October 19, 1998, Congress passed and President Clinton signed into law, the Interstate 90 Land Exchange Act of 1998 (Title VI of the Omnibus Consolidated and Emergency Supplemental Appropriations for Fiscal Year 1999). This Act authorized and directed the I-90 Land Exchange between the Forest Service and Plum Creek Timber Company, L.P., the primary landholders within the area. Section 610 of the Act also established an approximately 15,000-acre Alpine Lakes Wilderness Study Area along the southern edge of the existing Alpine Lakes Wilderness and directed the Forest Service to complete an analysis of the area to determine its suitability for wilderness. The Forest Service was directed to present the findings to Congress no later than three years from the date of enactment of the I-90 Land Exchange legislation (Section 610). [This deadline was later amended, as described in the November 17, 1999, Congressional Record which states, “ (j) Section 610 of the Interstate 90 Land Exchange Act of 1998, is hereby amended by striking “date of enactment of this Act” and inserting “first date on which deeds are exchanged to consummate the land exchange”.] Deeds were exchanged on December 28, 1999, and thus established the present timeline for this project. The legislation is the basis for this wilderness study.

1.4 DECISION FRAMEWORK

The I-90 Wilderness Study LEIS is the result of legislated action and as such follows a set of procedures developed specifically for special studies outside the forest planning process that are initiated by Congress. When the final study report/LEIS is complete it is transmitted to the Secretary of Agriculture for review.

Following approval by the Secretary's Office, the study report/LEIS is transmitted to the Office of Management and Budget (OMB) for review. OMB coordinates the final review by other Federal agencies. Recommended changes resulting from this interagency review are usually incorporated into the transmittal letter to the president. If changes are significant it may be necessary to revise the study report and/or the LEIS. Upon clearance by OMB, the Secretary signs a transmittal letter to the President and forwards the combined study report and LEIS to the president.

When the President finalizes the recommendation, the study report/LEIS is transmitted to the Congress. The Secretary signs and dates the record of decision at the time the study report and LEIS is transmitted to Congress. Copies of the study report and LEIS and the record of decision are then distributed to the public. The LEIS and a copy of the record of decision are simultaneously filed with the Environmental Protection Agency (EPA). The EPA publishes a Notice of Availability in the Federal Register. The proposal then awaits legislative action by the United States Congress since only Congress has the power to actually designate an area as wilderness.

Figure 1-1, Process for Handling Wilderness Proposals, outlines the process this project will follow. This LEIS incorporates the study report with the LEIS to produce a single document.

**PROCESS FOR HANDLING WILDERNESS STUDIES
INITIATED OUTSIDE THE FOREST
PLANNING PROCESS**

1. Develop and Evaluate Alternatives

2. File Draft LEIS

3. Provide for Public Review and Comment

- a. Conduct public hearings if required by law, or
if desired by the Regional Forester

4. Submit Final LEIS Review Draft

5. Chief and Departmental Review

6. OMB Coordinates Interagency Review

7. The following actions take place Concurrently

- a. Submit Legislative proposal to Congress.
- b. Secretary of Agriculture signs record of decision.
- c. Distribute copies of the study report/LEIS and ROD to the public.
- d. File LEIS with EPA.

8. Legislative Action

9. Amend Forest Plan if necessary

Figure 1-1 Process for Handling Wilderness Proposals

(adapted from FSH 1909.12, section 7.32,Exh.01)

1.5 PROPOSED ACTION

The proposed action of this LEIS recommends as suitable for preservation as wilderness as an addition to the Alpine Lakes Wilderness approximately 15,000 acres of land, divided into ten separate parcels and identified as the "Wilderness Study Area," in the I-90 Land Exchange Act of 1988. This recommendation would be made to the President of the United States by fall of 2002 in accordance with the process described in Forest Service Handbook 1909.12, 7.32 (Proposals Resulting from Special Studies). If accepted by the President and recommended to Congress, and if there is subsequent Congressional action to designate the Wilderness Study Area as wilderness, the lands would be managed in accordance with Forest Service wilderness policies and management direction.

The Wenatchee National Forest Land and Resource Management Plan would be amended, as part of this proposal, to assign the WI-1/Congressionally Reserved management allocation, standards and guidelines to the area designated as wilderness.

1.6 LOCATION

The I-90 Wilderness Study Area is located north of Interstate 90, on the eastern slopes of the Cascade Mountains, see Figure 1-2, Vicinity Map, and Figure 1-3, Wilderness Study Area. The study area is composed of ten individual parcels each adjoining the southern boundary of the Alpine Lakes Wilderness and ranging in size from 141 acres to 5,178 acres. Nine of the parcels are within the Cle Elum Ranger District and one is within the Lake Wenatchee/Leavenworth Ranger District administered by the Okanogan/Wenatchee National Forests, Kittitas and Chelan Counties, Washington State. Parcels 1 through 8 and 10 are within the Alpine Lakes Adjacent Inventory Roadless Areas. Parcels 1 through 9 have a primary land management allocation of Adaptive Management Area; Parcel 10 has a primary land management allocation of SI-1, Special Interest Area (Scenic). Figure 1-4 displays a quantitative collection of facts regarding the proposed action.

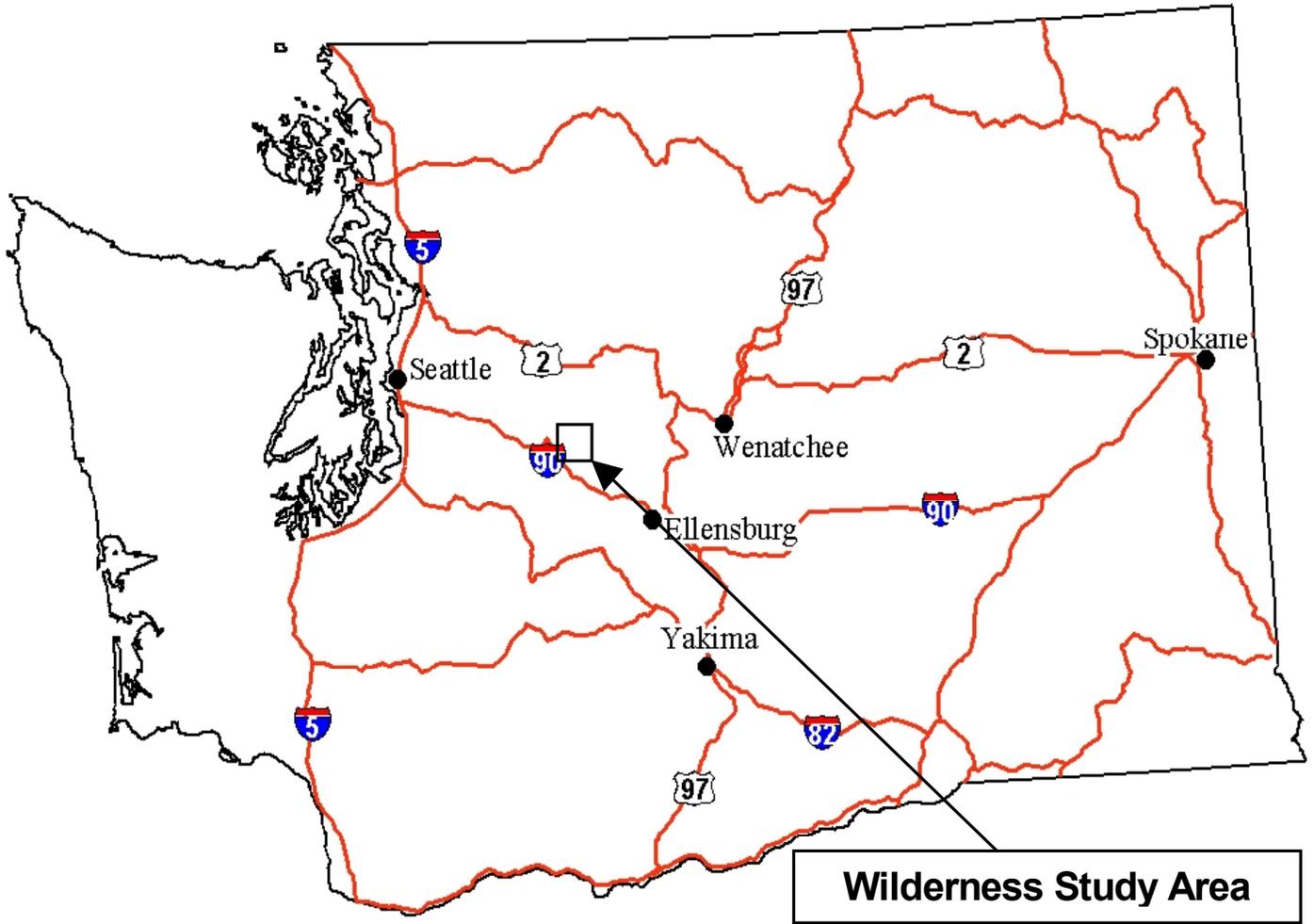


Figure 1-2 Vicinity Map

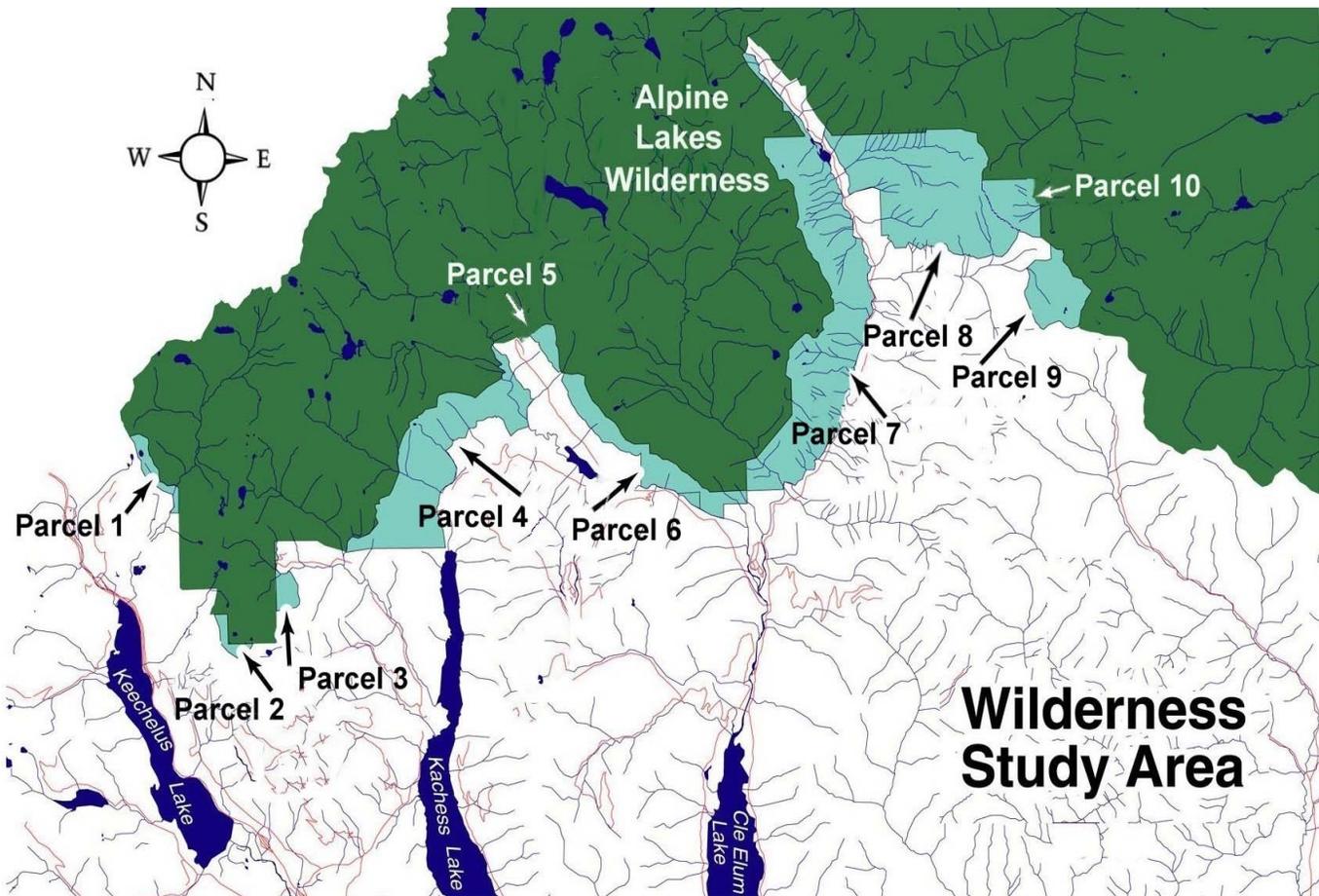


Figure 1-3 I-90 Wilderness Study Area

Quantitative Comparison of the Ten Parcels of the I-90 Wilderness Study Area Proposed
Action*

Parcel Number	1	2	3	4	5	6	7	8	9	10
Attribute:										
County	Kittitas	Kittitas	Kittitas	Kittitas	Kittitas	Kittitas	Kittitas	Kittitas	Kittitas	Chelan
Acres	245	141	217	3,096	193	1,169	5,178	4,210	918	600
Watershed	Yakima	Yakima	Yakima	Yakima/ Cle Elum	Cle Elum	Icicle Creek				
Allocation	AMA/IRA	AMA/IRA	AMA/IRA	AMA/IRA	AMA/IRA	AMA/IRA	AMA/IRA	AMA/IRA	AMA	SI1/IRA
Lake Name	Upper Kendall Peak			Three Queens			Opal		Ann	
Lake Areas	6			2			2		3	
Stream Length/Class (Miles)										
1				3.64		0.89	3.88			
2	0.61			0.99			0.28		0.15	
3	0.81	0.10	0.81	6.09	0.39	0.11	5.19	8.15	0.93	2.76
4	1.67	0.47	1.47	8.93	0.76	4.50	35.97	26.67	8.13	
Trails by Use (Miles)										
Hiker	0.56	1.00		1.19			0.39	0.97		
Hiker/Horse				0.16	0.22	1.86	2.44	8.04	1.47	1.32
Hiker/Horse/ Mtn. Bike				1.38		1.55				
4 X 4										0.57
Winter Recreation	Winter recreation occurs in varying extents in all parcels with the majority of motorized use in Parcels 8, 9 and 10. Statistics are not available to quantify the extent of this use.									

Figure 1-4 Parcel Comparison For the Proposed Action

* Data is computer generated in this document and may vary from actual physical measurement.

1.7 PUBLIC INVOLVEMENT

Public involvement for the I-90 Wilderness Study began informally on October 19, 1998, with the signing of the Interstate 90 Land Exchange Act of 1998. At that time interested individuals and groups requested information as to the timeline of the wilderness study that was referenced in the Act.

The official public involvement process for the study/LEIS began with the publication of the Notice of Intent to Prepare a LEIS in the Federal Register on May 04, 2001. News releases, letters and meetings were used to invite public participation in identifying the issues associated with the proposed action. Public involvement is an ongoing process and will continue through completion of the final LEIS. Specific dates and events that were used to invite comments on this study are summarized below.

- April 09, 2001 – The Yakama Nation, Muckleshoot Indian Tribal Council and the Confederated Tribes of the Colville Reservation were notified of the proposed action for the purpose of initiating government-to-government contact with potentially affected Indian tribes.
- April 09, 2001 – A public mailing of the public involvement package was mailed to over 500 individuals, groups and organizations that routinely are interested in actions in the vicinity of this study.
- April 23, 2001 – A press release was sent to the following newspapers – Yakima Herald Republic, Wenatchee World, Ellensburg Daily Record, Seattle Times and the Northern Kittitas County Tribune.
- April 2001 – The I-90 Wilderness Study was listed as a new project in the second quarter 2001 *Schedule of Proposed Actions for the Okanogan/Wenatchee National Forests*. This publication is mailed to over 750 addresses and is available electronically at: www.fs.fed.us/r6/wenatchee/planning/planmain.htm or www.fs.fed.us/r6/oko/newsopa.htm
- May 04, 2001 – The Notice of Intent to Prepare a Legislative Environmental Impact Statement was published in the *Federal Register* (Vol. 66, No.87, pg. 22514).
- May 07, 2001 – The first public informational open house was held at the Snoqualmie Ranger District, North Bend, Washington.
- May 08, 2001 – An informational open house was held at The Summit Inn, Snoqualmie Pass, Washington.
- May 10, 2001 – The last scheduled informational open house was held at Hal Holmes Community Center, Ellensburg, Washington.
- February 15, 2002 – Forest Service representatives met with the Snoqualmie Pass Adaptive Management Area Subcommittee, a chartered committee through the Yakima Provincial Advisory Committee, to discuss the status of the project

- February 15, 2002 – Forest Service representatives met with representatives of the Alpine Lakes Protection Society to discuss the status of the project and associated issues.

The above activities along with agency team discussions generated numerous comments. Comments have been received in the form of letters, phone conversations and notes from meetings and have been reviewed and summarized to form the issues that have been used to focus the analysis and develop the alternatives to the proposed action.

1.8 POTENTIAL WILDERNESS CRITERIA

The 1964 Wilderness Act provides a definition of wilderness that was used to develop issues and indicators for this LEIS. Section 2 (c) of the Wilderness Act provides a definition of wilderness: “A wilderness, in contrast with those areas where man and his own works dominate the landscape, is hereby recognized as an area where the earth and its community of life are untrammelled by man, where man himself is a visitor who does not remain. An area of wilderness is further defined to mean in this Act an area of undeveloped Federal land retaining its primeval character and influence, without permanent improvements or human habitation, which is protected and managed so as to preserve its natural conditions and which (1) generally appears to have been affected primarily by the forces of nature, with the imprint of man’s work substantially unnoticeable; (2) has outstanding opportunities for solitude or a primitive and unconfined type of recreation; (3) has at least five thousand acres of land or is of sufficient size as to make practicable its preservation and use in an unimpaired condition; and (4) may also contain ecological, geological, or other features of scientific, educational, scenic, or historical value.”

Forest Service Handbook (FSM) 1909.12 provides direction for the evaluation of potential wilderness. The FSM directs careful evaluation of potential wilderness to determine the mix of land and resource uses that best meet public needs. An area recommended for wilderness must meet the tests of capability, availability, and need. In addition to the inherent wilderness quality it possesses, an area must provide opportunities and experiences that are dependent upon or enhanced by a wilderness environment.

The criteria specified in FSM 1909.12, which are summarized below, were also used to develop issues and indicators in this LEIS:

- ❖ Capability (FSM 1909.21, section 7.2) is the degree to which an area contains the basic characteristics that make it suitable for wilderness designation without regard to its availability or need as wilderness. The area must be natural or the appearance of being natural and free from disturbance, which allows the normal interplay between biotic species inhabiting it to continue. Social, economic, and environmental factors must blend together with natural features to make the area desirable and manageable as wilderness. Desirable areas offer many outstanding opportunities for adventure and challenge and primitive recreation opportunities and feelings of solitude. Manageable considerations include the ability to manage the area’s natural character as wilderness. Factors such as shape, location and the area’s relationship to external influences and boundary location are considered.

- ❖ Availability (FSM 1909.21, section 7.22) requires the determination that the lands are also available in terms of value of and need for the wilderness resource compared to the value of and need for other resources. To be available for wilderness, the values of the wilderness resource, both tangible and intangible, should offset the value of resources that formal wilderness designation would forego. These values are not based on yield, the greatest dollar return, or the greatest unit output. Consideration of current constraints or encumbrances is important.
- ❖ Need (FSM 1909.21, section 7.23) is determined by the degree to which an area contributes to the local and national distribution of wilderness. Evidence of current or future public need for additional designated wilderness in the general area under consideration should exist. The need is demonstrated through the public involvement process, including public input to environmental analysis.

1.9 ISSUES

An issue, as defined for the purposes of this LEIS, is a statement about an environmental resource that might be adversely affected by some specific activities that are part of a proposed way to meet some objective. It could be said that an issue is a problem that might occur should an objective be met as proposed.

The Council on Environmental Quality (CEQ) regulation for implementing the procedural provisions of NEPA further refines the treatment of an issue in Sec. 1501.7, "...identify and eliminate from detailed study the issues which are not significant or which have been covered by prior environmental review (Sec. 1506.3)..." A list of non-significant issues and reasons regarding their categorization as non-significant may be found in Section 1.10 in this LEIS.

Based on comments received during public involvement, internal staff comments, and consultation with other government agencies and Indian Tribes, four key issues were identified that were determined to be significant and within the scope of this LEIS. These issues were used to guide the development and evaluation of the wilderness alternatives. *These issues are grouped into (a) capability and (b) availability.* The third factor, need, is not evaluated since Congress directed the study. These issues are used to formulate the alternatives, to focus the effects analysis, and to develop mitigation measures.

CAPABILITY

Issue A: Does the I-90 Wilderness Study Area satisfy the definition of wilderness found in the Wilderness Act of 1964 and does it meet the criteria for wilderness recommendations in FSH 1909.12?

Based on the direction in the I-90 Land Exchange Act that directed this study, at least parts of the study area are considered as potentially suited for designation as wilderness. This issue addresses which parcels, or portions thereof, meet the criteria.

Indicators for this issue:

1. Appearance of the area indicates that the main influences have been the forces of nature

2. Human intervention is substantially unnoticeable
3. Outstanding opportunities exist for solitude or a primitive and unconfined type of recreation
4. The land area is of sufficient size as to make practicable its preservation and use in an unimpaired condition
5. Ecological, geological or other features of scientific, educational, scenic or historical value may be present
6. Acres that meet the above indicators.

Issue B: Can manageable boundaries be identified that are easily recognized by the forest visitor and that reduce inadvertent incursions of prohibited uses (motorized and mechanized use) across the wilderness boundary?

Many wildernesses do not have maintained boundary signing, making it difficult for the forest visitor to know when the wilderness is being entered and therefore when wilderness rules apply. The use of natural features such as streams and ridgelines are easier for the visitor to recognize.. The use of natural features, where opportunities exist, would reduce the need to maintain signing and reduce the number of situations where visitors are unclear about the wilderness boundary. Official recorded surveys would still need to be completed when the potential for constructive encroachments exists.

Indicator for this issue:

1. Linear and geographic features used for boundaries that both serve as a barrier to prohibited uses and that are also easily recognized by the public

AVAILABILITY

Issue C: What components of the natural ecosystem would be managed as wilderness if the lands are reallocated?

The study area contains lands that have generally been managed for scenic values and dispersed recreational activities in a natural ecosystem setting. The lands contain features that could potentially be impacted if management activities were initiated that focused on resource use or alteration. Management activities could change the character of the land from its current setting to one of being noticeably modified such that it would no longer be available for wilderness eligibility.

Indicator for this issue:

1. Miles of stream managed as wilderness
2. Acres of riparian habitat managed as wilderness
3. Acres of upland habitat managed as wilderness
4. Acres of forest managed as wilderness
5. Change in management direction by acres

Issue D: How would recreation uses be impacted by a wilderness designation and what would be the changes to existing access?

Recreation uses including hiking, biking, horseback riding, driving, skiing and snowmobiling and outfitter/guiding all occur in various parts of the study area. The designation of wilderness would protect some of these uses, restrict some of these uses, and modify others. Current access to the study area is primarily by foot, but some areas do offer opportunities for access by motorized means. This is especially true of winter uses. Changes in use patterns would occur on lands designated as wilderness.

Indicators for this issue:

1. Change in uses permitted
2. Impacts to outfitter/guides
3. Changes in developed access routes by type of use

OTHER ISSUES

The following issues were identified during the public involvement process. Consideration of these issues showed that the variation in their indicators by alternative was not substantial and did not influence the design of the alternatives. However, these non-key issues are used in Chapter 3 in evaluating the effects of the alternatives.

Issue E: How would minerals and mineral potential be impacted?

Mineral prospecting, exploration, development, and production has occurred on several of the parcels in the past and one parcel in the Cle Elum River valley is encumbered by several active claims. The designation of wilderness would have no impact on existing claims, but could have impacts on how mining is conducted on these claims, and would impact future mineral exploration as wilderness is withdrawn from mineral entry. Mineral resource potential varies from parcel to parcel and by the type of commodity within a parcel from “none” to “high”. In general, the parcels assigned a high mineral potential would have the greater impact from wilderness designation, but each parcel has significant variability in its mineral potential for specific commodities (e.g. hardrock, non-energy minerals vs. oil and gas).

Indicators for this issue:

1. Relative level of mineral potential
2. Number of active claims being impacted
3. Change in land allocation of area

Issue F: Would there be changes to heritage resource management?

Generally heritage resource management concerns are addressed only prior to ground disturbing land management activities. With few projects within the study area to date little heritage inventory work has been completed. As such and with a wilderness designation, opportunities to inventory the area may be limited. Heritage resources, including traditional cultural properties, that may be eligible for inclusion on the National Register of Historic Places,

or that have special meaning to American Indian tribes, may remain unknown and undocumented. Treaty rights will not be affected.

Indicator for this issue:

1. Change in area receiving wilderness designation
2. Change in management of heritage properties

Issue G: How would wilderness designation impact the ability to carry out fire suppression?

A primary area of concern with respect to fire suppression in wilderness involves the effects of fire size and fire behavior on the wilderness resource if changes in fire suppression activities occur as a result of wilderness designation. .

Indicators for this issue:

1. Change in permitted suppression action

1.10 ISSUES OUTSIDE THE SCOPE OF THIS LEIS

An issue that was raised and determined to be outside the scope of this LEIS and the rationale for discarding the issue follow.

Issue: Analyzing more area for wilderness recommendation, perhaps all roadless areas on the ranger district, was raised as an issue, as was considering removing areas from the existing Alpine Lakes Wilderness.

Rationale: The I-90 Land Exchange Act contains the direction for this special study. It clearly identified the lands that were to be studied and did not make the provisions for the addition or subtraction of lands to be included in the study, nor did it suggest evaluating removal of lands from existing wilderness.

1.11 PLANNING RECORD LOCATION AND AVAILABILITY

The official files and reference materials that have been used to compose this analysis are maintained at the Cle Elum Ranger District administered by the Okanogan/Wenatchee National Forests, Cle Elum, Washington. At the completion of this project these files will be transferred to the Forest Supervisor's Office in Wenatchee, WA.

1.12 Other Related Efforts

There are no active projects that will directly affect the proposed action or decision to be made regarding this endeavor. Recent past projects that have led to this study include;

- a. I-90 Land Exchange EIS (July 1999)
- b. Plum Creek Checkerboard Access Project EIS (September 1998)
- c. Snoqualmie Pass Adaptive Management Area Plan EIS (April 1997)

1.13 NEPA REQUIREMENTS

The Regulations for Implementing the Procedural Provision of the National Environmental Policy Act are found at 40 CFR Parts 1500-1508. These are referred to as the Council on Environmental Quality Regulations. This LEIS is being prepared following the requirements of 40 CFR 1506.8. These regulations identify a legislated environmental impact statement as "...the detailed statement required by law to be included in a recommendation or report on a legislative proposal to Congress." This proposal is the result of a process required by statute (Interstate 90 Land Exchange Act), thus providing for both the draft and final LEIS preparation and circulation. As a congressionally legislated action, comments made by other agencies or the public will be forwarded to the Congressional committees with jurisdiction along with the Forest Service responses. A major difference between a standard Forest Service EIS process and the LEIS process is that a Record of Decision will not be issued by a Forest Service responsible official following the conclusion of the NEPA process. The Secretary of Agriculture is the responsible official who will sign the record of decision at the time the study report and LEIS is transmitted to Congress. The proposal then awaits legislative action by the Congress. These decisions will not be subject to administrative appeal.

CHAPTER 2

ALTERNATIVES



CHAPTER 2 ALTERNATIVES CONSIDERED

2.1 INTRODUCTION



This chapter describes and summarizes the alternatives for the I-90 Wilderness Study. It includes a description and map of each alternative considered. The alternatives are then displayed in comparative form, defining the differences between each alternative and the proposed action. This comparison provides a clear basis for choice among options by the decision maker and the public. Some of the information used to compare the alternatives is based upon the design of the alternative (i.e., area configuration) and some of the information is based upon the environmental, social and economic effects of implementing each alternative (i.e., impacts to types of recreation uses).

The current land management allocations for the parcels involved in the study were designated under the *Wenatchee National Forest Land and Resource Management Plan* (1990), as amended by the *Record of Decision for Amendments to Forest Service and Bureau of Land Management Planning Documents Within the Range of the Northern Spotted Owl* (1994). The latter document directed the Forest Service to prepare a management plan for the *Snoqualmie Pass Adaptive Management Area* (1997), of which the study area is part. Collectively, these documents comprise the Forest Plan, as amended or the Forest Plan. The lands involved in the Wilderness Study Area are managed following the standards and guidelines found in the Forest Plan. The overarching allocations are Adaptive Management Area (AMA) and Riparian Reserve (RR). These allocations have an emphasis for enhancing and maintaining late-successional forest habitat and restoring and maintaining ecological health of watersheds and aquatic ecosystems. Any lands designated as wilderness by Congress would lose their current land management allocation and would be managed as wilderness under the Forest Plan.

The nature of the proposed action is programmatic; that is, it is broad scale in nature and would not result in project level, site-specific actions. Any project that involves modification of the landscape resulting from the implementation of this proposal would require site-specific analysis consistent with the NEPA process prior to project approval.

Following this introduction, Section 2.2 discusses the process used to formulate the alternatives. Section 2.3 presents a No Action alternative, the Proposed Action alternative resulting from Section 610 of the Interstate 90 Land Exchange Act of 1998 and other action alternatives for accomplishing the legislated project. Section 2.4 compares the major characteristics and effects of the Proposed Action and alternatives in relation to the significant issues that would result from implementing each alternative. Section 2.5 then discusses potential alternatives that were initially considered but eliminated from detailed study.

2.2 DEVELOPMENT OF ALTERNATIVES

The alternatives developed were defined by the purpose and need, Forest Plan direction, the 1964 Wilderness Act, Forest Service Manual and Handbook direction, Interstate 90 Land Exchange Act of 1998, comments received during public involvement and the major issues described in Chapter 1. The alternatives carried forward and subjected to detailed study must be reasonable, meet the purpose and need, and address the major issues identified during the public involvement process. They must also meet the criteria of capability, availability and need that would make the parcels that are the subject of this study suitable for wilderness designation (FSH 1909.12, section 7.2). The alternatives analyzed are considered to meet these criteria.

The I-90 Wilderness Study Area is comprised of ten separate parcels that, while being in close proximity, are physically separate, sharing only the current Alpine Lakes Wilderness Area's boundary. Because of this separation and the apparent independence of each area, the ten parcels have been analyzed independently, see figures 2-2 through 26. It was determined that there was no benefit in packaging or grouping the parcels to formulate alternatives except for the no action and the proposed action alternatives. When comparing alternatives, the proposed action parcels are identified as 1, 2, etc. When variations of the parcel boundaries were determined to be appropriate, the alternatives to the proposed action are identified as 1a, 1b, 2a, 2b, etc.

(Note: Map distances and acreages used in the parcel descriptions are computer generated and may vary from actual on-site survey data. The comparison between parcels is relative.)

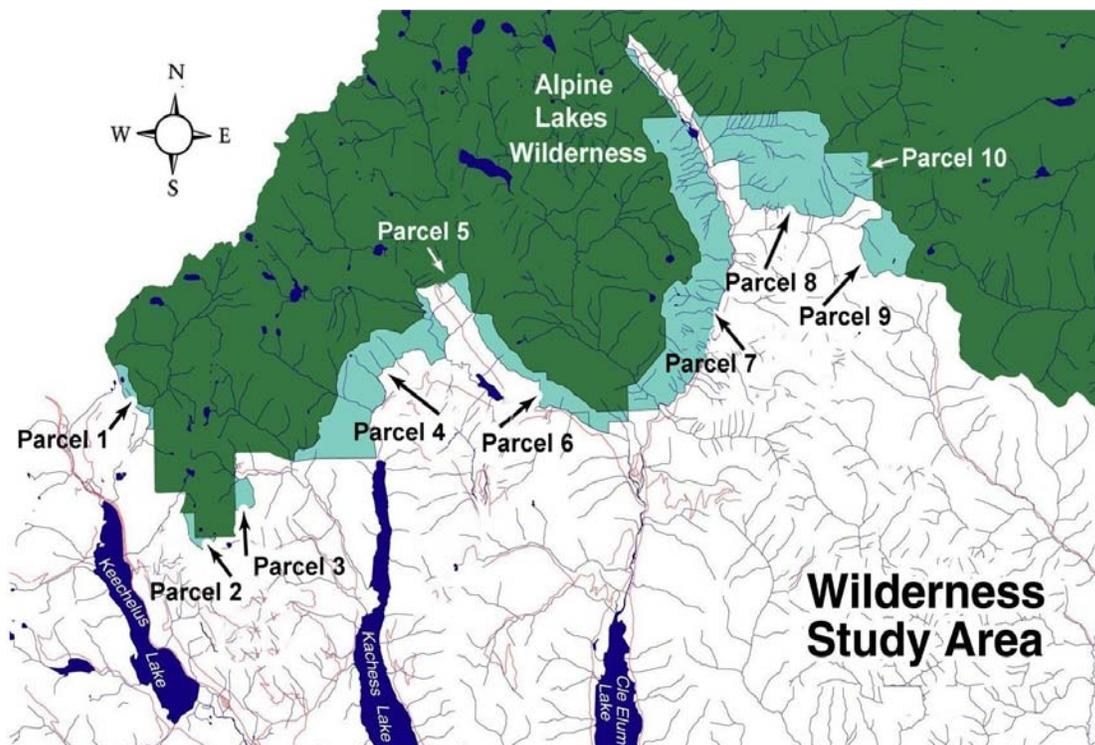


Figure 2-1- Wilderness Study Area

The area being studied for possible recommendation as suitable for the designation of wilderness is 15,968 acres in size; Indicator 6, in section 2.4, shows the acreage of each parcel. The maps from the legislation directing the study were general in nature. Alternatives were developed by adjusting recommended wilderness boundaries for individual parcels in response to the issues.

2.3 ALTERNATIVES CONSIDERED BUT ELIMINATED FROM DETAILED STUDY

Federal agencies are required by NEPA to rigorously explore and objectively evaluate all reasonable alternatives and to briefly discuss the reasons for eliminating any alternatives that were not developed in detail (40 CFR 1502.14). Public comments received in response to the proposed action provided several issues that were determined to be outside the scope of this analysis, see Section 1.10. By eliminating the issues at an early stage, it prevented the development of alternatives that did not meet the purpose and need. There were no alternatives suggested for achieving the purpose and need that were not carried forward. Therefore, the following alternatives were considered, but dismissed from detailed consideration.

1. Alternative A – Roadless Area Analysis

This alternative would have analyzed all roadless areas on the district. This proposal was not within the direction of the legislation.

2. Alternative B – Review of the Alpine Lakes Wilderness Boundary

This alternative would have reviewed the existing boundary and considered areas that could be removed from the wilderness designation. This proposal was not within the direction of the legislation.

2.4 ALTERNATIVES CONSIDERED IN DETAIL

The Forest Service considered each of the ten parcels of the study area independently. As such the alternatives for each parcel includes No Action, the Proposed Action and, where appropriate, an alternative(s) that modifies the boundary from the legislated proposal in response to issues brought forward during public involvement. The reader will find references to the “study area,” which includes the ten parcels inclusively, and references to individual parcels that will include the parcel number. Maps 2-2 through 16 show the ten parcels that comprise the Wilderness Study Area. These maps are from the legislated direction and are of a general character. Subsequent individual parcel maps depict adjusted boundaries that capture elements of issues raised during public involvement.

As part of the selection of any action alternative, a forest plan amendment would be required to assign the allocation of WI-1/Congressionally Reserved to the areas to be designated as wilderness.

Alternative 1 - No Action

Manage the Wilderness Study Area within the standards and guidelines of the existing Forest Plan.

The Forest Service is following legislated direction in preparing the I-90 Wilderness Study Area EIS. The No Action alternative is developed to establish a baseline of information with which to compare the other alternatives and to meet CEQ regulation (Section 1502.14(d)). Under the No Action alternative management practices would continue in accordance with current Forest Plan direction, emphasizing adaptive management with the land allocation being AMA. Projects could be proposed that would permit activities to occur that would further the goals and objectives of the Snoqualmie Pass AMA as directed by the Forest Plan. No wilderness expansion would occur. The No Action alternative does **not** make a determination as to the suitability of the area for preservation as wilderness.

Alternative 2 – Proposed Action

Manage the Wilderness Study Area as wilderness within the standards and guidelines of the existing Forest Plan.

Alternative 2 proposes the addition of the legislatively defined Wilderness Study Area to the Alpine Lakes Wilderness in response to Title VI of the Omnibus Consolidated and Emergency Supplemental Appropriations Act for Fiscal Year 1999 (referred to as the Interstate 90 Land Exchange Act). If the area is designated by Congress as wilderness it would be managed under the existing Forest Plan wilderness direction for the Alpine Lakes Wilderness (USDA Forest Service 1981). Any existing wilderness-like character of the area would be preserved and unimpaired, leaving the area in a natural state for future generations to use and enjoy. The following is a parcel-by-parcel description of the lands being considered for wilderness designation under Alternative 2:

Parcel 1

Parcel 1 contains 245 acres of land ranging from the valley bottom of the Gold Creek drainage to the ridges near Upper Kendall Peak Lake. The proposed action boundary for this parcel follows this description:

From the existing wilderness boundary at the corner of sections 1, 2, 11 and 12, T. 22 N., R. 11 E., W. M., the boundary would proceed west to the center of Gold Creek thence northerly 2000 feet towards the confluence of an unnamed ephemeral tributary to Gold Creek. Following the ridge to the south of the ephemeral stream in a northwesterly direction, the boundary continues along the ridgeline through the saddle to the southwest of the upper Kendall Peak Lake. Continuing northwesterly, the boundary follows the ridge crossing the north-south section line of sections 34 and 35 T. 23 N., R. 11 E., W.M. and intersecting the King, Kittitas County lines and the existing wilderness boundary.

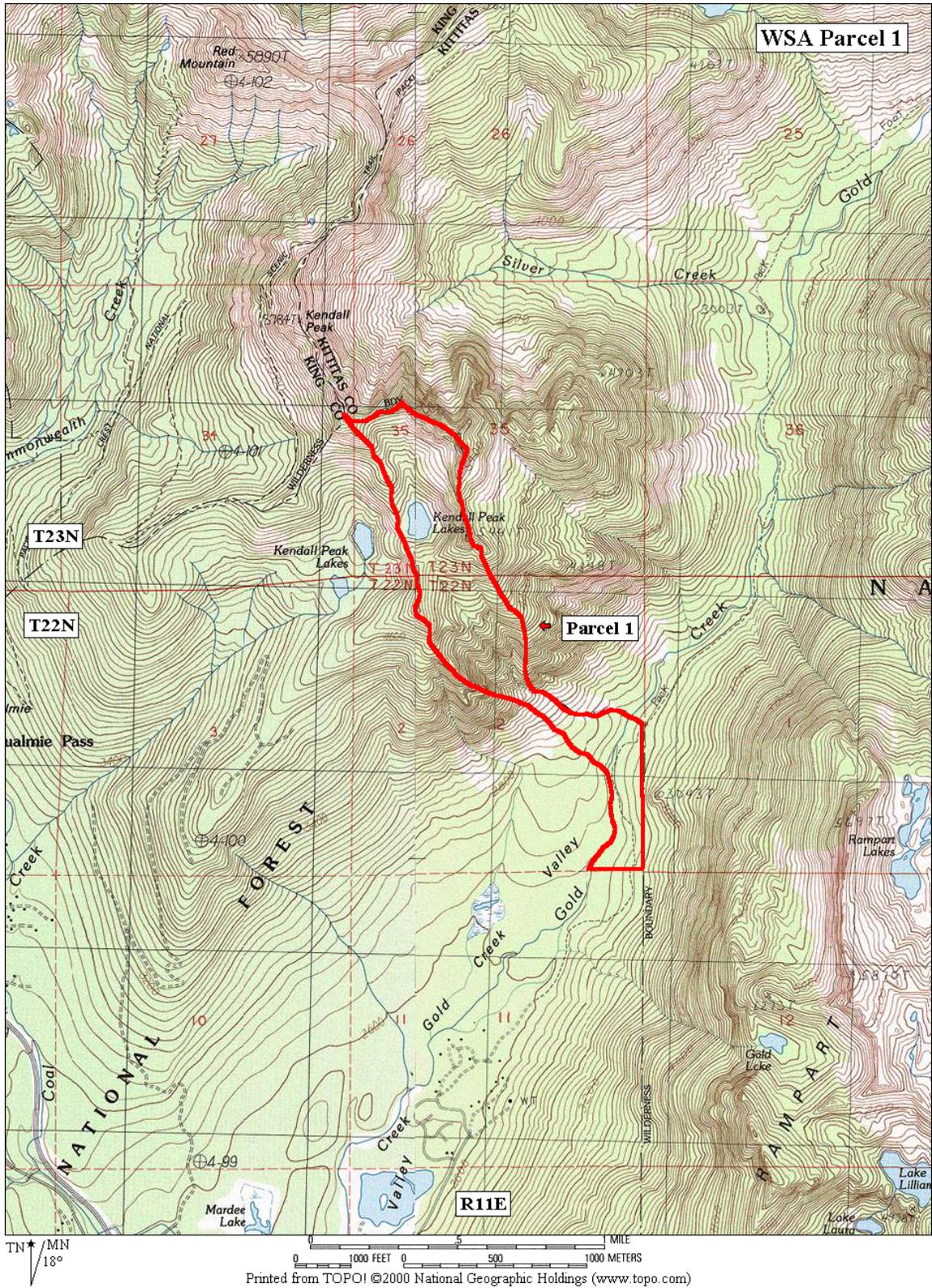


Figure 2-2- Parcel 1 245 Acres

Parcel 2

Parcel 2 contains 141 acres of land. This parcel is located near Mount Margaret. The boundary follows mid-slope contours, cuts perpendicular to contours in steeper terrain, and parallels the Rampart Ridge Trail #1332. This trail is open only to hiker use. The proposed action boundary for this parcel follows this description:

From the existing east-west wilderness boundary, south of Stonestrow Lake, between sections 22 and 27, T. 22 N., R. 12 E., W. M., the boundary would proceed southwesterly for 2500 feet following the 4400 foot contour line thence northwesterly for 1500 feet towards the junction of trails #1332 (Rampart Ridge Trail) and #1332.1 (Lake Margaret Trail). Paralleling on the westward side of trail #1332 with a 50-foot buffer, the boundary would continue northerly to the existing east-west wilderness boundary located at the section line of sections 13 and 24, T. 22 N., R. 11 E., W. M.

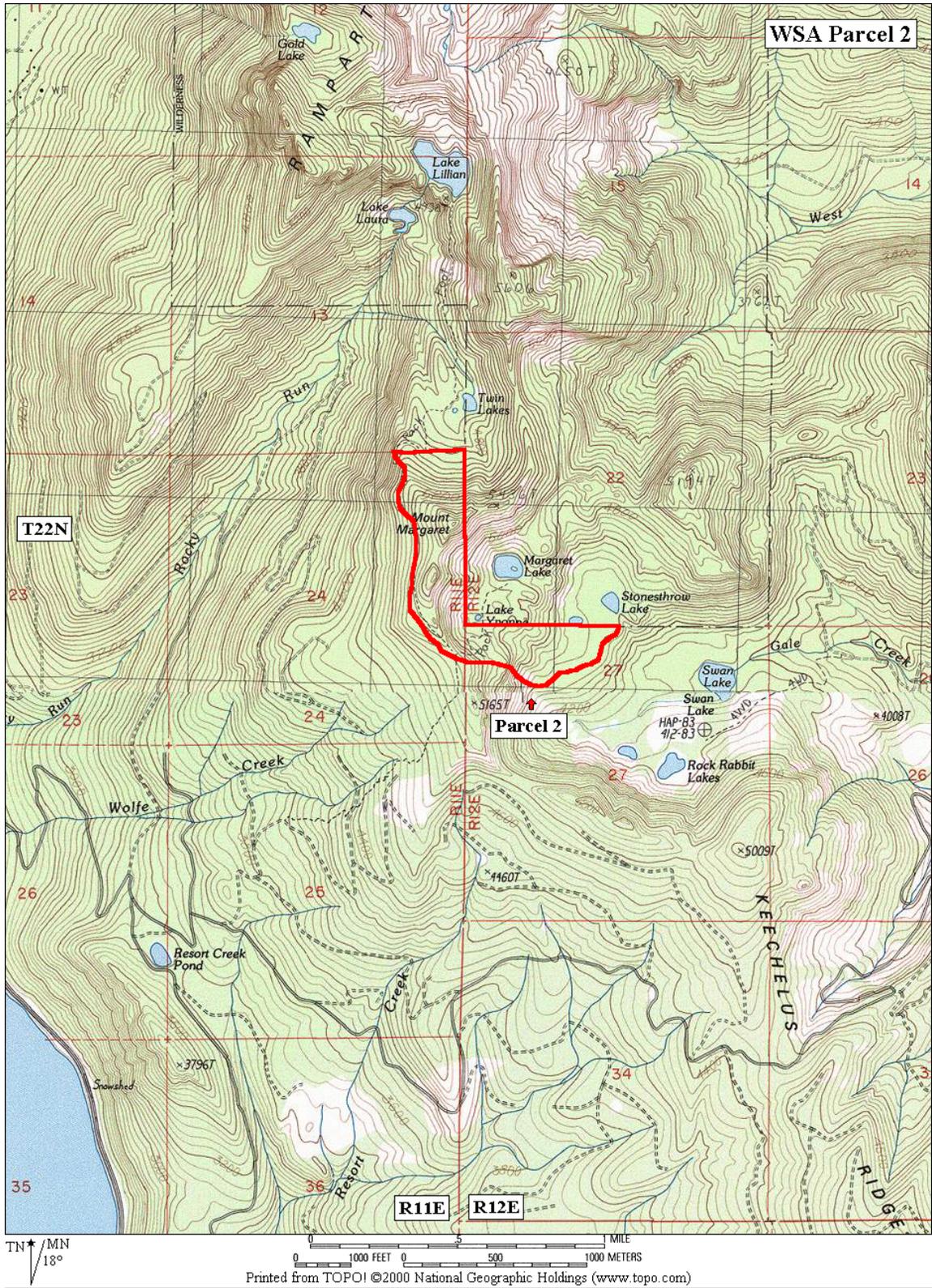


Figure 2-3- Parcel 2 141 Acres

Parcel 3

Parcel 3 contains 217 acres of land located in the headwaters of the west fork of Box Canyon Creek. The boundary follows a tributary to the main channel, the creek, and the highest ground on steep side slopes leading to ridgelines that are followed west to the existing wilderness boundary. The proposed action boundary for this parcel follows this description:

Near the western edge of section 14, from the existing east-west wilderness boundary between sections 11 and 14, T. 22 N., R. 12 E., W. M., the boundary would proceed southerly for 3000 feet following the centerline of an unnamed tributary to the west fork of Box Canyon Creek thence easterly for 2000 feet following the centerline of the West Fork Box Canyon Creek. Traversing south-southeasterly, the boundary would follow the highest elevation ground to a peak located in the NW $\frac{1}{4}$ of the NE $\frac{1}{4}$ quarter of section 23 and then would follow the ridgeline in a westerly direction to the existing north-south wilderness boundary located at the section line between sections 22 and 23, T. 22 N., R. 12 E., W. M.

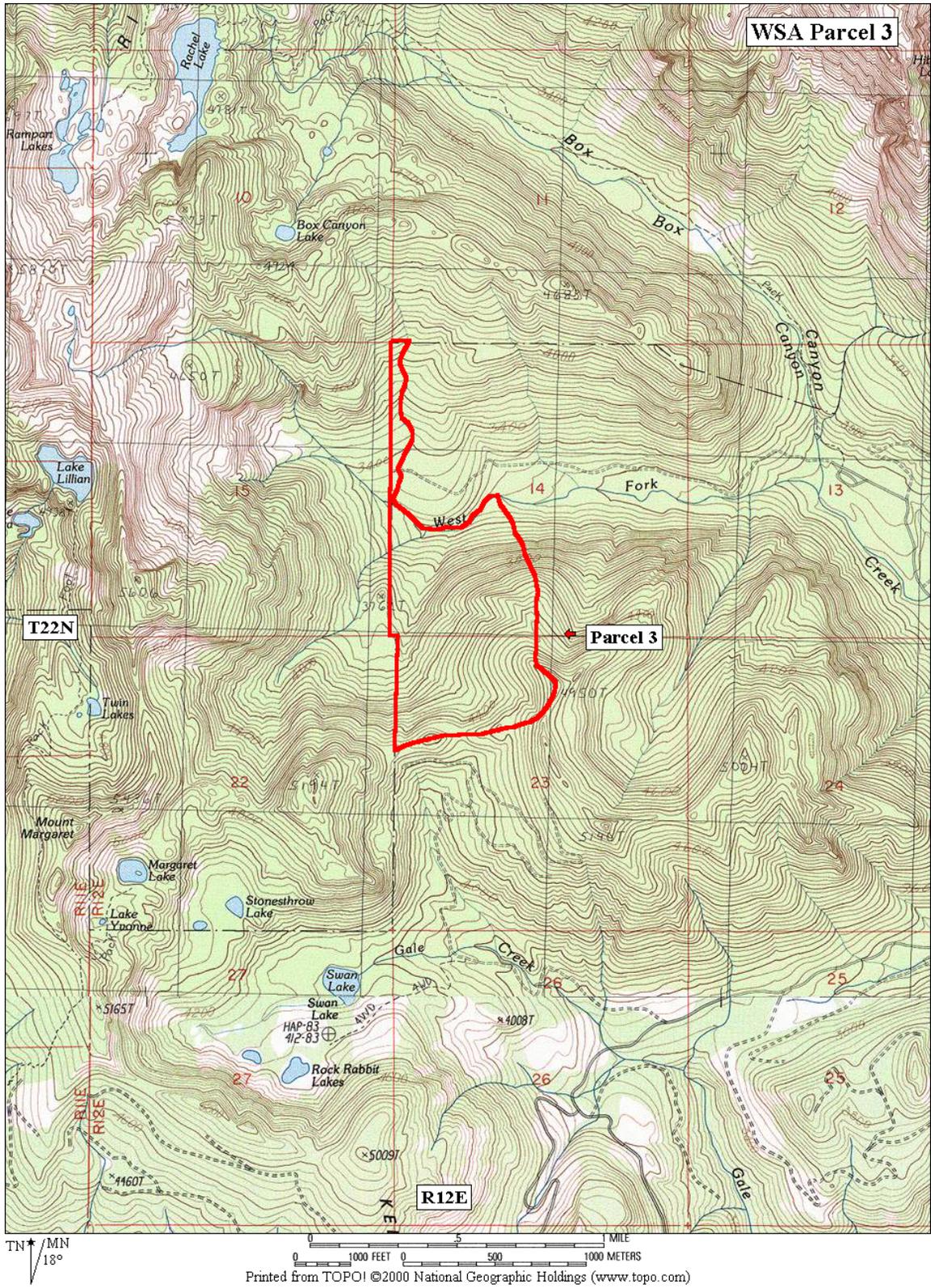


Figure 2- 4- Parcel 3 217 Acres

Parcel 4

Parcel 4 contains 3,096 acres of land located in the vicinity of Chikamin Ridge and includes lands near Mineral Creek, Kachess River and Cooper River. The boundary follows contour lines and river channels avoiding the areas that were heavily logged. The parcel does include lands that were helicopter logged but these areas are not noticeable to the casual forest visitor as buffers were maintained. Logging included small areas of clear-cut, area 3 is 6 acres, area 2 is 15 acres and area 1 has 74 acres and 155 acres are logged as shelterwood and overstory removal. The helicopter logged areas are shown in figures 2-6 and 2-7 the figures also show the type of harvest in each area and unit acres. The proposed action boundary for this parcel follows this description:

From the existing east-west wilderness boundary between sections 21 and 28, T. 23 N., R. 13 E., W. M., the boundary would proceed southeasterly following the 2850 foot contour for 8000 feet crossing an unnamed tributary to the Cooper River and terminating at Tired Creek. Following the centerline of Tired Creek, the boundary would then proceed southwesterly to the Cooper River and then follow the Cooper River downstream for 1000 feet. From this point, the boundary would go southwesterly upslope to a ridge, in the southwestern corner of section 34, at 3600 feet. The boundary would follow the ridgeline northwesterly along the 3600-foot contour until the boundary reaches the unnamed outlet creek from Three Queens Lake. Following the creek southeasterly, the boundary would continue to the thread line of the Kachess River, then to Mineral Creek, meandering southerly between the 2400 foot and 2500 foot contours on the western edge of areas that have previously been logged. This leg of the boundary crosses the Mineral Creek Trail, #1331, and stays east of the Little Kachess Trail, #1312. The boundary would intersect the Little Kachess Trail and the east-west section line of sections 8 and 17, T. 22 N., R. 13 E., W. M. From this point, the boundary would follow the section line westerly 1.75 miles to the common westerly corner of sections 7 and 18, T. 22 N., R. 13 E., W. M. The boundary would then follow a line crossing predominant contours to the west through section 13 T. 22 N., R. 12 E., W. M., intersecting the existing wilderness boundary at the 3000 foot contour line on an unnamed tributary to Box Canyon Creek.

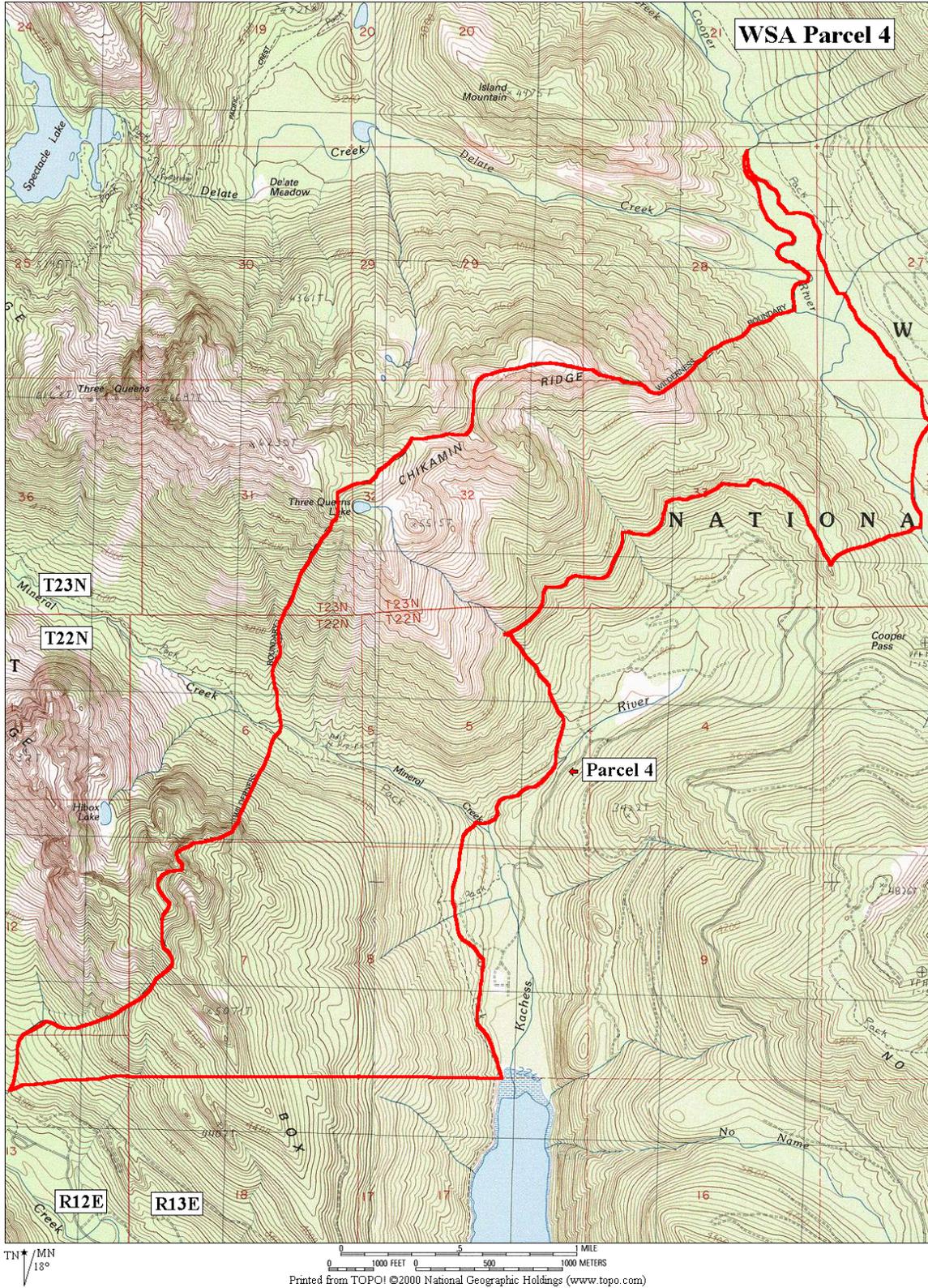


Figure 2- 5- Parcel 4 3,096 Acres

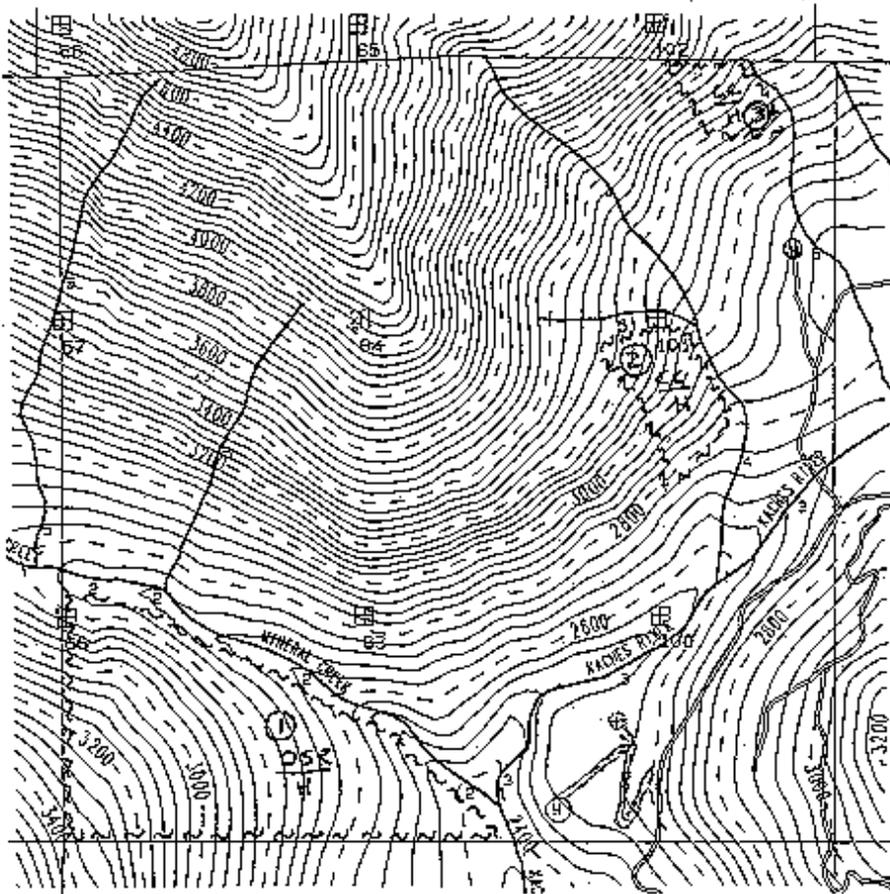


Figure 2-6 Logged Area

Legal: Section 05, T.22 N., R.13 E., W.M.

1-74 Acres

2-15 Acres

3-6 Acres

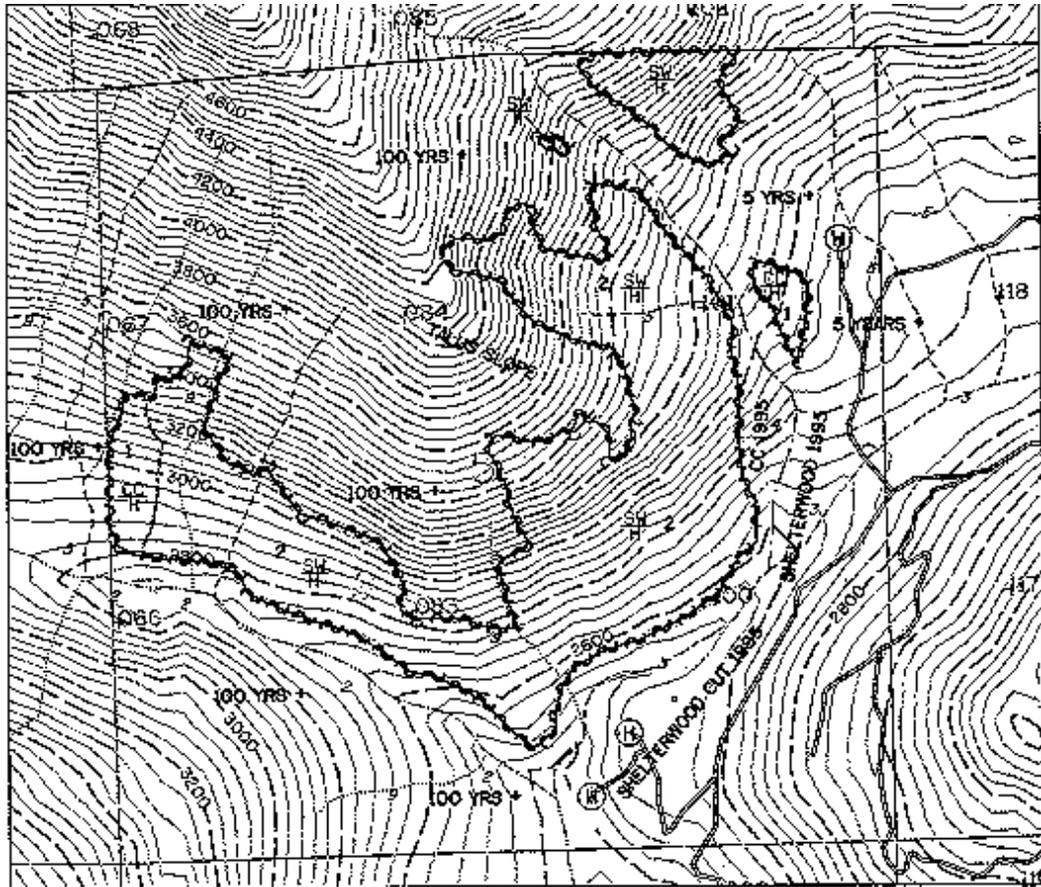


Figure 2- 7 Logged Area

Legal: Section 05, T.22 N., R.13 E., W.M.

Acres 155

Parcel 5

Parcel 5 contains 193 acres of land and is located in the upper Cooper River drainage. The boundary would follow the 4000-foot contour for its entire length. The proposed action boundary for this parcel follows this description:

From the existing wilderness boundary intersection near Tired Creek in the NW $\frac{1}{4}$ of the SW $\frac{1}{4}$ of section 26, T. 23 N., R. 13 E., W. M., the boundary would follow the 4000 foot contour for 6000 feet in a north-westerly direction until it intersects with the current wilderness boundary in the SW $\frac{1}{4}$ of the SE $\frac{1}{4}$ of section 22, T. 23 N., R. 13 E., W. M.

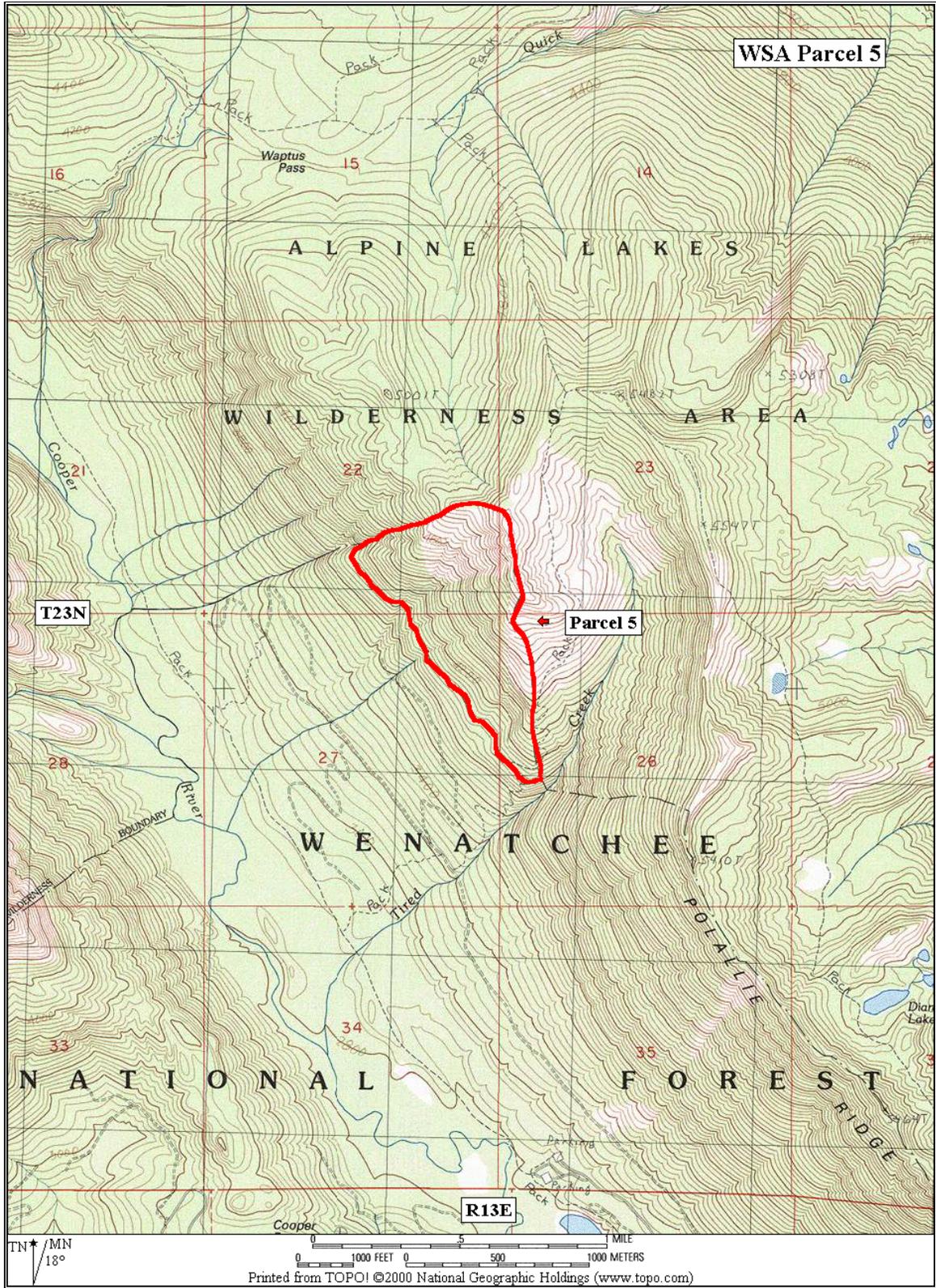


Figure 2- 8- Parcel 5 - 193 Acres

Parcel 6

Parcel 6 contains 1,169 acres of land. This parcel is located on the southwestern slopes of Polallie Ridge near Cooper Lake. Proceeding south from the existing wilderness boundary, this parcel boundary is adjacent to the trailhead parking lot near Salmon La Sac. It follows the Cooper River, ascends a major draw to an upper slope elevation avoiding a logged area, figure 2-10, and then descends to the 4000 foot contour, proceeding northwesterly to where Tired Creek intersects with the existing wilderness boundary. The proposed action boundary includes land in section 7, T. 22 N., R. 14 E., W. M., which is a privately owned section and would not be designated wilderness unless the land was acquired by the Forest Service. The proposed action boundary for this parcel follows this description:

From the common corner of sections 4, 5, 8 and 9, T. 22 N., R. 14 E., W. M., the boundary would proceed south for 1,320 feet, then west for 2,640 feet again turning south for 1,320 feet crossing the Cooper River Trail #1311 and intersecting with the Cooper River. Following the thread line of the Cooper River, the boundary would continue in a northwesterly direction for 13,200 feet, ascending the first major draw after crossing the section line into section 1, T. 22 N., R. 13 E., W. M. Proceeding northerly to the 4400-foot contour line, thence northwesterly for 3700 feet towards the east-west section line of section 1, T. 22 N., R. 13 E., W. M. and section 36, T. 23 N., R. 13 E., W. M. From here, the line would proceed west for 1,000 feet to the 4000 contour and then follow the 4000 contour to the existing wilderness boundary near Tired Creek.

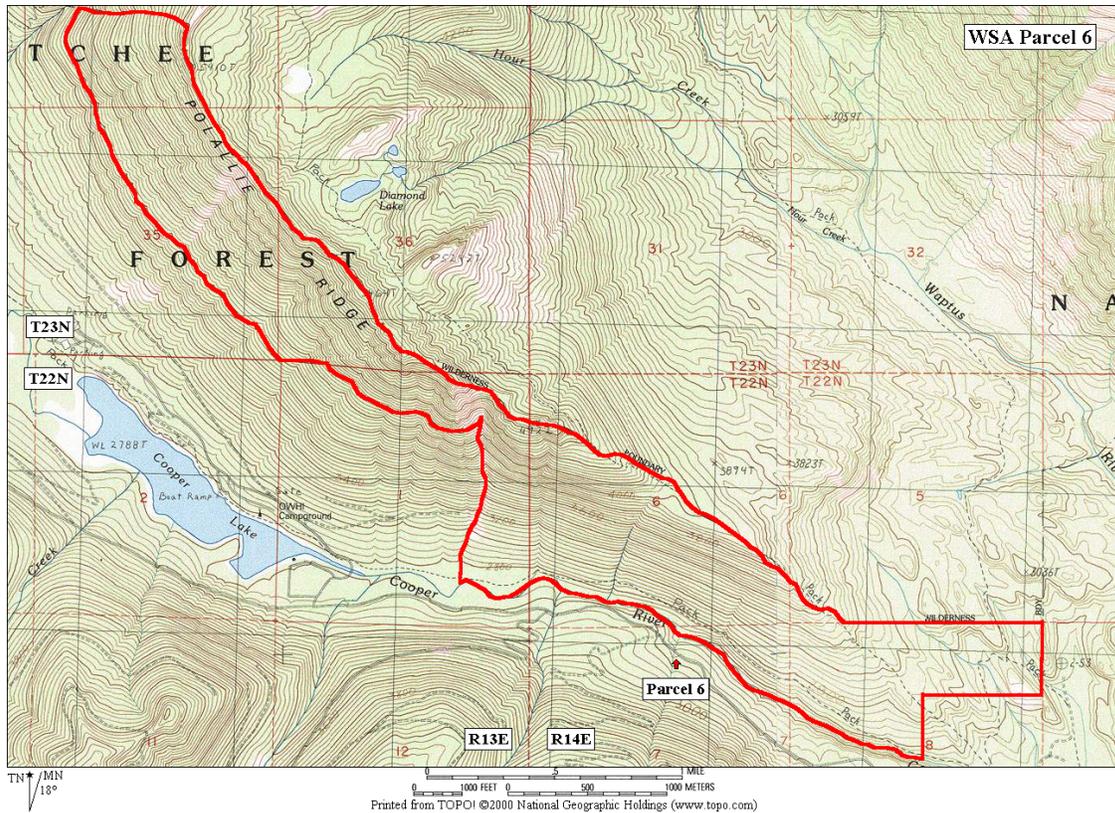


Figure 2- 9- Parcel 6 1,169 Acres

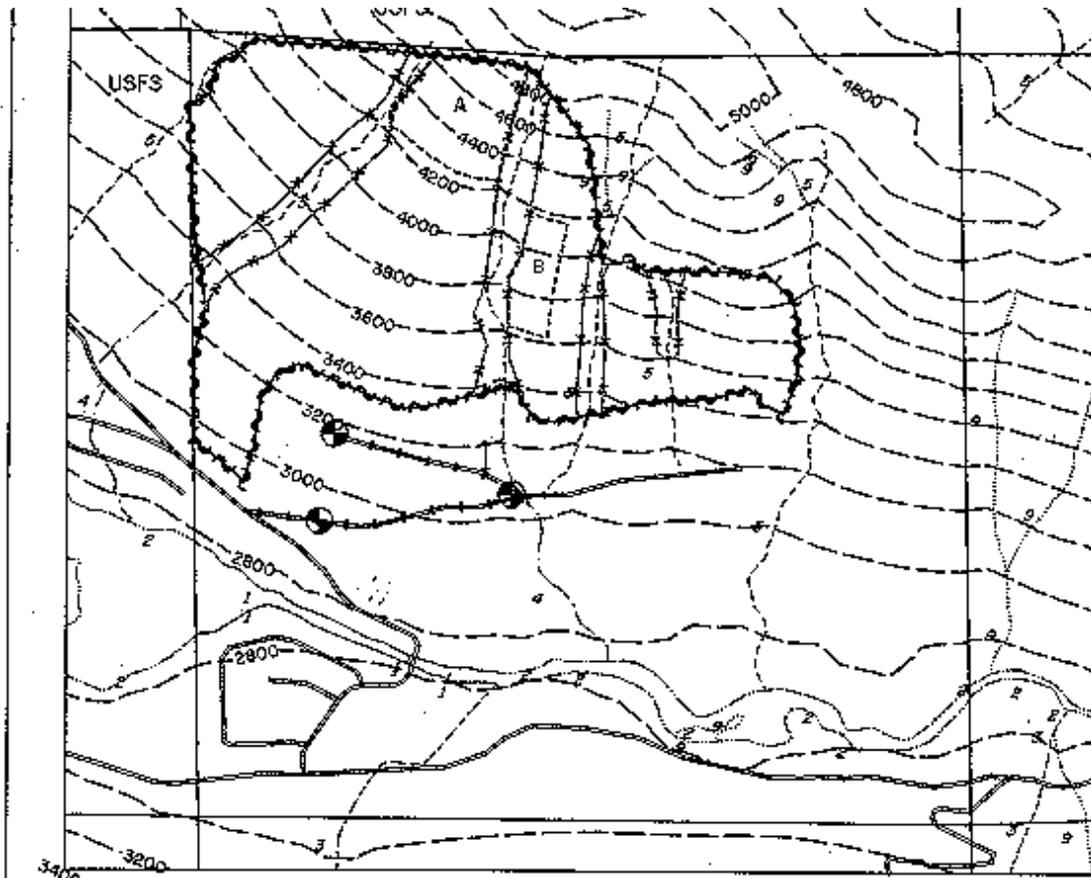


Figure 2- 10- Logged Area

Legal: T22 N., R13 E., Section 01

Total Acres: 172

Parcel 7

Parcel 7 contains 5,178 acres of land along the Cle Elum River between Salmon La Sac and Tucquala Lake (Fish Lake). To enable the reader to better locate the boundaries of this parcel, Parcel 7 is divided into a north and south section, see figures 2-12 and 2-13. This parcel is located on the eastern slopes of Goat Mountain. Proceeding southeasterly from the existing wilderness boundary in section 28, T. 24 N., R. 14 E., W. M., this parcel boundary would follow the Cle Elum River towards Salmon La Sac. Where the Cle Elum River crosses the Waptus River and continues to the southern section line of section 4, the boundary would proceed west following the section line to the existing wilderness boundary. The proposed action boundary for this parcel follows this description:

From the intersecting point of the wilderness boundary and the Cle Elum River in NW $\frac{1}{4}$ of section 28, T. 24 N., R. 14 E., W. M., the boundary would proceed southeasterly following the threadline of the Cle Elum River to Tucquala Lake. At Tucquala Lake, the boundary would follow the western high-water line to the southeastern outlet of the lake at which point the boundary would proceed in a southerly direction, again following the threadline of the Cle Elum River to the northern east-west boundary of section 35, T. 23 N., R. 14 E., W. M. At this section line, the boundary would proceed west following the section line to the NW corner of the section and then continuing south following the section line to the Cle Elum River. From this point, the boundary would again follow the threadline of the river, past the confluence of the Waptus River and join the southern section line of section 4 proceeding west following the section line to the existing wilderness boundary.

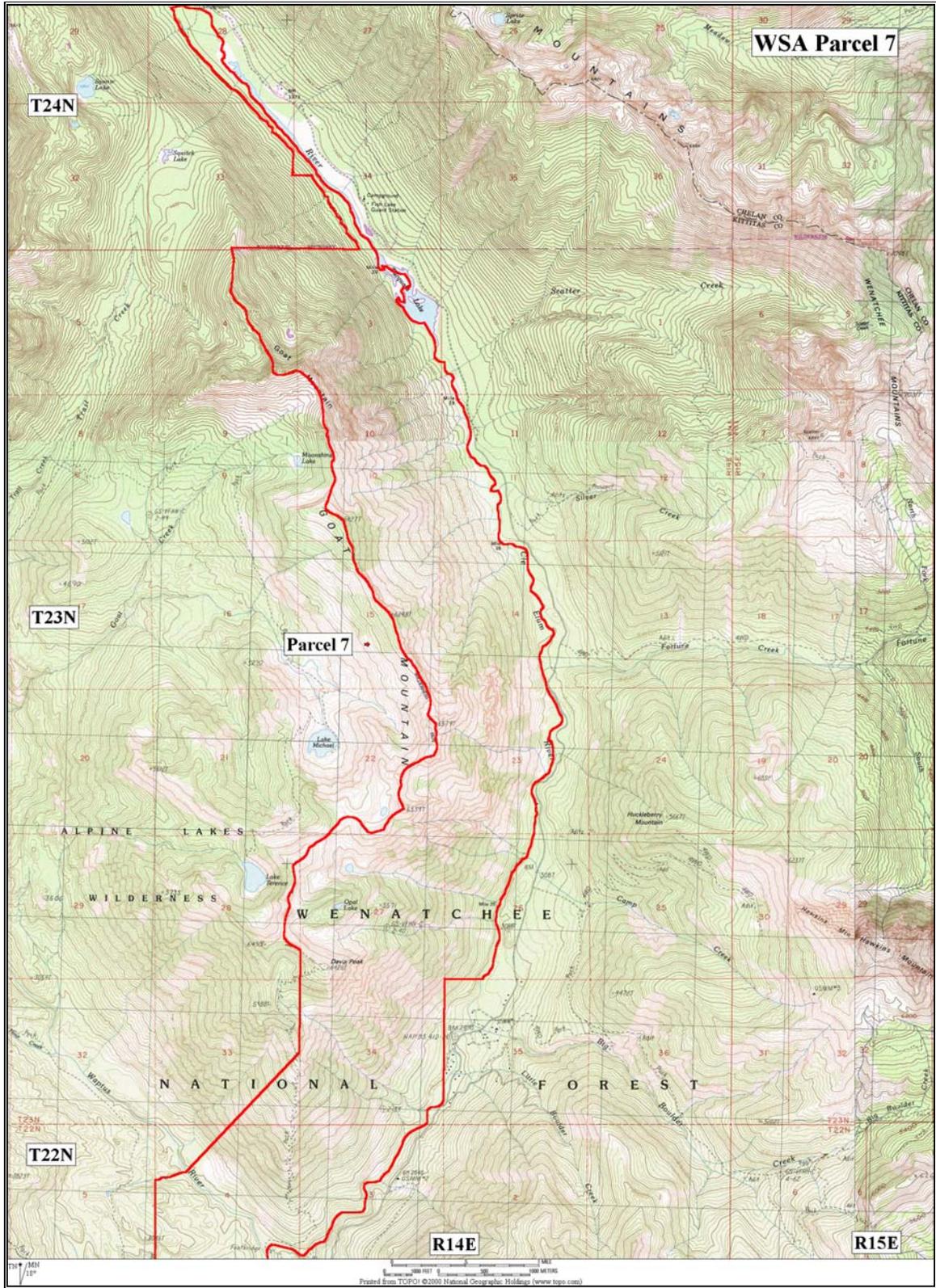


Figure 2- 11- Parcel 7 5,178 Acres

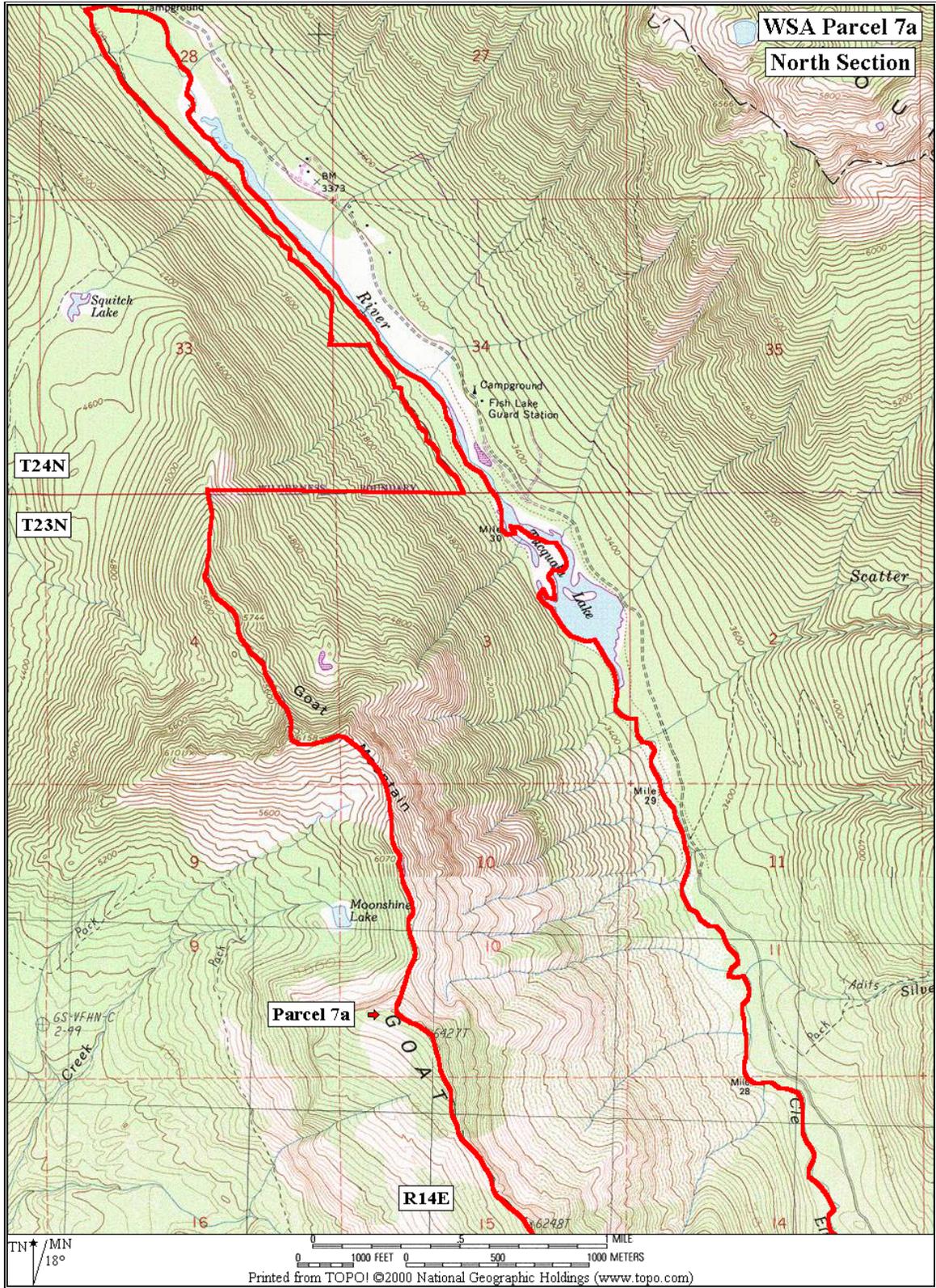


Figure 2- 12- Parcel 7 North Section

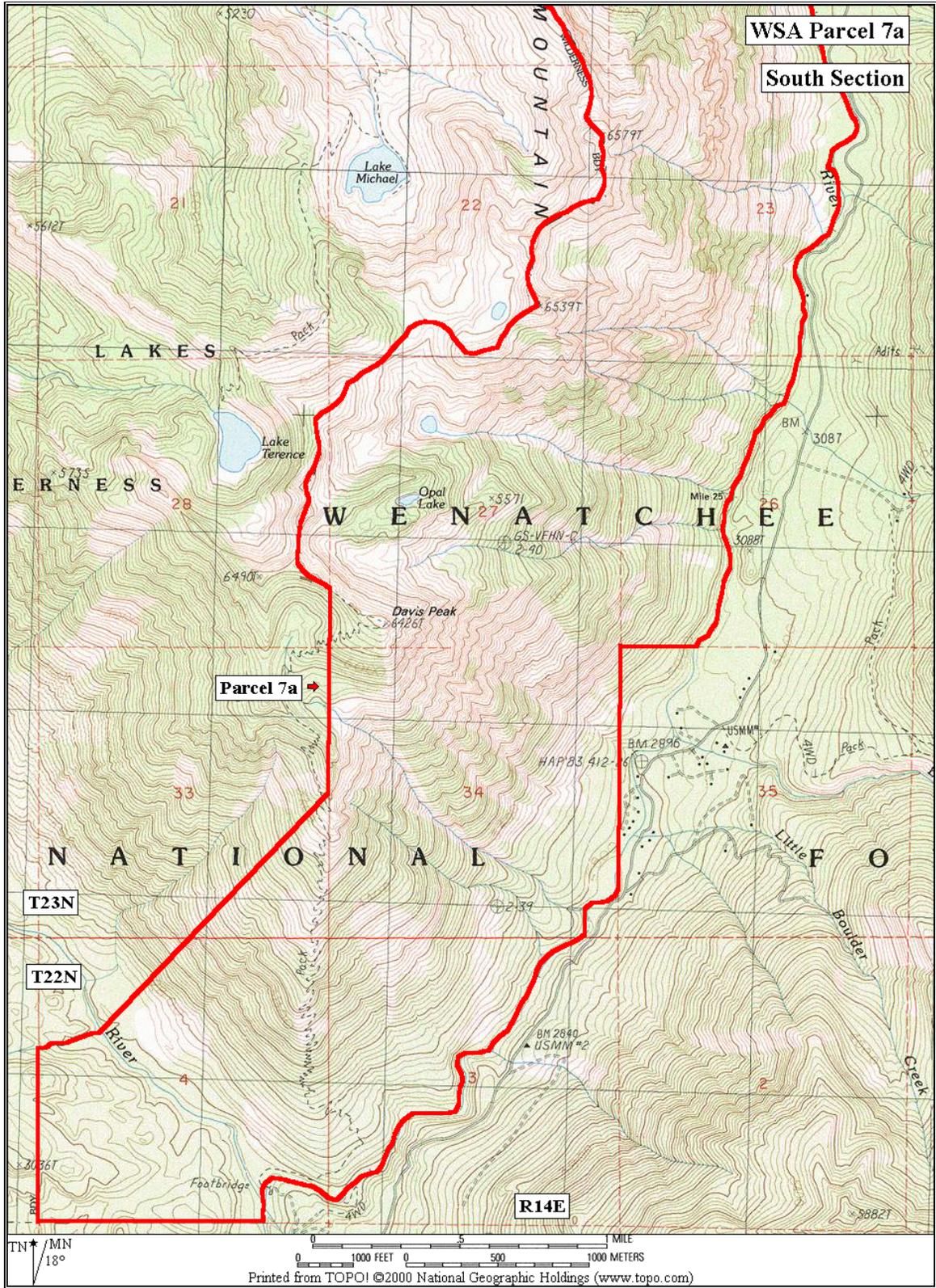


Figure 2- 13- Parcel 7 South Section

Parcel 8

Parcel 8 contains 4,210 acres of land on the western slopes of the Wenatchee Mountains. This parcel is near Tucquala Lake (Fish Lake). Within this parcel are Scatter Creek and Silver Creek. Fortune Creek lies to the south of Parcel 8. The proposed action boundary for this parcel follows this description:

From the intersecting point of the wilderness boundary in NE $\frac{1}{4}$ of the NE $\frac{1}{4}$ of section 8, T. 23 N., R. 15 E., W. M., the boundary would proceed southeasterly following the Chelan/Kittitas County Line to the 6128 foot peak near the east-west section line of sections 9 and 16, T. 23 N., R. 15 E., W. M. At this point the boundary would follow a south westerly path down slope along a descending ridge to the 4800 foot contour line located in the NW $\frac{1}{4}$ of the SW $\frac{1}{4}$ of section 16, T. 23 N., R. 15 E., W. M. Following this contour, the boundary would proceed predominately westward to the NW $\frac{1}{4}$ of section 13, T. 23 N., R. 14 E., W. M. At this point, the boundary would proceed down slope following the highest ridge to the common corner of section 11, 12, 13 and 14, T. 23 N., R. 14 E., W. M. From this point, the boundary would follow the section line and proceed north for 4,300 feet to an unnamed annual stream in section 11, T. 23 N., R. 14 E., W. M.; turning westward the boundary would follow downstream to the 3400-foot contour. At the intersection of the stream and the 3400-foot contour, the boundary would proceed north by northwest for 6200 feet following the 3400 foot contour to another annual stream north of Tucquala Lake in the SE $\frac{1}{4}$ of the SE $\frac{1}{4}$ of section 34, T. 24 N., R. 14 E., W. M., turning north by north-east and traveling upstream for 1000 feet the boundary would intersect with the existing wilderness boundary in the SE $\frac{1}{4}$ of the SE $\frac{1}{4}$ of section 34, T. 24 N., R. 14 E., W. M.

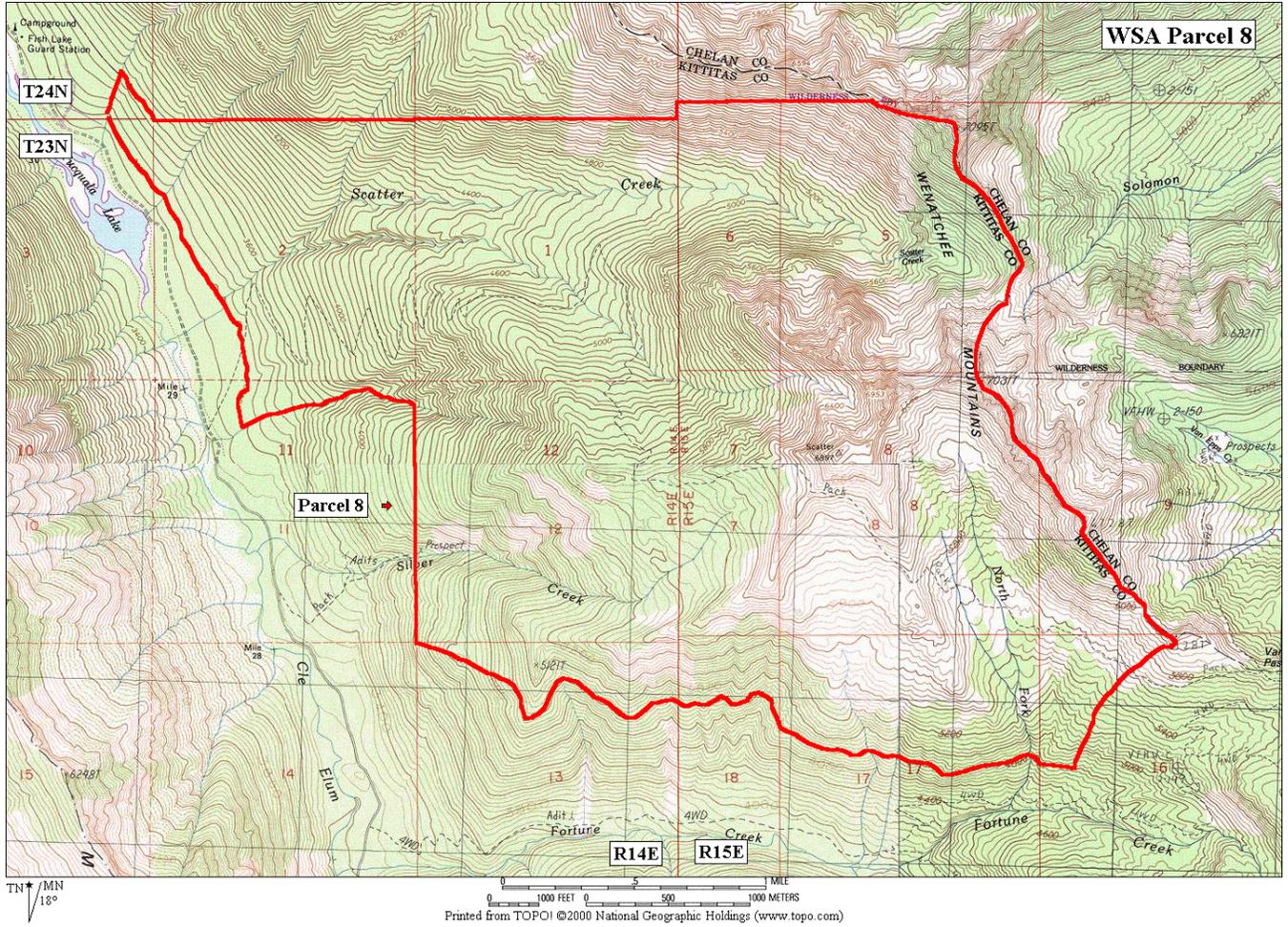


Figure 2- 14- Parcel 8 4,210 Acres

Parcel 9

Parcel 9 contains 918 acres of land on the western slopes of the Wenatchee Mountains. This parcel contains Lake Ann and is accessed primarily by the Fortune Creek Road. The proposed action boundary for this parcel follows this description:

From the wilderness boundary in SE $\frac{1}{4}$ of section 22, T. 23 N., R. 15 E., W. M., and at the 7382 foot elevation point, the boundary would proceed westerly following the ridgeline to a 6598 foot peak on the section line near the southern section corner between sections 21 and 22, T. 23 N., R. 15 E., W. M. At this point, the boundary would proceed northwesterly through a point at 6416 feet still following a ridgeline to a 5924 foot peak in the NE $\frac{1}{4}$ of section 21, T. 23 N., R. 15 E., W. M. Following a north-northeasterly descent, the boundary would follow the dominant ridgeline to the valley floor crossing Fortune Creek in the SE $\frac{1}{4}$ of section 16, T. 23 N., R. 15 E., W. M. and then continuing upslope on a dominant lateral ridge crossing contours until reaching the 6200 foot contour in the SW $\frac{1}{4}$ of section 15, T. 23 N., R. 15 E., W. M. From this point, the boundary would proceed north on the 6200-foot contour until it intersected with the existing wilderness boundary.

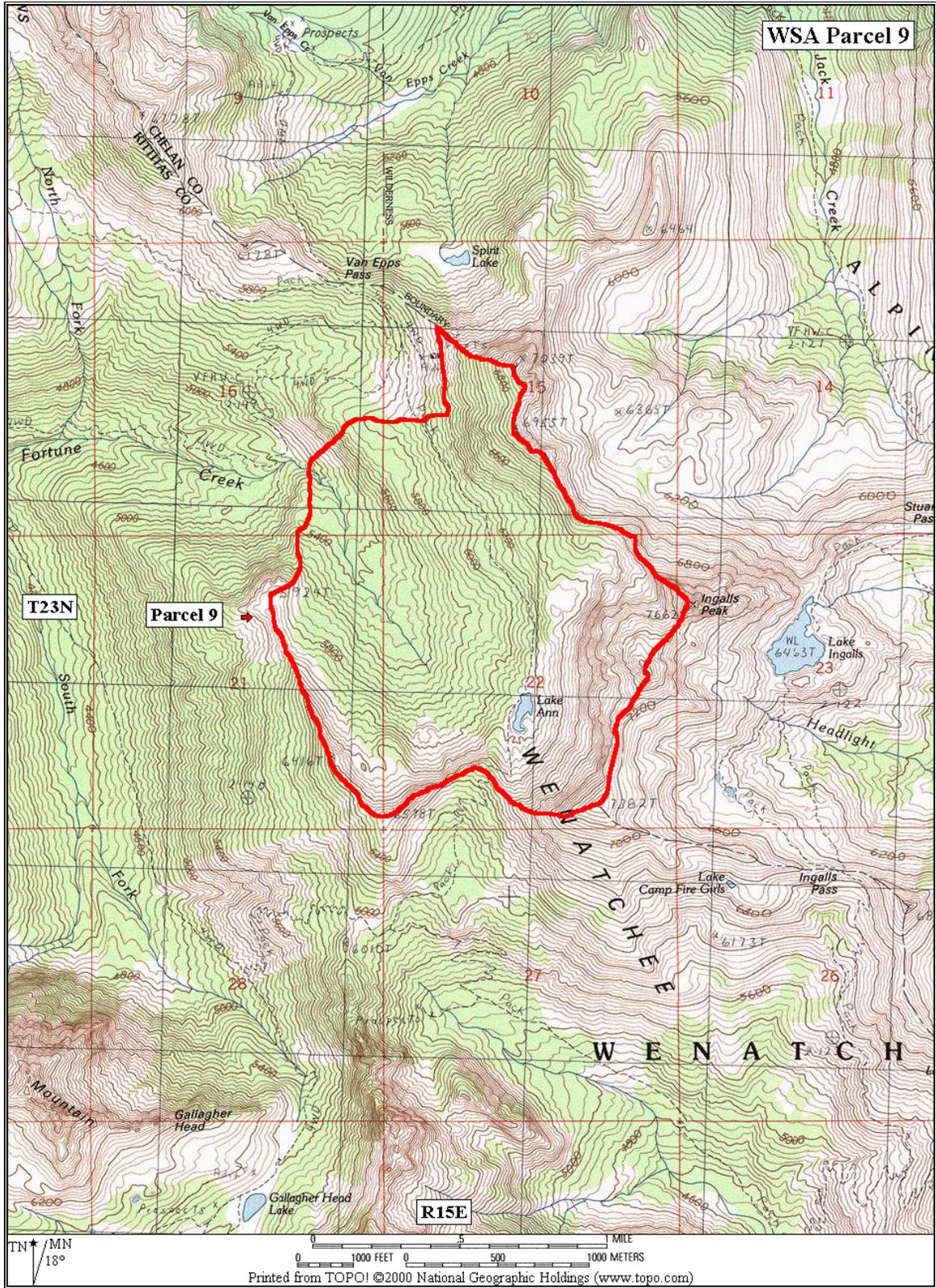


Figure 2- 15- Parcel 9 918 Acres

Parcel 10

Parcel 10 contains 600 acres of land on the eastern slopes of the Wenatchee Mountains. This is the only parcel not within Kittitas County and lies in Chelan County and it contains the headwaters of Van Epps Creek and the historic Van Epps mining area. The area was previously excluded from wilderness designation because of the patented mining claim in the area that has subsequently become public land. The proposed action boundary for this parcel follows this description:

From the existing wilderness boundary on the north-south section line between sections 15 and 16, T. 23 N., R. 15 E., W. M., the boundary would proceed west by northwest following the Chelan/Kittitas County line until it meets the existing wilderness boundary on the east-west section line between sections 5 and 8, T. 23 N., R. 15 E., W. M. This boundary would follow the spine of the ridge.

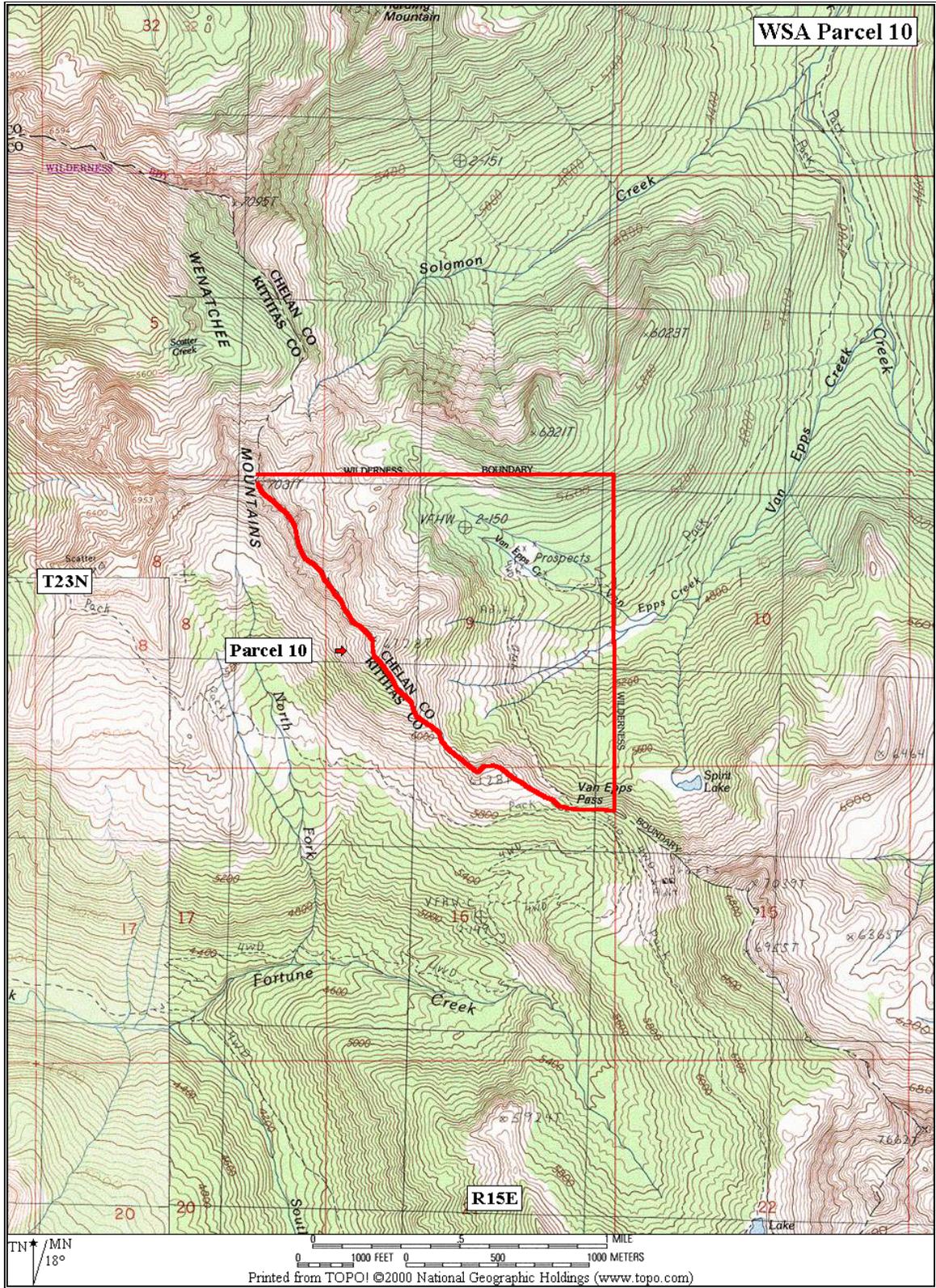


Figure 2- 16- Parcel 10 600 Acres

Alternatives To The Proposed Action

As mentioned above, the development of other action alternatives was focused on specific parcels rather than the area as a whole. The following discussion will concentrate on alternative(s) that modify an individual parcel boundary from the legislated proposal in response to issues brought forward during public involvement.

Parcel 1

There are no alternatives to the proposed action for Parcel 1. The parcel exhibits the basic wilderness characteristics with respect to natural characteristics, (remoteness, solitude, freedom from disturbance, challenge, primitiveness) and possesses an easily managed boundary. The Key Issues can adequately be addressed by the Proposed Action for Parcel 1.

Parcel 2a

There is one alternative to Parcel 2; this alternative is identified as **Parcel 2a**. Parcel 2a contains 223 acres of land. This alternative was developed to address *Issue 3 – the establishment of boundaries that are recognizable to the forest users*.

The I-90 Land Exchange, Section 604(d) Public Law 105-277, provided for a donation of lands that, if qualified as wilderness, be managed as part of the adjacent Alpine Lakes Wilderness. The wilderness boundary established by this donation follows a 4200-foot contour. To maintain a recognizable boundary, Parcel 2a boundary would join this contour and use dominant landscape features and continuous contour lines, when possible, to establish the new boundary. The proposed boundary for Parcel 2a follows this description:

From the existing east-west wilderness boundary between sections 22 and 27, T. 22 N., R. 12 E., W. M., the boundary would proceed southwesterly for 2600 feet following the 4400 foot contour line, thence westerly for 1600 feet, crossing a peak at 5165 feet elevation and intersecting with trail #1332 (Rampart Ridge Trail) at the 5000 foot contour. Proceeding northerly following the 5000 foot contour, the boundary would proceed to the N ½ of the NE ¼ of section 24, T. 22 N., R. 11 E., W. M.. At this point, the boundary would turn westerly and proceed downslope through steep talus to the 4200 foot contour, where the boundary again would proceed northerly following the 4200 foot contour, joining the existing wilderness boundary on the east-west section line between sections 13 and 24, T. 22 N., R. 11 E., W. M.

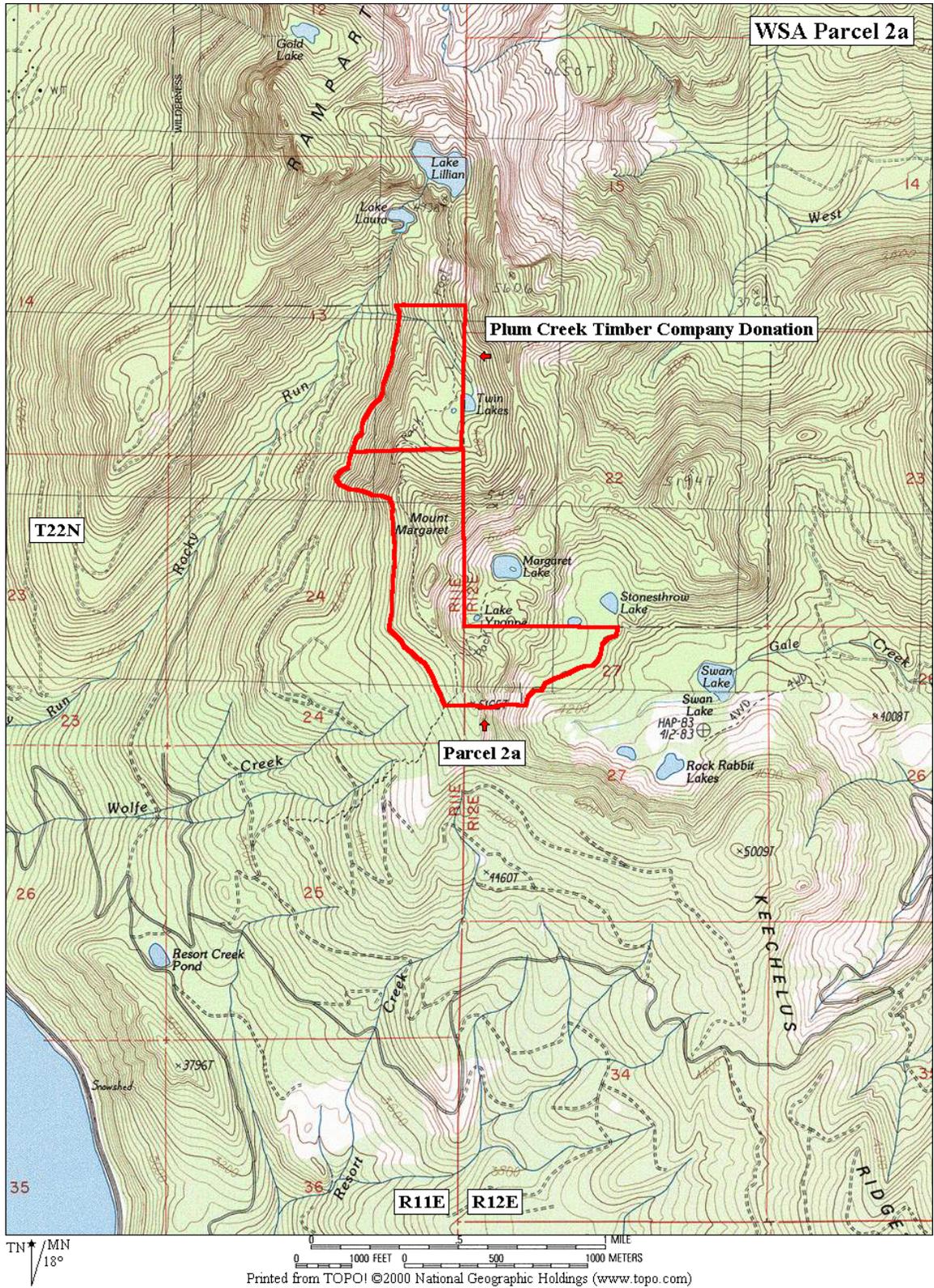


Figure 2- 17- Parcel 2a 223 Acres

Parcel 3a and 3b

There are two alternatives to Parcel 3; these alternatives are identified as **Parcel 3a** and **Parcel 3b**. Parcel 3a contains 996 acres of land and Parcel 3b contains 205 acres of land. Geographic boundaries are utilized in Parcel 3a capturing more of the primitive area as wilderness. Parcel 3b is similar to Parcel 3, but eliminates the area north of the West Fork of Box Canyon Creek that has previously seen timber harvest activities. These alternatives to Parcel 3 were developed to address *Issue 1 – the appearance that the main influences have been the forces of nature* and *Issue 3 – the establishment of boundaries that are recognizable to the forest users*. The proposed boundary for Parcel 3a and Parcel 3b follows these descriptions:

Parcel 3a: From the existing north-south wilderness boundary between sections 14 and 15, T. 22 N., R. 12 E., W. M. and the intersection with the West Fork of Box Canyon Creek, the boundary would proceed easterly following the centerline of the West Fork of Box Canyon Creek through the confluence with Box Canyon Creek, thence southeasterly to the SW $\frac{1}{4}$ of the SE $\frac{1}{4}$ of section 13, T. 22 N., R. 12 E., W. M. At the confluence of an unnamed stream 2,600 feet downstream of Box Canyon Creek, the boundary would turn to the southwest and proceed upslope, following a major ridge to a peak at 5004 feet located in the SW $\frac{1}{4}$ of the NW $\frac{1}{4}$ of section 24, T. 22 N., R. 12 E., W. M. Traversing southwesterly, the boundary would follow the ridge to a peak at 5140 feet located in the SE $\frac{1}{4}$ of section 23, T. 22 N., R. 12 E., W. M., continuing along the highest elevation ground to a saddle near the western edge of the NE $\frac{1}{4}$ of section 23. Then proceeding west following the ridge line to the existing wilderness boundary between sections 22 and 23, T. 22 N., R. 12 E., W. M.

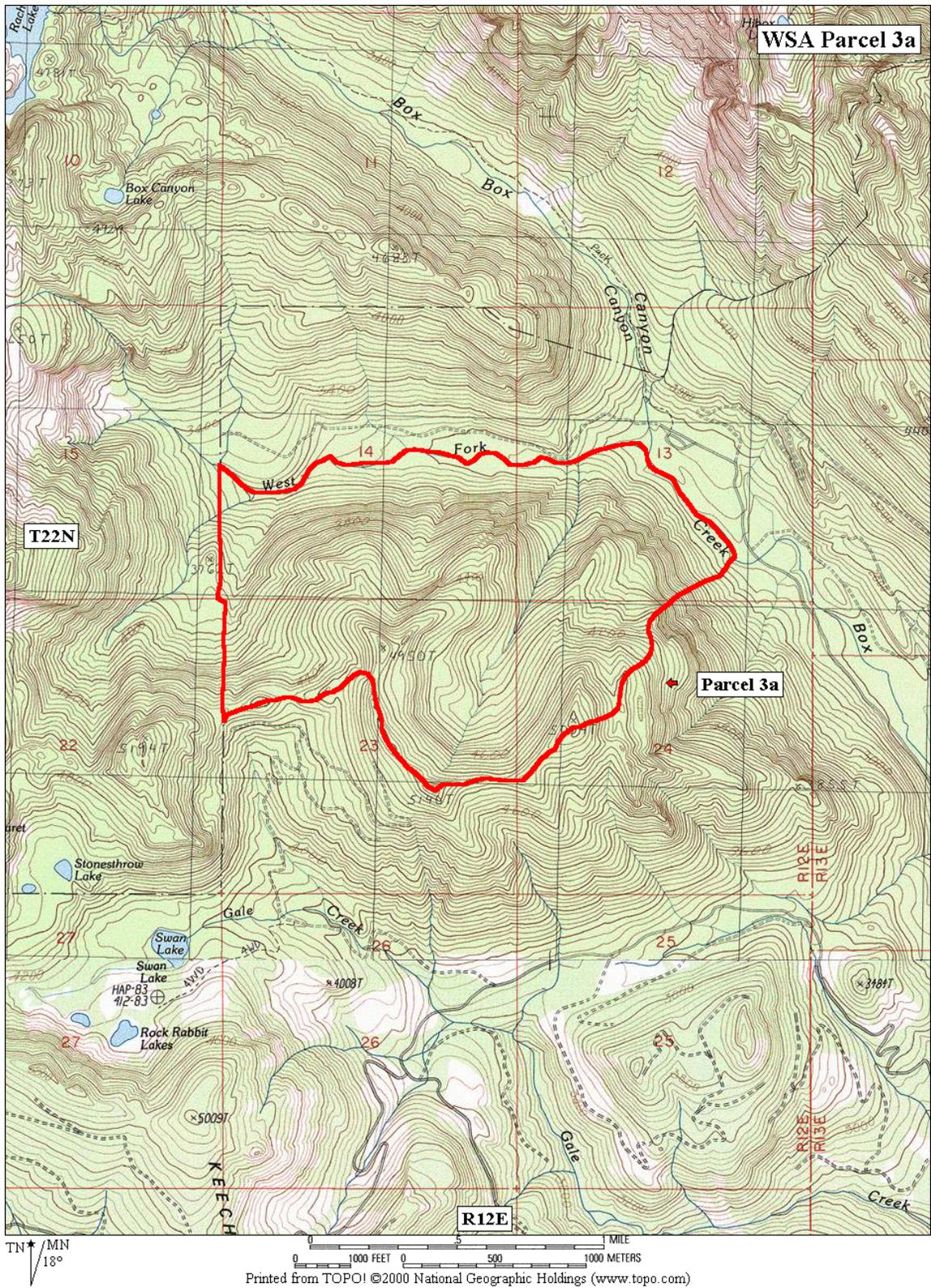


Figure 2- 18- Parcel 3a 996 Acres

Parcel 3b: In the NW $\frac{1}{4}$ of the SW $\frac{1}{4}$ of section 14, T. 22 N., R. 12 E., W. M., near the western edge of the section where the West Fork Box Canyon Creek intersects with the existing wilderness boundary, the boundary would proceed southeasterly following the centerline of West Fork Box Canyon Creek thence easterly for 2000 feet following the centerline of the West Fork Box Canyon Creek. Traversing south-southeasterly, the boundary would follow the highest elevation ground to a peak located in the NW $\frac{1}{4}$ of the NE $\frac{1}{4}$ quarter of section 23 and then would follow the ridgeline in a westerly direction to the existing north-south wilderness boundary located at the section line between sections 22 and 23, T. 22 N., R. 12 E., W. M.

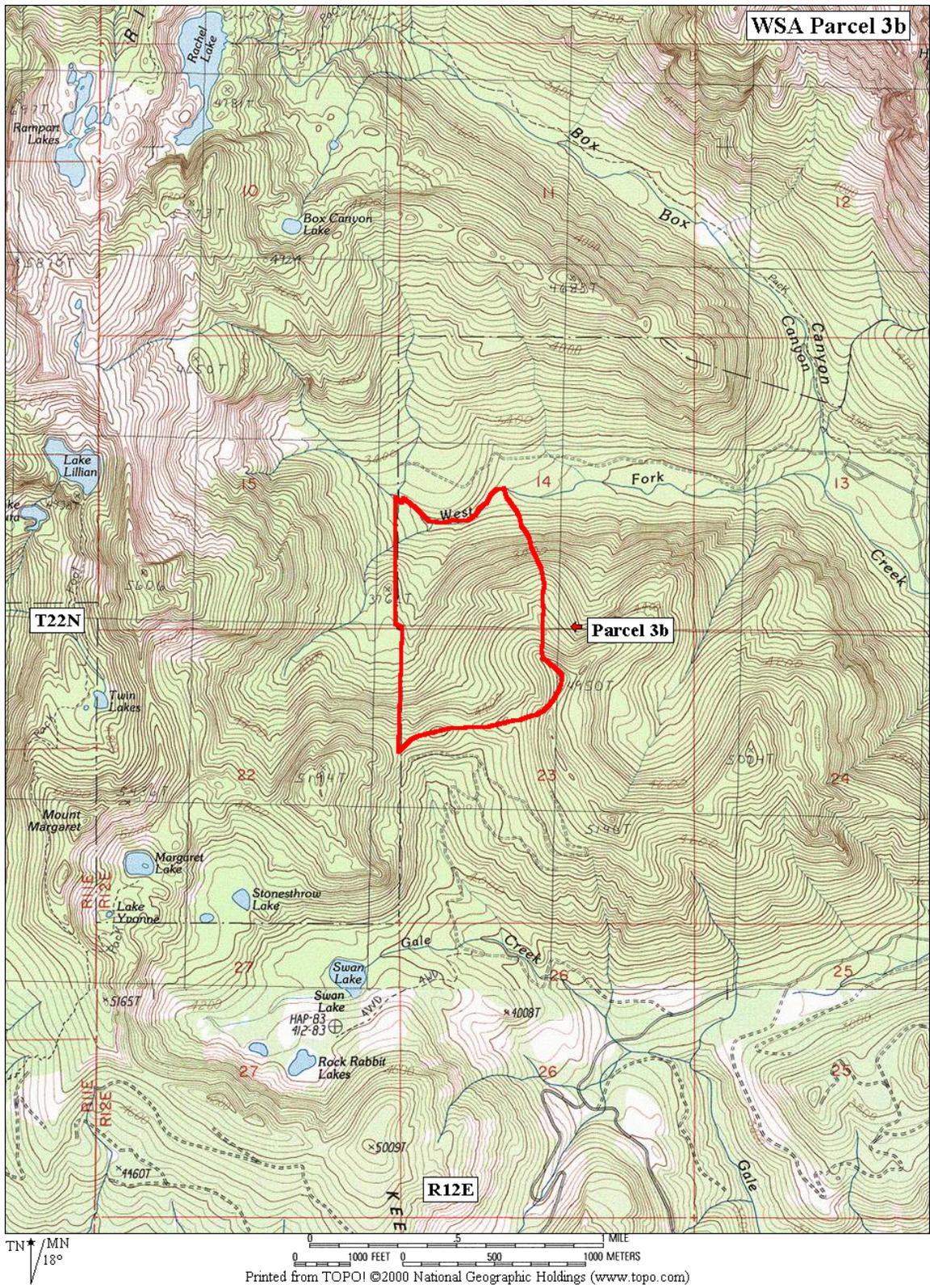


Figure 2- 19- Parcel 3b 205 Acres

Parcels 4a and 4b

There are two alternatives to Parcel 4; these alternatives are identified as **Parcel 4a** and **Parcel 4b**. These alternatives to Parcel 4 were developed to address *Issue 1 – the appearance that the main influences have been the forces of nature*, *Issue 3 – the establishment of boundaries that are recognizable to the forest users*, *Issue 4 – the impact to recreational uses*, and *Issue 5 – changes to existing access*. Trails and loop opportunities for mountain bike users are currently in limited supply on the district. The 50-foot buffer would allow the continued use of mountain bikes on the trails described below.

There are **two options** in the vicinity of the Cooper River and Pete Lake Trail #1323. The options have minimal impacts on the overall parcel configuration and are therefore treated as options rather than alternatives. **These options may be selected with either of the alternatives for this parcel.**

The proposed boundary for Parcel 4a and Parcel 4b follows these descriptions:

Parcel 4a – (describing Option 1 – Cooper River Option 2,885 acres) From the point of the intersection of the existing wilderness boundary and the Cooper River in the SE ¼ of section 21, T. 23 N., R. 13 E., W. M., the boundary would proceed southeasterly following the threadline of the Cooper River to a point 1000 feet downstream of the confluence of Tired Creek. From this point, the boundary would go southwesterly upslope to a ridge at 3600 feet in the southwest quarter of section 34. Then follow the ridgeline northwesterly on the 3600-foot contour until the boundary reaches the unnamed outlet creek from Three Queens Lake. Following the creek southeasterly, the boundary would continue to the thread line of the Kachess River, then to the confluence with Mineral Creek and southerly to the Mineral Creek Trail #1331. The boundary would then proceed westerly on the northern side of trail #1331, paralleling it with a 50-foot buffer. At the intersection of trails #1331 and #1312, the boundary would proceed southeasterly, maintaining a 50-foot buffer on the western side of the Little Kachess Trail #1312. The boundary would intersect the east-west section line of sections 8 and 17, T. 22 N., R. 13 E., W. M. From this point, the boundary would follow the section line westerly 1.75 miles to the common westerly corner of sections 7 and 18, T. 22 N., R. 13 E., W. M., then follow a line crossing contours to the west, intersecting the existing wilderness boundary at the 3000 foot contour line on an unnamed tributary to Box Canyon Creek.

Parcel 4a – (describing Option 2 – Pete Lake Trail Option 3,087 acres) From the existing east-west section line and wilderness boundary between sections 21 and 28, T. 23 N., R. 13 E., W. M., the boundary would proceed southeasterly, paralleling Pete Lake Trail #1323 by a 50 foot buffer to the west. The boundary would continue southeasterly following Trail #1323, crossing an unnamed tributary to the Cooper River and intersecting with Tired Creek. Following the centerline of Tired Creek, the boundary would go southwesterly to the Cooper River and then follow the Cooper River downstream for 1000 feet following the boundary described in Option 1.

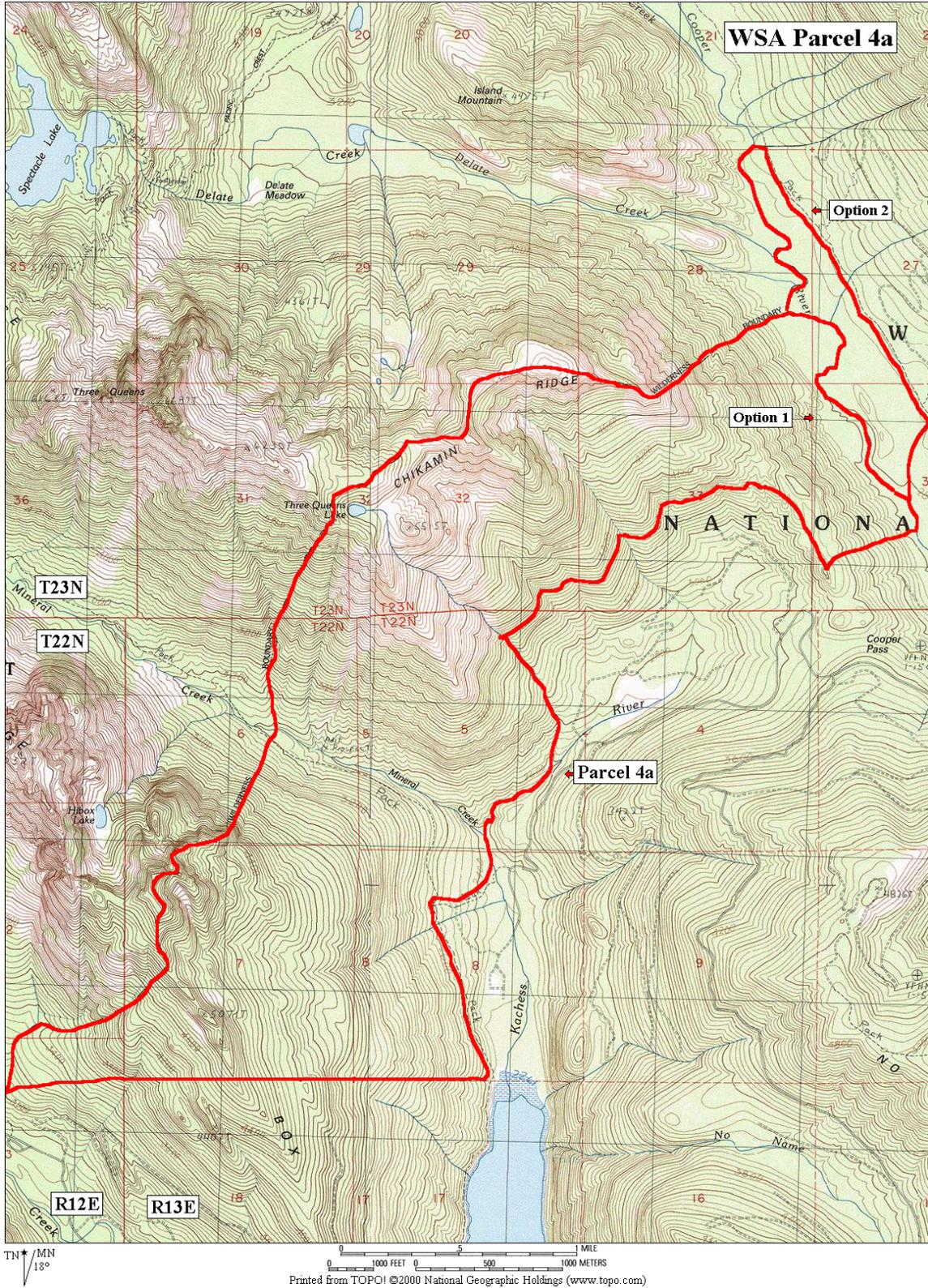


Figure 2- 19- Parcel 4a

Option 1 2,885 Acres

Option 2 3,087 Acres

Parcel 4b – Following either Option 1 - Cooper River 2,556 or Option 2 - Pete Lake Trail 2,758, the boundary would proceed to a point 1000 feet downstream of the confluence of Tired Creek and the Cooper River. From this point, the boundary would go southwesterly upslope to a ridge at 3600 feet and follow the ridgeline northwesterly on the 3600-foot contour until the boundary reached the north section line of section 5, T. 22 N., R. 13 E., W. M. Proceeding westerly to the NW $\frac{1}{4}$ corner of the NE quarter of section 5, T. 22 N., R. 13 E., W. M., the boundary would proceed south to the center of the section at which point the boundary would turn do west proceeding to the western section line at the NW $\frac{1}{4}$ corner of the SW quarter of section 5, T. 22 N., R. 13 E., W. M. From this point, the boundary would continue south along the section line to the SW corner of section 5, T. 22 N., R. 13 E., W. M., turning to the east the boundary would proceed on the section line to the thread line of the Kachess River. The boundary would then proceed south following the center of the Kacess River to Trail #1331 at which point the boundary would remain north of the trail paralleling it with a 50-foot buffer. At the intersection of trails #1331 and #1312, the boundary would proceed southeasterly, maintaining a 50-foot buffer on the western side of the Little Kachess Trail #1312. The boundary would intersect the east-west section line of sections 8 and 17, T. 22 N., R. 13 E., W. M. From this point, the boundary would follow the section line westerly 1.75 miles to the common westerly corner of sections 7 and 18, T. 22 N., R. 13 E., W. M., then follow a line crossing contours to the west, intersecting the existing wilderness boundary at the 3000 foot contour line on an unnamed tributary to Box Canyon Creek.

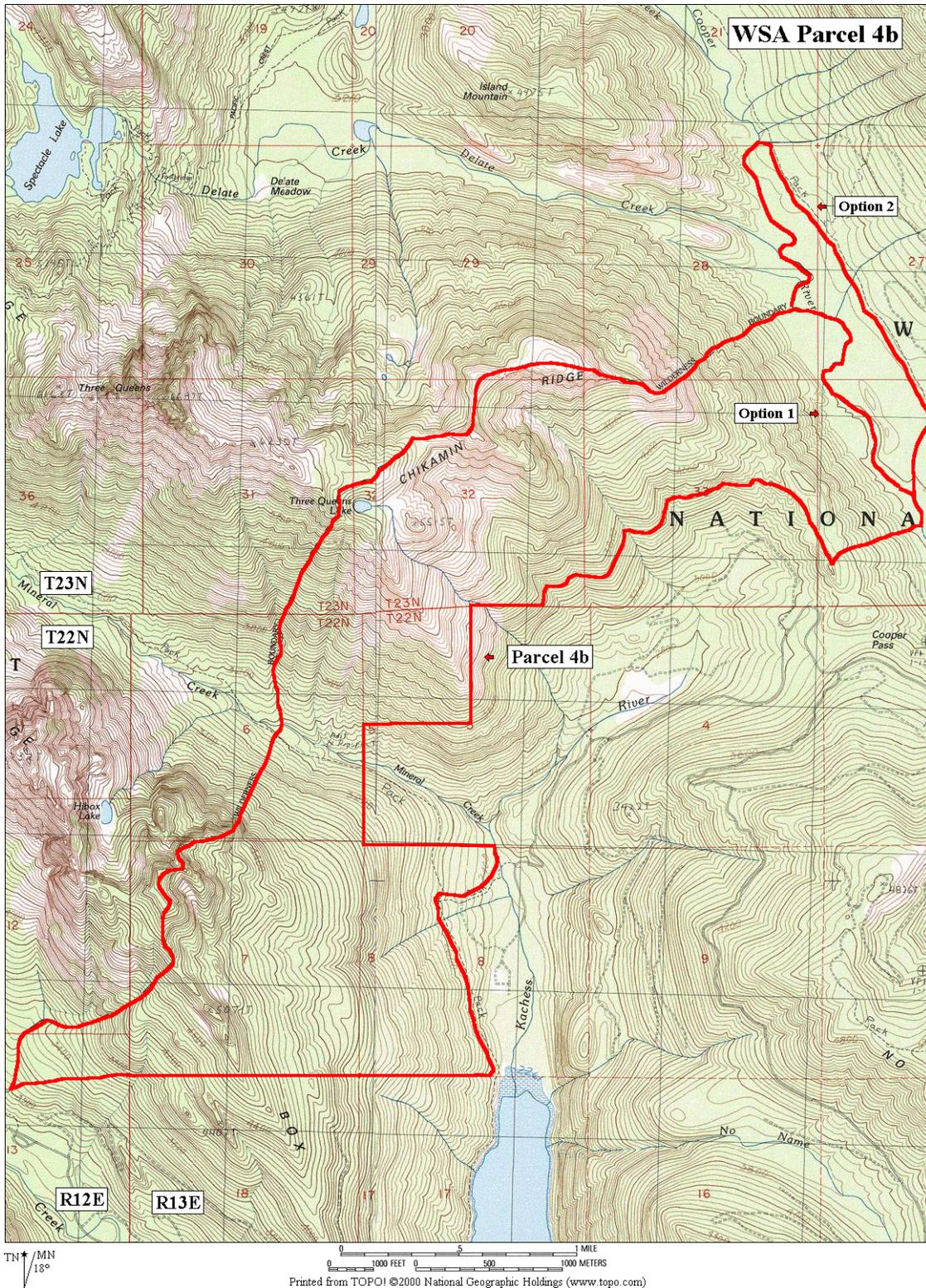


Figure 2- 20- Parcel 4b
Option 1 2,556 acres
Option 2 2,758 acres

Parcel 5a

Parcel 5a is the alternative to Parcel 5 and contains 149 acres. The boundary would follow the 4200-foot contour for its entire length. This alternative addresses *Issue 1 – the appearance that the main influences have been the forces of nature*. The proposed boundary for this parcel follows this description:

From the existing wilderness boundary near the Tired Creek Trail #1317 in the SW $\frac{1}{4}$ of the NW $\frac{1}{4}$ of section 26, T. 23 N., R. 13 E., W. M., the boundary would follow the 4200 foot contour in a north-westerly direction until it intersects with the current wilderness boundary in the SE $\frac{1}{4}$ of section 22, T. 23 N., R. 13 E., W. M.

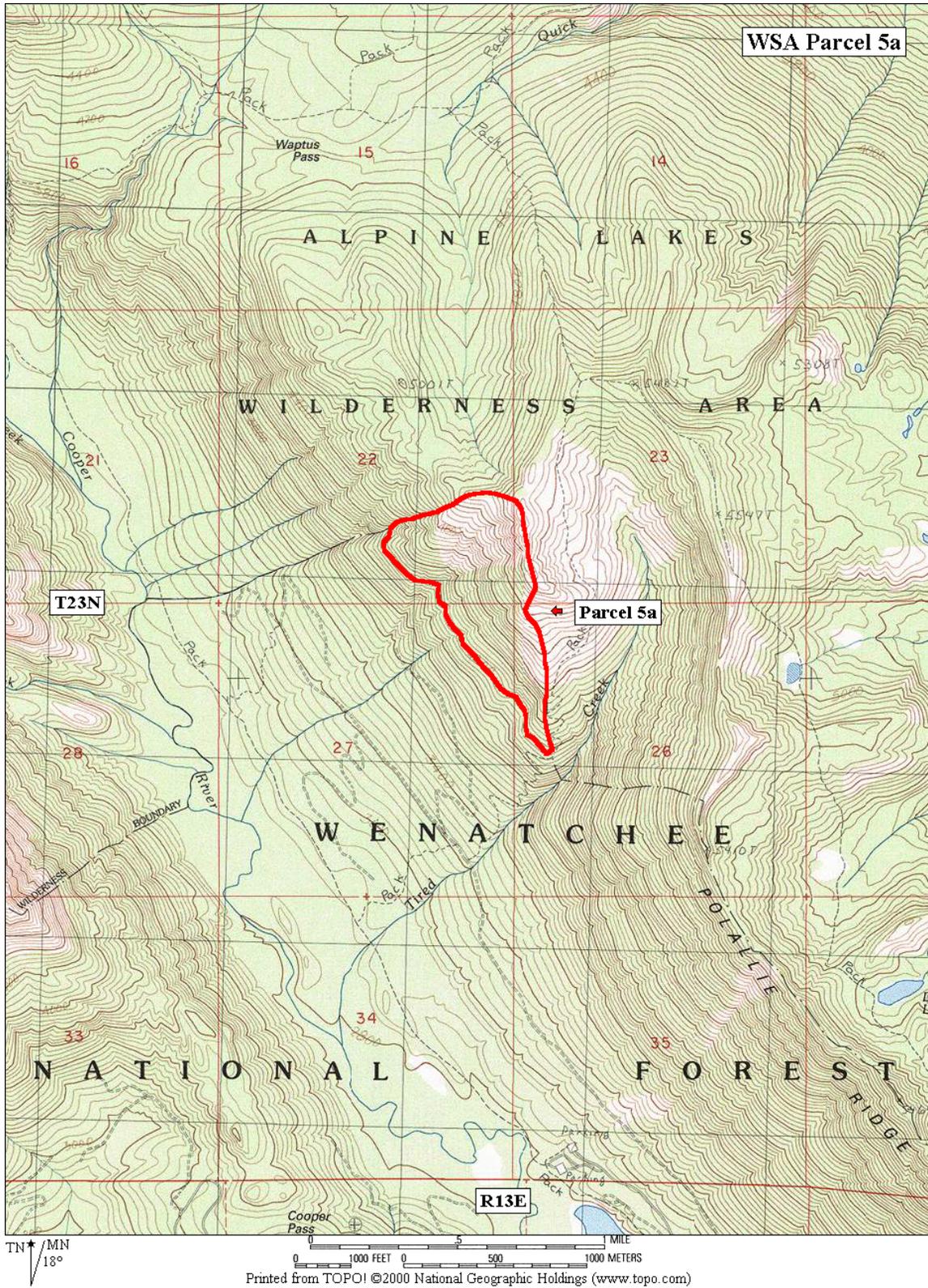


Figure 2- 21- Parcel 5a 149 Acres

Parcel 6a

Parcel 6a is the alternative to Parcel 6 and contains 1,174 acres. This individual parcel alternative addresses *Issue 3 – the establishment of boundaries that are recognizable to the forest users* and *Issue 4 – the impact to recreational uses*. Trails and loop opportunities for mountain bike users are currently in limited supply on the district. The 50-foot buffer would allow the continued use of mountain bikes on the trails described below. The proposed boundary for this parcel follows this description:

The boundary would proceed south from the existing wilderness boundary, paralleling the Waptus River Trail #1310 with a 50-foot buffer to the west. At the Polallie Ridge Trail #1309, the boundary would proceed due south to the Cooper River Trail #1311. Paralleling the Cooper River Trail with a 50-foot buffer in a northerly direction, the boundary would proceed northwesterly to the first major draw after crossing the section line into section 1, T. 22 N., R. 13 E., W. M., as in the Parcel 6 description. Ascending this draw in a northerly direction to the 4400-foot contour line, thence northwesterly for 3700 feet towards the east-west section line of section 1, T. 22 N., R. 13 E., W. M. and section 36, T. 23 N., R. 13 E., W. M. From here, the line would proceed west for 1,000 feet to the 4000 contour and than follow the 4000 contour to the existing wilderness boundary near Tired Creek. The proposed boundary would border section 7, T. 22 N., R. 14 E., W. M., as this section is not in public ownership. This alternative makes the provision that, if in the future this land becomes National Forest System land, that portion of Section 7 that is included in the proposed action for Parcel 6 would be designated wilderness.

Parcel 7a

There is one alternative to Parcel 7 identified as **Parcel 7a** and contains 5,105 acres. There are two changes in this alternative that address *Issue 3 – the establishment of boundaries that are recognizable to the forest users*, *Issue 4 – the impact to recreational uses* and *Issue 6 – impacts to mineral activities*. The 50-foot buffer would accommodate existing mining claims and recognize the traditional mining uses along the Cle Elum River. In addition, the buffer would allow motorized watercraft to continue to dock on the western shores of Tacquala Lake. The proposed boundary for Parcel 7a follows the description for Parcel 7 with the following changes:

From the intersecting point of the wilderness boundary and the Cle Elum River in NW $\frac{1}{4}$ of section 28, T. 24 N., R. 14 E., W. M., the boundary would proceed southeasterly, paralleling the high-water mark of the Cle Elum River and Tucquala Lake with a 50-foot buffer to the west. This boundary would continue to the south end of this parcel where it intersects the Waptus River; from this intersection the boundary would continue as with the Parcel 7 description with one exception. The boundary would border the north and west section lines of section 35, T. 23 N., R. 14 E., W. M., as necessary, to avoid the privately owned property. This alternative would provide that if the land located to the north and west of the Cle Elum River in section 35 becomes National Forest System land, it would be designated wilderness.

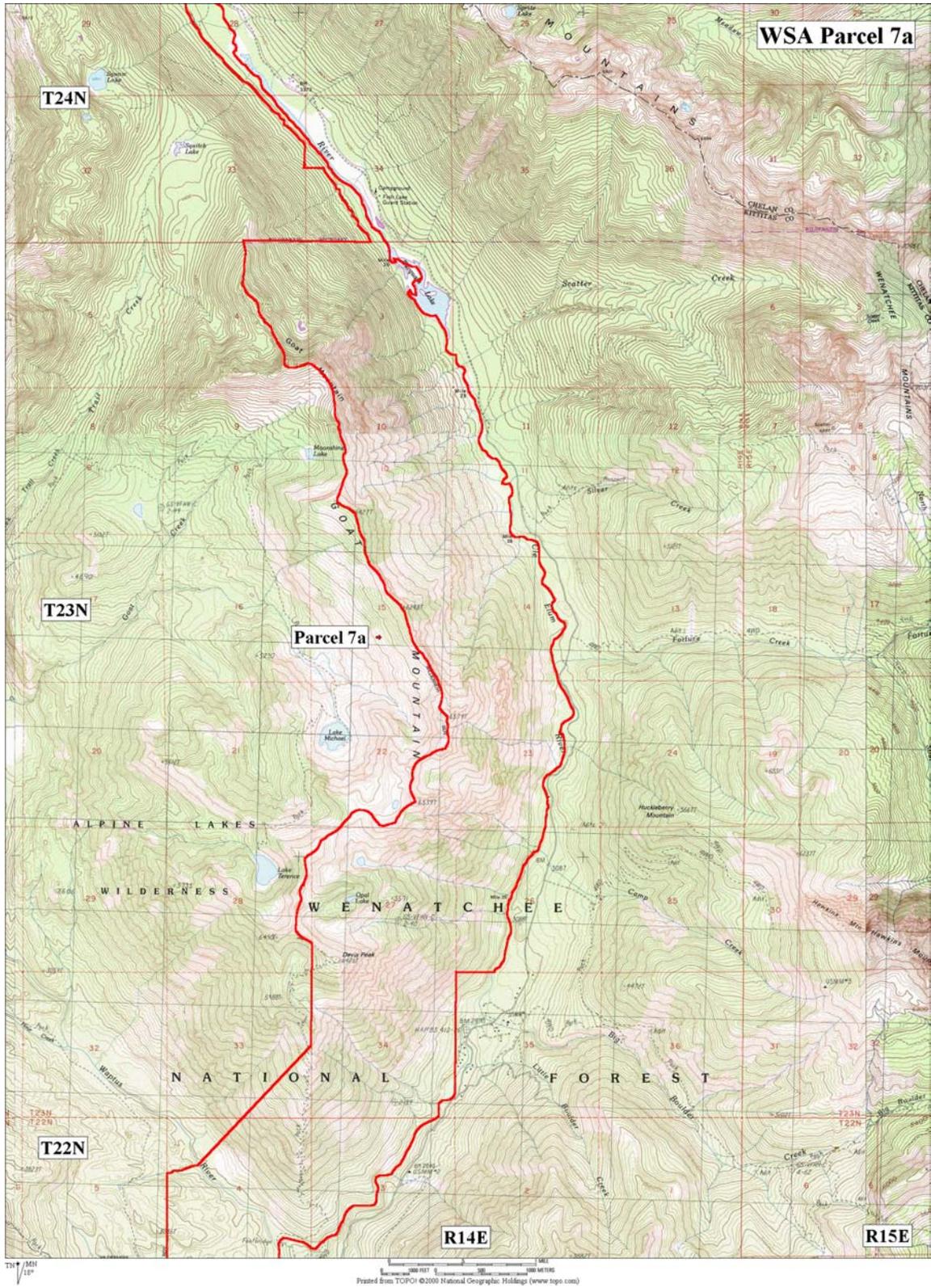


Figure 2- 23- Parcel 7a 5,105 Acres

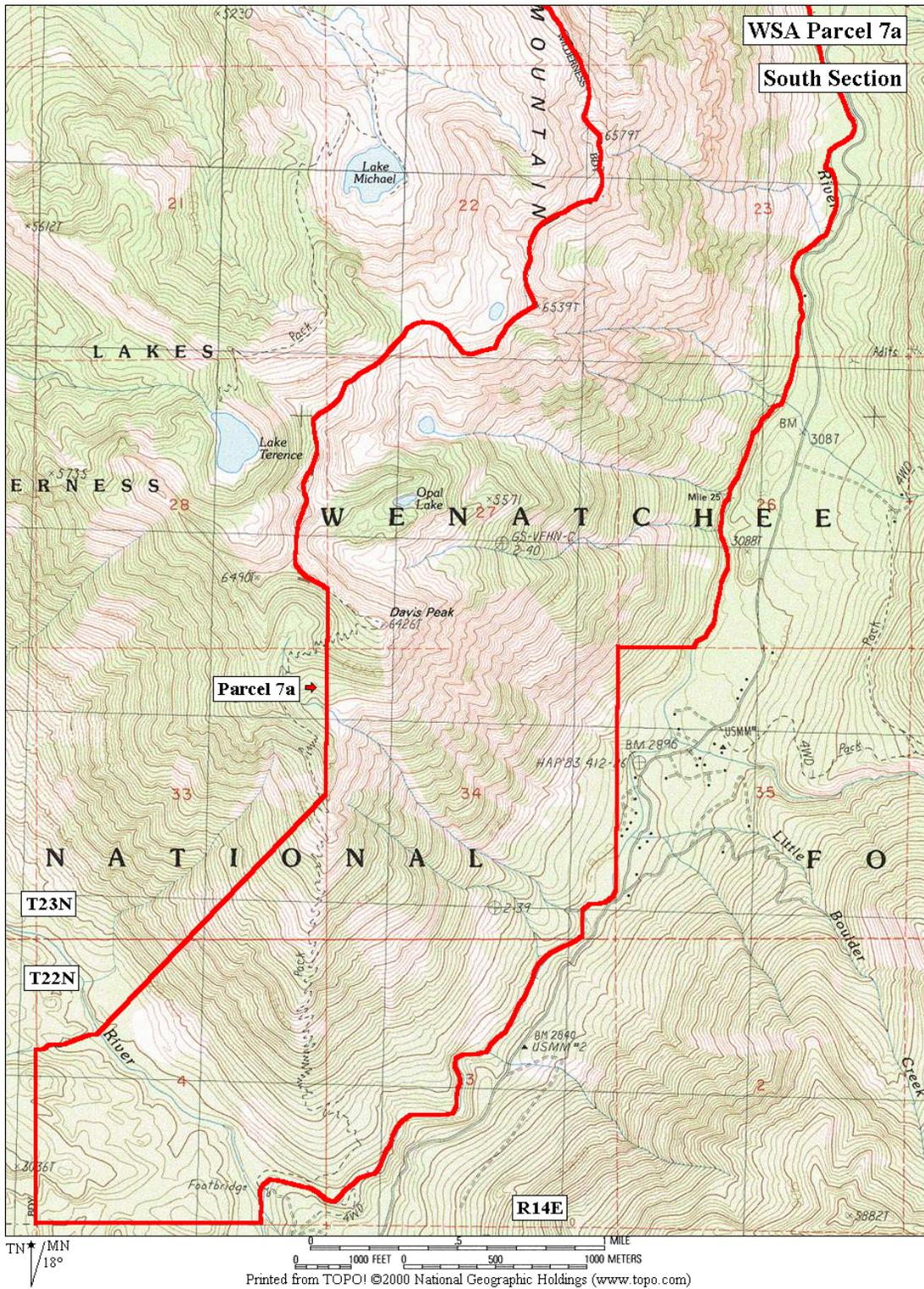


Figure 2- 25- Parcel 7a South Section

Parcel 8

There are no alternatives to the proposed action for Parcel 8. The parcel exhibits the basic wilderness characteristics with respect to natural characteristics, (remoteness, solitude, freedom from disturbance, challenge, primitiveness) and possesses an easily managed boundary. The Key Issues can adequately be addressed by the Proposed Action for Parcel 8.

Parcel 9

There are no alternatives to the proposed action for Parcel 9. The parcel exhibits the basic wilderness characteristics with respect to natural characteristics, (remoteness, solitude, freedom from disturbance, challenge, primitiveness) and possesses an easily managed boundary. The Key Issues can adequately be addressed by the Proposed Action for Parcel 9.

Parcel 10a

Parcel 10a is identified as an alternative to Parcel 10 and it contains 575 acres. The acreage is reduced from that in the proposed action by less than ten acres by maintaining a buffer of 50-feet on either side of the existing four-wheel drive trail that would permit continued mechanized access to the historic mining site. This alternative addresses *Issue 4 – the impact to recreational uses* and *Issue 5 – changes to existing access*. The proposed boundary for this parcel follows this description:

From the existing wilderness boundary on the north-south section line between sections 15 and 16, T. 23 N., R. 15 E., W. M., the boundary would proceed west following the Chelan/Kittitas County line until it reaches a distance of 50 feet from trail #4W302. The boundary would precede northerly paralleling Trail #4W302 maintaining a 50 foot buffer on either side of the trail to the trails end. From the trails end, the boundary would proceed southerly returning to the Chelan/Kittitas County line (ridge top). The boundary would proceed in a north-northwest direction following the county line until it reaches the existing wilderness boundary on the east-west section line between sections 5 and 8, T. 23 N., R. 15 E., W. M.

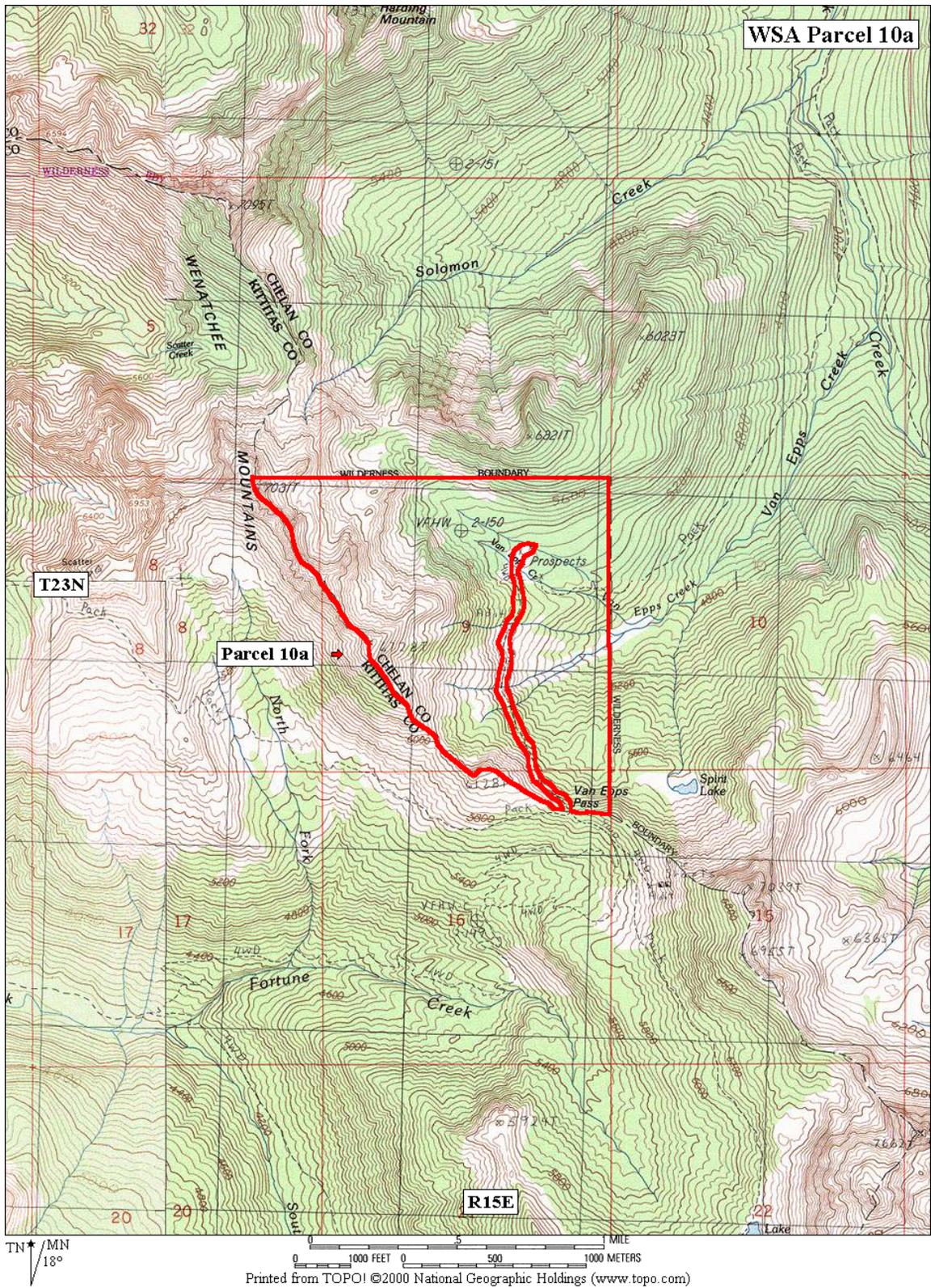


Figure 2- 26- Parcel 10a 755 Acres

2.5 COMPARISON OF ALTERNATIVES

This section presents the consequences of managing the parcels as wilderness in a comparative format. The issue indicators identified in Chapter 1 are used for this summary. The No Action Alternative is included under all issues to establish a baseline of the current conditions as required by 40 CFR 1502.14.

CAPABILITY

Capability	
Issue A: Does the Wilderness Study Area satisfy the definition of wilderness found in the Wilderness Act of 1964 and does it meet the criteria for wilderness recommendations in FSH 1909.12?	

Indicator 1	Appearance of the area indicates that the main influences have been the forces of nature
Indicator 2	Human intervention is substantially unnoticeable

No Action Alternative

All Parcels	The area generally shows that the main influences have been the forces of nature. Trails are minimal, past timber harvest was accomplished through helicopter logging, and mineral exploration has been at a low level. With the AMA and SI-1 planning allocations, this is likely to remain the situation although management options do exist within these allocations that would permit some level of management activities.
Individual Parcels	
1	Hiker trail #1314 crosses the southern portion of the parcel and is maintained to hiker standards.
2	Hiker trail #1332 parallels the western boundary and hiker trail #1332.1 crosses in the southwestern portion of the parcel. The trails are maintained to hiker standards. The setting is unmodified.
3	The finger north of the West Fork of Box Canyon Creek has been harvested using a combination of cable and tractor logging. This logged area is visible predominantly from higher elevations to the south across Box Canyon Creek.
4	There is evidence of historic mining (Durrwatcher and Copper Queen prospects) including a mill that now lay in ruins along hiker trail #1331; this trail crosses through the central portion of the parcel. The trail is maintained to hiker standards after the junction with trail #1312. Little Kachess Trail #1312 is in the southeast of the parcel, this trail is open to mountain bikes to the junction of the Mineral Creek Trail #1331 and to the #1331 trailhead. Trail #1323 is in the northeastern section of the parcel, as is trail #1317, these trails are open to hiker and horse use with mountain bikes permitted to the wilderness boundary on trail #1323 and to Forest Road #4616 on trail #1317. These sections of trail are maintained to the higher use standards. Helicopter logging has occurred on lands within this parcel acquired

	through land exchange making the logged lands capable but not presently suitable for a wilderness designation; please see figures 2-6 and 2-7, for harvested areas.
5	Hiker/Horse trail #1317 crosses the southern portion of the parcel. The trail is maintained to recommended use standards. There is limited evidence of logging activity along the western boundary.
6	Hiker/Horse/Mountain Bike trail #1311 is located in the southeastern portion of the parcel. Hiker/Horse trails #1309 and #1310 are also in the eastern section of the parcel. The trails are maintained to recommended use standards. There is slight evidence of logging activity in section 1 in the central area of the parcel, see Figure 2-10.
7	Hiker/Horse trail # 1324 is in the southern section of the parcel. There is limited evidence of logging near trail #1324 in section 4 from a timber sale in 1955. Hiker/Horse trail # 1345 is in the northern section of the parcel. All trails are maintained to recommended use standards. There is evidence of historic mining activities within the parcel. Active lode and placer claims fall within the boundaries of this parcel along the Cle Elum River.
8	Hiker trail # 1328.1 and Hiker/Horse trail # 1328 are in the western section of the parcel, Hiker/Horse trail #1226.2 crosses the parcel from the southeast and terminates at Trail # 1328. All trails are maintained to recommended use standards. Evidence of past mining activity exists in this parcel.
9	Hiker/Horse trail # 1226.2 passes through the central area of this parcel. All trails are maintained to recommended use standards. Several historic mining claims were located within this parcel.
10	Motorized trail 4W302 within the parcel is an historic mining access road and is no longer maintained, Trail #1593 and # 1594 are hiker only. Trails are maintained to recommended use standards. Evidence of past mining activity exists in this parcel.

Proposed Action and Alternatives to the Proposed Action

Parcel	
1	Same as No Action Alternative. Meets the definition of wilderness.
2	Same as No Action Alternative, Parcel 2. Meets the definition of wilderness.
2a	Same as Proposed Action, Parcel 2.
3	Same as No Action Alternative, Parcel 3. Does not meet the definition of wilderness north of the West Fork Box Canyon Creek.
3a	Human intervention is substantially unnoticeable. Logged area north of the West Fork of Box Canyon Creek has been dropped. Proposed boundary is extended to the south and west to incorporate about four times the primitive area as the Proposed Action, Parcel 3. Meets the definition of wilderness
3b	Human intervention is substantially unnoticeable. This alternative follows the boundary of Parcel 3 with the exception that the logged area north of the West Fork of Box Canyon Creek has been dropped. Meets the definition of wilderness.
4	Same as the No Action Alternative for Parcel 4, with the exception there would be no mountain bike use on any of the listed trails. Helicopter logged areas described under the No Action Alternative Parcel 4 are also

	within the Proposed Action Parcel 4. Does not meet the definition of wilderness.
4a Option 1 and Option 2	Same as Proposed Action Alternative Parcel 4. Helicopter logged areas described under the No Action Alternative Parcel 4 is also within Parcel 4a. The difference in acreage between Parcel 4a, Option 1 and Parcel 4a, Option 2 is due to the addition of pristine riparian acreage along the Cooper River in Option 2. Does not meet the definition of wilderness.
4b Option 1 and Option 2	Same as Alternative Parcel 4a, with the exception that the areas that were helicopter logged have been excluded from the parcel under this alternative. The reason for the difference in acreage between Options 1 and 2 is the same as for Alternative Parcel 4a, Options 1 and 2 (riparian acreage added). Meets the definition of wilderness.
5	Same description as the No Action Alternative for Parcel 5. Does not meet the definition of wilderness because of logging activity.
5a	Human intervention is substantially unnoticeable. The logged area along the western boundary of Parcel 5 would be dropped from wilderness consideration in this alternative. Meets the definition of wilderness.
6	The same as the No Action Alternative for Parcel 6, with the exception that Trail #1311 would be closed to mountain bike use. There is slight evidence of helicopter logging activity in Section 1 in the central portion of the parcel, see Figure 2-10. The logged area effects 14% of Parcel 6 and is only noticeable to cross-country travelers. The northeast corner of section 7, private land, is within the parcel. Overall the parcel substantially meets the definition of wilderness.
6a	The same as the Proposed Action with the exception that Parcel 6a would not include hiker/horse/mountain bike trail #1311. See Parcel 6.
7	See description for the No Action Alternative for Parcel 7. Hiker and horse trails exist and would continue to be maintained. There is limited evidence of logging from a timber sale in 1955. Slight evidence of mining activity exists on the eastern edge of this proposed parcel and parts of 9 (possibly 10) active claims extend into Parcel 7. Subject to valid existing rights, claimants would retain the right to develop and produce valuable minerals from within the claim boundaries, which could create a substantial to the natural appearance of the area. The eastern edge of Parcel 7 also has camping sites that are accessible via motorized watercraft. Meets the definition of wilderness.
7a	Similar to Proposed Action Parcel 7 but the evidence of popular mining activity (suction dredging) would be minimized by providing a 50-foot buffer westerly of the high-water mark of the Cle Elum River. Parts of 9 (possibly 10) active claims extend past the buffer into Parcel 7. Subject to valid existing rights, claimants would retain the right to develop and produce valuable minerals from within the claim boundaries. This alternative would also remove camping sites that are accessible via motorized watercraft from within the proposed wilderness boundary. Meets the definition of wilderness.
8	Same as description for No Action Alternative, Parcel 8. Meets the definition of wilderness.
9	Same description as the No Action Alternative for Parcel 9. A hiker/horse trail passes through the central area of this parcel. Slight evidence of historic mining claims exists. Meets the definition of wilderness.

10	Same description as the No Action Alternative Parcel 10. Noticeable evidence of historic mining activity would occur in this parcel. Hiker-only Trails #1593 and #1594 would continue to be maintained and the abandoned access road, 4W302, to the Van Epps Mine would be included in the wilderness. Evidence of the access road would decrease after use ceases. Because of the age of the mining activity the evidence of human intervention would diminish over time. Overall the forces of nature would remain dominant; therefore this parcel meets the definition of wilderness.
10a	Hiker trails #1593 and #1594 and evidence of noticeable evidence of historic mining activity would exist in this parcel. However, Trail 4W302, an abandoned access road to the Van Epps Mine, which is currently used as a four-wheel drive route, would be excluded from the wilderness. Because of the age of the mining activity the evidence of human intervention would diminish over time. Overall the forces of nature would remain dominant; therefore this parcel meets the definition of wilderness.

Indicator 3	Outstanding opportunities exist for solitude or a primitive and unconfined type of recreation
--------------------	---

No Action Alternative

All Parcels	The area generally shows that potentially outstanding opportunities exist for solitude or a primitive and unconfined type of recreation. However, with all existing lawful uses continuing under current land management direction, these opportunities could diminish with the passing of time as demands continue to increase for use of a finite amount of land base.
-------------	--

Proposed Action and Alternatives to the Proposed Action

All Parcel	All parcels meet the minimum standards of being capable of providing outstanding opportunities for solitude or a primitive and unconfined type of recreation. The relative degree that this condition is met varies by proximity to travel corridors, slope, aspect and the visual appearance and sounds of activities outside of the study area.
Individual Parcels	
1	There are no forest roads in close proximity to this parcel or other activities that would detract from opportunities for solitude or a primitive and unconfined type of recreation. Parcel 1 meets the requirements of Indicator 3.
2	There are no main roads in close proximity to this parcel but low standard roads do exist near the eastern boundary. These roads receive limited recreational use both summer and winter. There are no other activities that would create disturbances that would prevent opportunities for solitude or a primitive and unconfined type of recreation. Parcel 1 meets the requirements of Indicator 3.
2a	See 2
3	The one main road near the eastern end of this parcel ends at the Rachel Lake Trailhead. This is a heavily used road to the trailhead parking lot; because of the road condition it is seldom used west of the trailhead. The distance from the trailhead to this parcel would create a sufficient buffer to

	allow for opportunities for solitude or a primitive and unconfined type of recreation.
3a	See 3, in addition there would be some noise disturbance at the extreme eastern slopes caused by traffic traveling to the Rachel Lake Trailhead.
3b	See 3
4	There may be additional road noise (summer and winter) from traffic traveling the Cooper Pass road that leads to the Mineral Creek Trailhead. This will have a low impact on solitude near the eastern boundary of the parcel but should not limit opportunities for primitive and unconfined types of recreation.
4a Option 1 and Option 2	See 4
4b Option 1 and Option 2	See 4
5	There are no open roads in close proximity to this parcel. This setting enhances opportunities for solitude or a primitive and unconfined type of recreation.
5a	See 5
6	There may be additional road noise from traffic traveling the Cooper Pass road that leads to Cooper Lake and the Mineral Creek Trailhead. This road also leads to winter play areas for snowmobiles. This will have a low to moderate impact on solitude near the western boundary of the parcel but should not limit opportunities for primitive and unconfined types of recreation.
6a	See 6
7	The road to Tacquala Lake (Fish Lake) is heavily traveled during all seasons of the year. Noise levels will vary by types of use and time of year. With the steep slope and with limited vegetation on parts of the slope available to absorb sound the ability for a wilderness visitor to find solitude would be limited for varying durations. Primitive and unconfined types of recreation opportunities would still be available.
7a	See 7
8	The road to Tacquala Lake (Fish Lake) is heavily traveled during all seasons of the year. The Fortune Creek Road is moderately used during the summer with heavier use during the winter recreation season by snowmobiles. Noise levels will vary by types of use and time of year. Vegetation will absorb the sound along both roads. A more seasonal concern that would impact solitude would be motorized winter cross-country travel at the higher elevations near but outside this parcel. This would lower the ability for a wilderness visitor to find solitude. Primitive and unconfined types of recreation opportunities would still be available.
9	There are no forest roads in close proximity to this parcel or other activities that would detract from opportunities for solitude or a primitive and unconfined type of recreation during the summer recreation season. During the winter season this parcel is similar to Parcel 8 in that the area adjacent to the parcel would be heavily impacted by snowmobiles.
10	There are no forest roads in close proximity to this parcel or other activities that would detract from opportunities for solitude or a primitive

	and unconfined type of recreation during the summer recreation season. During the winter season this parcel is similar to Parcels 8 and 9 in that the area around the parcel would be heavily impacted by snowmobiles.
10a	See 10, in addition four-wheel drive and snowmobile use would continue on the road to Van Epps Mine reducing some capability for providing solitude. Primitive and unconfined types of recreation opportunities would still be available.

Indicator 4	The land area is of sufficient size as to make practicable its preservation and use in an unimpaired condition
--------------------	--

No Action Alternative

All Parcels	This indicator has no value for the No Action Alternative because there would be no wilderness designation under this alternative.
-------------	--

Proposed Action and Alternatives to the Proposed Action

All Parcels	All parcels border the Alpine Lakes Wilderness. If a parcel were designated wilderness, the common boundary between the existing wilderness and adjacent parcel would be invisible, making size irrelevant.
-------------	---

Indicator 5	Ecological, geological or other features of scientific, educational, scenic or historical value are present
--------------------	---

No Action Alternative

All Parcels	The area exhibits special features that may continue to exist without a wilderness designation because of the rugged and remote landscape of several of the parcels. The relatively more accessible areas would potentially be managed such that there could be alterations to the natural landscape and potential impacts to special features. Parcels 3, 4, 6 and 8 have the greatest potential for future management activities due to their management allocation, accessibility and past management activities near the parcels.
-------------	---

Proposed Action and Alternatives to the Proposed Action

All Parcels	A wilderness designation would permanently change the management of lands within the proposed parcels to a natural unimpaired state for resources such as water and wildlife. The unique plant life of the Wenatchee Mountains associated with the serpentine derived soils in Parcels 8, 9, and 10 would be protected. All parcels would continue to exhibit outstanding vistas.
-------------	---

Indicator 6	Acres of capable land meeting the previous indicators
--------------------	---

No Action Alternative

All Parcels	Although the lands may meet wilderness capability criteria, there would be no lands designated as wilderness under this alternative.
-------------	--

Proposed Action and Alternatives to the Proposed Action

Parcel	Acres	Percent Change from the Proposed Action Parcel Alternative
1	245	
2	141	
2a	223	58% increase in size
3	217	
3a	996	359% increase in size
3b	205	6% decrease in size
4	3,096	
4a Option 1	2,885	7% decrease in size
4a Option 2	3,087	1% decrease in size
4b Option 1	2,556	18% decrease in size
4b Option 2	2,758	11% increase in size
5	193	
5a	149	23% decrease in size
6	1,169	
6a	1,174	Less than 1% increase in size
7	5,178	
7a	5,105	2% decrease in size
8	4,210	
9	918	
10	600	
10a	575	5% decrease in size

Capability

Issue B: Can manageable boundaries be identified that are easily recognized by the forest visitor and that reduce inadvertent incursions of prohibited uses (motorized and mechanized use) across the wilderness boundary?

Indicator 1	Linear and geographic features used for boundaries that both serve as a barrier to prohibited uses and that are also easily recognized by the public
--------------------	--

No Action Alternative

All Parcels	Boundaries would remain as currently designated for the Alpine Lakes Wilderness.
-------------	--

Proposed Action and Alternatives to the Proposed Action

Parcel	Dominant Feature	Subordinate Feature
1	Streams, ridgelines	Saddle near Upper Kendall Peak Lake
2	None	Contour lines
2a	Ridge lines	Contour lines
3	Streams	Non dominant ridge lines
3a	Streams, most prominent ridge lines	None
3b	Streams	Non dominant ridge lines
4	Section lines, stream channel	Boundary would meander crossing trails and contour lines
4a Option 1	Section lines, stream channel, trails	Contour lines
4a Option 2	Section lines, stream channel, trails	Contour lines
4b Option 1	Section lines, stream channel, trails	Contour lines
4b Option 2	Section lines, stream channel, trails	Contour lines
5	None	Contour line
5a	None	Contour line
6	Section aliquot parts, Cooper River, major draw	Contour line
6a	Section line, trails, major draw	Contour line
7	Cle Elum River, Tacquala Lake, section lines	None
7a	Parallel line to the Cle Elum River, Tacquala Lake, section lines	None
8	Ridgelines, section lines, stream channels	Contour line
9	Ridgelines	Saddles, contour lines
10	Ridgeline	None
10a	Ridgeline, trails	None

AVAILABILITY

Availability					
Issue C: What components of the natural ecosystem would be managed as wilderness if the lands are reallocated?					

No Action Alternative

Indicator	1	2	3	4	5
	Miles of stream managed as wilderness	Acres of riparian habitat managed as wilderness	Acres of upland habitat managed as wilderness	Acres of forest managed as wilderness	Change in management direction by acres
All Parcels	0	0	0	0	0

Proposed Action and Alternatives to the Proposed Action

Indicator	1	2	3	4	5
	Miles of stream managed as wilderness	Acres of riparian habitat managed as wilderness	Acres of upland habitat managed as wilderness	Acres of forest managed as wilderness	Change in management direction by acres
Parcel					
1	3	70	175	196	245
2	1	12	129	127	141
2a	1	13	210	183	223
3	2	30	187	212	217
3a	8	45	951	878	996
3b	2	24	181	199	205
4	19	525	2,570	2707	3,096
4a Option 1	20	526	2359	2602	2,885
4a Option 2	23	632	2455	2803	3,087
4b Option 1	17	438	2118	2287	2,556
4b Option 2	20	544	2214	2488	2,758
5	1	19	174	186	193
5a	1	11	138	144	149
6	6	60	1109	1128	1,169
6a	6	15	1159	1149	1,174
7	45	674	4504	3878	5,178
7a	42	608	4497	3817	5,105
8	35	293	3917	2868	4,210
9	9	66	852	566	918
10	3	45	555	386	600
10a	2	30	545	362	575

Availability
Issue D: How would recreation uses be impacted by a wilderness designation and what would be the changes to existing access?

No Action Alternative

Indicator	1	2	3
	Change in uses permitted	Impacts to outfitter/guides	Changes in developed access routes by type of use
All Parcels	All existing recreation uses would continue.	There would be no limitation on party size to permitted outfitters and guides.	All existing approved access uses would continue subject to independent analysis and recommendation for future changes as necessary

Proposed Action and Alternatives to the Proposed Action

Indicator	1	2	3
	Change in uses permitted	Impacts to outfitter/guides	Changes in developed access routes by type of use
All Parcels	Prohibited activities would include: mineral entry (subject to valid existing rights), commercial activities with the exception of outfitters and guides (e.g., timber sales), mechanical transport (e.g., snowmobiles, mountain bikes, motorbikes), roads, infrastructure developments, subject to existing private rights and emergencies involving health and safety of persons in the area.	Maximum group size is any combination of people and stock that does not exceed 12. The use of certified processed feed pellets is required within the Alpine Lakes Wilderness. Parcels 8 and 9 have documented outfitter/guide use that could be affected by these restrictions. There could be an increase in demand for outfitter and guide services by people seeking a primitive wilderness experience.	The following table only shows parcels where there is a change in use type within a parcel, a complete list of developed access uses in the study area is available in the project analysis file.
Individual Parcels	Because of the limited supply of trails and loop opportunities for mountain bike users, boundaries are adjusted in Parcels 4a, 4b, 6a and 10a to allow continued use of mountain bikes.		(See following table)

	<p>The boundary is adjusted in Parcel 10a to allow continued use of four-wheel drive vehicles.</p> <p>The boundary is adjusted in Parcel 7a to allow continued use of motorized watercraft to access recreation opportunities on the western shore of Tacquala Lake. This boundary adjustment would also accommodate placer mining activities to continue along the entire length of the Cle Elum River.</p>		
--	--	--	--

Proposed Action and Alternatives to the Proposed Action

Indicator 3	Changes in developed access routes by type of use	Change from Current Condition
Parcel(s)		
1, 2, 3, 3a, 3b, 4a Opt 1, 4a Opt 2, 4b Opt 1, 4b Opt 2, 5, 5a, 6a, 7a, 8, 9, 10a		No Change
4	Little Kachess #1312 – hiker Mineral Creek #1331 – hiker Tired Creek #1317 – hiker, horse Pete Lake #1323 – hiker, horse	Bikes Prohibited No Change Bikes Prohibited Bikes Prohibited
6	Cooper River #1311 – hiker, horse Polallie Ridge #1309 – hiker, horse Waptus River #1310 – hiker, horse	Bikes Prohibited No Change No Change
7	Davis Peak #1324 – hiker, horse Trail Creek #1322 – hiker, horse Tacquala Lake Boat Access – western shore motorized boat docking	No Change No Change Prohibited
10	Solomon Creek #1593 – hiker, horse Van Epps Creek #1594 – hiker, horse Van Epps #4W302 – hiker, horse	No Change No Change 4WD Prohibited

OTHER ISSUES

Issue E: How would minerals and mineral potential be impacted?

All Alternatives - The extent of mineralization and the related encumbrances will not be influenced by the minor boundary changes suggested by the alternatives, therefore, this discussion relates to the proposed action alternative and provides specificity as appropriate for various types of mineral potential. More detailed information can be found in Chapter 3 in the excerpts from the *Alpine Lakes Mineral Potential Report* prepared by Gregory Graham, Geologist, and in the project analysis file.

The proposed parcels were withdrawn from entry and appropriation under the U.S. mining and mineral leasing laws under Section 610 of the Interstate 90 Land Exchange Act of 1998 until Congress decides otherwise or until December 31, 2003.

Indicator 1	Relative level of mineral potential
Indicator 2	Number Of Active Claims Being Impacted
Indicator 3	Change In Land Allocation Of Area (see Issue A, Indicator 6)
<p>Oil And Gas</p> <p><u>Potential</u></p> <p><u>Impacts</u></p>	<p>Isolated sections within parcels 2, 4, 6, 7, and 8 have outstanding oil and gas estates. None of the parcels were classified as lands prospectively valuable for oil and gas.</p> <p>The potential for the occurrence of oil and gas resources within the sections with outstanding rights is rated as none to low. The potential for oil and gas resources on Parcels 1, 2, 3, 4, 5, 6, and 7 is low. Parcels 8, 9, and 10 should be considered to have no potential for oil and gas resources.</p> <p>Because of the low to non-existent occurrence and/or potential for oil and gas resources, there would be no measurable impacts as a result of wilderness designation.</p>
<p>Hardrock Non-Energy Minerals</p> <p><u>Potential</u></p>	<p>Active lode and placer mining claims on file with the Bureau of Land Management are located within parcel 7 along and just west of the Cle Elum River. The Federal Government owns the surface and entire mineral estate for parcels 1, 3, 5, 9, and 10. The Federal Government owns the surface estate, and locatable mineral estate to Parcels 2, 4, 6, 7, and 8.</p> <p>Nine (possibly 10) active lode and placer claims are located along and just west of the Cle Elum River within parcel 7. Subject to a valid existing rights determination, claimants would retain the right to develop and produce locatable minerals from their claim(s) under an approved plan of operations if the parcel is included in the Alpine Lakes Wilderness.</p> <p>Parcel 1 – mineral resource potential for the parcel is low. Parcel 2 - mineral resource potential for the parcel is low. Parcel 3 - mineral resource potential for the parcel is low. Parcel 4 - mineral resource potential for the parcel is high. Parcel 5 - mineral resource potential for the parcel is low. Parcel 6 – mineral resource potential for the parcel is low.</p>

	encumbered by powersite withdrawals and the parcels would be permanently withdrawn from mineral entry and appropriation under the mining and mineral leasing laws, subject to valid existing rights.
Mineral Materials	Many of the parcels have sand and gravel as well as hard rock common variety mineral material resources suitable for use as aggregate, embankments, retaining walls, building stone, landscaping, etc. The potential for the occurrence of such resources is high.
Impact	No permits would be issued for the removal of mineral materials commonly known as common varieties under the Minerals Act of July 31, 1947, as amended and supplemented.

Issue F: Would there be changes to heritage resource management?(Treaty rights will not be affected)

All Alternatives – As stated in Chapter 1, the extent of inventory work is directly related to funding and therefore is project driven. With few land management projects having been proposed in the wilderness study area it is unlikely that any major inventory projects would be scheduled regardless of a possible wilderness designation. A more detailed report can be found in Chapter 3 in the Heritage Resource section of this DEIS prepared by Powys Gadd, Archeologist, and in the project analysis file.

Indicator 1	Change in area receiving wilderness designation (see issue 1, indicator 6)
Indicator 2	Change in management of heritage properties
Historic Properties	All 10 parcels would have been largely unsuited for permanent indigenous habitation except along major drainages and adjacent to lakes and high mountain passes. Because of mineral deposits all 10 parcels would be rated high for potential sites associated with mining.
<u>Change in management</u>	Inventory work would continue as funding, generally project specific, becomes available.
Reserved Indian Rights and Forest Service Trust Responsibility	National Forest lands encompassing Parcels 1-10 were ceded to the United States under the Yakima Treaty of 1855. As such, the Confederated Tribes and Bands of the Yakama Nation retain certain rights and privileges reserved under that treaty.
<u>Change in management</u>	The United States government incurred the duty to protect the interests of Indian tribes. The Forest Service has the legal obligation to exercise statutory and other legal authorities to protect tribal land, assets and resources and treaty rights as well as a duty to carry out the mandates of Federal law with respect to American Indian and Alaska Native tribes. These authorities and obligations would not change as a result of wilderness designation.

Issue G: How would a wilderness designation impact fire management activities?

All Alternatives – Fire fighter and public safety is the first priority in every wildland fire management activity. The Agency Administrator has complete authority to declare a suppression action be taken at anytime during the life of the fire.

No Action Alternative

Indicator	Change in permitted suppression action
All Parcels	No lands would be designated wilderness Suppression action would follow the guidelines found in the Fire Management Plan (FMP) for the Okanogan/Wenatchee National Forests, June 2002. Parcels 1 through 9 would be managed as Snoqualmie Pass AMA; the actions guided by the FMP would be directed at meeting the goals and objectives for the Forest Plan. Generally, those actions would be directed at maintenance and enhancement of late-successional habitat. Parcel 10 would be managed as SI-1
Fire Management Plan Designation	Parcels 1, 2, 3, and the western half of Parcel 4 are within Fire Management Areas (FMA) designated as not suitable or compatible for wildland fire use based on social and political concerns and the inability to meet the LMP objectives through wildland fire use. The eastern half of Parcel 4 and Parcels 5, 6, 7, 8, 9, and 10 are in FMAs designated suitable and compatible for wildland fire use based on the forest plan. Any wildland fire can be extinguished, and any fire occurring in an area compatible or suitable, can if it meets specific decision criteria, be managed for resource benefits if consistent with forest plan direction.

Proposed Action and Alternatives to the Proposed Action

Indicator	Change in permitted suppression action
Riparian Reserves	Fuel treatment and fire suppression strategies, practices, and activities would minimize disturbances of riparian ground cover and vegetation.
Fire Management Plan Designation	Any lands allocated as wilderness would be managed in accordance with Forest Plan direction, guidelines in the Fire Management Plan and managed for wilderness values as specified by the Wilderness Act of 1964 and FSM 2324.2 and FSM 5142. Program objectives for fire management in wilderness is to allow lightning-caused fires to play, as nearly as possible, their natural ecological role. Any wildland fire could be extinguished, but any fire occurring in an area compatible or suitable based on the forest plan, could if it meets specific decision criteria, be managed for resource benefits. Lands designated as wilderness would be managed as suitable following guidance in the Fire Management Plan and Forest Plan.

CHAPTER 3

AFFECTED ENVIRONMENT, ANALYSIS OF WILDERNESS VALUES AND ENVIRONMENTAL CONSEQUENCES



CHAPTER 3 AFFECTED ENVIRONMENT, ANALYSIS OF WILDERNESS VALUES AND ENVIRONMENTAL CONSEQUENCES

3.1 INTRODUCTION



This chapter describes the physical, biological, social and economic environments of the project area and the effects of implementing each alternative on that environment. It also presents the scientific and analytical basis for the comparison of alternatives presented in Chapter 2. The environment discussed is not all-inclusive, rather the discussion focuses on the elements of the environment that are affected relating to the issue statements in Chapter 1. Current rules and regulations that provide management direction, present land management allocations, and foreseeable future actions on the study area lands establish the affected environment and are the basis for comparison and disclosure of the environmental consequences of implementing each alternative.

Following the discussion of the resource affected is the disclosure of expected environmental effects on that resource. All direct, indirect and cumulative effects that are known to occur or would occur in the reasonably foreseeable future are discussed. Direct effects are those occurring at the same time and place as the initial action. Indirect effects are those occurring later in time or those actions spatially removed from the activity but considered related and it is known with relative certainty that they would occur in the foreseeable future. Cumulative effects are the result of the combination of impacts caused by past, present and reasonably foreseeable future actions, regardless of who initiates any given action.

This chapter concludes with a discussion of relevant laws, regulations and orders that relate to this endeavor and a discussion on consistency with other related efforts.

3.2 GENERAL INFORMATION

This area was inventoried under the Alpine Lakes Management Plan. The study area lands were fragments between the Alpine Lakes Wilderness boundary and areas with roaded development. The parcels lie in Kittitas (Parcels 1-9) and Chelan (Parcel 10) Counties on the Cle Elum and Leavenworth/Lake Wenatchee Ranger Districts on lands managed by the Okanogan/Wenatchee National Forests. The parcels are part of the Forest planning area known as the Alpine Lakes Adjacent Roadless Areas. Any areas selected as suitable for wilderness would be incorporated into the boundary of the Alpine Lakes Wilderness. These lands would add to the existing qualities of the Alpine Lakes Wilderness as a whole rather than as individual parcels of wilderness.

PHYSIOGRAPHY

All of the parcels lie on the eastern slopes of the Cascade Mountains in central Washington. The geology of the Cascade Range, in Washington State, is a complex assemblage of exotic terranes accreted to North America and covered by younger volcanic and sedimentary rocks. The terranes, largely represented by metamorphic rocks, and intrusive igneous rocks together form the crystalline core of the north Cascades. In parts of the study area, these crystalline rocks are overlain by younger sedimentary and volcanic cover rocks more characteristic of the southern Cascade Range south of Interstate-90.

The parcels are located near the northern fringe of the sedimentary and volcanic cover rocks, and as a result are underlain by both crystalline and cover rocks depending on location. Mineralization is most commonly associated with the crystalline rocks along intrusive boundaries and along other structural features such as faults or shear zones. The parcels typically occupy steep slopes characterized by bedrock exposures with a mantle of alluvium, colluvium, and/or glacial deposits in the valley bottoms and on sideslopes. As a result, soils tend to be shallow and poorly developed with isolated areas of deeper, more developed soils on the surficial deposits within the main drainages. The steep rock slopes are susceptible to snow avalanches and shed runoff rapidly into either the upper Yakima River or upper Wenatchee River drainages.

The parcels lie in the Yakima Watershed (Parcels 1 – 3 and the western half of Parcel 4), Cle Elum Watershed (eastern half of Parcel 4 and Parcels 5-9), and Icicle Creek Watershed (Parcel 10). Precipitation zones range from 50 to 100 inches annually with over 50% falling as snow.

VEGETATION

The vegetation is influenced by climate, landforms, soils and elevation. Because of variations in these elements, a wide range of plant habitats exist in the study area. The higher elevations produce alpine plant life and barren areas not yet inhospitable by plants. As one descends to lower elevations subalpine fir and associated species are encountered, passing below the timberline and into the lower protected valley bottoms and drainages, more species of conifers grow, trees are more abundant and larger in size.

RECREATION, ACCESS AND USE

Access to the lands is predominantly through a system of state (I-90), county and forest roads. The National Forest Trail System also provides access in or in close proximity to all of the parcels. The parcels are primarily viewed as foreground and middleground from trails and forest roads and from some areas of Interstate 90 (Parcel 1).

The public generally uses the trails during the snow free months. The uses include hiking, biking and horseback riding. Hunters use trails and cross-country travel during the open hunting seasons. During the winter recreation season cross-country skiers, snowmobilers and snowshoers enjoy trails and cross-country travel.

HISTORY

Native Americans have used this area for fishing, hunting and gathering. The earliest evidence for use dates to 11,000 years ago. Village sites were established along major drainages with upland resources utilized on a seasonal basis. The study area is within the area ceded to the U.S. Government by the Yakima Indian Treaty, dated June 9, 1855. Euro American settlement and use of the area began in the late 1800s. Mining discoveries also occurred during this period. Gold Creek and Mineral Creek were also sites of mineral exploration with most activity diminishing after the early 1900s. The Forest Service has administered land in the area since 1905 when the responsibility for management of the National Forest Reserves was transferred to the Department of Agriculture. The only facility in this area that has remained since the establishment of the National Forests is the trail system. Originally constructed by the Forest Service and later expanded by the Civilian Conservation Corps, these trails were originally constructed for access to fire lookouts and for quick access through the main drainages of the remote backcountry. Today these trails remain in much the same location and condition as the original trails but their use has shifted to a recreational emphasis.

3.3 HOW DO THE ALTERNATIVES RESPOND TO THE ISSUES

As described in Chapter 1, any area recommended as suitable for inclusion in wilderness must meet the tests of capability, availability and need (FSH 1909.12, section 7.2). Capability addresses the degree to which an area contains the natural characteristics that make it suitable for wilderness. Availability addresses the tradeoffs in the resource values foregone as the result of wilderness designation with the values of the wilderness resource itself, and the effect that wilderness designation and management is likely to have on adjacent lands and transportations systems (access). Need addresses evidence of current or future public need for additional designated wilderness within the area under consideration.

The discussion of wilderness values continues in the following issue discussion where issues have been grouped, as appropriate, by capability and availability. This approach evaluates how well each alternative responds to the significant issues while assessing the suitability of each alternative for designation as wilderness. Also considered is whether the parcel provides opportunities and experiences that are dependent upon or enhanced by a wilderness environment.

CAPABILITY

Issue A: Does the I-90 Wilderness Study Area satisfy the definition of wilderness found in the Wilderness Act of 1964 and does it meet the criteria for wilderness recommendations in FSH 1909.12?

The Wilderness Act of 1964 contains the following definition of wilderness:

Sec 2 (c) A wilderness, in contrast with those areas where man and his own works dominate the landscape, is hereby recognized as an area where the earth and its community of life are untrammelled by man, where man himself is a visitor

who does not remain. An area of wilderness is further defined to mean in this chapter an area of underdeveloped Federal land retaining its primeval character and influence, without permanent improvements or human habitation, which is protected and managed so as to preserve its natural conditions and which (1) generally appears to have been affected primarily by the forces of nature, with the imprint of man's work substantially unnoticeable; (2) has outstanding opportunities for solitude or a primitive and unconfined type of recreation; (3) has at least five thousand acres of land or is of sufficient size as to make practicable its preservation and use in an unimpaired condition; and (4) may also contain ecological, geological, or other features of scientific, educational, scenic, or historical value.

With respect to the size requirements for wilderness designation (Section 2(c)(3)), all of the study parcels border the Alpine Lakes Wilderness and, if designated, would be incorporated into the larger wilderness boundary. Consequently, this requirement will not be discussed further.

Affected Environment

The Wilderness Study Area is comprised of lands that are in a natural condition with very little evidence of human activities. There are no developed roads except for the primitive roads in Parcels 4 and 10 that were developed for early mining and have not been maintained. What is left of the road in Parcel 4 is used as a hiker/horse trail. The primitive road in Parcel 10 is now a trail passable only by high clearance four-wheel drive vehicles. Trails in the study area date to the early days of the Forest Service, many constructed in the 1930s by the Civilian Conservation Corps, and are of a type limiting most mechanized use. Helicopter logging has occurred near the parcel boundary furthest from the existing wilderness boundary of Parcels 4, 5 and 6, but the impacts of logging are substantially unnoticeable from any vista, as the only remaining evidence is a scattering of stumps from the selective logging.

The ten study parcels contain varying levels of remoteness and solitude because of their proximity to forest roads that are used for summer and winter recreational access. All of the areas offer some level of primitive recreation opportunities for dispersed and unconfined recreation activities. While sights and sounds of human habitation are evident from most of the parcels, the parcels themselves provide a primitive, natural area and a departure from human development and activity. Rock outcrops, cliffs and coniferous forest settings provide current opportunities for solitude.

The area contains lands that have generally been managed for scenic values and dispersed recreational activities in a natural ecosystem setting. Scenic vistas exist in the study area from three perspectives: looking from the study area to adjacent lands, looking towards the parcels from outside the study area, and looking within the study area parcels.

Direct, Indirect and Cumulative Effects

No Action Alternative

The management under this alternative would follow the direction in the existing Forest Plan, which is management for the maintenance and enhancement of late-successional habitat in Parcels 1 through 9 and management for recreation use, substantially in the area's natural condition, for Parcel 10. There would be no cumulative effects associated with this alternative other than those associated with the impacts of managing the land under the existing management direction. Depending on the late successional habitat needs, there could be some alteration of the setting as a result of vegetative treatments, which would affect the natural appearance of the parcels.

Proposed Action and Alternatives to the Proposed Action

The total acreage of land, depending on the alternative selected, would be recommended as wilderness and would satisfy the definition of wilderness found in the Wilderness Act of 1964. The management of lands that would be allocated as wilderness would follow Forest Service wilderness policy and Forest Plan standards and guidelines, the goal of which is to "Preserve and protect the natural character for future generations, and provide opportunities for solitude, challenge, inspiration, and scientific study (Forest Plan, page IV-263)."

The direct and indirect effects of designating **Parcel 1** as wilderness would be the addition of approximately 245 acres to wilderness.

The direct and indirect effects of designating **Parcel 2** as wilderness would be the addition of approximately 141 acres to the wilderness. While this parcel contains the natural characteristics that meet the definition of wilderness, the boundary of the parcel would leave some potential management concerns. This is discussed further under Issue 3.

Parcel 2a would have the direct and indirect effects of designating approximately 223 acres as opposed to 141 acres to the wilderness. As with Parcel 2, this parcel satisfies the definition of wilderness by containing the natural characteristics that make it suitable for wilderness. The additional 82 acres in this alternative parcel are the result of adjusting the parcel boundary to a more distinguishable line, making it more recognizable to the forest visitor and therefore more manageable.

The direct and indirect effects of designating **Parcel 3** as wilderness would be the addition of approximately 217 acres to wilderness. Most of this parcel is capable of satisfying the wilderness definition but the 12-acre area north of the West Fork Box Canyon Creek has been logged and does not meet the natural condition criterion for wilderness designation.

Parcel 3a offers the direct and indirect effects of designating approximately 996 acres to wilderness. This parcel is capable of satisfying the wilderness definition. The additional acres in this parcel would substantially increase the acres that have not been harvested or impacted by active management practices and that are within recognizable boundaries.

The direct and indirect effects of designating **Parcel 3b** as wilderness would be the addition of approximately 205 acres to wilderness. Under this alternative, the parcel boundary would be adjusted from the proposed action boundary to eliminate the logged area north of the West Fork Box Canyon Creek, resulting in it being fully capable of satisfying the wilderness definition.

The direct and indirect effects of designating **Parcel 4** as wilderness would be the addition of approximately 3,096 acres to the wilderness, some of which has been modified. Most of this parcel is capable of meeting the definition of wilderness, since it contains the natural characteristics desirable for wilderness; however, at present this parcel also contains trails that are used by mountain bikes and includes 250 acres that were helicopter logged in the 1990's, however the effects of this logging are not obvious. Helicopter logging has occurred on lands within this parcel acquired through land exchange making the logged lands capable but not presently suitable for a wilderness designation. The boundary of the parcel would create management concerns, as discussed under Issue 3, below.

The direct and indirect effects of designating alternative **Parcel 4a, Option 1** as wilderness would be the addition of approximately 2,885 acres to the wilderness. Most of this parcel is capable of meeting the definition of wilderness since it contains the natural characteristics desirable for wilderness; however, at present this parcel contains 250 acres that were helicopter logged in the 1990's. The elimination from wilderness designation of that portion of the parcel containing trails that receive mechanized use would contribute to the natural condition of the parcel, while preserving this limited mountain biking recreational opportunity.

The direct and indirect effects of designating alternative **Parcel 4a, Option 2** as wilderness would be the inclusion of an additional 202 acres as wilderness. This additional land is located in the riparian zone along the Cooper River between the Pete Lake trail and the river. All of it is in pristine condition. The other effects remain the same as Parcel 4a, Option 1.

Parcel 4b, Option 1 would have the direct and indirect effects of adding approximately 2,556 acres to the wilderness. This parcel contains the natural characteristics that would contribute to its capability as wilderness and eliminates the logged areas and the trails that are presently open to mountain bike use.

The direct and indirect effects of selecting **Parcel 4b, Option 2** as wilderness would be the designation of an additional 202 acres to the wilderness as described in Parcel 4a, Option 2. The other effects remain the same as Parcel 4b, Option 1.

The direct and indirect effects of designating **Parcel 5** as wilderness would be the addition of approximately 193 acres to the wilderness. This parcel contains the natural characteristics that contribute to its capability as wilderness, but there is evidence of recent logging in this parcel. Approximately 20-acres of harvested land is within this parcel boundary and is evident to the viewer because of the contrast with the surrounding vegetation.

Parcel 5a would have the direct and indirect effects of adding approximately 149 acres to the wilderness. This parcel contains the natural characteristics that satisfy the definition of wilderness and eliminates the areas that were recently logged.

The direct and indirect effects of designating **Parcel 6** as wilderness would be the addition of approximately 1,169 acres to the wilderness and the closing of a mountain bike trail that would be located within the wilderness boundary. With the closure of the mountain bike trail, this parcel would exhibit the natural characteristics that would contribute to its capability as wilderness.

The direct and indirect effects of designating **Parcel 6a** as wilderness would be the addition of approximately 1,174 acres to the wilderness. Under this alternative, the boundary would be adjusted to exclude trails having mechanized uses, hence allowing them to remain unaffected. This boundary adjustment would use buffered trails as the dominant boundary feature.

The direct and indirect effects of designating **Parcel 7** as wilderness would be the addition of approximately 5,178 acres to the wilderness. Use of the west shore of Tacquala Lake for motorized boat docking would be prohibited as would the use of mechanical suction dredging on the Cle Elum River. Given the pristine and rugged nature of the landscape, this parcel would be capable of meeting the definition of wilderness, but would also generate boundary management issues (see Issue 3).

The direct and indirect effects of designating alternative **Parcel 7a** as wilderness would be the addition of approximately 5,105 acres to the wilderness. This parcel would be capable of meeting the definition of wilderness. Adjustment of the boundary from that of Parcel 7 would allow mechanical suction dredging to be permissible in the Cle Elum River and motorized boat use would still be allowed on Tacquala Lake.

Parcel 8 would have the direct and indirect effects, if designated as wilderness, of the addition of approximately 4,210 acres to wilderness. This parcel is capable of satisfying the wilderness definition by providing a pristine area for primitive and unconfined types of recreation. The area is natural and free from management disturbance.

The direct and indirect effects of designating **Parcel 9** as wilderness would be the addition of approximately 918 acres to wilderness. This parcel is capable of satisfying the wilderness definition because of the parcel's remoteness and the capability of offering forest visitors a feeling solitude and serenity. The high elevation also offers special features that are not the normal landscape for this area.

Parcel 10 would have the direct and indirect effects of adding approximately 600 acres to wilderness. This parcel is capable of satisfying the wilderness definition by providing an area for primitive recreation opportunities. Benefits would include providing an area where a feeling of solitude and serenity would be present. Inclusion of Parcel 10 would require the closure of trail #4W302 a 4-wheel drive route.

The direct and indirect effects of designating alternative **Parcel 10a** as wilderness would be the addition of approximately 575 acres to wilderness. This parcel is capable of satisfying the wilderness definition for the same reasons as Parcel 10, after elimination of the 4-wheel drive route from within the boundaries of this parcel.

CAPABILITY

Issue B: Can manageable boundaries be identified that are easily recognized by the forest visitor and that reduce inadvertent incursions of prohibited uses (motorized and mechanized use) across the wilderness boundary?

Affected Environment

Many wilderness boundary lines do not have maintained boundary surveys or even unsurveyed boundary markings. This makes it difficult for the forest visitor to know when the wilderness is being entered and, therefore, when wilderness rules apply. The use of natural features such as streams and ridgelines are easier for the visitor to recognize but would make it more difficult for official surveys to be completed. The use of natural features, where opportunities exist, would reduce the need to maintain surveys while allowing the wilderness visitor to recognize the boundary and reduce the number of situations where visitors are unclear of their location. Official recorded surveys would still need to be completed when the potential for encroachments exists for activities not allowed in wilderness.

Direct, Indirect and Cumulative Effects
--

No Action Alternative

Wilderness boundaries would remain as described in the Alpine Lakes Area Land Management Plan and as adjusted by past or future additional wilderness enactment by Congress, such as the Plum Creek land donation for wilderness authorized under Section 604(d) of the Interstate 90 Land Exchange Act. Opportunities would not exist for boundary adjustments based on this project.

Proposed Action and Alternatives to the Proposed Action

The boundaries of the parcels are described in Chapter 2.

The direct, indirect and cumulative effects of selecting any action alternative would be an opportunity to establish boundary locations that would be more definable to the forest visitor. The present section lines are easier to survey but are less definable to the public. The action alternatives focus less on section lines and more on natural features.

Parcel 1

This is an easily manageable boundary in that it follows a surveyable section line, the thread line of Gold Creek, an unnamed stream channel, and definable ridgelines.

Parcel 2

Departing the existing wilderness boundary between sections 22 and 27, this boundary would be difficult to manage because it does not follow easily definable geographic features, contour lines or public land survey system section lines. In Section 24, the boundary would become more manageable because it parallels an existing trail, #1332, making its way north to the existing wilderness boundary between sections 24 and 13.

Alternative Parcel 2a

This boundary would follow contour lines, ridgelines and steep talus slopes. Mid-slope contour lines would present some management problems but would be easier to

establish than meandering boundaries. In Section 24, the boundary would become more manageable because it would follow the geographic landform rather than making an abrupt change in direction at the northern section line.

Parcel 3

This boundary would be relatively easy to manage because it follows natural features that are easily recognizable except for the boundary between the west fork of Box Canyon Creek and the dominant peak in the NW ¼ of the NE ¼ quarter of section 23.

Alternative Parcels 3a and 3b

Either of these boundaries would be relatively easy to manage because they follow natural geographic features that are easily recognizable. Parcel 3a would follow more dominant features.

Parcel 4

This boundary would be difficult to manage as it follows several arbitrary lines to avoid past timber harvest activity rather than relying on constant contour lines or geographical features as boundaries.

Alternative Parcel 4a - Option 1

This boundary would be easy to manage as it follows water channels, trails and continuous contour lines along with geographical features as boundaries.

Alternative Parcel 4a - Option 2

This boundary would also be easy to manage as it follows water channels, trails and continuous contour lines along with geographical features as boundaries.

Alternative Parcel 4b - Option 1

This boundary would be easy to manage in the short term, as it follows harvest unit boundaries. In time these boundaries will become obscure as natural events blend the landscape. Other than the harvest areas, the boundaries follow the same features as Parcel 4a and use the Cooper River as the Option 1 boundary.

Alternative Parcel 4b - Option 2

This boundary is similar to Parcel 4b-Option 1 but uses a buffer along the Pete Lake trail as the **Option 2** boundary.

Parcel 5

This boundary would be relatively easy to manage by following a continuous contour line.

Alternative Parcel 5a

This boundary would be relatively easy to manage because it follows a continuous contour line where the slope gradient increases, thus naturally limiting human activities.

Parcel 6

This boundary would be easy to manage because it follows natural features that are easily recognizable such as the Cooper River and a major draw and constant contour lines.

Alternative Parcel 6a

This boundary would be easy to manage because it follows contour lines, dominant geographic features and trails that are easily identified.

Parcel 7

This boundary would be easy to manage as it follows defined water channels and lines that are easily surveyed and posted.

Alternative Parcel 7a

This boundary would be easy to manage because it follows the high-water line of dominant water bodies with a constant buffer and section lines that are maintained because of private property boundaries.

Parcel 8

This boundary would present management difficulties in that it follows lateral ridges and unnamed streams as natural features in some areas. These features, in contrast to the dominant ridgeline on the proposed eastern boundary, would not be easily recognized.

Parcel 9

Except for following tangential ridges where this boundary would cross Fortune Creek, this proposed boundary would present few management difficulties in that it follows dominant ridgelines for the majority of the proposed boundary. These features are recognizable as the highest ground in the landscape.

Parcel 10

This proposed boundary would be easily recognized as the highest elevation on the landscape following the county line and would present few management difficulties.

Alternative Parcel 10a

This proposed boundary would be easily recognized because it uses geographic and physical features.

AVAILABILITY

Issue C: What Components of the Natural Ecosystem Would be Managed as Wilderness if the Lands are Reallocated?

Affected Environment

A goal of the wilderness designation is to manage lands in their natural condition for the enjoyment of present and future generations in such manner as will leave them unimpaired for future use and enjoyment as wilderness. While all components of the ecosystem would be managed by the standards and guidelines of the designated land management allocation, this issue is directed towards the differences in long-term management of habitat (aquatic, riparian and upland) that would result from active management of the land as wilderness (WI) as compared to management as an Adaptive Management Area (AMA) and Special Interest Area - Scenic (SI-1). The items compared in this issue are the management of streams, riparian habitat, upland habitat

and general forested land. Change in management direction by acres is shown to remind the reviewer of the total acres that would be managed as wilderness.

The National Marine Fisheries Service and the US Fish and Wildlife Service addressed the management of any areas that would be designated as wilderness. Both agencies concluded that the study being a non-ground disturbing action did not warrant consultation at this time and that site-specific analysis following the NEPA process would be conducted and proposed actions consulted on when site-specific projects are identified.

Streamside and Riparian Management

The current streamside and riparian management of the wilderness study parcels follows the Aquatic Conservation Strategy (ACS) of the amended Forest Plan. This strategy has been adopted in the Snoqualmie Pass AMA Plan (AMA EIS 2-7) which applies to this area (USDA Forest Service 1997). The AMA Plan states that land management activities will comply with the ACS objectives, which means managing the riparian-dependent resources to maintain the existing conditions or implementing actions to restore conditions.

Parcel 10, although not in the AMA, has similar guidelines that direct that management decisions be made in favor of riparian dependent resources, that riparian area management will meet or exceed state and federal water quality standards and Washington State Forest Practices Rules and Regulations (USDA Forest Service 1990, IV-84), and that the ACS objectives of the NWFP will be met.

The importance of riparian areas and their relationship to streams and rivers have been documented as being directly coupled with maintaining hydrologic, geomorphic, and ecologic processes that directly affect standing and flowing waterbodies such as lakes and ponds, wetlands, streams, stream processes, and fish habitats (USDA Forest Service 1994). For this reason, there would be little, if any, change in the management of the riparian areas regardless of the land management allocation.

Vegetation

The current vegetation condition within the Wilderness Study Area is a mix of non-commercial timber stands, commercial stands primarily at lower elevations (i.e., valley bottoms) and lands not supporting tree species. The following tables show the vegetation as mapped from aerial photo interpretation. This in-depth mapping was accomplished by delineating vegetation stands or polygons on 1992 color aerial photographs and was completed for the Icicle Creek Watershed Analysis (USDA Forest Service 1995), Cle Elum Watershed Analysis (USDA Forest Service 1996), and Yakima Watershed Analysis (USDA Forest Service 1997). These unpublished analyses also provided an in-depth view of the current conditions at a watershed scale. The first table displays the complete breakdown by vegetation condition code and the second table displays a grouping of codes displaying forested and non-forested lands.

Access and harvest opportunities are limited to the forested lands. These areas would be potentially available for timber management opportunities in the future under the No Action alternative provided the goals and objectives of the AMA were met; a wilderness designation would remove the possibility of management without further Congressional action.

Although the majority of the study area lands are forested to some extent (see following tables and definitions), the commercial value of these lands is limited because of the remoteness of these lands and the quality of the timber.

Direct, Indirect and Cumulative Effects

No Action Alternative

Under this alternative the direct, indirect and cumulative effects would be that lands would not be reallocated, nor would there be any change to relevant management direction. The current AMA allocation with its management standards and guidelines would remain in effect for Parcels 1 through 9, along with the underlying Forest Plan allocations. As part of the AMA, Parcels 1 through 9 would provide limited management opportunities for both non-commercial and commercial activities. Projects that further the goals and objectives of current Forest Plan direction would continue to be proposed and implemented when approved. Parcel 10 would be managed as SI-1 as directed in the Forest Plan.

Parcels 1 through 8 and 10 are also within the Alpine Lakes Adjacent Inventoried Roadless Areas, and would be subject to the restrictions outlined in the Interim Directive for Inventoried Roadless Areas (Interim Directive No. 1920-2001-1, December 14, 2001).

Proposed Action and Alternatives to the Proposed Action

Land Management

The goal for wilderness is to preserve and protect the natural character of the land for future generations, and to provide opportunities for solitude, challenge, inspiration, and scientific study. The following table displays the direct effect of reallocating lands in the study area by describing the current management goals and disclosing the change that would occur for the proposed action and any alternatives to the proposed action for lands that would be designated wilderness. Additionally, the indirect and cumulative effects of selecting any action alternative would be a net increase in lands designated and managed as wilderness, offering even more emphasis on the maintenance and preservation of the natural ecosystem components. This would include additional protection for any threatened, endangered, or sensitive plant or animal species, management indicator species, and survey and manage species dependent upon the habitats to be designated (recognizing the potential for changes through time as natural processes alter the habitats in question).

Potential Changes in Land Management Goals				
Parcel	Total Acres	Forest Plan Allocation	Acres	Management Goals
1	245	AMA	245	<p>No Action Lands would be managed for the maintenance and enhancement of late-successional forest habitat in addition to the management of Riparian Reserves. The guiding document is the Snoqualmie Pass Adaptive Management Area Plan. On issues where this plan is silent, the 1990 Forest Plan is the guiding document. There is no scheduled timber harvest in the AMA and there are no road construction projects at this time, but these projects could be implemented if an analysis process was followed that demonstrated that the projects were furthering the goals and objects of the AMA. The Snoqualmie Pass AMA Plan adopted the Aquatic Conservation Strategy objectives.</p> <p>Action Alternatives A wilderness designation would maintain the natural ecosystem. There would be no vegetation treatments, road construction, or other human alterations of the landscape or ecosystem. Although not subject to the Aquatic Conservation Strategy, wilderness designation would be completely consistent with the ACS objectives.</p>
		RE-3	96	<p>No Action Provide dispersed recreation in an unroaded, semi-primitive, non-motorized or primitive setting. Landscape changes are generally not evident to those walking through the area. The area is essentially a natural or natural appearing environment.</p> <p>Action Alternatives The current RE-3 direction is consistent with the wilderness management strategy; there would be no noticeable management change other than the continued enforcement of regulations concerning prohibited activities.</p>

Potential Changes in Land Management Goals				
Parcel	Total Acres	Forest Plan Allocation	Acres	Management Goals
1		ST-1	149	<p>No Action The goal of this allocation is to retain or enhance the viewing and recreation experience along scenic travel routes. This allocation does allow uses that meet the retention of the visual quality objectives.</p> <p>Action Alternatives These lands would be preserved in a natural state if they were designated wilderness.</p>
2	141	AMA	141	See Parcel 1 AMA narrative
		GF	141	<p>No Action This allocation provides for long-term growth and production of commercially available wood products at a high level of investment in silvicultural practices. This allocation would not be managed in a natural state. Provided that the objectives of the AMA are met, this allocation provides for timber harvest and reforestation practices to continue on the landscape.</p> <p>Action Alternatives Lands in this allocation would remain in a natural state if they were allocated as wilderness.</p>
2a	223	AMA	223	See Parcel 1 AMA narrative
		GF	223	See Parcel 2 GF narrative
3	217	AMA	217	See Parcel 1 AMA narrative
		GF	217	See Parcel 2 GF narrative

Potential Changes in Land Management Goals				
Parcel	Total Acres	Forest Plan Allocation	Acres	Management Goals
3a	996	AMA	996	See Parcel 1 AMA narrative
		GF	968	See Parcel 2 GF narrative
		ST-1	28	See Parcel 1 ST-1 narrative
3b	205	AMA	205	See Parcel 1 AMA narrative
		GF	205	See Parcel 2 GF narrative
4	3,096	AMA	3,096	See Parcel 1 AMA narrative
		GF	458	See Parcel 2 GF narrative
		RE-3	1,627	See Parcel 1 RE-3 narrative
		ST-1	766	See Parcel 1 ST-1 narrative
		ST-2	245	<p>No Action Providing a near natural appearing foreground and middleground along scenic travel corridors is the goal of this allocation. Proposed uses and vegetation management within this allocation would be integrated with the natural landscape so that activities are visually subordinate to the characteristic landscape.</p> <p>Action Alternatives If managed as wilderness these lands would not be altered from a natural state.</p>
4a, Option 1	2,818	AMA	2,818	See Parcel 1 AMA narrative
		GF	458	See Parcel 2 GF narrative
		RE-3	1,537	See Parcel 1 RE-3 narrative

Potential Changes in Land Management Goals				
Parcel	Total Acres	Forest Plan Allocation	Acres	Management Goals
4a Option 1		ST-1	578	See Parcel 1 ST-1 narrative
		ST-2	245	See Parcel 4 ST-2 narrative
4a, Option 2	3,087	AMA	3,087	See Parcel 1 AMA narrative
		GF	458	See Parcel 2 GF narrative
		RE-3	1,629	See Parcel 1 RE-3 narrative
		ST-1	755	See Parcel 1 ST-1 narrative
		ST-2	245	See Parcel 4 ST-2 narrative
4b, Option 1	2,557	AMA	2,557	See Parcel 1 AMA narrative
		GF	462	See Parcel 2 GF narrative
		RE-3	1,456	See Parcel 1 RE-3 narrative
		ST-1	395	See Parcel 1 ST-1 narrative
		ST-2	244	See Parcel 4 ST-2 narrative
4b, Option 2	2,759	AMA	2,759	See Parcel 1 AMA narrative
		GF	462	See Parcel 2 GF narrative

Potential Changes in Land Management Goals				
Parcel	Total Acres	Forest Plan Allocation	Acres	Management Goals
4b Option 2		RE-3	1,548	See Parcel 1 RE-3 narrative
		ST-1	505	See Parcel 1 ST-1 narrative
		ST-2	244	See Parcel 4 ST-2 narrative
5	193	AMA	193	See Parcel 1 AMA narrative
		RE-3	183	See Parcel 1 RE-3 narrative
		ST-1	10	See Parcel 1 ST-1 narrative
5a	149	AMA	149	See Parcel 1 AMA narrative
		RE-3	149	See Parcel 1 RE-3 narrative
6	1,169	AMA	1,169	See Parcel 1 AMA narrative
		RE-3	541	See Parcel 1 RE-3 narrative
		ST-1	566	See Parcel 1 ST-1 narrative
6a	1,155	AMA	1,155	See Parcel 1 AMA narrative
		RE-3	565	See Parcel 1 RE-3 narrative
		ST-1	590	See Parcel 1 ST-1 narrative
7	5,178	AMA	5,178	See Parcel 1 AMA narrative
		RE-3	3,167	See Parcel 1 RE-3 narrative

Potential Changes in Land Management Goals				
Parcel	Total Acres	Forest Plan Allocation	Acres	Management Goals
7		ST-2	480	See Parcel 4 ST-2 narrative
		WS-1	1,449	<p>No Action In this allocation, the goal is to preserve the Scenic River characteristics of the river and surrounding area pending a decision on its legislative designation as part of the Wild and Scenic Rivers System. This designation is for river segments that are largely primitive but are accessible by road in places. If not legislatively designated, these lands would be reallocated to the surrounding management allocations (AMA) and potential management actions could occur within the corridor.</p> <p>Action Alternatives Whether eventually added to the Wild and Scenic River system or not, the lands within the river corridor would be managed as wilderness. The Wild River designation is compatible and complimentary with wilderness designation.</p>
		WS-3	144	<p>No Action Preservation of the Wild River characteristics of the river and surrounding area pending a decision on its legislative designation as part of the Wild and Scenic Rivers System is the goal of this allocation. This allocation is for areas that are generally inaccessible except by trail and represent vestiges of primitive America. There is no timber management component to this allocation.</p> <p>Action Alternatives The Wild River designation is compatible and complimentary with wilderness designation. In unlikely cases of conflict between wilderness management and Wild River management, the more restrictive prescription would apply. A wilderness designation would offer little additional change to the management direction for this portion of Parcel 7, but would immediately protect the Wild River segment until Congressional action.</p>

Potential Changes in Land Management Goals				
Parcel	Total Acres	Forest Plan Allocation	Acres	Management Goals
7a	4,868	AMA	4,868	See Parcel 1 AMA narrative
		RE-3	3,149	See Parcel 1 RE-3 narrative
		ST-2	177	See Parcel 4 ST-2 narrative
		WS-1	1398	See Parcel 7 WS-1 narrative
		WS-3	144	See Parcel 7 WS-3 narrative
8	4,210	AMA	4,210	See Parcel 1 AMA narrative
		RE-2A	413	<p>No Action Providing dispersed, unroaded recreation in a semi-primitive motorized recreation opportunity setting is the current goal of this parcel. This allocation is specific to motorbikes, hikers and horseback riders. Motorized recreational use in Parcel 8 is currently confined to winter snowmobile use. Salvage harvest is permitted in this allocation provided that it is the result of a catastrophic event.</p> <p>Action Alternatives A wilderness designation would ensure the maintenance of the natural ecosystem.</p>
		RE-3	255	See Parcel 1 RE-3 narrative
8		SI-1	3,176	<p>No Action The goal of this allocation is to manage the special area for recreation use, substantially in its natural condition. Motorized use is permitted within this allocation to the extent that it is compatible with the management intent. Timber harvest is currently allowed, although rarely done, for improvement for recreational purposes, or for salvage harvest after a catastrophic event.</p>

Potential Changes in Land Management Goals				
Parcel	Total Acres	Forest Plan Allocation	Acres	Management Goals
8				Action Alternatives A wilderness designation would prohibit motorized use and timber cutting.
		ST-1	199	See Parcel 1 ST-1 narrative
		ST-2	30	See Parcel 4 ST-2 narrative
		WS-1	137	See Parcel 7 WS-1 narrative
9	918	AMA	918	See Parcel 1 AMA narrative
		SI-1	918	See Parcel 8 SI-1 narrative
10	600	SI-1	600	See Parcel 8 SI-1 narrative
10a	575	SI-1	575	See Parcel 8 SI-1 narrative

Figure 3-1- Potential Changes in Land Management Goals

Streamside and Riparian Management

A change from the present land management direction to a wilderness designation would not produce noticeable changes in the management of riparian areas or streamside. Wilderness riparian management direction is similar to the No Action Alternative in that land management activities in Riparian Management Areas (RMA) would favor riparian resources (e.g., water quality, fish and wildlife habitat) and the ACS would apply.

A table displaying the miles of stream by class, type, and riparian acres that would be managed under wilderness direction for lands designated as wilderness is available in the analysis file for this proposal.

Vegetation

The direct, indirect and cumulative effects of designating land as wilderness would be the removal of land from the AMA management allocation for addition to the wilderness system. There is no vegetation management prescription for wilderness; the goal

emphasizes the preservation and protection of the natural character of the land. A wilderness designation would preclude vegetation management activities from being proposed.

However, a change from the present land management direction to a wilderness designation would not produce noticeable direct changes in the management of vegetation because of the restrictive nature of current land management policies and practices. The cumulative effect of a wilderness designation would be the addition of lands to an allocation that would follow natural ecological processes in perpetuating water quality, fish and wildlife habitat.

Appendix C displays the vegetative composition in acres and percent of each parcel, as delineated using aerial photo interpretation, for the Proposed Action and its alternatives. These are the areas that would be managed as wilderness. For parcels that have alternatives to the Proposed Action, a comparison can be made between the alternatives as to where gains and losses would be seen in vegetation types. Where there is a substantial change in acreages a rationale is noted for reader convenience. In all vegetation categories the reader is reminded that the acreage of a vegetation type does not reflect the quality of vegetation present or its accessibility.

AVAILABILITY

Issue D: How would recreation uses be impacted by a wilderness designation and what would be the changes to existing access?

The issues of recreation uses and access are discussed together because they are intricately linked when discussing the Wilderness Study Area. The access questions relate to access to the lands for and as part of recreational activities, rather than to the issue of commercial travel routes.

There would be no impacts to existing commercial use roads. The recreational use of Van Epps Pass route (4W302) in Parcel 10 would be closed to motorized travel if included in wilderness. As noted in this section, this route is not maintained at this time.

Affected Environment

Changes have taken place within the study area during the recent past. Additional road construction has occurred to allow access for private land inholders, for recreation, and for timber harvest. This additional access along with the advanced technology of recreational equipment has allowed visitors to access previously remote areas. This is especially evident during the winter recreation season when over the snow travel takes recreationists off the developed trails and cross-country to distant vantage points.

There are no developed recreational facilities in the study area.

Dispersed recreation (i.e., recreation use not in developed sites) has seen the most significant change in recent years with the continued growth in use. Winter dispersed

recreation utilization in the AMA is among the highest in Washington State. In the summer season as well, the most significant growth has been in the dispersed areas because the developed sites are generally filled on weekends. The public demand for the existing limited sites is extending the spring and fall seasons. Main dispersed types of recreation in the study area parcels include mountain biking (Parcels 4 and 6, outfitter/guiding (Parcels 7, 8 and 9), snowmobile use (Parcels 8, 9 and 10), hiking (all parcels), and horseback riding (Parcels 4, 5, 6, 7, 8, 9 and 10).

The Cle Elum and Waptus Rivers were determined to be eligible and suitable for inclusion in the Wild and Scenic Rivers System during the 1990 Forest Planning process. These rivers have been determined to provide high quality recreation opportunities and exhibit at least one outstanding resource value. The Cle Elum River is potentially classified as Wild for 4.0 miles from the headwaters to the Alpine Lakes Wilderness Boundary; Scenic for 2.0 miles, from Alpine Lakes Wilderness Boundary to above Tucquala Lake (Fish Lake); and Recreational for 18.5 miles, from above Tuquala Lake to Lake Cle Elum. The Waptus River is potentially classified as Wild for 13.0 miles, from the headwaters to the confluence with the Cle Elum River. Segments of these rivers flow through the study area.

Direct, Indirect and Cumulative Effects

No Action Alternative

The No Action alternative would allow all currently legal uses consistent with Forest Plan direction to continue on the study area lands. There would be no impacts to outfitter/guides or restrictions on mechanized recreational uses as a result of this alternative and there would be no changes in current land management standards and guidelines. Under the AMA allocation, existing recreation uses and facilities are considered to be consistent with the AMA objectives (AMA ROD, page 5).

Proposed Action and Alternatives to the Proposed Action

Current access to the study area is primarily by foot, but some areas do presently offer opportunities for access by mechanized means (mountain bikes and snowmobiles). The direct and indirect effects would be curtailment of use patterns that would occur on lands designated as wilderness. The use of mechanized transport, except in emergencies or for medical transport, would be prohibited in wilderness. New road building would not occur and the four-wheel drive route that exists in Parcel 10 would be reclaimed by nature. Cross-country mechanized or motorized travel (such as the use of snowmobiles) would not be permitted. The actual change in use types on designated trails would be relatively small, as seen on the following table. A more significant impact would be to winter recreation where snow cover allows easy access for cross-country travel. Although we do not have firm numbers, several individuals and user groups representatives indicated ongoing winter snowmobile use of several parcels, primarily Parcels 8, 9 and 10.

Generally, non-mechanized recreational uses are permitted in areas designated as wilderness. Typical uses include hunting and fishing, camping, rafting, kayaking, canoeing, guiding, outfitting, scientific studies, educational programs and foot and horse travel, some of these currently occur within the study area parcels and would continue.

However, activities led by outfitter/guides would be impacted by group size limit in addition to the existing conditions of their special use permit. The wilderness management guidelines state that the group size limit in wilderness is 12. This is any combination of 12 persons and recreation livestock, although written authorization to exceed this limit may be issued.

Specific trail uses that would be impacted directly by a wilderness designation are displayed in the following table. The indirect effect may be greater than anticipated in some instances because a loop opportunity may be curtailed by a wilderness designation affecting any segment of the loop trail. This table only shows parcels where there is a change in use type, a complete list of trails in the study area is available in the project analysis file.

*Potential Changes in Trail Management						
Parcel	Trail Name	Trail Number	Length within Parcels (miles)	*Use Under No Action	Proposed Use	***Use Level
4	Little Kachess	#1312	0.80	HB	H	Moderate
	Mineral Creek	#1331	0.10	1/HB	H	Low
	Tired Creek	#1317	0.10	2/HHB	HH	Moderate
	Pete Lake	#1323	0.40	3/HHB	HH	High
6	Cooper River	#1311	1.50	HHB	HH	High
10	Van Epps	#4W302	0.90	HHBM4WD	HH	Moderate

Figure 3-2- Potential Change in Trail Management

***Potential Changes in Recreation Management** – this table reflects the changes in authorized use of existing trails. The table does not address cross-country travel as is typical of winter recreation activities. All mechanized use in the wilderness would be prohibited with the exceptions for health and safety issues and valid existing mining operations.

****Use Codes:**
 H = hiker permitted
 HH = hiker/horse permitted
 HHB = hiker/horse/mountain bike permitted
 HHBM = hiker/horse/mountain bike/motorized bike permitted
 4WD = 4 wheel drive vehicles permitted

*****Use Level** – this is a relative scale determined by required maintenance to trail tread and field notes regarding ancillary use, e.g. dispersed campsites and resource damage. The use level on trails leading to the Alpine Lakes Wilderness would be expected to remain constant as restrictions currently in place determine the user groups that utilize those areas. Use on trails that currently permit mechanized use would be expected to decrease for any parcels designated as wilderness.

1/mountain bikes are permitted to the Little Kachess Trail
 2/mountain bikes are permitted from Pete Lake Trail to the road
 3/mountain bikes are permitted to the wilderness boundary

The cumulative effects on recreation uses and access would be determined by seasons of use. Summer uses have included cross-country foot travel and trail uses as permitted (see previous table). Presently there are no plans for additional trail construction. Relocation and reconstruction is part of the trail’s program of work. The cumulative effect on recreation uses and access would be a decrease in 3.8 miles of trails where mechanized use is permitted and the implementation of party size limits (12 total stock and individuals maximum).

Winter uses would have substantially different direct and cumulative effects in several parcels. Parcels that receive heavy snowmobile use, especially Parcels 8, 9, and 10, would see these lands closed to mechanized use. These areas would still be open for snowshoe and cross-country skiers to use, but the distance from snow free roads would restrict winter non-mechanized use to the more advanced user groups. The cumulative effect would be a decrease in mechanized use play areas with no change in areas available for non-mechanized use.

OTHER ISSUES

Issue E: How Would Minerals and Mineral Potential be Impacted?

Affected Environment

The study area is characterized by complex geology and varying degrees of mineralization related to local geologic conditions. As a result, mineral resource potential varies from parcel to parcel and by the type of commodity within a parcel. The following table displays the mineral resources potential and degree of certainty that the mineral would be located in a given parcel.

*Summary of Mineral Resource Potential and Degree of Certainty Ratings					
Parcel	HARDROCK NON- ENERGY MINERALS	COAL	OIL AND GAS	GEOHERMAL	MINERAL MATERIALS
1	L/B	L/B	L/B	L/B	H/C
2	L/B	L/B	L/B	L/B	H/C
3	L/B	L/B	L/B	L/B	H/C
4	H/D	L/B	L/B	L/B	H/C
5	L/B	L/B	L/B	L/B	H/C
6	L/B	L/B	L/B	L/B	H/C
7	M/C to H/C	L/B	L/B	L/B	H/C
8	M/B	O/D	O/D	L/B	H/C
9	M/B	O/D	O/D	L/B	H/C
10	H/D	O/D	O/D	L/B	H/C

Figure 3-3- Summary of Mineral Resource Potential and Degree of Certainty Ratings

* for an explanation of ratings, the reader is referred to Appendix B

Five of the parcels have been assigned a moderate to high mineral potential for hardrock, non-energy minerals. The remainder of the parcels lack significant historical mining activity and are generally characterized by geologic conditions unfavorable for mineralization. All of the parcels were rated as having no potential or a low potential for oil and gas, coal, and geothermal resources. All parcels have a high potential for the occurrence of mineral materials. An individual parcel description of hardrock minerals, non-energy minerals, energy minerals and resources, and common variety mineral materials is provided in Appendix B.

Direct, Indirect and Cumulative Effects

All Alternatives - The extent of mineralization and the related encumbrances would not be influenced by the minor boundary changes suggested by the alternatives; therefore, this discussion relates to the Proposed Action alternative and provides specificity, as appropriate, for various types of mineral potential.

No Action Alternative

As part of the Interstate 90 Land Exchange Act of 1998, all parcels were withdrawn from entry and appropriation under the U.S. mining and mineral leasing laws until December 31, 2003 or until Congress decides otherwise. Depending on Congressional action, the parcels could become available for entry and appropriation as stated in the Act.

Proposed Action and Alternatives To The Proposed Action

Isolated sections within parcels 2, 4, 6, 7, and 8 have outstanding oil and gas estates. None of the parcels were classified as lands prospectively valuable for oil and gas. Because of the low to non-existent occurrence and/or potential for oil and gas resources, there would be no measurable impacts as a result of wilderness designation.

Active lode and placer mining claims on file with the Bureau of Land Management are located within parcel 7 along and just west of the Cle Elum River. The Federal Government owns the surface and entire mineral estate for parcels 1, 3, 5, 9, and 10. The Federal Government owns the surface estate, and locatable mineral estate to Parcels 2, 4, 6, 7, and 8. Nine (possibly 10) active lode and placer claims are located along and just west of the Cle Elum River within parcel 7. Subject to a valid existing rights determination, claimants would retain the right to develop and produce locatable minerals from their existing claim(s) under an approved plan of operations if the parcel is included in the Alpine Lakes Wilderness. If Congress designates the proposed parcels as wilderness, the parcels would be permanently withdrawn from future mineral entry. Active claims in Parcel 7, if determined to have valid existing rights, could be developed to produce valuable minerals in wilderness under the Proposed Action. Alternative Parcel 7a is similar to the Proposed Action Parcel 7 but the evidence of mining activity would be minimized by providing a 50-foot buffer westerly of the high-water mark of the Cle Elum River. The 50-foot buffer would accommodate placer mining activities along the Cle Elum River, which are largely restricted to the streambed. Parts of 9 (possibly 10) active claims extend past the buffer into Parcel 7. Subject to valid existing rights, claimants would retain the right to develop and produce valuable minerals from within the claim boundaries.

In Parcels 1, 2, 3, 4, 5, 6, and 7 any coal deposits would be non-economic and only of nominal value. Because of the low to non-existent occurrence and/or potential for coal resources, there would be no measurable impacts as a result of wilderness designation.

No commercial geothermal resources are known to occur within the parcels. Because of the low to non-existent occurrence and/or potential for geothermal resources, there would be no measurable impacts as a result of wilderness designation.

Certain lands within some of the parcels are located in powersite withdrawals that predate the Interstate 90 Land Exchange Act. Parcels 4, 7, and 8 contain lands withdrawn on December 6, 1928, under Power Site Classification No. 215, Washington No. 42 by Order of the Secretary of Interior. The Mining Claims Rights Restoration Act of 1955 opened lands withdrawn or reserved for power development to mineral entry provided that the subject lands are not under license, permit, or preliminary permit. The powersite withdrawals in Parcels 4,7, and 8 are not currently under license or permit. Some active claims in Parcel 7 that predate the I-90 Land Exchange Act, and postdate the 1955 Act are located within the powersite withdrawals. Parcels 1, 2, 3, 5, 6, 9, and 10 are not encumbered by withdrawals that predate the I-90 Land Exchange Act of 1998. If Congress designates the proposed additions as wilderness, a request would be made to the Bureau of Land Management (BLM) to vacate the lands encumbered by powersite withdrawals and the parcels would be permanently withdrawn from mineral entry and appropriation under the mining and mineral leasing laws, subject to valid existing rights.

Many of the parcels have sand and gravel as well as hard rock common variety mineral material resources suitable for use as aggregate, embankments, retaining walls, building stone, landscaping, etc. The potential for the occurrence of such resources is high. No permits would be issued for the removal of mineral materials commonly known as common varieties under the Minerals Act of July 31, 1947, as amended and supplemented.

Issue F: Would There Be Changes To Heritage Resource Management?

Affected Environment

Application of the Forest's predictive site location model (1983 Carter, Susan) to Parcels 1-10 indicates that all 10 parcels would have been largely unsuited for permanent indigenous habitation except along major drainages and adjacent to lakes and high mountain passes. Because of mineral deposits however, all 10 parcels would be rated high for sites associated with mining in particular. With less than one percent of Parcels 1-10 inventoried for cultural resources to date this appears to be the case.

A total of 20 cultural resources have been documented within or within one mile of the ten parcels. Most of the sites were documented during a 2400 acres survey of the Alpine Lakes Wilderness in 1988. Other sites were documented during timber sales and road construction projects in or adjacent to the parcels. Documented site types include prehistoric lithic scatters, a rock shelter, cabins, mines, mining mill sites, marten sets and a few isolated artifacts. The largest of the sites is the Cle Elum Mining District, which

covers 30 square miles and overlaps portions of Parcel 7 and perhaps the southern edge of Parcel 8. Known but undocumented sites include the Copper Queen Mine and Mill, the Durrwachter Prospects, and numerous mines north of Fortune and Camp Creeks. Historic and prehistoric trails cross Parcels 1 through 10 and many of the old wagon roads in Parcels 7 through 10 are associated with historic mining in those areas.

Site probability, inventory history and documented cultural resource types can be summarized as follows:

Site Probability, Inventory History and Documented Site/Types				
	Site Probability	Inventory History	Documented Sites/Types	Comments
Parcel 1	Low to moderate	none	none	3 sites to E
Parcel 2	Low to moderate	none	none	
Parcel 3	Low except along river (high)	none	none	1 isolate to SE
Parcel 4	Low except along river	none	none	1 site to E; 2 sites to N
Parcel 5	Low	none	none	none
Parcel 6	Low	none	none	None
Parcels 7-10	Moderate to high	<1 %	1 site; Mining District	cabins, mines, roads and trails

Figure 3-4- Site Probability, Inventory History and Documented Sites/Types

Reserved Indian Rights and Forest Service Trust Responsibility

National Forest lands encompassing Parcels 1-10 were ceded to the United States under the Yakima Treaty of 1855. As such, the Confederated Tribes and Bands of the Yakama Nation retain certain rights and privileges reserved under that treaty, among them, the right to fish at usual and accustomed places and the privilege to hunt, gather roots and berries, and pasture horses and cattle upon open and unclaimed land.

After treaties were signed, the United States government incurred the duty to protect the interests of Indian tribes. As a government agency, the Forest Service has the legal obligation to exercise statutory and other legal authorities to protect tribal land, assets and resources and treaty rights as well as a duty to carry out the mandates of Federal law with respect to American Indian and Alaska Native tribes. Fulfillment of that duties/trust responsibility requires consultation with Indian tribes who have a vested interest in the land. The Confederated Tribes and Bands of the Yakama Nation, the Confederated Tribes of the Colville Reservation and the Muckleshoot Tribe were consulted on a Government-to-Government basis regarding the proposed change in land designation. Letters were sent to each tribal council in April of 2001 and no responses were received after a 30-day comment period.

Direct, Indirect and Cumulative Effects

No Action Alternative

Heritage resource management would be conducted as site-specific projects were implemented. The program of work on the study area lands would determine the opportunities for inventory work. These inventories would be carried out as funding priorities allowed. Heritage resources, including traditional cultural properties, that may be eligible for inclusion on the National Register of Historic Places, or that have special meaning to American Indian tribes, would be documented as funding for project implementation allowed. Treaty rights would not be affected.

Proposed Action and Alternatives to the Proposed Action

The primary effect of the wilderness designation is that fewer inventories would be conducted because of the reduction in site-specific projects for which these inventories are normally carried out. Heritage resources, including traditional cultural properties, that may be eligible for inclusion on the National Register of Historic Places, or that have special meaning to American Indian tribes, may remain unknown and undocumented. Table 2-1 shows the acreage of lands that would be affected by the wilderness designation.

On the other hand, the proposed change in land designation would not affect known cultural resources located within Parcels 1-10. Management of sites determined eligible or potentially eligible (those not yet evaluated) for the National Register of Historic Places would continue in accordance with the National Historic Preservation Act and the Wilderness Act. Cultural resources determined to be ineligible for listing on the National Register of Historic Places would either be removed or allowed to deteriorate through natural processes after information about such resources has been thoroughly documented. Reclassification of Parcels 1-10 as Wilderness would benefit sites otherwise threatened by human impact and development.

Rights and privileges mandated under the Yakima Treaty would not be affected by the change in land designation. In fact, resources of importance to the Yakama Nation and other interested tribes would be afforded greater protection.

Issue G: How Would a Wilderness Designation Impact Fire Management Activities?

Affected Environment

Current fire policy describes two types of fire use: prescribed fire and wildland fire. Prescribed fires are those fires that are lit by managers to accomplish resource objectives. Naturally caused fires, primarily lightning-caused fires, can be accepted and managed in wilderness and other lands, and are then called "wildland fire use for resource benefits" or wildland fire use. Before naturally caused fires can be managed as wildland fire, there are a number of planning steps that must be completed. At the forest plan level, the required steps include public participation through NEPA and environmental analysis and update of the Fire Management Plan for implementation

guidance. Implementation requirements also include ensuring that the skills and expertise available to manage a “wildland fire use” fire is available.

Regardless of the land allocation, the Forest Service policy of conducting fire suppression in a timely, effective, and efficient manner, giving the first priority to firefighter and public safety, would remain in effect.

Direct, Indirect and Cumulative Effects

No Action Alternative

The current strategy is to safely suppress wildfires at a minimum cost consistent with the land and resource management objectives and fire management direction. Fire use and suppression would not be influenced under this alternative.

Parcels 1 through 9, located in the Snoqualmie Pass AMA, would see a fire management program that would utilize minimum impact suppression methods in accordance with guidelines for reducing risks of large-scale disturbances, which means protecting the forest from stand replacement fires. Plans for wildfire suppression would emphasize maintaining late-successional habitat. During fire suppression activities, fire managers would consult with resource specialists (e.g., botanists, fisheries biologists, wildlife biologists, hydrologists) familiar with the area and with the standards and guidelines of the Snoqualmie Pass AMA Plan to assure that the objectives would be met and late-successional habitat damage minimized.

Parcel 10 would see fire suppression strategies that emphasized the protection of recreation facilities (e.g., trails) and values and other special values specific to the area. While the use of all fire suppression resources is appropriate in Parcel 10, the emphasis would be the protection of life and property while minimizing the physical disturbance of the resource.

Proposed Action and Alternatives to the Proposed Action

Fire management activities would be guided by the direction found in the Okanogan and Wenatchee National Forests’ Fire Management Plan. There would be very little difference in fire management resulting from a wilderness designation. The wilderness allocation would allow fire suppression utilizing appropriate suppression strategies and tactics that minimize physical disturbance to the wilderness resource. As conditions warrant, tools and techniques would be adjusted to meet the demand for the fire suppression action. One difference that could occur as a result of a wilderness designation is that favorable seasonal timing and fire location, along with weather conditions and the availability of suppression forces, could result in the potential for the reintroduction of natural fire. This could result in potentially larger, low intensity fires than might be the case outside wilderness where the emphasis would be to control fire.

Fire management activities within wilderness would be conducted in a manner compatible with overall wilderness management objectives, giving preference to using methods and equipment that cause the least alteration of the wilderness landscape, disturbance of the land surface, disturbance to visitor solitude, reduction of visibility during periods of visitor use, and adverse effect on other air quality related values. These effects would be common to all alternatives.

Other Related Efforts

There are no active projects that will directly affect the proposed action or decision to be made regarding this endeavor. Recent past projects that have led to this study include;

I-90 Land Exchange EIS (July 1999)

Plum Creek Checkerboard Access Project EIS (September 1998)

Snoqualmie Pass Adaptive Management Area Plan EIS (April 1997)

Environmental Justice

Executive Order 12898 (*Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, February 11, 1994), states: "To the greatest extent practicable and permitted by law... each Federal Agency shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations..." (Section 1-101). This policy applies equally to Native American programs (Section 6-606). After publication of E.O. 12989, the United States Department of Agriculture published its own Environmental Justice Implementation Strategy (March 24, 1995) to ensure that "environmental justice principles and initiatives are incorporated into Departmental programs, policies, planning, public participation processes, enforcement, and rulemaking." This document outlines the environmental strategy to be implemented by all USDA agencies, including the Forest Service and identifies a number of program initiatives that demonstrate USDA's commitment to environmental justice, as defined in E.O. 12898.

Public involvement for this project was through public notices, letters to known interests, the following jurisdictions were contacted; Roslyn, Cle Elum, South Cle Elum, Easton, Kittitas County Commissioners and Wenatchee Chamber of Commerce. Public meetings were held in Ellensburg, Snoqualmie Pass, and North Bend, Washington, the closest larger communities to the Project Area. Contacts were specifically made to the Yakama Nation, Muckleshoot Indian Tribe, and the Confederated Tribes of the Colville Reservation and local landowners, and local businesses.

There were no issues specific to Environmental Justice brought forward during or since the inception of this project. Comments received from the public during the review of this draft document will look for indications of Environmental Justice issues and if any are brought forward they will be addressed in the final document.

Irreversible and Irretrievable Commitments of Resources

Irreversible commitments apply primarily to the use of nonrenewable resources or to those factors, such as soil productivity, that are renewable only over long time periods. Irreversible also includes loss of future options. Irretrievable applies to losses of

production, harvest or use of renewable natural resources, such as timber. The production lost is irretrievable, but the action is not irreversible.

Wilderness designation would result in the change of a land management allocation that would further protect all resources on the lands reallocated. This decision is a Congressional decision and, as such, could be reversed by Congress. Therefore, there could be irretrievable but no irreversible commitments of resources proposed with this study.

Conflicts With Plans and Policies of Other Jurisdictions

There are two parcels, Parcel 6 and Parcel 7, which include private lands that are under the jurisdiction of Kittitas County. The reference is made in this study to the allocation of these lands should they become National Forest System lands. There is no intent to allocate these lands as long as they remain under private ownership.

There are no other known resource-related plans or policies of state and local governments with which this document would be inconsistent. Therefore, there are no known conflicts with plans and policies of other jurisdictions.

Effects on Consumers, Civil Rights, Minorities and Women

The effects of this study and the possible designation of lands as wilderness on any individual is determined by the expectations of the individual visiting the forest. There would be an effect on individuals who are cross-country, mechanized users of any lands designated as wilderness. There would also be a potential impact to groups of individuals who use these areas with respect to new limitations on party size. Any person who found specific areas or trails closed to a previously accepted use would feel negatively impacted. Conversely, individuals seeking areas where only non-mechanized use was permitted would find additional areas for a positive recreational, cultural or spiritual experience.

Prime Farmland, Rangeland, and Forest Land

There are no lands that qualify as prime land under the intent of the Secretary of Agriculture Memorandum 1827 for prime land.

Hazardous Materials

The lands in the Wilderness Study Area have not been commercially used except for helicopter logging and historic mining. The lands acquired from Plum Creek Timber Lands, LLC were evaluated during the I-90 Land Exchange (USDA 1999) and it was determined that no hazardous substances were present.

CHAPTER 4

CONSULTATION, COORDINATION, AND PREPARERS



CHAPTER 4 CONSULTATION, COORDINATION, AND PREPARERS

Luci Bull Rights of Way Specialist

Luci has 23 years of experience with the Forest Service, all on the Wenatchee National Forest. Her experience includes work in fire management, silviculture, and lands. Currently, she is the cost share and rights-of-way specialist for the Wenatchee National Forest. Responsibilities include administration of the Cost Share Program for the Wenatchee National Forest, a cooperative agreement program with major private landowners. Participation in the small tracts exchange and sales program on the Wenatchee National Forest, including appraisal waivers for real property and rights-of-way.

Susan L. Carter Environmental Coordinator Forest Service

Susan has a B.A. degree in Anthropology from the University of Washington. She has 26 years of experience with the Forest Service. Thirteen years were spent as a Forest Archaeologist, five years on the Mt. Baker-Snoqualmie National Forest and the remainder on the Wenatchee National Forest during which time she worked with numerous interdisciplinary teams, including as a team member on the Alpine Lakes Area Land Management Plan. The last thirteen years have been spent as a NEPA, appeals, litigation and FOIA coordinator on the Wenatchee National Forest, conducting environmental review, coordinating responses and the preparation of administrative records for appeals and lawsuits concerning Forest management decisions, and coordinating responses to requests made under the Freedom of Information Act. Susan was also concurrently involved for several years with the development of the Wenatchee National Forest Land and Resource Management Plan as an ID Team member, writer-editor, and appeals coordinator.

Tim Foss Wilderness and Trails Management

Tim has a Bachelor of Science in Forestry from Michigan Technological University. He has worked for the Forest Service for 27 years, 10 years experience in wilderness management and 24 years experience in NEPA document preparation. He has participated on EIS projects such as Easton ridge timber sale and major EA's such as Bear-Poatato and Tyee Ridge.

Powys Gadd

Heritage Program Manager and Forest Archaeologist, Okanogan and Wenatchee National Forest

Powys has a MA in Anthropology from the University of Denver. She has 15 years experience at the Forest Service. Her duties include: Heritage Program Manager and Forest Archaeologist, Zone Archaeologist, District Archaeologist and temporary NTE appointments cultural resource management to include budget, field survey, historic property documentation and evaluation; National Register nomination, data base management; artifact analysis; excavation; public archaeology; GIS; GPS; contract administration; site stabilization, restoration, rehabilitation, preservation and interpretation; American Indian consultation; program administration and employee supervision.

Gregory Graham

Geologist

Greg has a M.S., Geological Sciences, University of Kentucky, 1999 and B.S., Geosciences, University of Wisconsin-Milwaukee, 1995. He has two years experience working for state and federal agencies performing geologic mapping, earthquake and landslide hazard mapping, geophysical investigations, and evaluation of mineral resources.

Shan H. Madden

Timber, Cultural Resource Manager and Forest Check Cruiser –

Shan holds five AAS Degrees in forestry, hydrology, soils, wildlife and parks/recreation. She has worked for the Forest Service for 20 years. Shan has served on many ID teams, was team leader for watershed analysis and is a reviewer/editor of many large-scale project documents.

Patrick M. Murphy

GIS Analyst

Patrick has a Bachelor of Science in Forest Management from Washington State University, 1977. He has 12 years experience in GIS; 6 years on Wenatchee Forest Plan EIS Team; 7 years field experience.

Minkina Norris

Forestry Tech

Minkina is currently attending Central Washington University. She has worked for the Forest Service since August 2001.

Dan O'Connor
Graphic Design

Dan has 19 years experience with the Forest Service, for 13 years as Wenatchee National Forest Graphic Designer. He has also worked in fire crew, timber presale and wilderness ranger. He has participated in design and layout of Forest Plan as well as numerous other EIS, EA and planning documents. Other responsibilities include: design of forest publications (trail guides, maps, information brochures, posters, newspaper, etc.), design of interpretive signs, multimedia CDs and the forest website.

Floyd Rogalski
Natural Resource Planner/Project lead

Floyd has a Bachelor of Science in Botany from the University of Washington. He has 23 years experience with the Forest Service, primarily his areas of work include; planning, NEPA compliance, geographic information system analysis, land exchange and special use administration. He has participated on interdisciplinary teams for timber, access, mining and recreation projects. Floyd has worked on the following EIS projects; team leader - Snoqualmie Pass Adaptive Management Area EIS, Forest Service representative/team leader - Plum creek Checkerboard Access Project EIS, Forest Service representative/team leader – I-90 Land Exchange

Viva Worthington
Botanist

Viva has a BS in Botany from the University of Washington. She has 24 years experience with the Forest Service, on 5 different National Forests, and 8 years experience as a Botanist. She has participated on and led numerous environmental analysis teams for such projects as timber sales, ski area management, proposed trails, mining claims, noxious weed control and flooding projects.

Consultation and Coordination with Federal Agencies



United States Department of the Interior

FISH AND WILDLIFE SERVICE
Western Washington Fish and Wildlife Office
Wenatchee Office
215 Melody Lane
Wenatchee, Washington 98801
Phone: (509) 665-3508 Fax: (509) 665-3509

RECEIVED

JUN 11 2002

**CLE ELUM
Ranger District**

JUN 06 2002

Floyd Rogalski
Natural Resource Planner
Cle Elum Ranger District
803 West 2nd
Cle Elum, Washington 98922

Dear Mr. Rogalski,

This is in response to your March 28, 2002 letter regarding the I-90 Wilderness Study Area Project. The Forest Service is undertaking a legislated study to determine the suitability of lands identified on the Okanogan and Wenatchee National Forests for preservation as wilderness. This direction was outlined in the Omnibus Consolidated and Emergency Supplemental Appropriations for Fiscal year 1999 (House of Representatives -October 19, 1998), Title VI- Interstate 90 Land Exchange Act.

It is the U.S. Fish and Wildlife Service's understanding that the allocation of lands being reviewed under the suitability study are currently within an adaptive management area. If Congress chooses to preserve any of these lands as wilderness the current adaptive management plan allocation will be dropped and the selected lands will be managed under the wilderness allocation and the appropriate standards and guidelines of the wilderness area they are within or adjacent to. The Forest Service intends to complete an environmental impact statement (EIS) to assess the affects to trust resources as a result of the legislated study. The Forest does not intend to issue a Record of Decision but will use the results from the EIS to make a recommendation to Congress.

The Forest Service contends that the study is a non-ground disturbing action and as it entails, at the most, a change in land management allocation should not be subject to consultation under section 7(a)(2) of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 et seq.). In addition, you indicate that any subsequent ground disturbing actions will require site-specific analysis following the National Environmental Policy Act process. In your letter you request a reply indicating our concurrence or disagreement with this view.

The Service agrees that section 7 consultation is not necessary for this study. Consultation will be required on any subsequent actions. If you have questions or require clarification regarding this letter or the Endangered Species Act, please contact Jodi Bush, Wenatchee Office Manager at (509) 665-3507.

Sincerely,

Ken S. Berg, Manager
Western Washington Fish and Wildlife Office

cc: NMFS, Ellensburg (S.Gross)

CHAPTER 5

DISTRIBUTION



CHAPTER 5 DISTRIBUTION

Congressional Elected Officials

US Representatives Richard “Doc” Hastings

State Representative	Janea Holmquist
State Representative	Joyce Mulliken
State Senator	Harold Hochastter
County Commissioner	Bill Hinkle

Federal Agencies

Advisory Council on Historic Preservation, Lakewood, CO
Federal Aviation Administration, Renton, WA
Federal Energy Regulatory Commission, Washington, D.C.
Federal Highway Administration, San Francisco, CA
Federal Railroad Administration, Washington D.C.
General Services Administration, Washington, D.C.
Northwest Power Planning Council, Portland, OR
Surface Transportation Board, Washington, D.C.
US Department of Agriculture, Forest Service, Leavenworth, WA
US Department of Agriculture, Forest Service, North Bend, WA
US Department of Agriculture, Forest Service, Portland, OR
US Department of Agriculture, Animal & Plant Health Inspection Service, Riverdale, MD
US Department of Agriculture, National Agriculture Library, Beltsville, MD
US Department of Agriculture, National Resource Conservation Service, Washington, D.C.
US Department of Agriculture, Office of Equal Opportunity, Washington, D.C.
US Department of Agriculture, OPA Publication Stockroom, Washington, D.C.
US Department of Agriculture, Policy and Planning Division Office of Civil Rights, Washington, D.C.
US Department of Commerce, National Marine Fisheries Service, Portland, OR
US Department of Defense, US Army Engineers Division, Portland OR
US Department of Defense, US Naval Observatory, Washington, DC
US Department of Energy, Office of Environmental Compliance, Washington D.C.
US Department of Housing and Urban Development, Washington, D.C.
US Department of Housing and Urban Development, Seattle, WA
US Department of the Interior, Washington, D.C.
US Environmental Protection Agency, Seattle WA
US Environmental Protection Agency, Washington D.C.

State and Local Agencies

City of Cle Elum
City of South Cle Elum
City of Roslyn
Washington Department of Fish & Wildlife Service
Washington State Parks and Recreation Committee

American Indian Nations, Tribes, and Related Agencies

The Confederate Tribes of the Colville Reservation
Muckleshoot Indian Tribe
Yakama Nation

Public Libraries

Carpenter Memorial Library
Roslyn Library
City of Ellensburg Public Library
Central Washington University Library

Businesses

Decker & Sons Inc., White Swan, WA
Jim's Auto Repair, Snoqualmine, WA
Kent Kawaski, Kent, WA
Mountian Star Resort, Roslyn, WA
Rainier Honda, Spanaway, WA

Organizations

Back Country Bicycle Trails Club, Seattle, WA
Blue Ribbon Coalition, Idaho Falls, ID
Eastside Field, Chelan, WA
Kettle Range Conservation, Republic, WA
Leavenworth Audubon Adopt a Forest, Peshastin, WA
National Marine Fisheries Service, Portland, WA
Northwest Ecosystem Alliance, Chelan, WA
Northwest Motorcycle Committee, Issaquah, WA
Outriders Off-Road Club, Eatonville, WA
Pacific Northwest 4-Wheel Drive Association, Auburn, WA
Sand Fleas 4x4 Club, Glaston, OR
Teaway Trail Twister Snomobile Club, University Place, WA
The Lands Council, Spokane, WA
The Mountaineers, Seattle, WA
Washington State Snowmobile Association, Dayton, WA
Washinton Trail Association, Seattle, WA
Washington Wilderness Coalition, Seattle, WA

INDIVIDUALS

Garry Allard
Kevin & Tina Amsler
Daryl Anderson
Jeff Anderson
Mike Annis
Rein Attemann
Anthony Ave
Daneen Balcriak
J.E. & Gloria Baldi
Jim Bannister
Marc Bardsley
Tim Barnes
Allen Barton
Robert Basterrechea
Dave Bauman
Joseph Beeck
Linda Bellisario
Mark & Jan Berg
Sten & Linda Bergstrom
Ken Berndt
Ken Betts
Clint Bjormer
Martin Blackford
Gordon Blossom
Ben Boston
Brian Bowe
Debbie Bowen
Stephen Bradford
Duff Branin
Todd Branin
Howard Briggs
Arlene Brooks
Paul Brookshire
Carl Bryant
Ken Bryant
Victor & Carrole Buchanan
Hudson Burke
Harold Burnham
WM & Lana Burwell
Bill Byrd
Jeff Call
Louis Campbell
William Carson
Alan Carter

Jack Castle
Steve Caulde
Colleen Cawston
James Chapman
Rich & Sue Chase
Roger Clerf
Michelle Clymer
Lin Cole
Doug Conner
Adena Cook
Kathleen Cooper
Chris Coppock
Gerald Cosand
Greg & Carolyn Counts
Cross
Courtney Cunniff
Johnny Cunnigham
Kevin & Francine Curd
Johnny Curinetiace
Art Day
Devid Dekker
Roger Donahe
Patrick Donough
George Dousset
Stacey Dunkin
Arie Dyke
Jon Eckman
Jennifer Ekstrom
Richard Elkins
Autumn Espinoza
Brian Estey
Ted Eyler
Tim Fangman
Karen Fant
Robert Farr
Kevin & Marleene Farrell
Shawn Farrell
Colin Ferrin
Maureen Finerty
Bary Finnely
Daniel Fischer
Tom & Karen Fisher
John Fogo
Jason Forembgen
Cherryl Forseberg
Leonard Francies

George Frans
Pat Frantz
E. Freimuth
Chris & Cecelia Freytag
Amy Froembgen
Bob Frymark
Darryl Fuhman
Bill Fullfeton
Sam Furer
Jeff Gaddy
Len Gardner
Rodger Garrick
Steve George
Harry Georgeson
Daniel Gerber
David Gilbert
Terry Gillette
Bruce Gilsdorf
Greg Gilsdorf
Linda Glover
Patrick Goldsworth
Greg Graham
Ron Graham
Gene Gratzner
Paula Gratzner
Robert Greenman
Kathy Greenwood
Neil Gregg
Steve Gritterman
Sean Gross
John Grubbs
Jonathan Guzzo
Don Hagey
Greg Hanwood
Daue Harper
Gary & Delores Harris
Doug Hartley
Jan Hartung
Thomas Hartusm
Charles Hawkins
Liz Hill
Gerald Hollaway
John & Virginia Holmes
Ted & Laura Homes
Lester & Margaret Hopper
Dana, Karan, Andy, Marty
& William Hough
Benny & Dorothy Howe
Ellen Howe
Dan Huff
David Hughes
Stanley Humann
Dave & Marissa Hurwitz
Steve Illman
Troy Inaman
John & Karla Jackson
Don & Carol Jensen
Tony Jesari
Walter & Linda Jessen
Harvy & Kathryn Jester
Dan Johnson
Gary Johnson
Keith Johnson
Monica Johnson
Ronald Johnson
Jay Jonas
Wilfred Jonas
Brian Jones
Jack & Nancy Jones
Lyle Jones
Rod Jones
Peter Jorgenson
Rod Jovanovich
Marty Kaatz
Mary Kane
John Karaus
Allen Kastl
Phil Kazanjian
John Keates
Bob & Jean Keating
Kevin & Julie Kehrberg
Jo Kelly
Lynn Kirk
Lee Koger
Trevor Kostanich
Jon Larson
Steve Lautenslegen
Richard & Gina Laws
Jim Lee
Jennifer Leshner
Shanley Lett
Paula Levine

Hal Lindstrom	Earl & Sandra Nettnin
Charlie Little	Jerry Nettnin
Dale Lloyd	Diane Neuman
Curt Lohrman	Dan Olson
Dave Love	Greg Olson
Chuck Lumsden	Remko Oosterhof
Dick Lusink	Jason Orr
Douglas Lutterman	Melanie Ostergard
Jeff Mack	Doug Owens
Colleen Maguire	Ray Owens
Angela Marek	Paul Parker
Steve Martin	Donald Parks
T.J. Martin	Susan Patch
Carol Martinez	Thomas Payne
Alan Matson	Kristen Paynter
Mark Mattox	Brian Peterson
Dave Maulding	John Peterson
Miranda Maupin	Preston Peterson
Donald May	Jay Petty
Ryan McAllister	Jon Pixlee
Sara McArdle	E. Polenske
Jay McConnaughey	Larry Posey
Daniel McDonnel	Jim Putman
Jeff McGahan	Pearle Quigley
Dale McKee	Pat Rasmussen
ER McDonald	Sharon Ravenlort
Keith & Julie McGehe	Charles Raymond
Alfred McInturff	Keith Rein
Joe McIntruff	Andy & Lezlie Resor
John and Patty McKenna	Dan Revis
Matthew, Kathryn & Ryan Mead	Gordon Reykdall
Brent & Anita Mehlenbacher	Raymond, Sharon & Ryan Risdon
Arnold Miller	Ron & Susan Roberts
Mike Miller	Don Rochester
Chad Moen	Beth Rogers
Dennis Moen	Harry Romberg
Wayne Mohler	Terry Rossow
Dick Moore	Duane Rubasn
Lamar Moore	Gib Rushton
Kris Morgan	Angela Ruiz
Neil Morgan	Larry Sadler
R.D. Morgenthaler	Lonnie Salem, Sr.
Robert Muller	Bob Samac
Jim Myers	Janet Sankalis
Jerry & Tammy Nelson	James Scarborough
Stephany Nelson	Scott Schafer

Jeff Schieck
Christopher Schmaus
Don Scogings
Mike, Pam, Jeff & Justin Scott
Kim Sherrill
Deb Shulters
Stephen Simacek
George Sinclair
Preston Sleeper
Rick Snider
Mittie Snyder
Jon Soest
Jason & Jillian Sparks
Gary Squires
Robert Sranco
Marks Stadel
Mick Steinman
Jim & Sandy Sternod
Kevin & Cindy Summerfield
Wilff Sundstorm
Chris Sutton
Robert & Sandra Tampa
Liz Tanke
Andrew Taylor
Larry Taylor
R. Scott & Marlys Taylor
Shawn Terjeson
David Thompson
Dick Thornberry
Mark & Linda Tidball
Marty Tilford
Jammer Trummert
Michael Truong
C.P. Tuchscherer
Wayne Turner
Kent, Loren, Marge, Nick, &
Cory VanTress
Bryan Vaughn

Audrey Volkirch
Scott Voltz
Harvey Waldron III
Don & Alice Wanless
Tom Ward
Glen & Aileen Warren
Rolland Waters
Rick Weidman
Doug Welti
Fred & Chris Wemer
Ken & Bonnie Wemp
John Westran
Don Weyer
George Whynot
Donna Wietling
Mr. & Mrs. Wiff
Tim Wiggins
Nat Wilder
Breta Williams
Jason & Nicole Williams
Jeff Williams
Kenny Williams
Jim Willing
Harry Wilson
John & Carol Windh
Keith Windham
Dora Wolfe
Scott & Barbara Wooley
John Wright
Ronna Younie
Paul Ziemantz
Fred Zielasko
Brian Zolock

This Page Intentionally Left Blank

CHAPTER 6

LITERATURE CITED



CHAPTER 6 LITERATURE CITED

October 19, 1998

I-90 Land Exchange Act of 1998 (Title VI of the Omnibus Consolidated and Emergency Supplemental Act for Fiscal Year 1999) (See Appendix A)

1978

Vermont Yankee Nuclear Power Corp. v. NRDC 435 U.S. 519, 553

1986

City of Angoon v. Hodel (9th Circuit)

1980

Wisconsin Heritages, Inc. v. Harris, 490 F. Supp. 1334, 1338

May 4, 2001

Federal Register (Vol. 66, No.87, pg 22514)

Notice of Intent to Prepare a Legislative Environmental Impact statement

USDA Forest Service

Forest Service Handbook 1909.12, 7.32

Proposals Resulting from Special Studies

September 3, 1964

Public Law 88-577

Wilderness Act- A National Wilderness Preservation System

1976

Alpine Lakes Area Management Act

1990

Forest Plan (AMA ROD, pg 4)

Adaptive Management Area

1981

USDA Forest Service

Alpine Lakes Area Land Management Plan

1990

Wenatchee National Forest Land and Resource Management Plan, as amended by the Record of Decision for Amendments to Forest Service and Bureau of Land Management Planning Documents Within the Range of the Northern Spotted Owl (1994)

1994

Northwest Forest Plan- Amendment to the Wenatchee National Forest Land and Resource Management Plan

1997

Snoqualmie Pass Adaptive Management Area Plan

June 9, 1885

Yakima Indian Treaty

USDA Forest Service

Forest Service Handbook 1909.12,7.2

Provides direction for the evaluation of potential wilderness

1969

National Environmental Policy Act (NEPA)

Council on Environmental Quality Regulations

CFR Parts 1500-1508

July 1999

I-90 Land Exchange Act EIS

September 1998

Plum Creek Access Project EIS

April 1997

Snoqualmie Pass Adaptive Management Area Plan EIS

1978

American Indian Religious Freedom Act

1973

Endangered Species Act

1966

National Historic Preservation Act, as amended

Executive Order 12898

I-90 Land Exchange

Section 604(d) Public Law 105-277 (Chapter 2)

June 2002

Fire Management Plan for the Okanogan/Wenatchee National Forests

December 6, 1928

Power Site Classification No. 215 Washington No.42

July 31, 1947

Minerals Act

USDA Forest Service

FSM 2324.2 and 5142

Wilderness Fire Management

This Page Intentionally Left Blank

CHAPTER 7

GLOSSARY



CHAPTER 7 GLOSSARY TERMS USED

Glossary Terms

Alternative - One of several policies, plans, or projects under evaluation. The decision maker(s) eventually select(s) one of the alternatives for Implementation

Code of Federal Regulations (CFR) – A codification of the general and permanent rules published in the Federal Registry by the Executive department and agencies of the Federal Government.

GF (General Forest) – Land allocated to provide for long-term growth and production of commercially valuable wood products at a high level of investment in silvicultural practices.

National Environmental Policy Act (NEPA) – An act, passed by Congress in 1969, that declared a national Policy to encourage productive harmony between humans and their environment to promote efforts that will prevent or eliminate damage to the environment and biosphere and stimulate the health and welfare of humans to enrich the understanding of the ecological systems and natural resources important to the nation and to establish a Council on Environmental Quality. This act requires the preparation of environmental impact statements for federal actions that are determined to be of major significance.

RE-1 (Developed Research) - An allocation of land that provides developed recreation in an Urban to Semi-Primitive Recreation Opportunity Spectrum (ROS) setting.

RE-2a (Dispersed Recreation, Unroaded, Motorized) – An allocation of land that includes areas having existing or potential trails for motorbikes, hikers and horseback riders.

Record of Decision (ROD) – A document, based on information disclosed in the Final Environmental Impact Statement that identifies the alternatives chosen, mitigation, and monitoring measures to be implemented, and other information relative to the Decision.

Riparian Reserves (RR) – Portions of watersheds where riparian-dependent resources receive primary emphasis and where special standards and guide lines apply.

SI-1 (Classified Special Areas- Scenic and/or Recreation)- An allocation of land that is managed for recreation use, substantially in their natural conditions.

ST-1 (Scenic Travel – Retention)- An allocation of land that retains or enhances the viewing and recreation experiences along scenic travel routes.

ST-2 (Scenic Travel – Partial Retention)- An allocation of land that provides a near natural appearing foreground and middleground along scenic travel corridors.

Wilderness – Area designated by Congressional action under the 1964 Wilderness Act; underdeveloped Federal land retaining its primeval character and influence without improvements or human habitation.

WS-1 (Scenic River)- An allocation of land that preserves the Scenic River characteristics of the river and surrounding area pending a decision on its legislative designation as a part of the Wild and Scenic Rivers System.

WS-2 (Recreational River)- An allocation of land that preserves the Recreational River characteristics of the river and surrounding area pending a decision on its legislative designation as part of the Wild and Scenic Rivers System.

WS-3 (Wild River)- An allocation of land that preserves the Wild River characteristics of the river and surrounding area pending a decision on its legislative designation as part of the Wild and Scenic Rivers System.

This Page Intentionally Left Blank

CHAPTER 8

INDEX



CHAPTER 8 INDEX

- 4WD, 2-64, 3-28
- Access, 1-18, 2-64, 3-3, 3-13, 3-36, 4-2, 6-2, A-7, A-8, A-9
- Allocation, iii, ix, xi, xiii, xix, 1-4, 1-7, 1-10, 1-16, 2-1, 2-4, 2-58, 2-64, 3-12, 3-13, 3-14, 3-15, 3-16, 3-17, 3-18, 3-21, 3-22, 3-23, 3-25, 3-27, 3-34, 3-35, 3-37, 7-1, 7-2
- Alpine Lakes Wilderness, i, ii, iii, x, xii, xiii, xv, xvii, xx, 1-1, 1-3, 1-4, 1-7, 1-17, 2-2, 2-4, 2-5, 2-30, 2-57, 2-59, 2-62, 2-65, 3-1, 3-4, 3-26, 3-28, 3-30, 3-32, A-1, A-4, A-10, B-8
- Alternative(s), ii, i, v, vi, viii, xii, xiii, xiv, xv, xvi, xix, xx, 1-1, 1-2, 1-12, 1-14, 1-16, 2-1, 2-2, 2-3, 2-4, 2-30, 2-32, 2-36, 2-41, 2-43, 2-45, 2-49, 2-53, 2-54, 2-57, 2-58, 2-64, 3-1, 3-4, 3-5, 3-6, 3-7, 3-8, 3-9, 3-13, 3-14, 3-25, 3-26, 3-27, 3-30, 3-34, 3-35, 7-1, A-4
- AMA, 1, xi, xiii, xvi, xviii, xix, xxii, 1-3, 1-10, 2-1, 2-4, 2-51, 2-68, 3-12, 3-13, 3-14, 3-15, 3-16, 3-17, 3-18, 3-19, 3-20, 3-21, 3-22, 3-24, 3-25, 3-26, 3-27, 3-35, 6-1
- Availability, iii, ii, v, vi, vii, xii, 1-5, 1-13, 1-14, 1-17, 2-2, 2-60, 2-62, 3-3, 3-4, 3-35, A-9
- Boundary(s), i, iii, vi, vii, xii, xiii, xiv, xv, xvi, xvii, xix, xx, xxi, 1-1, 1-3, 1-4, 1-7, 1-13, 1-14, 1-15, 2-2, 2-3, 2-4, 2-6, 2-8, 2-10, 2-12, 2-16, 2-18, 2-19, 2-20, 2-24, 2-26, 2-28, 2-30, 2-32, 2-34, 2-36, 2-37, 2-39, 2-41, 2-43, 2-45, 2-49, 2-51, 2-52, 2-52, 2-53, 2-54, 2-55, 2-56, 2-57, 2-59, 2-63, 2-64, 2-66, 3-1, 3-2, 3-4, 3-5, 3-6, 3-7, 3-8, 3-9, 3-10, 3-11, 3-12, 3-26, 3-28, 3-30, 3-31, A-1, A-2, A-3, A-7, A-11, B-2, B-3, B-4, B-5, B-6, B-7
- Capability, v, vi, xii, 1-13, 1-14, 2-2, 2-51, 2-57, 2-58, 2-59, 3-3, 3-4, 3-7, 3-8
- Claims, viii, ix, xx, xxi, 1-16, 2-45, 2-52, 2-54, 2-64, 2-65, 2-66, 2-67, 3-30, 3-31, 4-2, B-2, B-3, B-4, B-5, B-6, B-7
- DEIS, 1, 2-67
- Draft Environmental Impact Statement, 1-2. See DEIS
- Ecological, v, vii, xxiii, 1-3, 1-12, 1-14, 2-1, 2-57, 2-69, 3-4, 3-25, 7-1
- Ecosystem, vii, xviii, 1-15, 2-60, 3-5, 3-12, 3-14, 3-15, 3-23, 5-2, A-2
- Educational, v, vii, 1-3, 1-12, 1-14, 2-57, 3-4, 3-27
- EIS, 1, v, ix, xiii, 1-1, 1-18, 2-4, 3-12, 3-35, 3-36, 4-0, 4-1, 4-2, 6-2
- Environment, v, 1-2, 1-13, 2-1, 3-1, 3-4, 3-9, 3-12, 3-15, 3-26, 3-29, 3-32, 3-34, 7-1, B-1, B-4, B-8
- Environmental Impact statement. See EIS
- Environmental Justice, 3-36
- Fire, 1, ix, xix, xxii, xxiii, 1-17, 2-68, 2-69, 3-3, 3-34, 3-35, 4-0, 4-2, 6-2, 6-3
- Fire Management, 1, xxii, xxiii, 2-68, 2-69, 3-34, 3-35, 6-2, 6-3
- Forest, 1, ii, i, ii, iii, v, xii, xiii, xxii, xxiii, 1-1, 1-2, 1-3, 1-4, 1-6, 1-7, 1-12, 1-13, 1-17, 1-18, 2-1, 2-2, 2-4, 2-5, 2-18, 2-43, 2-45, 2-52, 2-68, 2-69, 3-1, 3-3, 3-4, 3-5, 3-12, 3-13, 3-14, 3-15, 3-26, 3-32, 3-33, 3-34, 3-36, 3-37, 4-0, 4-1, 4-2, 5-1, 5-2, 6-1, 6-2, 6-3, 7-1, A-1, A-2, A-3, A-4, A-5, A-7, A-8, A-9, A-10, A-11, B-5
- Geological, 1, v, vii, 1-3, 1-12, 1-14, 2-57, 3-4, 4-1, B-1, B-5
- Guide, vi, xix, 1-14, 2-62, 7-1
- Heritage, ix, xxi, 1-16, 1-17, 2-67, 3-32, 3-33, 4-1
- Heritage Resource Management, 3-32, 3-33
- Hiker, xi, 1-10, 1-11, 2-8, 2-51, 2-52, 2-52, 2-53, 2-54, 2-55, 2-55, 2-64, 3-4, 3-28
- Historic, ix, xiv, xvi, 1-16, 2-28, 2-49, 2-51, 2-52, 2-53, 2-54, 2-55, 2-55, 2-67, 3-32, 3-33, 3-34, 3-37, 4-1, 5-1, 6-2, A-8, B-3, B-4, B-6, B-7
- Horse, xi, 1-10, 1-11, 2-52

- Indicator, vii, viii, ix, 1-15, 1-16, 2-3, 2-51, 2-55, 2-56, 2-57, 2-58, 2-59, 2-60, 2-61, 2-62, 2-63, 2-64, 2-65, 2-67, 2-68, 2-69
- Issue(s), i, iv, v, vi, vii, viii, ix, xii, xiv, xvi, 1-1, 1-2, 1-11, 1-12, 1-13, 1-14, 1-15, 1-16, 1-17, 2-2, 2-3, 2-4, 2-30, 2-51, 2-67, 3-1, 3-3, 3-4, 3-8, 3-12, 3-15, 3-25, 3-28, 3-36
- Logging, xvi, 2-12, 2-51, 2-52, 2-52, 2-54, 2-54, 3-5, 3-6, 3-7, 3-37
- Management, 1, ii, iii, vii, viii, ix, xiii, xvi, xvii, xviii, xx, xxi, xxii, xxiii, 1-3, 1-4, 1-7, 1-12, 1-15, 1-16, 1-17, 1-18, 2-1, 2-4, 2-51, 2-55, 2-58, 2-58, 2-61, 2-65, 2-67, 2-67, 2-68, 2-68, 2-69, 3-1, 3-3, 3-5, 3-6, 3-7, 3-8, 3-9, 3-10, 3-11, 3-12, 3-13, 3-14, 3-15, 3-16, 3-18, 3-21, 3-22, 3-23, 3-24, 3-25, 3-27, 3-28, 3-30, 3-31, 3-34, 3-35, 3-36, 3-37, 4-0, 4-1, 4-2, 6-1, 6-2, 6-3, A-1, A-2, A-5, A-7, A-10, A-11
- Mineral(s), viii, ix, xiii, xvi, xix, xx, xxi, xxii, 1-16, 2-12, 2-36, 2-45, 2-51, 2-52, 2-54, 2-56, 2-62, 2-64, 2-65, 2-66, 2-66, 2-67, 2-67, 3-3, 3-28, 3-29, 3-30, 3-31, 3-32, 4-1, A-8, A-10, A-11, B-1, B-2, B-3, B-4, B-5, B-6, B-7, B-8, B-9
- Mining, 1, viii, xiv, xvi, xx, xxi, xxii, 1-16, 2-28, 2-45, 2-49, 2-51, 2-52, 2-53, 2-54, 2-55, 2-55, 2-63, 2-64, 2-65, 2-66, 2-66, 2-67, 2-67, 3-3, 3-4, 3-28, 3-30, 3-31, 3-32, 3-33, 3-37, 4-2, A-8, A-10, A-11, B-2, B-3, B-4, B-5, B-7
- Motorized, 1, vii, viii, xi, xvii, xix, 1-11, 1-14, 1-15, 2-45, 2-53, 2-54, 2-57, 2-59, 2-63, 2-64, 3-8, 3-9, 3-15, 3-23, 3-24, 3-26, 3-27, 3-28, 7-1
- Mountain bikes, xix, xx, 2-36, 2-43, 2-52, 2-62, 2-63, 3-6, 3-27, 3-28
- Native Americans, 3-3
- Need, iii, i, v, vi, vii, xii, 1-1, 1-13, 1-14, 1-15, 2-2, 2-3, 3-3, 3-9
- No Action, xii, xiii, xvi, xvii, xviii, xix, xx, xxii, 2-1, 2-4, 2-51, 2-53, 2-54, 2-55, 2-57, 2-58, 2-59, 2-60, 2-62, 2-68, 3-5, 3-9, 3-13, 3-14, 3-15, 3-16, 3-18, 3-21, 3-23, 3-24, 3-26, 3-28, 3-30, 3-33, 3-34
- Outfitter, viii, xix, 1-15, 2-62, 3-26, 3-27
- Parcel(s), i, ii, v, i, iii, vi, viii, ix, xi, xii, xiii, xiv, xv, xvi, xvii, xviii, xix, xx, xxi, xxii, 1-1, 1-3, 1-7, 1-10, 1-11, 1-14, 1-16, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 2-7, 2-8, 2-9, 2-10, 2-11, 2-12, 2-13, 2-16, 2-17, 2-18, 2-19, 2-20, 2-21, 2-22, 2-23, 2-24, 2-25, 2-26, 2-27, 2-28, 2-29, 2-30, 2-31, 2-32, 2-33, 2-34, 2-35, 2-36, 2-38, 2-39, 2-40, 2-41, 2-42, 2-43, 2-44, 2-45, 2-46, 2-47, 2-48, 2-49, 2-50, 2-51, 2-52, 2-52, 2-53, 2-54, 2-55, 2-55, 2-56, 2-56, 2-57, 2-57, 2-58, 2-58, 2-59, 2-61, 2-62, 2-63, 2-63, 2-64, 2-65, 2-66, 2-66, 2-67, 2-67, 2-68, 3-1, 3-2, 3-3, 3-4, 3-5, 3-6, 3-7, 3-8, 3-9, 3-10, 3-11, 3-12, 3-13, 3-14, 3-15, 3-16, 3-17, 3-18, 3-19, 3-20, 3-21, 3-22, 3-22, 3-23, 3-24, 3-25, 3-26, 3-27, 3-28, 3-29, 3-30, 3-31, 3-32, 3-33, 3-35, 3-37, A-1, A-2, A-5, A-6, A-9, B-2, B-3, B-4, B-5, B-6, B-7, B-8, B-9
- Permitted, viii, ix, xix, 1-15, 1-17, 2-52, 2-62, 2-68, 2-69, 3-23, 3-27, 3-28, 3-29, 3-36, 3-37
- Preservation, i, ii, v, vii, xiii, 1-1, 1-3, 1-7, 1-12, 1-14, 2-5, 2-57, 3-4, 3-14, 3-21, 3-25, 3-34, 4-1, 5-1, 6-1, 6-2, A-8, A-10
- Proposed Action, iii, i, ii, iv, v, xii, xiii, xiv, xvi, xvii, xviii, xix, xx, xxi, xxiii, 1-1, 1-2, 1-7, 1-10, 1-11, 1-12, 1-17, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 2-8, 2-10, 2-12, 2-16, 2-18, 2-20, 2-24, 2-26, 2-28, 2-30, 2-43, 2-49, 2-53, 2-54, 2-55, 2-57, 2-58, 2-59, 2-61, 2-62, 2-63, 2-64, 2-66, 2-69, 3-5, 3-6, 3-9, 3-14, 3-25, 3-27, 3-30, 3-31, 3-33, 3-35
- Public Involvement, i, iii, iv, v, vi, viii, xii, xiv, 1-1, 1-2, 1-11, 1-13, 1-14, 1-16, 2-2, 2-4, 2-30
- Recreation, 1, v, vi, vii, viii, xi, xvii, xix, 1-3, 1-11, 1-12, 1-13, 1-14, 1-15, 2-1, 2-55, 2-56, 2-56, 2-57, 2-57, 2-62, 2-63, 3-3, 3-4, 3-5, 3-8, 3-15, 3-16, 3-23, 3-25, 3-26, 3-27, 3-28, 3-35, 4-1, 4-2, 5-2, 7-1, A-1, A-2, A-11
- Riparian, 1, viii, xviii, xxiii, 1-15, 2-1, 2-53, 2-61, 2-69, 3-7, 3-12, 3-13, 3-15, 3-24, 3-25, 7-1, A-2

- Scenic, 1, v, vii, 1-3, 1-7, 1-12, 1-14, 1-15, 2-57, 3-4, 3-5, 3-12, 3-16, 3-18, 3-21, 3-22, 3-26, 7-1, 7-2, A-9
- Scientific, v, vii, 1-3, 1-12, 1-14, 2-57, 3-1, 3-4, 3-6, 3-14, 3-27, A-11
- Snoqualmie Pass Adaptive Management Area. See AMA
- Snowmobile, 2-57, 3-23, 3-26, 3-27, 3-29, 5-2
- Solitude, v, vi, vii, xiv, xvi, xvii, 1-3, 1-12, 1-13, 1-14, 2-30, 2-49, 2-55, 2-56, 2-56, 2-57, 2-57, 3-4, 3-5, 3-6, 3-8, 3-14, 3-35
- Species, v, 1-4, 1-13, 3-2, 3-13, 3-14, 6-2, A-1, A-2, A-8, A-11
- Stream, viii, xi, xvii, xviii, 1-10, 1-15, 2-6, 2-24, 2-32, 2-59, 2-60, 2-61, 3-10, 3-12, 3-13, 3-24, 3-25, A-2, B-2, B-3, B-4, B-6
- Trail, xiii, xv, xvi, xx, 2-8, 2-12, 2-18, 2-30, 2-36, 2-39, 2-41, 2-43, 2-49, 2-51, 2-52, 2-52, 2-53, 2-54, 2-55, 2-64, 3-3, 3-4, 3-7, 3-8, 3-10, 3-11, 3-22, 3-27, 3-28, 4-2, 5-2, A-1, A-2, A-10
- Upland, viii, xviii, 1-15, 2-61, 3-3, 3-12
- Uses, v, vii, viii, xv, xvi, xvii, xix, 1-13, 1-14, 1-15, 2-1, 2-36, 2-43, 2-45, 2-49, 2-55, 2-59, 2-62, 3-3, 3-8, 3-9, 3-11, 3-12, 3-16, 3-18, 3-25, 3-26, 3-27, 3-28, 3-29, A-10, A-11
- Value, v, vi, vii, xxi, 1-3, 1-12, 1-13, 1-14, 2-57, 2-66, 3-4, 3-13, 3-26, 3-31, A-4, A-5, A-6, A-9, A-10, B-8, B-9
- Vegetation, xxiii, 2-56, 2-57, 2-69, 3-2, 3-7, 3-13, 3-15, 3-18, 3-25
- Wilderness, i, iii, i, ii, iii, iv, v, vi, x, xii, xiii, xv, xvi, xvii, xx, xxiii, 1-1, 1-3, 1-4, 1-5, 1-6, 1-7, 1-9, 1-10, 1-11, 1-12, 1-14, 1-17, 2-1, 2-2, 2-3, 2-4, 2-5, 2-30, 2-51, 2-57, 2-59, 2-62, 2-65, 2-69, 2-1, 3-2, 3-4, 3-5, 3-9, 3-12, 3-13, 3-24, 3-25, 3-26, 3-28, 3-30, 3-32, 3-34, 3-37, 4-0, 5-2, 6-1, 6-3, 7-2, A-1, A-4, A-10, B-8

**APPENDIX A TITLE VI—INTERSTATE 90 LAND
EXCHANGE ACT OF 1998, SECTION 610**



CONFERENCE REPORT ON H.R. 4328, MAKING OMNIBUS CONSOLIDATED AND EMERGENCY SUPPLEMENTAL APPROPRIATIONS FOR FISCAL YEAR 1999 (House of Representatives - October 19, 1998)

TITLE VI--INTERSTATE 90 LAND EXCHANGE ACT

SEC. 601. SHORT TITLE.

This Act may be cited as the 'Interstate 90 Land Exchange Act of 1998'.

SEC. 602. FINDINGS AND PURPOSE.

(a) **Findings:** Congress finds that--

- (1) certain parcels of private land located in central and southwest Washington are intermingled with National Forest System land owned by the United States and administered by the Secretary of Agriculture as parts of the Mt. Baker-Snoqualmie National Forest, Wenatchee National Forest, and Gifford Pinchot National Forest;
- (2) the private land surface estate and some subsurface is owned by the Plum Creek Timber Company, L.P. in an intermingled checkerboard pattern, with the United States or Plum Creek owning alternate square mile sections of land or fractions of square mile sections;
- (3) the checkerboard land ownership pattern in the area has frustrated sound and efficient land management on both private and National Forest lands by complicating fish and wildlife habitat management, watershed protection, recreation use, road construction and timber harvest, boundary administration, and protection and management of threatened and endangered species and old growth forest habitat;
- (4) acquisition by the United States of certain parcels of land that have been offered by Plum Creek for addition to the Mt. Baker-Snoqualmie National Forest and Wenatchee National Forest will serve important public objectives, including—
 - (A) enhancement of public access, aesthetics and recreation opportunities within or near areas of very heavy public recreational use including--
 - (i) the Alpine Lakes Wilderness Area;
 - (ii) the Pacific Crest Trail;
 - (iii) Snoqualmie Pass;
 - (iv) Cle Elum Lake, Kachess Lake and Keechulus Lake; and
 - (v) other popular recreation areas along the Interstate 90 corridor east of the Seattle-Tacoma Metropolitan Area;
 - (B) protection and enhancement of old growth forests and habitat for threatened, endangered and sensitive species, including a net gain of approximately 28,500 acres of habitat for the northern spotted owl;

- (C) consolidation of National Forest holdings for more efficient administration and to meet a broad array of ecosystem protection and other public land management goals, including net public gains of approximately 283 miles of stream ownership, 14 miles of the route of the Pacific Crest Trail, 20,000 acres of unroaded land, and 7,360 acres of riparian land; and
- (D) a significant reduction in administrative costs to the United States through—
 - (i) consolidation of Federal land holdings for more efficient land management and planning; .
 - (ii) elimination of approximately 300 miles of boundary identification and posting;
 - (iii) reduced right-of-way, special use, and other permit processing and issuance for roads and other facilities on National Forest System land; and
 - (iv) other administrative cost savings;
- (5) Plum Creek has selected certain parcels of National Forest System land that are logical for consolidation into Plum Creek ownership utilizing a land exchange because the parcels—
 - (A) are intermingled with parcels owned by Plum Creek; and
 - (B) (i) are generally located in less environmentally sensitive areas than the Plum Creek offered land; and
 - (ii) have lower public recreation and other public values than the Plum Creek offered land;
- (6) time is of the essence in consummating a land exchange because delays may force Plum Creek to road or log the offered land and thereby diminish the public values for which the offered land is to be acquired; and
- (7) it is in the public interest to complete the land exchange at the earliest practicable date so that the offered land can be acquired and preserved by the United States for permanent public management, use, and enjoyment.
 - (b) **Purpose:** It is the purpose of this Act to further the public interest by authorizing, directing, facilitating, and expediting the consummation of the Interstate 90 land exchange so as to ensure that the offered land is expeditiously acquired for permanent public use and enjoyment.

SEC. 603. DEFINITIONS.

In this Act:

- (1) **Offered land:** The term `offered land' means all right, title and interest, including the surface and subsurface interests, in land described in section 604(a) to be conveyed into the public ownership of the United States under this Act.

(2) **Plum creek:** The term `Plum Creek' means Plum Creek Timber Company, L.P., a Delaware Limited Partnership, or its successors, heirs, or assigns.

(3) **Secretary:** The term `Secretary' means the Secretary of Agriculture.

(4) **Selected land:** The term `selected land' means all right, title and interest, including the surface and subsurface interests, unless Plum Creek agrees otherwise, in land described in section 604(b) to be conveyed into the private ownership of Plum Creek under this Act.

(1)

SEC. 604. LAND EXCHANGE.

(a) **Condition and Conveyance of Offered Land:** The exchange directed by this Act shall be consummated if Plum Creek conveys title acceptable to the Secretary in and to the lands described in subsection (d), the offered lands described in paragraphs (1) and (2), or, if necessary, the lands and interests in land as provided in subsection (c).

(1) Certain land comprising approximately 8,808 acres and located within the exterior boundaries of the Mt. Baker-Snoqualmie National Forest, Washington, as generally depicted on a map entitled `Interstate 90 Land Exchange', dated October 1998; and

(2) Certain land comprising approximately 53,576 acres and located within or adjacent to the exterior boundaries of the Wenatchee National Forest, Washington, as generally depicted on a map entitled `Interstate 90 Land Exchange', dated October 1998.

(b) **Conveyance of Selected Land by the United States:** Upon receipt of acceptable title to the offered land, and lands and interests described in subsection (d), the Secretary shall simultaneously convey to Plum Creek all right, title and interest of the United States, subject to valid existing rights, in and to the following selected land:

(1) Certain land administered, as of the date of enactment of this Act, by the Secretary of Agriculture as part of the Mt. Baker-Snoqualmie National Forest, Washington, and comprising approximately 5,697 acres, as generally depicted on a map entitled `Interstate 90 Land Exchange', dated October 1998.

(2) Certain land administered, as of the date of enactment of this Act, by the Secretary of Agriculture as part of the Wenatchee National Forest, Washington, and comprising approximately 5,197 acres, as generally depicted on a map entitled `Interstate 90 Land Exchange', dated October 1998.

(3) Certain land administered, as of the date of enactment of this Act, by the Secretary of Agriculture as part of the Gifford Pinchot National Forest, Washington, and comprising approximately 5,601 acres, as generally depicted on a map entitled `Interstate 90 Land Exchange', dated October 1998.

(c) **Offered Land Title:** If Plum Creek conveys title acceptable to the Secretary to less than all rights and interests in the offered lands, but conveys title acceptable to the Secretary to all rights and interests that Plum Creek owns and acquires under previous agreements in the lands described in subsection (d), the offered lands, and lands on the east and west sides of

Cle Elum Lake, comprising approximately 252 acres, described as Township 21 North, Range 14 East, Section 5, and Lost Lake lands comprising approximately 272 acres, described as Township 21 North, Range 11 East, W 1/2 of Section 3, the Secretary shall convey to Plum Creek all rights and interest in the selected land after the values of the offered and selected land are equalized. The values of the offered and selected lands shall be equalized as provided in section 605(c)-(e) without regard to the value of lands described in subsection (d) or the Cle Elum or Lost Lake lands.

(d) **Land Donation:** Plum Creek agrees that it will convey, in the form of a voluntary donation, title acceptable to the Secretary in and to lands and interests in lands comprising approximately 320 acres, described as Township 22 North, Range 11 East, S 1/2 of Section 13, if Plum Creek conveys title to lands and interests pursuant to subsections (a) or (c). It is the intention of Congress that any portion of such donated land which the Secretary determines qualifies as wilderness be, upon the date of its acquisition by the United States, incorporated in and managed as part of the adjacent Alpine Lakes Wilderness (as designated by Public Law 94-357) in accordance with section 6(a) of the Wilderness Act (16 U.S.C. 1135).

SEC. 605. EXCHANGE VALUATION, APPRAISALS AND EQUALIZATION.

(a) Equal Value Exchange:

(1) **In general:** The values of the offered and selected land--

(A) shall be equal; or

(B) if the values are not equal, shall be equalized as set forth in subsections (c)-(e).

(2) **Appraisal assumption:** In order to ensure the equitable and uniform appraisal of both the offered and selected land directed for exchange by this Act, all appraisals shall determine the highest and best use of the offered and selected land in accordance with applicable provisions of the Washington State Forest Practices Act and rules and regulations thereunder, including alternative measures for protecting critical habitat pursuant to a habitat conservation plan as provided in Washington Administrative Code 222-16-080-(6).

(3) **Appraisals:** The values of the offered land and selected land shall be determined by appraisals utilizing nationally recognized appraisal standards, including applicable provisions of the Uniform Appraisal Standards for Federal Land Acquisitions (1992), the Uniform Standards of Professional Appraisal Practice, and section 206(d) of the Federal Land Policy and Management Act of 1976, as amended (43 U.S.C. 1716(d)).

(4) **Approval by the Secretary:** The appraisals, if not already completed by the date of enactment of this Act, shall be completed and submitted to the Secretary for approval not later than 180 days after the date of enactment of this Act: *Provided*, That all timber harvest cease no later than November 30, 1998, except for any cleanup, reforestation, or other post-harvest work which cannot be completed by November 30, 1998. A comprehensive summary of the appraisal consistent with 7 CFR Part 1.11 shall be made available for public inspection in the Office of the Supervisor, Wenatchee National Forest, not less than 30 days nor more than 45

days prior to the exchange of deeds.

(b) **Appraisal Period:** After the final appraised values of the offered and selected lands, or any portion of the land, have been approved by the Secretary or otherwise determined under section 206(d) of the Federal Land Policy and Management Act (43 U.S.C. 1716(d)), the value shall not be reappraised or updated before consummation of the land exchange, except to account for any timber harvest that might occur after completion of the final appraisal, or for any adjustments under section 606(g).

(c) **Equalization if Surplus of Offered Land:**

(1) **In general:** If the final appraised value of the offered land or lands and interest in lands conveyed by Plum Creek under section 604(c), except for the Cle Elum and Lost Lake lands, exceeds the final appraised value of the selected land, Plum Creek shall delete offered land parcels from the exchange in the exact order each land Section (or offered portion thereof) is listed in paragraph until the values are approximately equal.

(2) **Order of deletion:** Offered land deletions under paragraph (1) shall be made in the following order:

(A) Township 22 North, Range 13 East, Section 31, Willamette Meridian;

(B) Township 21 North, Range 11 East, Section 35;

(C) Township 19 North, Range 11 East, Section 35;

(D) Township 19 North, Range 12 East, Section 1;

(E) Township 20 North, Range 11 East, Sections 1 and 13;

(F) Township 19 North, Range 12 East, Section 15;

(G) Township 20, North Range 11 East, Section 11;

(H) Township 21 North, Range 11 East, Section 27;

(I) Township 19 North, Range 13 East, Sections 27 and 15;

(J) Township 21 North, Range 11 East, Sections 21 and 25;

(K) Township 19 North, Range 11 East, Section 23;

(L) Township 19 North, Range 13 East, Sections 21, 9 and 35;

(M) Township 20 North, Range 12 East, Sections 35 and 27;

(N) Township 19 North, Range 12 East, Section 11;

(O) Township 21 North, Range 11 East, Section 17;

(P) Township 21 North, Range 11 East, Section 5;

- (Q) Township 18 North, Range 15 East, Section 3;
- (R) Township 19 North, Range 14 East, Section 25;
- (S) Township 19 North, Range 15 East, Sections 29 and 31; and
- (T) Township 19 North, Range 13 East, Section 7.

(d) Equalization if Surplus of Selected Land:

(1) **In general:** If the final appraised value of the selected land exceeds the final appraised value of the offered land or lands and interest in lands conveyed by Plum Creek under section 604(c), except for the Cle Elum and Lost Lake lands, the Secretary shall delete selected land parcels from the exchange in the exact order each land Section (or selected portion thereof) is listed in paragraph (2) until the values are approximately equal.

(2) **Order of deletion:** Selected land deletions under paragraph 1 shall be made in the following listed order:

- (A) the portion of Township 20 North, Range 11 East, Section 30 lying east of the thread of Sawmill Creek;
- (B) the portion of Township 19 North, Range 11 East, Section 6 lying east of the thread of Sawmill Creek;
- (C) Township 20 North, Range 11 East, Section 32;
- (D) Township 21 North, Range 14 East, Sections 28, 22, 36, 26 and 16;
- (E) Township 18 North, Range 15 East, Sections 13, 12 and 2;
- (F) Township 18 North, Range 15 East, Section 1; and
- (G) Township 18 North, Range 15 East, Section 17, Willamette Meridian.

(e) Once the values of the offered and selected lands are equalized to the maximum extent practicable under subsections (c) or (d), any cash equalization balance due the Secretary or Plum Creek shall be made through cash equalization payments under subsection 206(b) of the Federal Land Policy and Management Act of 1976 (43 U.S.C. 1716(b)).

(f) **Use of Proceeds by the Secretary:** The amount of any cash equalization payment received by the Secretary under this section shall be retained by the Secretary and shall be used by the Secretary until fully expended to purchase land from willing sellers in the State of Washington for addition to the National Forest System.

SEC. 606. MISCELLANEOUS PROVISIONS.

(a) Status of Lands After Exchange:

(1) **Land acquired by the secretary:**

(A) **In general:** Land acquired by the Secretary under this Act shall become part of the Mt. Baker-Snoqualmie, Gifford Pinchot or Wenatchee National Forests, as appropriate.

(B) **Modification of boundaries:**

- (I) If any land acquired by the Secretary lies outside the exterior boundaries of the national forests identified in subparagraph (A), the boundaries of the appropriate national forest are hereby modified to include such land.
- (II) Nothing in this section shall limit the authority of the Secretary to adjust the boundaries of such National Forests pursuant to section 11 of the Act of March 1, 1911 (commonly known as the 'Weeks Act').
- (III) For purposes of section 7 of the Land and Water Conservation Fund Act of 1965 (16 U.S.C. 4601-9) the boundaries of Mt. Baker-Snoqualmie, Wenatchee and Gifford Pinchot as modified by this Act shall be considered to be the boundaries of such forests as of January 1, 1965.

(C) **Management:** Land acquired by the Secretary under this Act shall have the status of lands acquired under the Act of March 1, 1911 and shall be managed in accordance with the laws, rules, regulations and guidelines applicable to the National Forest System.

(2) **Land acquired by plum creek:** Land acquired by Plum Creek under this Act shall become private land for all purposes of law, unless the deed by which conveyance is made to Plum Creek contains a specific reservation.

(b) **Post-Exchange Access to Land:**

- (1) **Finding:** Congress finds that Plum Creek and the Secretary should have adequate and timely post-exchange access to lands acquired pursuant to this Act over existing primary, secondary, or other national forest system roads as may be needed.
- (2) **Intention:** It is the intention of Congress that Plum Creek have access to all lands it acquires under this Act, and when such access requires construction of new roads, it shall be granted in compliance with the National Environmental Policy Act, the Endangered Species Act, the National Historic Preservation Act, and other applicable laws, rules, and regulations.
- (3) **Access within cost share agreement areas:** Within Cost Share Construction and Use Agreement Areas, Plum Creek and the Secretary will convey road access, at no cost, to the lands acquired by each party upon consummation of the exchange pursuant to this Act in accordance with the appropriate terms and procedures of said cost share construction and use agreements.
- (4) **Access outside cost share agreement areas:** Outside of Cost Share Construction and Use Agreement Areas, the Secretary shall grant Plum Creek road access easements at no cost in a form set out in Forest Service Handbook

2709.12, 35. In the case of new road construction, they shall conform to the Secretary's rules and regulations 36 CFR 251, subpart B, for the roads identified on the map entitled 'Plum Creek Access Road Needs', dated September 1998, including mitigation under existing law.

(c) **Access to Certain Lands Acquired by the United States:** Outside of Cost Share Construction and Use Agreement Areas, Plum Creek shall grant the Secretary road access easements at no cost on the locations identified by the Secretary in a format acceptable to the Secretary.

(d) **Timing:** It is the intent of Congress that the land exchange authorized and directed by this Act be consummated no later than 270 days after the date of enactment of this Act, unless the Secretary and Plum Creek mutually agree to extend the consummation date.

(e) **Withdrawal of Selected Land:** Effective upon the date of enactment of this Act, all selected land identified for exchange to Plum Creek under section 604(b) is hereby withdrawn from all forms of entry and appropriation under the U.S. mining and mineral leasing laws, including the Geothermal Steam Act of 1970, until such time as the exchange is consummated, or until a particular parcel or parcels are deleted from the exchange under section 605(d).

(f) **Withdrawal of Cle Elum River Lands:** Lands acquired by the Secretary under this Act that are located in Township 23 North, Range 14 East, and Township 22 North, Range 14 East, Willamette Meridian, shall upon the date of their acquisition be permanently withdrawn from all forms of entry and appropriation under the U.S. mining and mineral leasing laws, including the Geothermal Steam Act of 1970.

(g) **Parcels Subject to Historic or Cultural Resource Restrictions:**

- (1) **Report to plum creek:** No later than 180 days after enactment of this Act, the Secretary shall complete determinations and consultation under the National Historic Preservation Act and submit a report to Plum Creek and other consulting parties under the National Historic Preservation Act listing by exact aliquot part description any parcel or parcels of selected land on which cultural properties have been identified and for which protection, use restrictions or mitigation requirements will be imposed. Such report shall include an exact description of each restriction or mitigation action required.
- (2) **Plum creek response:** Within 30 days of receipt of the Secretary's report under paragraph (1), Plum Creek shall notify the Secretary as to: (i) those parcels it will accept subject to the identified use restrictions or mitigation requirements; and (ii) those parcels it will not accept because the restrictions or mitigation requirements are deemed by Plum Creek to be an unacceptable encumbrance on the land.
- (3) **Parcel deletion:** The Secretary shall delete from the selected land those parcels identified by Plum Creek as unacceptable for conveyance under paragraph (2).
- (4) **Appraisal adjustment:** The fair market value of any parcels deleted under paragraph (3), or any modification in fair market value caused by the use restrictions or mitigation requirements on land accepted by Plum Creek, shall be based on their contributory value to the final approved appraised value of the

selected land and subtracted from such value prior to consummation of the exchange.

(h) **Access Limitation:** The Secretary shall not grant any road easements that would access the offered lands listed in section 604(a) prior to consummation of the exchange: *Provided*, That this provision shall not apply should either party withdraw from the exchange.

SEC. 607. LAND PURCHASE.

(a) **Finding:** The Congress finds that certain lands owned by Plum Creek in the vicinity of the offered lands (but which are not included in the land exchange under this Act, or are deleted under section 605(c)) are highly desirable for addition to the National Forest System, and that Plum Creek has indicated its willingness to sell certain such lands to the United States. It is the intention of Congress that such lands be acquired by the United States, subject to the availability of funds, by purchase at fair market value consistent with the land acquisition procedures of the Secretary, and with the consent of Plum Creek, in order to preserve their outstanding scenic and natural values for the benefit of future generations.

(b) **Purchase Consultation:** In furtherance of subsection (a), the Secretary is authorized and directed to consult with Plum Creek to determine the precise lands Plum Creek is willing to sell.

(c) **Other Agreements:** Nothing in this Act shall be construed to prohibit the Secretary from entering into additional agreements or contracts with Plum Creek to purchase, exchange or otherwise acquire lands from Plum Creek in Washington or any other state under the laws, rules and regulations generally applicable to Federal land acquisitions.

SEC. 608. TIETON RIVER STUDY.

The Secretary is authorized and directed to consult with Plum Creek concerning opportunities for the United States to acquire by exchange or purchase Plum Creek lands along the Tieton River in Township 14 North, Range 15 East, Willamette Meridian.

SEC. 609. FUTURE LAND EXCHANGE OPPORTUNITY.

(a) **Finding:** The Congress finds that certain lands which were identified for exchange to the United States in the I-90 Land Exchange process have been, or may be, deleted from the final exchange under this Act due to value equalization or other reasons. However, some or all of such deleted lands, or other Plum Creek lands, may possess attributes that merit their conveyance to the United States in a follow-up land exchange, including lands in or around the Carbon River, the Yakima River, the Pacific Crest Trail, Watch Mountain and Goat Mountain on the Gifford Pinchot National Forest, the Green River and the Manastash late successional reserve.

(b) **Future Exchange:** In furtherance of subsection (a), the Secretary is authorized and directed to consult with Plum Creek in examining opportunities for the United States to acquire such deleted lands, or other Plum Creek lands in the State of Washington, in a future exchange.

(c) **Report to Congress:** Not later than 18 months after the date of enactment of this Act, the Secretary shall submit a report to the Committee on Energy and Natural Resources of the United States Senate and the Committee on Resources of the United States House of Representatives briefly outlining future land exchange opportunities with Plum Creek,

including those for which the Secretary is required to consult under section 608, which the Secretary determines merit detailed analysis and consideration. The Secretary should identify the most urgent acquisitions for purchase or exchange in the report.

SEC. 610. WILDERNESS STUDY AREA.

In furtherance of the purposes of the Wilderness Act, if the land exchange directed by this Act is consummated, the area of land comprising approximately 15,000 acres, as generally depicted on a map entitled `Alpine Lakes Wilderness Study Area', dated October 1998, shall be reviewed by the Secretary of Agriculture as to its suitability for preservation as wilderness. The Secretary shall submit a report and findings to the President, and the President shall submit his recommendations to the United States House of Representatives and United States Senate no later than three years after the date of enactment of this Act. Subject to valid existing rights and existing uses, such lands shall, until Congress determines otherwise or until December 31, 2003, be administered by the Secretary to maintain their wilderness character existing as of the date of enactment of this Act and potential for inclusion in the National Wilderness Preservation System, and shall be withdrawn from all forms of entry and appropriation under the U.S. mining and mineral leasing laws, including the Geothermal Steam Act of 1970.

SEC. 611. KELLY BUTTE SPECIAL MANAGEMENT AREA.

(a) **Establishment:** Upon conveyance to the United States of the Plum Creek offered lands in the Kelly Butte area, there is hereby established the Kelly Butte Special Management Area in the Mt. Baker-Snoqualmie National Forest, Washington, comprising approximately 5,642 acres, as generally depicted on a map entitled `Kelly Butte Special Management Area', dated October 1998.

(b) **Management:** The Kelly Butte Special Management Area shall be managed by the Secretary in accordance with the laws, rules and regulations generally applicable to National Forest System lands, and subject to the following additional provisions:

- (1) the Area shall be managed with special emphasis on:
 - (A) preserving its natural character and protecting and enhancing water quality in the upper Green River watershed;
 - (B) permitting hunting and fishing;
 - (C) providing opportunities for primitive and semi-primitive recreation and scientific research and study;
 - (D) protecting and enhancing populations of fish, wildlife and native plant species; and
 - (E) allowing for traditional uses by native American peoples;
- (2) commercial timber harvest and road construction shall be prohibited;
- (3) the Area shall be closed to the use of motor vehicles, except as may be necessary for administrative purposes or in emergencies (including rescue operations) to protect public health and safety; and

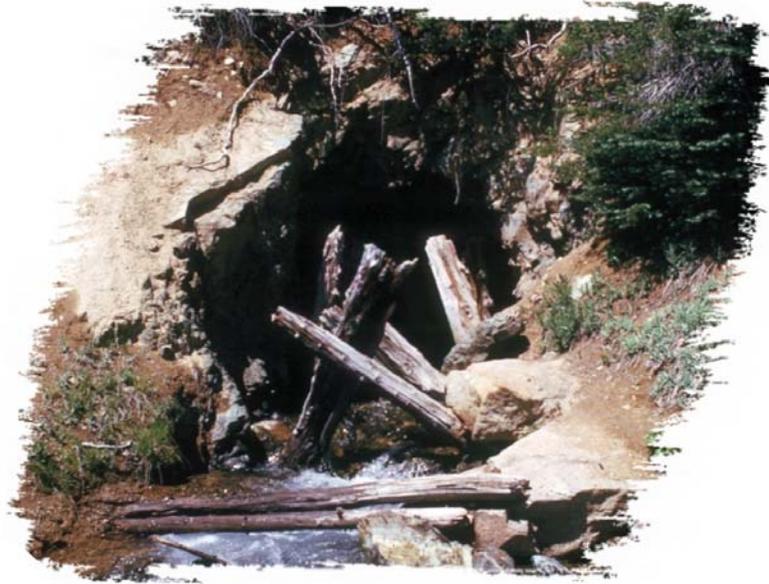
- (4) the Area shall, subject to valid existing rights, be permanently withdrawn from all forms of entry and appropriation under the U.S. mining laws and mineral leasing laws, including the Geothermal Steam Act of 1970.

(c) **No Buffer Zones:** Congress does not intend that the designation of the Kelly Butte Special Management Area lead to the creation of protective perimeters or buffer zones around the Area. The fact that non-compatible activities or uses can be seen or heard from within the Kelly Butte Special Management Area shall not, of itself, preclude such activities or uses up to the boundary of the Area.

SEC. 612. EFFECT ON COUNTY REVENUES.

The Secretary shall consult with the appropriate Committees of Congress, and local elected officials in the counties in the State of Washington in which the offered lands are located, regarding options to minimize the adverse effect on county revenues of the transfer of the offered lands from private to Federal ownership.

APPENDIX B ENERGY AND MINERAL RESOURCE ASSESSMENT



Mineral Potential Classification System*

I. Level of Potential

- O. The geologic environment, the inferred geologic process, and the lack of mineral occurrences do not indicate potential for accumulation of mineral resources.
- L. The geological environment and the inferred geologic process indicate low potential for accumulation of mineral resources.
- M. The geologic environment, the inferred geologic process, and the reported mineral occurrences or valid geochemical/geophysical anomaly indicate moderate potential for accumulation of mineral resources.
- H. The geologic environment, the inferred geologic process, the reported mineral occurrences and/or valid geochemical/geophysical anomaly, and the known mines or deposits indicate high potential for accumulation of mineral resources. The “known mines and deposits” do not have to be within the area that is being classified, but have to be within the same type of geologic environment.
- ND. Mineral(s) potential not determined due to lack of useful data. This notation does not require a level-of-certainty qualifier.

II. Level of Certainty

- A. The Available data are insufficient and/or cannot be considered as direct or indirect evidence to support or refute the possible existence of mineral resources within the respective area.
- B. The available data provide indirect evidence to support or refute the possible existence of mineral resources.
- C. The available data provide direct evidence but are quantitatively minimal to support or refute the possible existence of mineral resources.
- D. The available data provide abundant direct and indirect evidence to support or refute the possible existence of mineral resources.

For the determination of No Potential use O/D. This class shall be seldom used, and when used it should be for a specific commodity only. For example, if the available data show that the surface and subsurface types of rock in the respective area is batholithic (igneous intrusive), one can conclude, with reasonable certainty, that the area does not have the potential for coal.

*As used in this classification, potential refers to potential for the presence (occurrence) of a concentration of one or more energy and/or development and/or extraction of the mineral resources. It does not refer to or imply potential for development and/or extraction of mineral resource(s). It does not imply that the potential concentration is or may be economic, that is, could be extracted profitably.

Hardrock, Non-Energy Minerals

Parcel 1

The subject parcel is part of the Snoqualmie mining district and lies within part of the Gold Creek-Delate Creek-Mineral Creek anomalous area described by Gualtieri and Simmons (1989a). The general area has had claims located on it in the past, all of which have been abandoned, but indicating past exploration for mineral resources. The parcel is southwest of the Snoqualmie Pass mineral areas where interest by both government and private industry has focused on iron and limestone deposits since their discovery in the 1860's and 1880's (Thurber and others, 1989). Stream-sediment and rock samples derived from the Red Mountain anomalous area, west of the parcel, were anomalous in copper, molybdenum, and zinc. Geochemical sampling results and field evidence of alteration and mineralization coupled with the presence of a granite intrusive crosscutting the Naches Formation lead Gualtieri and Simmons (1989a) to suggest that the Red Mountain anomalous area is underlain by a disseminated mineral deposit.

Exploration in the area has also been focused north of the proposed parcel along shear zones, zones of hydrothermal alteration, and intrusive boundaries in Upper Gold Creek. However, samples from only a few prospects in the Upper Gold Creek basin have values sufficient to deem them as small potential resources for copper and silver (Thurber and others, 1989).

Parcel 1 is entirely underlain by Naches Formation, and there are no presently mapped intrusive bodies within its boundaries. A NE-SW trending fault does cross the parcel in the Gold Creek Valley and could provide a potential zone for alteration and/or mineralization. However, substantial glacial deposits and alluvium in the Gold Creek valley obscure bedrock relations. The subject land does not have any reported mineral occurrences, but past mining claims located in or adjacent to the parcel suggest exploration for mineral resources has occurred in the past. The results of geochemical sampling within and adjacent to the parcel by Gualtieri and Simmons (1989a) do not suggest anomalous metal content. Based on this information and limited field reconnaissance, mineral resource potential for the parcel appears to be low with a certainty of B (L/B).

Parcel 2

This proposed parcel for inclusion into wilderness is located in the Snoqualmie mining district within and adjacent to the Lake Lillian anomalous area. Three anomalous stream-sediment samples and three anomalous rock samples were collected by Gualtieri and Simmons (1989a). Samples anomalous in lead, molybdenum, and copper are aligned in a north-trending belt, parallel to the strike of the Naches Formation, along the eastern boundary of Parcel 2. However, no obviously mineralized rocks were observed in the area. A small intrusive body satellitic to the Snoqualmie batholith outcrops in the southern part of the parcel with a potential for future exploration along the intrusive boundaries. Based on local geology, results of limited geochemical sampling, field reconnaissance, and the fact that there are no recorded claims in the area, it appears that the parcel has a low mineral resource potential with a certainty of B (L/B). This conclusion is consistent with the findings of Thompson (1998) for section 27 of T22N R12E. The mineral resource potential for the donated parcel north of Parcel 2 should also be considered low (L/B).

Parcel 3

Parcel 3 falls within the Snoqualmie mining district, and has no reported mineral occurrences or mining claims. Stream-sediment samples taken in the West Fork of Box Canyon Creek within the study area revealed no anomalous results (Gualtieri and

Simmons, 1989a). The entire parcel is underlain by basalt and andesite assigned to the Naches Formation (Tabor and others, 2000). Given the local geology, results from geochemical sampling, field reconnaissance, and absence of historic mining activity in the area, the mineral potential of the parcel should be considered to be low with a certainty of B (L/B). This conclusion is consistent with the findings of Thompson (1998) for adjacent sections characterized by similar geology.

Parcel 4

Parcel 4 lies within the Snoqualmie mining district, and comprises part of the Mineral Creek mineral area and Gold Creek-Delate Creek-Mineral Creek anomalous area. Gualtieri and Simmons (1989a) collected fifty-five stream-sediment samples, two panned-concentrate samples, and fifty-four rock samples from the area that yielded anomalous values. The samples were anomalous in silver, copper, molybdenum, zinc; and rarely lead, tin, and tungsten. Samples collected within the parcel from the Durrwatcher prospect along Mineral Creek in an area of granitic rock with a high concentration of disseminated sulfides yielded silver (.5-2 ppm), copper (500-2,000 ppm), and anomalous molybdenum. Some of the anomalous stream-sediment samples in the lower Mineral Creek area reflect an altered mineralized area on the northeast canyon wall. Sulfide minerals are rare on the limonite-stained canyon wall, but they are abundant near stream level where the rocks have undergone more intense mineralization.

Thurber and others (1989) reported that more than 25 underground workings amounting to approximately 1000 feet in lower Mineral Creek were in place prior to 1930. Around 1920, a 25 ton-per-day mill was built (now in ruins) and production from the area included 2,443 pounds of copper in 1943, as well as 3,582 pounds of copper and 25 ounces of silver in 1922. For example, at the Durrwatcher prospect workings, a sulfide zone on the surface at the mine measuring at least 200 feet long and 80 feet wide was sampled and the results averaged .33 percent copper, no gold, .06 ounces of silver per ton, and less than .01 percent molybdenum. Phelps Dodge Corp. drilled a 1,098 ft. deep exploration core hole in the same zone; tests from which show a .2 percent copper content for a 200 ft. interval. Accordingly, the Bureau of Mines estimated approximately 100,000 tons of surface and near-surface rock with greater than .2 percent copper in the vicinity of the Durrwatcher workings along Mineral Creek. Further exploration in the area may delineate deeper copper-bearing bodies. The Copper Queen prospect is another example of activity in the Lower Mineral Creek area where shear zones and dikes cut volcanic country rock. The intensely mineralized zone was estimated to be 45 feet wide by 60 feet long and at least 300 feet deep. Resources for the deposit were estimated at 69,000 tons of rock with .63 percent copper and .54 ounces of silver per ton (Thurber and others, 1989a).

Gualtieri and Simmons (1989a) recorded anomalous stream-sediment samples from upper Mineral Creek, upper Delate Creek, and the outlet of Three Queens Lake that may reflect undiscovered mineral resources along the north, northwest, and southeast sides of the Three Queens stock. In addition, relatively unexplored mineral potential exists northwest of Parcel 4 at the head of Mineral Creek in the Park Lakes area. Here, a magnetic anomaly may reflect the presence of mineralized rock along the margin of the Three Queens stock.

The complex geology of the parcel associated with the Straight Creek fault zone and the Three Queens stock provides an environment conducive to mineralization. The parcel has been encumbered with numerous mining claims in the past. However, no

discoveries have been made that are currently economically viable, nonetheless a possibility exists for discovery of additional low-grade copper deposits in the future (Gualtieri and Simmons, 1989a). A geologic environment conducive to mineralization coupled with the results of geochemical sampling, historic claim and production records, reserve estimates, and aeromagnetic data suggest that the parcel has a high potential for the occurrence of mineral resources with a certainty of D (H/D).

Parcels 5 and 6

Parcels 5 and 6 lie within the Cle Elum mining district, but have not been the focus of much exploration or identified as having any special mineral resource potential. The area has had a couple mining claims, all of which have been abandoned. The area is entirely underlain by sandstone assigned to the Swauk Formation and does not appear to have much mineral resource potential. During field reconnaissance of the parcels, the author observed no obvious mineralization or geologic relationships conducive to mineralization. As a result the parcel should be considered to have a low potential for the occurrence of mineral resources with a certainty of B (L/B).

Parcel 7

Parcel 7 is located in the Cle Elum mining district on the west side of the Cle Elum River. The parcel has had numerous claims located within or adjacent to its boundaries. All claims have been abandoned except for active lode and placer claims in sections 14, 23, and 26 of T23N, R14E, W.M. along the Cle Elum River. According to BLM claim records, the Noell, Gypsy II, and Good Fortune Association placer claims fall within the parcel at the confluence of the Cle Elum River and Fortune Creek in section 14, T23N, R14E, W.M. Additionally, the Cherokee Rose, Cherokee Princess, Scamper #4, Silver Girl #1, #2, #11, and possibly Three Crosses #3 lode claims fall within the parcel in sections 23 and 26, T23N, R14E, W.M.

Sections 26, 34, and 35 of T23N, R14E, W.M. and sections 2 and 3 of T22N, R14E, W.M. had patented mining claims located within them that were recently acquired by the Forest Service as part of the I-90 land exchange with Plum Creek Timber Company, L.P. Work by the U.S. Geological Survey (USGS) and the Bureau of Mines (BOM) in the 1940s estimated that the patented properties in sections 26, 34, and 35 of T23N, R14E, W.M. had 6.25 million tons of iron ore resources bearing 40.86% iron, .84% nickel, and 2.4% chrome (Lamey and Hotz, 1950).

Gualtieri and Simmons (1989b) reported that nickeliferous iron deposits are known to exist in the Cle Elum River valley as far north as a point opposite the Fish Lake Guard Station. Residual iron deposits resulting from the weathering of ultramafic rocks assigned to the Ingalls Tectonic Complex, which underlie the Swauk, are concentrated along the contact west of the Cle Elum River. The ironstone deposits along the Ingalls-Swauk contact have been mapped by Tabor and others (2000) as well as previous investigators (e.g., Broughton, 1944; Lamey and Hotz, 1950). However, the depth of these deposits precludes them from being an economically viable resource now and in the foreseeable future (Gualtieri and Simmons, 1989b).

A few samples taken along Goat Mountain on the western boundary of the parcel from sedimentary and volcanic rocks contained barely anomalous amounts of molybdenum (Gualtieri and Simmons, 1989a). Another sample taken on the eastern flank of Goat Mountain near the Cle Elum River contained a high amount of antimony and some silver, lead, and zinc (Gualtieri and Simmons, 1989a).

The Huckleberry Mountain mineral area is on the east side of the Cle Elum River opposite Parcel 7. This area is underlain by greenstone and serpentinitized peridotite, volcanic breccias, and granodiorite associated with the Mt. Stuart batholith. Gold, silver, and copper occur along intrusive contacts and shear zones in the serpentinitized peridotite and volcanic breccia. Approximately 15.5 tons of silver-gold ore was shipped from the White Cat prospect in 1929 and 1956 according to the U.S. Bureau of Mines. Thuber and others (1989) estimated the resource for the White Cat prospect to be 15,000 tons averaging 2.63 opt silver, .07 percent copper, .34 percent lead, and .30 percent zinc. Similarly, Thurber and others (1989) estimated a resource of 30,000 tons bearing .12 opt gold, .27 opt silver, and .34 percent copper for the Hughes-Wayman prospect.

Geochemical sampling, mine site characterization, and field reconnaissance suggest potential iron, nickel, molybdenum, copper, silver, lead, and zinc resources within Parcel 7. As a result, the potential for the occurrence of mineral resources for Parcel 7 should be considered moderate to high with a certainty of C (M/C to H/C).

Parcels 8 and 10

Parcels 8 and 10 comprise part of the Cle Elum mining district and lie within the Van Epps Pass anomalous area, Van Epps Creek-Solomon Creek mineral area, Fortune Creek mineral area, and just south of the Cradle anomalous area. Minerals in these areas typically occur disseminated or in veins along shear zones or joints in ultramafic rocks, and associated with igneous intrusives. The parcels have been encumbered with mining claims in the past, and several active placer claims outside the parcel boundaries are located along the Cle Elum River and Fortune Creek in sections 16, 17, and 18 of T23N R15E and sections 13 and 14 of T23N R14E.

Geochemical sampling in the Van Epps pass area by Gualtieri and Simmons (1989a) revealed 17 anomalous stream-sediment samples, 14 anomalous soil samples, and 30 anomalous rock samples in the drainages of Solomon, Van Epps, and Fortune Creeks. The results of the sampling indicated that anomalous amounts of copper, silver, zinc, and molybdenum were most common throughout the area, and tin, lead, arsenic, and antimony were anomalous locally. The Van Epps area has been prospected since the late 1880s, but with only minor production (Thurber and others, 1989). However, Thurber and others (1989) reported that samples from the Van Epps Creek-Solomon Creek area, especially disseminated material, represented a large enough area characterized by high enough copper values to consider the area a potential resource. Production has occurred in the past at the Pickwick shaft, Van Epps adit, and possibly the Ellen Mine area (Appendices P-5 and Q-3). Samples of rock containing disseminated sulfides along 242 feet of the Van Epps adit yielded an average of .33 percent copper. A Bureau of Mines borehole on another lode 3,500 feet west of the Van Epps adit penetrated a 226 ft. mineralized zone of rock containing .1-.46 percent copper.

Gualtieri and Simmons (1989a) noted that most mineralization in the Van Epps Pass area occurs within 2,000-3,000 ft. of the contact zone between serpentinitized peridotite of the Ingalls tectonic complex and intrusives associated with the Mt. Stuart batholith, and is predominantly copper bearing with subordinate zinc. In the Fortune Creek mineral area on the west, the amount of copper and zinc diminishes, but zinc is the dominant economic mineral. If this apparent zonation is real, widespread mineralization in the area is entirely possible meaning that there is a potential for other deposits. In addition, parts of Parcels 8 and 10 are known to be hydrothermally altered (Tabor and

others, 1982). USGS and BOM studies conclude that the area has unexplored mineral potential.

On the west in the Fortune Creek mineral area, historic prospects were located at the head of the Fortune Creek which is underlain by serpentinitic peridotite complicated by granitic intrusions. Mineralization is primarily along shear zones, and chalcopyrite is the principle economic mineral in the area (Thurber and others, 1989). The HHY prospect showed some disseminated pyrite in the country rock and a small vein (less than 1 foot wide) that yielded 2.9 ounces of silver per ton and 4.2 percent copper (Thurber and others, 1989). The Benita claims were located along a mineralized shear zone at least 1,500 feet long and 8-15 feet wide in serpentinitized rock. Samples contained highs of 1.10 ounces of silver per ton and 2.8 percent copper (Thurber and others, 1989). Hence, there is some potential for the discovery of small, low-grade silver and copper resources in the Fortune Creek area. In addition, Thompson (1998) and BOM data reported anomalous gold and silver values from quartz veins at workings along Silver Creek within the western boundary of the parcel/Fortune Creek mineral area (sections 11 and 12 of T23N R14E). There is no record of production from any of the workings but there is a potential for gold and silver resources along Silver Creek within Parcel 8.

The Cradle anomalous area lies just north of subject Parcels 8 and 10. Gualtieri and Simmons (1989a) collected forty-three stream-sediment samples and sixteen rock-chip samples that contained anomalous metal amounts. Samples were anomalous in molybdenum, copper, tungsten, zinc, lead, and tin.

A magnetic high centered on the southwest part of Parcel 8 suggests potential mineralization within the Ingalls Tectonic Complex (Gualtieri and Simmons, 1989a). Based on Gualtieri and Simmons (1989c) mapping, the magnetic high could be associated with mineralization along the Deception Creek Fault Zone in the Cle Elum River Valley. However, mapping of the Snoqualmie Pass quadrangle by Tabor and others (2000) indicates an unconformable stratigraphic contact between the Ingalls Tectonic Complex and overlying Swauk Formation. However, Tabor and others (2000) do mention that minor faulting or "shearing-off" of Misch (1966) has likely occurred, in places, between basement and cover rocks. The author was able to inspect the contact and ore zone at one locality along the Cle Elum River and the contact appears depositional. However, at another location, part of the ore zone along the contact observed in a borrow pit appeared slickensided and highly sheared. As a result, the author tends to agree with the interpretation of Tabor and others (2000).

Based on historical claim data, geochemical sampling, BOM records/data, and local geology, Parcel 8 should be considered to have a moderate resource potential with a certainty of B (M/B). The geology, mineralization, and exploration/production history of Parcel 10 is relatively well documented so the parcel should be considered to have a high mineral resource potential with a certainty of D (H/D).

Parcel 9

The subject parcel is within the Cle Elum mining district and lies partly within the Van Epps Pass anomalous area and borders the Van Epps Creek-Solomon Creek, Fortune Creek, Teanaway River-Ingalls Creek, and Gallagher Head Lake mineral areas (Appendices P-1, P-5, P-6, P-7, and P-8). Several historic mining claims were located within or near the parcel, and several active placer claims lie outside the parcel boundaries along Fortune Creek and the South Fork of Fortune Creek. The Benita claims within the Fortune Creek mineral area discussed under Parcels 8 and 10 fall within and adjacent to Parcel 9. The Teanaway River-Ingalls Creek mineral area is

almost entirely underlain by peridotite and serpentinized peridotite. Thurber and others (1989) reported that the prospects in the area explored only very low grade mineralized material and “probably have no potential resources” with the exception of the Tip Top prospect. At the Tip Top, underground workings targeted pyrite mineralization in fractured dacite porphyry that intruded peridotite. Evidence of a small primitive mill and tailings indicate some production on the Tip Top claims.

The Gallagher Head Lake mineral area borders the subject parcel on the south. Copper and minor silver and nickel occur along shear zones in greenstone and serpentinized peridotite. BOM sampling along shear zones in the area indicate a paramarginal (227,000 tons bearing .3 opt silver and 2.23 percent copper) and a submarginal (200,000 tons bearing .24 percent nickel, .1 percent copper, .02 opt silver) resource in the Gallagher Head Lake area (Thurber and other, 1989). However, further exploration focused on the shear zones in the Gallagher Head lake area and their extensions could increase resource potential (Thurber and others, 1989).

Evidence from the Van Epps Pass anomalous area (several anomalous samples in the north end of Parcel 9) and Fortune Creek, Van Epps Creek-Solomon Creek, Teanaway River-Ingalls Creek, and Gallagher Head mineral areas suggest a potential for silver, copper, zinc, nickel, and molybdenum resources in Parcel 9. As a result, the potential for the occurrence of mineral resources in Parcel 9 should be considered moderate with a certainty of B (M/B).

Energy Minerals and Resources

Coal

Coal exploration and production in the region has focused on the Roslyn area southeast of Cle Elum Lake. Beikman and others (1961) noted that the Roslyn coal field is the only coal field of importance on the east side of the Cascades in Washington. The parcels being evaluated for inclusion into the Alpine Lakes Wilderness are outside any major coal-bearing areas and isolated occurrences mapped by Beikman and others (1961). Parcels 1, 2, 3, 4, 5, 6, and 7 are lands classified as prospectively valuable for coal resources by Bateman and others (1983). These parcels are underlain by Swauk Formation and Naches Formation which are units reported to contain minor coal and carbonaceous intervals (Tabor and others, 2000). However, Gualtieri and Simmons (1989b) reported that the Swauk is characterized by a high sandstone to shale ratio typical of a piedmont or high-energy floodplain environment which is not conducive to coal formation. The majority of the Naches Formation comprises rhyolitic to basaltic volcanics with interbedded sandstone and siltstone. As a result, the probability of any economic coal deposits within the units is highly unlikely in the study area. Given the geology of the subject parcels, any coal deposits would be non-economic and only of nominal value. Parcels 8, 9, and 10 are underlain by crystalline rocks and should be considered to have no potential for the accumulation of coal resources (O/D). The potential for economic coal deposits on the remaining parcels should be considered low with a certainty of B (L/B).

Oil and Gas

Most of the Alpine Lakes Wilderness and surrounding area is underlain by volcanic and plutonic igneous rocks and metamorphic rocks. Tertiary nonmarine sedimentary rocks that can be carbonaceous cover the Cascade core rocks in places (including some of

the subject parcels). Arkosic and lithic sandstones are potential reservoir rocks but alteration and cementation has resulted in very low porosity values that make their potential as a reservoir questionable (Fouch, 1982). In addition, Fouch (1982) states that the “maturation state of this organic matter is thought to be too low to have yielded hydrocarbons.” Any sedimentary units near intrusive bodies (particularly the Snoqualmie batholith and associated satellites) have been thermally metamorphosed to a point that would have driven off any petroleum compounds (Fouch, 1982).

Johnson and others (1997) reported that a hypothetical gas play named the Northwestern Columbia Plateau Gas Play exists to the southeast of the subject parcels. Miocene Columbia River Basalt ranging from 10-15,000 feet thick in the center of the play unconformably overlies folded Paleogene strata including the Eocene Swauk Formation, middle to upper Eocene Chumstick and Roslyn Formations, and the upper Eocene to lower Oligocene Wenatchee Formation. Subsurface exploration has confirmed that these units thicken and extend up to 30 miles southeast from where they outcrop at the northwest margin of the play. The basic assumption underlying this hypothetical play is that the gas and gas condensate was generated from Paleocene and Eocene coal or organic-rich fluvial/lacustrine mudstone and migrated into Paleogene sandstone reservoirs. Potential structural and stratigraphic traps (e.g., Yakima fold belt structures) and hence exploration targets are largely out within the sedimentary basin distant from the study area considered in this report. The play is considered to have a high probability for several small gas accumulations and a lower probability of large gas accumulations. Johnson and others (1997) stress that it has not been demonstrated that the reservoir rocks are of adequate quality, thickness, and lateral persistence to host a conventional gas accumulation larger than a few tens of BCFG. The thick sequence of Columbia River basalt blanketing the play and poor character of the potential reservoir rock will hinder future exploration in the play. Any exploration activity remotely close to the subject parcels would involve outcrop characterization of Tertiary stratigraphic units that extend under the Columbia River Basalt into the hypothetical gas play.

Geothermal

The western parcels (1, 2, 3, 5 and parts of 4 and 6) are in an area considered “lands valuable prospectively for geothermal resources” (Renner and others, 1979). The Snoqualmie batholith definitely provides a potential heat source, but as of yet no commercial geothermal resources are known to occur within the subject parcels. In addition, the Washington State Division of Geology and Earth Resources did not identify the general area of the parcels as a potential geothermal resource on Geologic Map 25. In the absence of more detailed data, the potential for a geothermal resource on the subject parcels should be considered low with a confidence of B (L/B).

Common Variety Mineral Materials

Many of the subject parcels have sand and gravel as well as hard rock common variety mineral material resources suitable for use as aggregate, embankments, retaining walls, building stone, landscaping, etc. At present, it appears that there are enough sources to satisfy local demands, and as a result the common variety materials on the subject parcels have only nominal value. However, future development along the I-90 corridor may increase demand for sand and gravel resources and hence the value of such materials. The potential for the occurrence of such resources is high with a certainty of C (H/C).

