

December 18, 1997  
Prop. Sub. 97-277/am

Introduced By: Brian Derdowski  
Larry Phillips

Proposed No.: 97-277

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MOTION NO. **10379**

A MOTION related to the King County Park and Open Space System; adopting the Rattlesnake Mountain Scenic Area Management Plan.

WHEREAS, in 1993 the Washington state department of natural resources (WDNR) and King County expended a total of \$4.5 million to acquire 1800 acres on the northern flank of Rattlesnake Mountain, and

WHEREAS, King County holds an equal and undivided ownership interest in the 1800 acre Rattlesnake Mountain Scenic Area with DNR in the Upper Snoqualmie Valley, and

WHEREAS, under the leadership of DNR both agencies entered into a partnership with the University of Washington to prepare, a recommended Rattlesnake Mountain Scenic Area Management Plan, and

WHEREAS, the population of King County is projected to increase by an estimated 325,000 over the next 15 years heightening the need to preserve shrinking wildlife habitat, scenic viewsheds and appropriate public access for future generations, and

WHEREAS, in 1996 public use of adjacent public lands on Mt. Si and Tiger Mountain increased and were visited by approximately 50,000 and 100,000 residents respectively, and

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WHEREAS, future access and trail improvements on Rattlesnake Mountain will provide new multi-use recreation and trail opportunities within 45 minutes of over two million residents of the Puget Sound Basin, and

WHEREAS, the Rattlesnake Mountain Scenic Area Management Plan has been reviewed and approved by the DNR.

NOW, THEREFORE BE IT MOVED by the Council of King County:

The attached Revised Final Draft, Rattlesnake Mountain Scenic Area Management Plan, dated December 1997 is hereby adopted.

PASSED by a vote of 13 to 0 this 12<sup>th</sup> day of January,  
1998

KING COUNTY COUNCIL  
KING COUNTY, WASHINGTON

*Louise Miller*  
Chair

ATTEST:

*[Signature]*  
Clerk of the Council

Attachment: Revised Final Draft, Rattlesnake Mountain Scenic Area Management Plan, dated December 1997

January 12, 1998

Item #13 / 97-277

Attachment

**10379**

*Revised Final Draft*

RATTLESNAKE  
MOUNTAIN  
SCENIC AREA  
MANAGEMENT PLAN

Metropolitan King County

and

Washington Department of Natural Resources

*December 1997*

*Notes:*

- *Cover, layout, and design will be consistent with agency standard*
- *Plan will receive copy editing prior to final publication*

# Acknowledgments

## Washington State Department of Natural Resources

Jennifer Belcher, Commissioner of Public Lands

Kaleen Cottingham, Supervisor

Stan Biles, Deputy Supervisor

Art Stearns, Deputy Supervisor

### **Forest Resources Division**

Michael Perez-Gibson, Division Manager

Janice Friebaum, Assistant Manager

Mark Sheehan, NRCA Program Manager

Marsha Hixson, Environmentalist

Gina Wendler, Publication Support

### **Media Productions**

Blanche Sobbotke, Editor

### **South Puget Sound Region**

Bonnie Bunning, Region Manager

Clay Sprague, Assistant Region Manager

Dave Kiehle, Public Use Coordinator

Doug McClelland, King District Manager

Darcy McNamara, NRCA Conservation Steward

Carol Thayer, Geographic Information Specialist

Margaret Macleod, Interagency Coordinator

## The University of Washington

Gordon Bradley, Professor, College of Forest Resources

Malin Ely, Research Assistant

## Metropolitan King County

Ron Sims, King County Executive

### **Metropolitan King County Council**

Jane Hague, Chair

Louise Miller, Vice Chair

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Bud Parker, ASLA, Supervisor

Connie Zimmerman, ASLA, Project  
Manager

103794

*Revised Final Draft*

RATTLESNAKE  
MOUNTAIN  
SCENIC AREA  
MANAGEMENT PLAN

Metropolitan King County  
and  
Washington Department of Natural Resources

*December 1997*

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Connie Zimmerman, ASLA, Project  
Manager

10379

## Thanks to those who helped!

We would like to thank the many people, organizations, and supporters who helped in the creation of the Rattlesnake Mountain Scenic Area Management Plan. The comments, insights, and public support provided by these participants made the planning process invigorating, educational, and gratifying.

Thanks go out to the members of the public who took the time to show us many interesting and exciting parts of Rattlesnake Mountain. They showed us hiking, biking, and horse routes, trail connections, birding spots, great views, special plants, animal tracks, and some problem areas. Working with recreational user groups taught us about present and future public uses on Rattlesnake Mountain, and helped us to understand the concerns of the different types of users. Thanks to: Ralph Owen and Ted Thomsen of the Issaquah Alps Trails Club; June Stevens of the Snoqualmie Valley Trails Club; wildlife biologists Rocky Spencer, Dwayne Page, and Greg Miller; Ken Konigsmark, Nancy Keith, and Doug Schindler of the Mountains to Sound Greenway Trust; parasailing advocate Mark Cherico; Jan Renking and the King County Executive Horse Council; Becky Hope of the Backcountry Horsemen of Washington; Art Tuftee, the King County Bicycle Advisory Committee, and Steve Hall for help on mountain biking issues; Greg Watson of the Snoqualmie Valley Historical Society; Tim Larkoski of Weyerhaeuser; the staff at the Trust for Public Land; the residents of Wilderness Rim subdivision; Tom Hinckley of the University of Washington College of Forest Resources; and Rick Brooker of Plum Creek Timber Company.

Thanks also to the many people who attended our public informational meetings, who took the time to offer comments and suggestions, and who helped us revise and reshape the management plan during the course of the planning process.

For their spirited, informative, and occasionally snowy trips into the field with us, special thanks to Joe Cox, Becky Hope, Lois Kemp, Ken Konigsmark, Greg Miller, Ralph Owen, Dwayne Page, Klaus Richter, Marie Ruby, Mark Savage, Kate Stenberg, Ted Thomsen, Steve Williams, and Dick Zemp.

Thank you!

*Malin Ely*

*Doug McClelland*

*Darcy McNamara*

*Mark Sollitto*

*Connie Zimmerman*

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## Executive Summary

### Management Vision

*The Rattlesnake Mountain Scenic Area (RMSA) will be managed to protect ecological systems and sensitive areas. The Scenic Area will also be managed to protect and enhance wildlife habitat and corridors, scenic views, and the generally undeveloped character of the mountain. Where public use does not compromise natural systems, the Scenic Area provides opportunities for limited low impact public use including environmental and cultural education.*

### Introduction

King County and the Washington State Department of Natural Resources (DNR) purchased the Rattlesnake Mountain Scenic Area (RMSA) site in 1993 with funds from King County Conservation Futures Program and a special legislative appropriation to the DNR. The Rattlesnake Mountain Scenic Area is the first parcel of land to be co-owned and managed by the DNR and King County. Given the new title of "Scenic Area," Rattlesnake Mountain represents a coordinated effort by both agencies to preserve the scenic and ecological character of the mountain.

### Site Planning Process

The DNR, through the South Puget Sound Region, was the lead agency in developing the Rattlesnake Mountain Scenic Area Management Plan. The plan was developed using the 1992 Natural Resources Conservation Area Statewide Management Plan process. Planning staff worked with the DNR and King County staff, civic organizations, neighboring landowners and interested members of the public to identify key issues, collect inventory information, and determine appropriate stewardship and boundary recommendations for the Scenic Area.

### Protected Resources

In accordance with the DNR Natural Resources Conservation Area Statewide Plan, the Scenic Area will be managed to protect ecological systems and sensitive areas on the site and to protect and enhance wildlife habitat and corridors, scenic views, and the generally undeveloped character of the mountain. Rattlesnake Mountain also provides opportunities for limited low impact public use and is a natural classroom for environmental and cultural education. Sensitive features identified during the planning process include steep slopes, highly erodible soils, cliff terrain, snag-rich wildlife habitats, numerous riparian systems, and small pockets of old growth forest. The area is used by a variety of wildlife including black bear, bobcat, cougar, fox, coyote, Rocky Mountain elk, blacktail deer, and a variety of smaller mammals, birds, insects and

amphibians. All public uses and management activities need to be evaluated to determine potential impact on these ecological and scenic resources.

### **Public Use**

Low-impact public educational and recreational activities will be allowed where such activities do not conflict with Scenic Area goals and do not diminish ecosystem quality and natural site characteristics. The site remains relatively inaccessible with very limited public access at the present time. Although some neighboring landowners allow non-motorized use of their roads and trails leading to the Scenic Area, these access policies are unofficial and subject to change without notice. This plan promotes efforts to improve access to the Scenic Area for low-impact public use while providing protection for natural resources through management and monitoring of public use.

Information will be provided at or near entry points to the Scenic Area which explains the purpose of the site, defines allowable uses, and provides area maps. Public use will be monitored and additional restrictions imposed if necessary to meet Scenic Area goals. Activities such as hiking, mountain biking, and horseback riding will be allowed on designated roads and trails in the least sensitive parts of the Scenic Area. Activities generally not consistent with Scenic Area goals include camping/overnight use, hiking off trail, mountain biking and horseback riding off road or on non-designated trails, off-leash pets, use of motor vehicles, target shooting/archery, hunting and collection of plants, mushrooms, or firewood for non-tribal purposes.

### **Boundary Recommendations**

This management plan outlines recommendations to expand the Rattlesnake Mountain Scenic Area from 1800 acres to approximately 3380 acres. Boundary recommendations are based on ecological characteristics, threats of encroaching development, and opportunities for improved public access to the Scenic Area for low impact public use. In addition, the plan identifies a larger area surrounding the proposed RMSA boundary, the Greater Rattlesnake Mountain Planning Area (GRMPA), that encourages voluntary integrated planning of the GRMPA, with the Scenic Area goals.

### **Implementation and Monitoring Program**

The success of the recommendations made in this document depends upon approval and support of both agencies. Success of the plan also depends upon subsequent efforts to effectively monitor and evaluate the RMSA and to tailor the management of the site to meet changing conditions. A monitoring plan will be developed to provide further guidance in ensuring that management recommendations on publicly owned lands will be carried out and Scenic Area goals met. Monitoring will provide valuable input for future revisions to this management plan. The document as a whole will be reviewed on a ten-year cycle.

## Introduction

The Rattlesnake Mountain Scenic Area Management Plan provides direction for the protection and management of the scenic, natural, and cultural resources of Rattlesnake Mountain.

Rattlesnake Mountain Scenic Area was established in 1993 through a joint purchase by King County and the Washington State Department of Natural Resources (DNR) through the cooperative efforts of agency staff, the Trust for Public Land, the Mountains to Sound Greenway Trust, and the previous owner, Weyerhaeuser Company. Acquired through the King County Conservation Futures Program and a special DNR legislative appropriation, the Scenic Area represents a unique partnership for King County and the DNR. The two agencies own the Scenic Area in equal and undivided interest and will jointly manage the area. In 1995 the agencies agreed that in order to preserve the natural character of the mountain, the management plan for the RMSA should adhere to the guidance provided by the Natural Resources Conservation Area Statewide Management Plan (1992).

This document was prepared with funding from both agencies, and with the assistance of surrounding landowners, recreational users, interested citizens, civic groups, and federal, state, local and tribal organizations. Additional assistance was provided by faculty, research assistants and students from the University of Washington, College of Forest Resources and the Department of Urban Design and Planning.

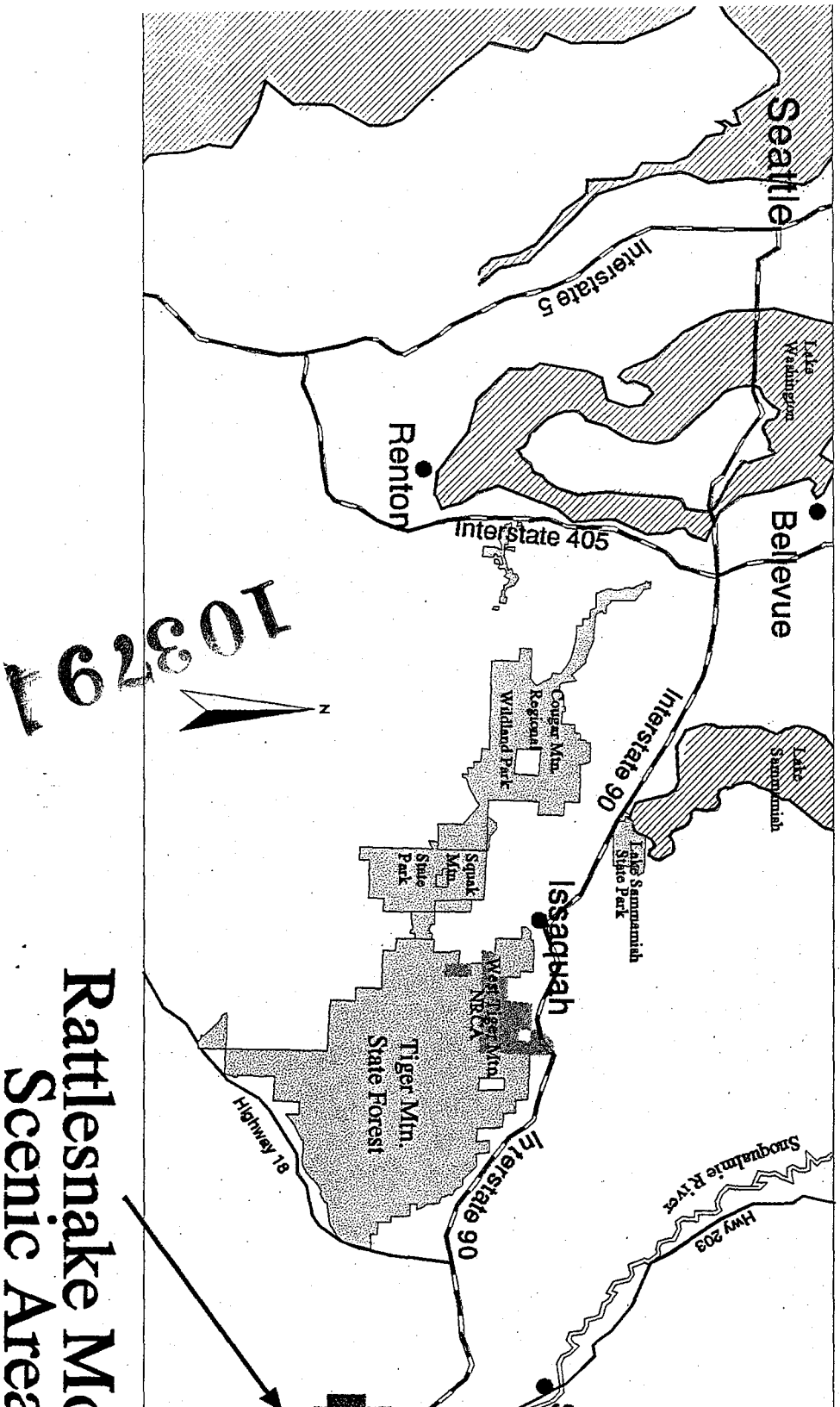
### THE RATTLESNAKE MOUNTAIN SCENIC AREA

The Rattlesnake Mountain Scenic Area (RMSA or Scenic Area) was established to protect the area's ecological systems, exceptional scenic landscapes, wildlife habitat, low-impact recreation and environmental education opportunities for the enjoyment of present and future generations. The Scenic Area provides an important visual, habitat, and recreation connection between the Cascade Mountains to the east and the Puget Sound lowlands to the west and is a key feature of the Interstate 90 viewshed. Protection and enhancement of natural resources in the area needs to be balanced with recreational needs of the increasingly populated region surrounding Rattlesnake Mountain Scenic Area. This management plan will provide balance between resource conservation, low-impact recreation, and environmental educational activities according to the guidelines established in the DNR Statewide Management Plan for Natural Resources Conservation Areas (NRCA).

The Rattlesnake Mountain Scenic Area, 1800 acres of steep rocky slopes and maturing forest, is located southwest of Interstate 90 near North Bend, Washington, approximately 35 miles east of Seattle (Map 1). Historically, the site has been managed for the production of timber and forest products. Areas of the mountain that were previously harvested have been replanted with Douglas-fir and noble fir, now of various ages. Small

**Map 1 - Location of Rattlesnake Mountain Scenic Area**

# RMSA - Location Map



Rattlesnake Mountain  
Scenic Area

pockets of old-growth forest exist in steep, inaccessible ravines on the northeast face and areas of wildlife-rich dead snags are scattered across the steep face. The elevation of the site ranges from 1000 feet at the base to approximately 3500 feet at the eastern-most peak of the mountain, providing remarkable views from several viewpoints along the ridge. Because of its location adjacent to the City of Seattle Department's Cedar River Watershed, the area is used by a variety of wildlife including black bear, bobcat, cougar, coyote, fox, Rocky Mountain elk, blacktail deer, smaller mammals, and many bird, insect, and amphibian species. The Watershed is habitat for extensive wildlife populations due to limited human disturbance within its restricted borders and acts as a valuable wildlife preserve. Rattlesnake Mountain is the source of more than 20 different small stream corridors which contribute to the Snoqualmie River, Raging River, and Canyon Creek drainages and which provide extensive stream habitat.

Distinctive features of the Scenic Area include cliff terrain, wildlife snag-rich habitats, extensive stream systems, small pockets of old growth forest in the high ravines, and dramatic scenic viewpoints of the Cascades and the Snoqualmie Valley.

Rattlesnake Mountain is a critical link in the Mountains to Sound Greenway. The Mountains to Sound Greenway Trust has worked with public and private landowners from Puget Sound to Thorpe Prairie east of the Cascades to preserve many of the scenic landmarks in the Interstate 90 corridor. The major elements of the Greenway vision include:

- Preserve scenic qualities along I-90;
- Preserve natural areas and corridors that are vital to wildlife in the region;
- Create economic incentives to encourage the preservation of forest lands and farms;
- Separate urban areas from each other through the containment of urban sprawl;
- Provide recreational opportunities and environmental, cultural, and historic education in the Greenway corridor.

Rattlesnake Mountain provides a scenic backdrop for the upper Snoqualmie Valley. The Scenic Area protects sensitive resource areas and critical wildlife habitat and provides a recreational corridor between Rattlesnake Lake in the City of Seattle Watershed and Tiger Mountain State Forest. The expansive views from the RMSA provide opportunities for recreational enjoyment and education, with panoramas of mountain tops, geological formations, river systems, and evidence of the historic and cultural history of the Snoqualmie Valley.

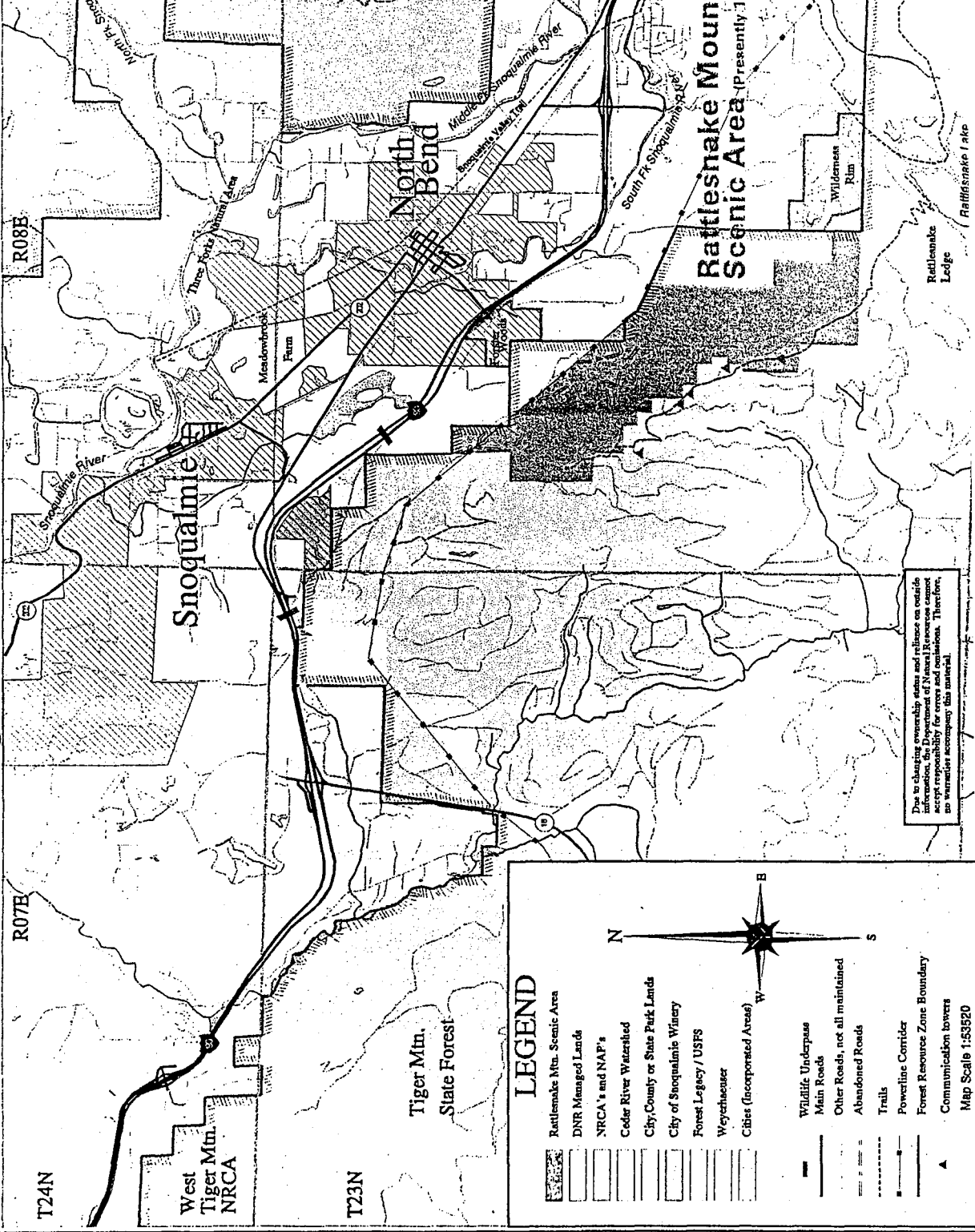
The RMSA, as it exists at this time, consists of the very steep northeast face of Rattlesnake Mountain, north of the well-known Rattlesnake Ledges which lie within the boundaries of the City of Seattle's Cedar River Watershed (Map 2). Lands bordering the Scenic Area to the northwest and southwest are owned by industrial forest owners while the uppermost portions of the mountain contain communications towers on land managed by the DNR as trust lands. There are virtually no gentle slopes or flat areas within the present ownership of the Scenic Area, and much of the northeastern face is inaccessible due to rocky cliffs and steep slopes (Map 3).





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# RMSA - Regional Context

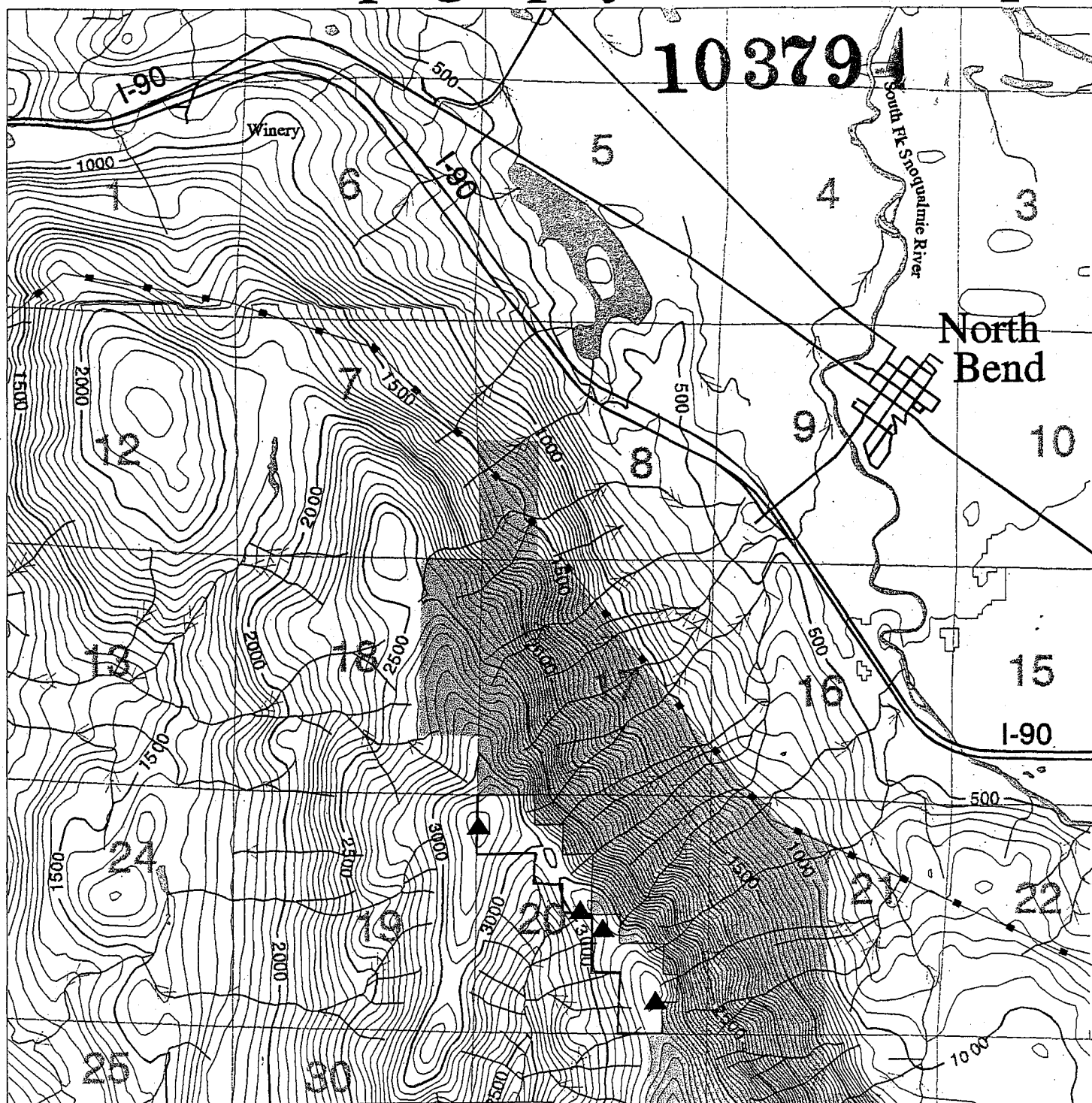


Due to changing ownership status and reliance on outside information, the Department of Natural Resources cannot guarantee the accuracy of this material. Therefore, no warranty accompanies this material.



# RMSA - Topography

# Map 3



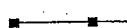
## LEGEND



Rattlesnake Mountain Scenic Area



Main Roads



Powerlines



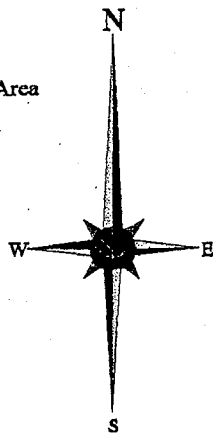
Type 1-5 Water



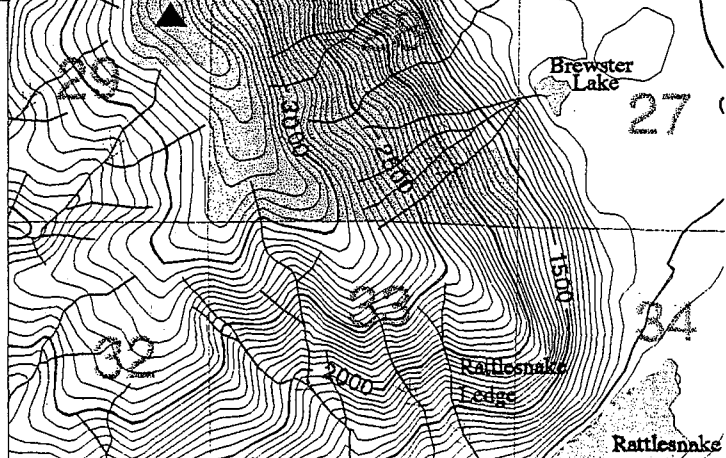
Contour Lines, 50 ft interval



Communication Tower



Due to changing ownership status and reliance on outside information, the Department of Natural Resources cannot



Public use levels on Rattlesnake Mountain Scenic Area are low at this time due to very limited public access and parking availability. The site remains relatively inaccessible. However, increasing populations in the nearby metropolitan areas and the associated demand for recreation makes an increase in public use likely. Several of the surrounding landowners presently allow non-motorized use of roads and trails leading to the Scenic Area but these informal policies are subject to change without notice. The road and trail systems which lead onto the Scenic Area from adjoining lands may provide opportunities for recreation connections as additional public acquisitions and easements are pursued.

In light of these public use limitations, this management plan addresses site-specific management recommendations for the present 1800-acre ownership, but also includes an appendix (Appendix B) which contains recommendations for adjoining lands within the proposed RMSA boundary in anticipation of possible additional public acquisitions. This appendix also encourages the need for voluntary integrated planning with surrounding landowners in the Greater Rattlesnake Mountain Planning Area.

## **METROPOLITAN KING COUNTY**

King County, Washington includes 39 cities and unincorporated areas. It extends east from Puget Sound to the Cascade crest, and north from the White River to 15 miles north of downtown Seattle. This most populous county in the state is expected to grow from a present population of 1.6 million to approximately 1.9 million people by the year 2013 (State Office of Financial Management).

In working toward the 1994 King County Comprehensive Plan goal of providing a high quality of life, the County places great importance on the parks, recreation, and open space systems of King County. These systems are valued for conserving environmental quality and scenic beauty. They also offer social, educational and recreational opportunities and contribute to the economic health of the region.

King County Department of Parks and Recreation manages recreational facilities including the Weyerhaeuser Aquatic Center, Marymoor Park, Fort Dent Park, the 200+ mile Regional Trail system, and natural parks such as Cougar Mountain Regional Wildland Park. The 18,000 acres of maintained parks and open space in King County are defined by three primary functions: community shaping, recreational, and environmental/ecological. They include lands that are preserved as:

- ❖ physical and visual buffers within and between areas of urban and rural development;
- ❖ visual enjoyment and outdoor recreation; and
- ❖ natural areas and environmental features with significant educational, scientific, wildlife habitat, cultural, or scenic values.

Since 1980, King County Parks and Cultural Resources Department has focused on preserving regional parks, natural resources and open space. The County has acquired farmland development rights, large open spaces and riparian corridors in an effort to protect natural resources, provide passive recreation and to continue building the regional trails network. In addition, active parks have been developed or expanded to deliver sports programs outside the incorporated areas of the County. Rattlesnake Mountain Scenic Area is classified by King County as a natural area, preserved for its scenic and natural resource features.

### **WASHINGTON STATE DEPARTMENT OF NATURAL RESOURCES (DNR)**

The Washington State Department of Natural Resources (DNR) manages approximately five million acres of state-owned forest, aquatic, agricultural, range, and urban lands. These lands are managed for long-term benefits to designated public beneficiaries and the general public. Approximately 71,000 additional acres are managed for natural resource protection on Natural Area Preserves (NAPs) and Natural Resources Conservation Areas (NRCAs). The following describes types of lands managed by the DNR:

- ❖ **Trust Lands** are lands which were granted by the federal government to Washington State upon statehood in 1889. The Congressional Enabling Act designated over 3 million acres to be managed for the benefit of schools, universities, and other state institutions.
- ❖ **Forest Board Lands** were acquired by the state through purchase or transfer beginning in the 1930s. Counties, local taxing districts and the state general fund receive revenue generated from forest board lands.
- ❖ **Aquatic Lands** are lands which were granted to Washington State upon statehood in 1889. Approximately 2.1 million acres of tidelands and beds of marine waters and navigable lakes and streams are managed by the DNR in public trust.
- ❖ **Natural Area Preserves (NAPs)**, established by an act of the Washington State Legislature in 1972, contain high-quality natural habitat acquired by gift or purchase by the Department. NAPs are managed for the perpetual protection of rare species and outstanding ecosystems native to Washington State.
- ❖ **Natural Resources Conservation Areas (NRCAs)** are the newest land designation managed by the Department. Created by an act of the Washington State Legislature in 1987, the NRCA program's multiple purposes include protecting outstanding ecological, geologic, scenic and cultural resources while providing opportunities for low impact public use, including environmental education. Examples of NRCAs in King County include Mt. Si and West Tiger Natural Resources Conservation Areas.

Rattlesnake Mountain Scenic Area falls under the NRCA management category. The DNR's Forest Resources Division is responsible for statewide oversight of the NAP/NRCA programs while the South Puget Sound (SPS) Division of the DNR is responsible for on-sight management of NRCAs in the SPS Division.

## **SITE PLANNING PROCESS**

The DNR, in cooperation with King County, has been the lead agency developing the Rattlesnake Mountain Scenic Area Management Plan. The plan consists of an inventory of existing natural features which forms the basis for developing resource management and public use recommendations for the Scenic Area. General goals, strategies, and management prescriptions were developed for the RMSA and site specific management recommendations were made for the current RMSA ownership. The plan also includes management recommendations for other lands in the proposed expanded RMSA boundary which may be incorporated, if these lands are acquired from willing sellers, into the Scenic Area in the future (Appendix B). Management recommendations were developed based on:

- Existing site conditions;
- DNR Natural Resources Conservation Area program policy;
- King County Parks policies;
- Legal and land-use constraints;
- Regional connection to other public lands;
- A public scoping meeting;
- Stakeholder interviews; and
- Public comment.

The Scenic Area was divided into management units based upon ecological sensitivity and management strategies were developed based on these units.

Researchers from the University of Washington gathered preliminary site inventory information which included existing ecological conditions, relevant state and local policies, cultural/historical information, and interviews with local citizens, recreational users, neighboring landowners, and government agencies. A graduate class from the University of Washington College of Forest Resources and Department of Urban Design and Planning gathered much of the inventory data and compiled an extensive vegetation map of the area.

The analysis phase of the planning process evaluated current and future resource conditions and public use levels and requirements in light of the program goals outlined in the NRCA Statewide Management Plan. This analysis resulted in an overall vision for the Scenic Area. General goals, recommendations, and management prescriptions were developed based on the vision, and site-specific management recommendations were compiled according to the present 1800-acre RMSA ownership. The analysis phase also resulted in site-specific management recommendations for lands within the proposed boundary, that will apply to these lands if acquired. Finally, there are recommendations

for voluntary integrated management among adjacent land owners and managers in the Greater Rattlesnake Mountain Planning Area, GRMPA.

## **PUBLIC REVIEW**

In compliance with the State Environmental Policy Act (SEPA; Chapter 42.21 RCW) and the NRCA Statewide Management Plan, the draft management plan was subject to review and comment by the public, and by tribal, federal, state, and local organizations prior to final approval by the Metropolitan King County Council and the DNR Commissioner of Public Lands. In addition to an initial public scoping meeting on September 21, 1995, comments from two public meetings on April 25 and May 22, 1996 and agency review by DNR and King County resulted in revisions to the draft management plan. A public hearing on the recommended site boundary was also held on May 22 and comments and changes are included in this document to reflect public and agency comments and input.

## **PLAN REVIEW PROCESS**

After adopting the plan, the Washington State Department of Natural Resources, the NRCA Statewide Advisory Committee, the Metropolitan King County Council and the public will review the plan on a 10-year cycle. The RMSA will be closely monitored and interim management strategies will be developed as warranted by resource conditions. These reviews will enable managers to revise the plan to effectively address current management issues. This is especially important due to the dynamic nature of landownership in the areas surrounding the Scenic Area. As neighboring parcels are committed to uses consistent with the Mountains to Sound Greenway vision, voluntary integrated management planning will be encouraged so the management of these adjoining areas does not conflict with RMSA goals and management. In anticipation of these changes, the flexible structure of this plan allows for integrated management with other public lands in the Rattlesnake Mountain area during the intervening 10 years before the plan is updated.

## **OVERVIEW: PARTS I - V**

The following sections of the plan include:

- Part I            Program purpose for the Scenic Area and NRCA program
- Part II           Analysis of RMSA resources and public use
- Part III          Boundary recommendations for the RMSA
- Part IV          Management vision and stewardship recommendations
- Part V           Recommendations for plan implementation and monitoring
- Appendix A     Resource inventory for the RMSA



- Appendix B Management recommendations for areas surrounding 1800-acre RMSA
  - Stewardship recommendations for proposed RMSA acquisitions
  - Recommendations for integrated land management of lands surrounding RMSA (Greater Rattlesnake Mountain Planning Area)

## Part I: Program Purpose

### JOINT OWNERSHIP AND MANAGEMENT

King County Parks and Cultural Resources Department and the Washington State Department of Natural Resources will jointly manage the Rattlesnake Mountain Scenic Area. This cooperative partnership is guided by the 1993 Interlocal Cooperative Agreement signed by the two agencies at the time of the purchase of the Scenic Area. The management agreement between the DNR and King County (1993) specifies that the Rattlesnake Mountain Scenic Area will be preserved as open space for conservation purposes in a manner consistent with the purpose and intent of the NRCA guidelines (Chapter 79.71 RCW and Chapter 84.34 RCW), and the King County Conservation Futures Program (King County Ordinances 10750 and 11068).

This agreement holds for the current and future management of the RMSA. The Rattlesnake Mountain Scenic Area Management Plan was prepared in compliance with the King County Conservation Futures Program, the Natural Resources Conservation Area Act, and the Washington State Department of Natural Resources NRCA Statewide Management Plan. Using the NRCA Statewide Management Plan as a primary guide, the DNR has been the lead agency in planning for the RMSA while King County Department of Parks and Recreation will take the lead on the maintenance and operations for the site once planning is complete. The purpose of this plan is to provide guidelines for the present and future management of the Rattlesnake Mountain Scenic Area.

### KING COUNTY CONSERVATION FUTURES PROGRAM

The Regional Conservation Futures 1993 Bond Acquisition Program (King County Ordinance 10750) authorizes a \$60 million bond acquisition program for the acquisition of public green spaces, green belts, open spaces, parks, and trails. King County Ordinance 11068 allocated \$2 million towards the purchase of the RMSA. The general conditions of the funding restrict the use of conservation futures property to passive use recreation only and exclude organized or structured athletic activities such as ball fields.

### NATURAL RESOURCES CONSERVATION ACT

The Washington Natural Resources Conservation Areas (NRCA) Act was enacted in 1987 as Chapter 79.71 RCW. The Act defines the characteristics of a NRCA as:

- Lands with a high priority for conservation, natural systems, wildlife and low impact public use;
- An area of land and/or water with flora, fauna, geological, archaeological, scenic or similar critically important features that retains to some degree or has re-established its natural character;

- Examples of native ecological communities; and
- Environmentally significant sites threatened by incompatible or ecologically irreversible developments.

The Act further defines the purposes of a conservation area as:

- Maintaining, enhancing or restoring ecological systems, including but not limited to aquatic, coastal, montaine, and geological systems, whether such systems are unique or typical to the state of Washington;
- Maintaining exceptional scenic landscapes;
- Maintaining habitat for threatened, endangered, and sensitive species;
- Enhancing sites for primitive recreational purposes; and
- Providing opportunities for outdoor environmental education.

## **NRCA STATEWIDE MANAGEMENT PLAN**

With agreement from both agencies, the 1992 Natural Resources Conservation Area Statewide Management Plan was the primary guideline for the development of the RMSA Management Plan. The NRCA Statewide Management Plan was developed with the assistance of a nine-member citizen's advisory committee to provide a basic framework and issues to be addressed for individually prepared NRCA site management plans. This ensures that plans for NRCAs across the state will be consistent with one another. The statewide plan prioritizes the purposes and permitted uses of NRCAs as follows:

*The primary purpose of the NRCA program is to protect outstanding examples of native ecosystems, habitat for threatened, endangered, and sensitive (TES) plants and animals and scenic landscapes.*

*Opportunities for environmental education and low-impact public uses will be provided where such uses do not adversely affect the resource values the area is intended to protect.*

A detailed description of additional applicable state and local laws and regulations relating to the management and planning for the RMSA is located in Appendix A, Legal and Land Use Inventory, at the end of this document.

## Part II: Resource and Public Use Analysis

This section includes an analysis of the natural resources of Rattlesnake Mountain, resulting in a description of management units for the Scenic Area. The management units are based on sensitive features of the landscape identified in the resource inventory, included in Appendix A of this document. Mapping of these units extends beyond the current ownership and the proposed boundary. Public use and resource recommendations apply only to publicly owned land and do not in any way affect allowable private uses on adjacent private properties. An inventory and analysis of existing and potential low-impact public uses follows the resource analysis. It includes a matrix of existing public uses and potential opportunities or constraints on public use in the RMSA.

### RESOURCE ANALYSIS

#### *SENSITIVE AREAS*

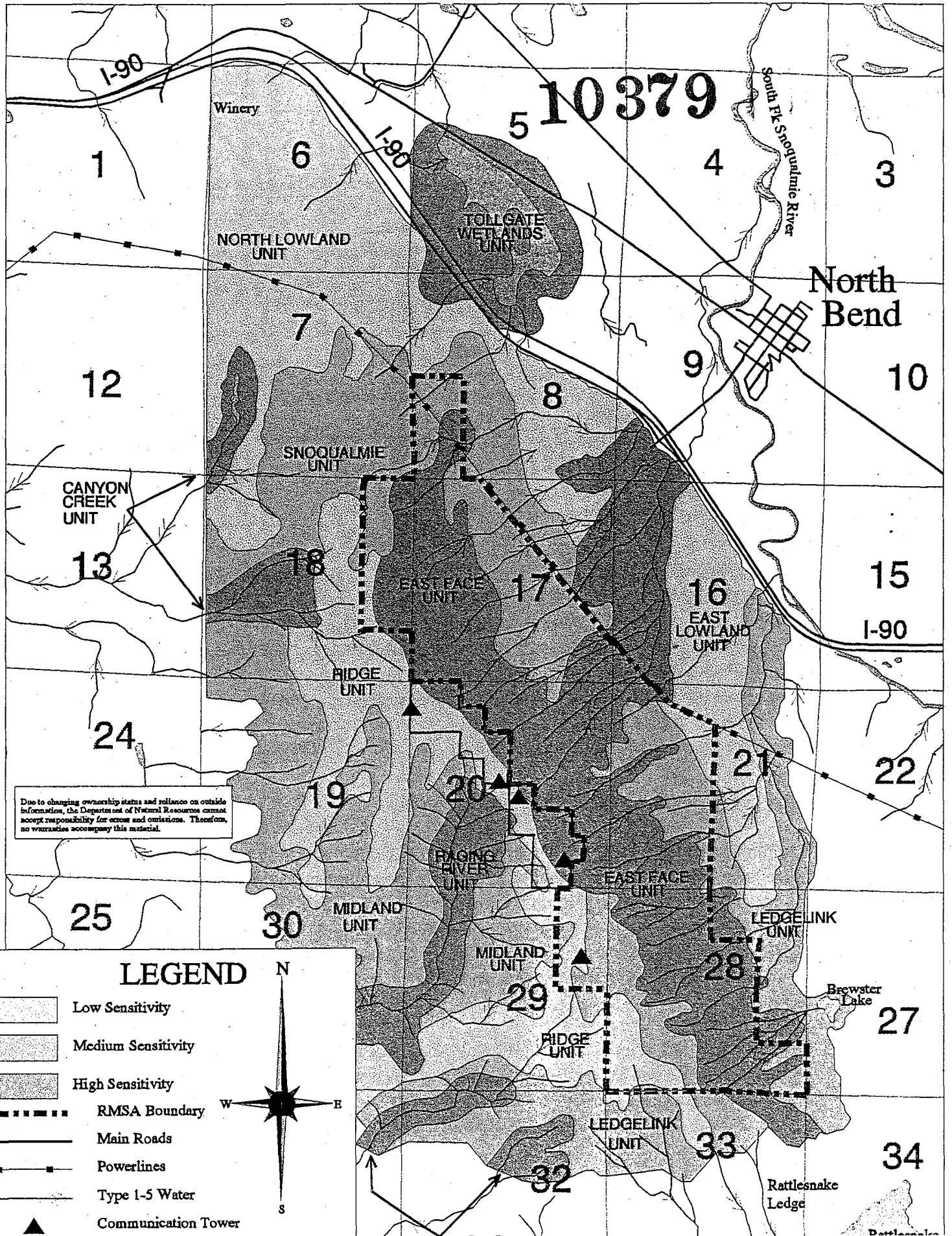
In order to ensure protection of the natural resources of the Scenic Area while providing opportunities for low-impact public use, the sensitivity of the entire Rattlesnake Mountain landscape was analyzed based on sensitive features identified in the resource inventory. A detailed summary of the resource inventory for the Scenic Area is included in Appendix A at the end of this document.

Through the identification of sensitive features and conditions on the mountain, the RMSA was divided up according to three levels of land sensitivity: low, moderate, and highly sensitive. These designations created the boundaries for ten management units (Map 4). Appropriate management and public use recommendations were made for the site based on these designations (Part IV of this document), which provides protection for the more sensitive areas on the mountain. In general, low impact public use will be concentrated in the management units that have a lower sensitivity while public use in highly sensitive areas on the Scenic Area such as the steep, northeast-facing slopes will be limited.

The degree of land sensitivity and the resulting location of management units were identified using six layers of ecological data combined using an overlay technique. Data layers used include soils, hydrology, mass wasting potential, slope, vegetation, and wildlife habitat. The matrix in Figure 1 includes the criteria used to categorize land units using the different data layers:

**Map 4 - Land Sensitivity and Management Units**

# RMSA - Land Sensitivity & Management Units Map 4



## Figure 1 - Land Sensitivity Criteria Matrix

(refer to management units on Map 4)

<p><b>Low Sensitivity</b> units are those with:</p>	<ul style="list-style-type: none"> <li>• low mass wasting potential,</li> <li>• low erosion potential,</li> <li>• slopes that are less than 30%,</li> <li>• and/or vegetation cover of clear cut or young conifer.</li> </ul>
<p><b>Moderate Sensitivity</b> units are those with:</p>	<ul style="list-style-type: none"> <li>• a moderate mass wasting potential,</li> <li>• moderate erosion potential,</li> <li>• slopes ranging from 30-65%,</li> <li>• mature second growth conifer,</li> <li>• and/or perennial riparian habitat found along streams.</li> </ul>
<p><b>High Sensitivity</b> units are those with:</p>	<ul style="list-style-type: none"> <li>• a high mass wasting potential,</li> <li>• high erosion potential,</li> <li>• slopes greater than 65%,</li> <li>• old growth conifer,</li> <li>• priority wildlife habitats such as snags or cliffs,</li> <li>• riparian wildlife corridors,</li> <li>• and/or areas with potentially significant impact on water quality.</li> </ul>

### *MANAGEMENT UNITS*

Ten different management units were identified in the region around Rattlesnake Mountain, three of which are predominantly within the current ownership of the Scenic Area (Map 4). These include the Ridge Unit (low sensitivity), the East Face Unit (high sensitivity), and the Snoqualmie Unit (moderate sensitivity). The present ownership of the RMSA contains most of the highly sensitive areas in the vicinity of Rattlesnake Mountain with the exception of major stream corridors to the west of the RMSA. The headwaters of two of these stream corridors, Canyon Creek and Raging River, are included in proposed acquisitions to the Scenic Area (Part III, below).

### **PUBLIC USE INVENTORY AND ANALYSIS**

Public use on Rattlesnake Mountain Scenic Area and neighboring private lands is low at the present time. The lack of public access, steep and inaccessible slopes, and close proximity to areas with significant recreational facilities (Mt. Si NRCA, Tiger Mountain State Forest, Cougar Mountain Regional Wildland Park, etc.) may contribute to current low levels of use on Rattlesnake Mountain. However, increasing populations in nearby metropolitan areas and the associated demand for recreation makes an increase in public use likely.

A 1995 study by the University of Washington College of Forest Resources and the Department of Urban Design and Planning provided the analysis of public uses and the opportunities and constraints for these uses on the Scenic Area. The following public use matrix (Figure 2) lists existing and potential public uses derived from conversations with

the public, including many current recreational users of the Rattlesnake Mountain area. The matrix lists public use activities, whether they presently occur on or near the RMSA, what the opportunities are for these activities on the RMSA, and what constraints on the activities exist (for example topographical constraints, access constraints, or resource impacts).

Rattlesnake Mountain Scenic Area provides opportunities for *low-impact* public use. However, the definition of "low-impact" varies according to site conditions and levels of use. The resource analysis, which defines areas on the RMSA that are highly sensitive, combined with analysis of public use combine to provide the basis for the site-specific management recommendations included in Part IV of this document. These recommendations identify which activities will be allowed on the publicly owned lands within the RMSA in which specified locations and under what conditions. Recommendations for monitoring of the impacts of public use on the natural features of the Scenic Area are also an important part of the management recommendations of this plan.

**Figure 2 - Public Use Inventory and Analysis Matrix**

Activity (in alphabetical order)	Existing Use	Opportunities	Constraints/Impacts
Bird watching	Intermittent light use	Excellent due to good viewpoints and variety of bird species using area	Minimal resource impact
Cross-country skiing	Use in winter along ridgetop	Good skiing on logging roads leading to RMSA; ridgetop roads offer gentle grades	Minimal resource impact; ascent to top is long and arduous from Winery site (where snow is consistent); access is across private lands
Education/ Interpretation	No current agency-sponsored programs	Viewpoints at Rattlesnake Point and along ridgetop and snag-rich forests offer wide range of educational opportunities; Winery site with gentle slopes and good views would be opportunity for education for the general public who can not reach summit	Minimal resource impact; long and difficult climb to reach RMSA limits numbers/types of people able to visit potential interpretive areas
Hangliding / Parasailing	No current use; possible use in past	Occasional strong east winds and high open ridge provide launch sites	Public vehicular access to RMSA not presently available; potential conflicts with landing sites



Public Use Inventory and Analysis Matrix, continued

Activity (in alphabetical order)	Existing Use	Opportunities	Constraints/Impacts
<b>Hiking</b>	High levels of use on RMSA; trail from Watershed is popular hiking route; route from Winery site to ridgetop and decommissioned road leading to Rattlesnake Point on northeast face are less popular routes	Ridgetop and decommissioned road on lower northeast provide challenging hiking routes with good views; snag-rich forests provide some canopied hiking areas	Access crosses private or Watershed lands; navigation among many logging roads makes route to site difficult to find; impacts to roads are minimal but unmaintained trails through forests and on steep slopes may cause erosion and vegetation destruction if not constructed properly
<b>Hunting/Trapping</b>	Unknown, but distance from vehicular access make substantial use unlikely	Forested areas provide habitat for a variety of game	Steep slopes and distance to parking areas limit present use; King County Code prohibits hunting on County lands; due to mixed public uses on the site, safety is a key concern
<b>Mountain Biking</b>	Occurs on logging roads from Hwy 18 to top of ridge; most of this route is not within RMSA boundary	Logging roads provide challenging uphill route to ridgetop and good views; route from Winery would require new trail construction to connect separate logging road systems	Limited resource impact if routes are limited to existing logging roads; steep slopes and thin, erodible soils restrict opportunities for new non-logging road routes; access is through Weyerhaeuser lands whose non-motorized use policy is subject to change without notice
<b>Orienteering</b>	Unknown	Unknown	Steep unstable slopes make off-trail hiking hazardous; trampled vegetation and disturbance to wildlife through extensive off-trail use are additional potential impacts
<b>Pack and Saddle</b>	Equestrian use occurs on logging roads from Winery site and along powerline road (lower northeast face) to the edge of RMSA to the ridgetop	Gentle ascent and good views provide easy riding	Access is through adjacent private lands where non-motorized use policies are subject to change without notice; logging roads are rocky; steep slopes on parts of

			RMSA limit horse use; soil compaction and erosion may result from off-trail use; impacts minimal on existing logging roads
<b>Pet Recreation</b>	Pets (usually dogs) likely to accompany recreational users	Roads and trails provide exercise for pets; King County Code generally requires all dogs to be on leash on County Park lands	Off-leash pets have adverse impacts on natural wildlife populations; contamination to water resources is also possible with heavy pet use
<b>Photography</b>	Likely	Excellent views, beautiful scenery and wildlife offer ample subject matter	Minimal resource impacts
<b>Picnicking</b>	Primitive picnicking likely at ridgetop and Rattlesnake Point (on lower northeast face)	Excellent views and sunny exposures on ridgetop and Rattlesnake Point make good rest/picnic spots	Minimal resource impact; long and difficult climb to reach RMSA limits people able to visit picnic areas; access is across private lands
<b>Resource Collection</b> (collection of rocks, plants, mushrooms)	Unknown	Unknown	Possible adverse impacts to native vegetation and ecosystem
<b>Rock Climbing</b>	Some climbing on Rattlesnake Ledges in adjacent Watershed; none within RMSA	None within RMSA	Potential constraints include problems with rock quality (safety), aesthetic issues surrounding use of bolts and colored chalk, removal of vegetation on rocks, soil erosion/compaction at base/top of routes, and agency liability

Evidence gathered in the resource inventory (Appendix A, Wildlife Inventory) suggests that low levels of public use on the Scenic Area allow for relatively undisrupted and rich wildlife populations. Increased public access for all types of low-impact public use have the potential to adversely affect wildlife populations and movement corridors. This was one of the primary considerations in creating the management recommendations for the various parts of the RMSA. Continued monitoring of public use activities and levels, as well as monitoring of wildlife on the RMSA are the key to continued preservation of natural resources.

## Part III: Boundary Recommendations

The present ownership of Rattlesnake Mountain Scenic Area, purchased in 1993, includes 1800 acres. The following proposed boundary for the RMSA increases the Scenic Area to approximately 3380 acres and is based on ecological and public use evaluations of the Rattlesnake Mountain area (Map 5). Lands within the proposed Scenic Area boundary include private and other government lands. Only those lands owned by King County and DNR within the proposed boundary will be subject to the recommendations contained in this management plan. Private landowners within the boundary are not bound to requirements or recommendations made in this plan. Additional acquisitions made within the proposed boundary will only be acquired from willing sellers.

### EXISTING RMSA OWNERSHIP

No private inholdings exist within the present ownership of the RMSA and thus no additional acquisitions are required within the existing 1800 acre area.

### PROPOSED RMSA BOUNDARY RECOMMENDATIONS

Scenic views from North Bend and the I-90 corridor are critical components of the Scenic Area and the Mountains to Sound Greenway. Some of these areas are not included in the boundary, however, opportunities may exist to preserve these views through creative acquisition strategies. The following acquisition and easement recommendations are based on the preservation of riparian areas, wildlife corridors, mature conifer forests, and scenic views. Boundary recommendations also take into account provisions for improved access opportunities for low-impact public use and crucial buffering to protect sensitive areas in the RMSA from encroaching development. The following descriptions of lands within the proposed RMSA boundary illustrate the important features which prompted their inclusion in the Scenic Area boundary. Parcels are referenced in clockwise order according to letter designations shown on Map 5.

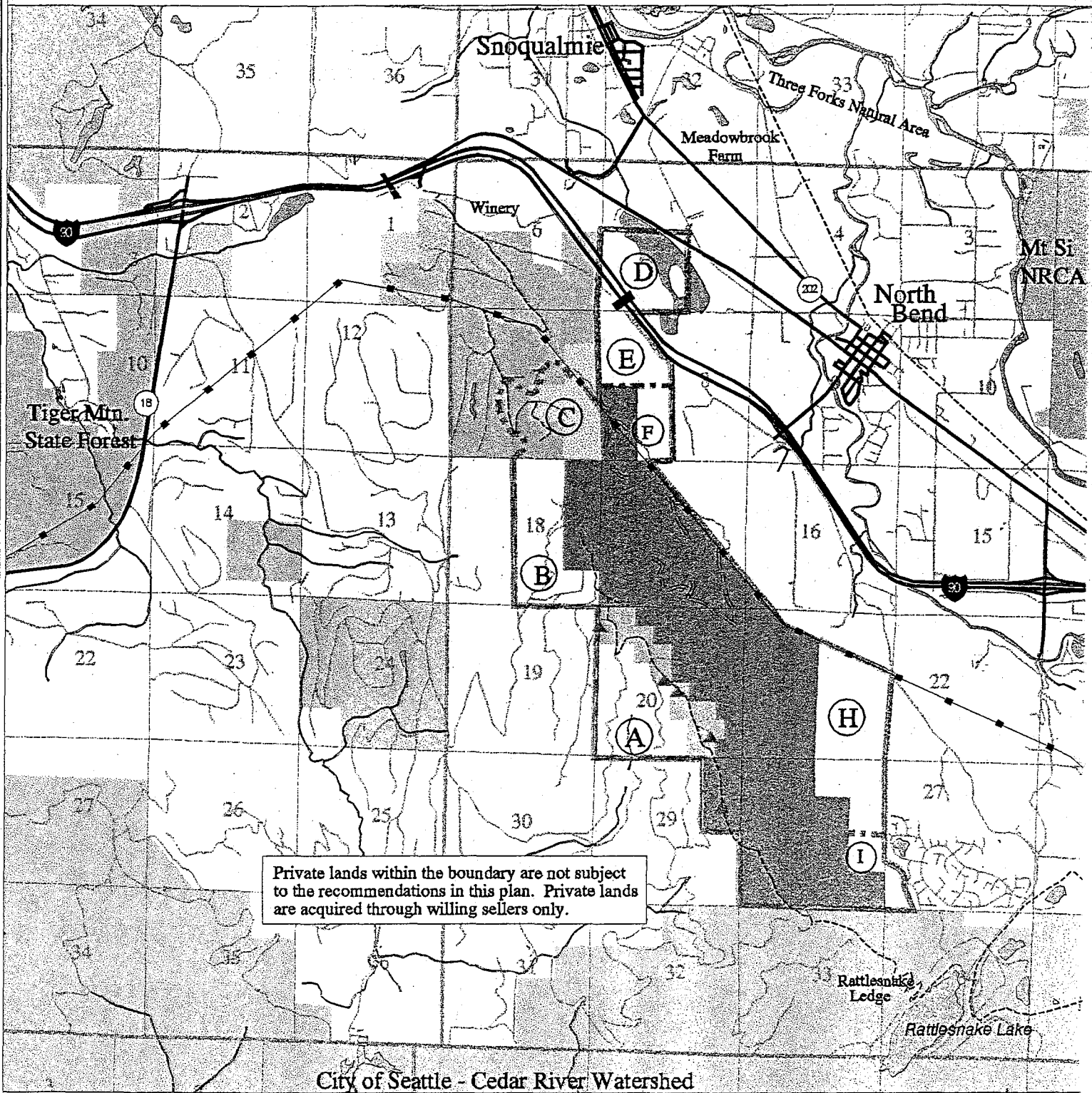
- A (approx. 200 ac., Sec. 20) Contains headwaters of the Raging River, critical wildlife corridor and riparian habitats and stands of mature conifer forest; protection will help to ensure quality of aquatic resources of the Raging River; parcel may be threatened by active logging operations
- B (240 ac., Sec. 18) Contains headwaters of Canyon Creek, critical wildlife corridor and riparian habitats and stands of mature conifer forest; protection will help to ensure quality of aquatic resources of Canyon Creek; parcel may be threatened by active logging operations
- C [approx. 150 ac., Sec. 7] The exact location of west and north boundaries are to be determined based on ecological values, trail connections, and scenic qualities

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(upon public acquisition of the entire Section 7); area within RMSA boundary contains substantial snag-rich, mature conifer forest habitat in a moderately sensitive land unit (Snoqualmie Unit); completes a trail connection from Section 6 and Winery site to the RMSA; provides the only accessible example of mature




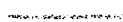

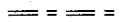

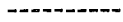

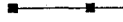
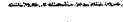

**Map 5 - Proposed Boundary**

# RMSA - Proposed Boundary Map 5






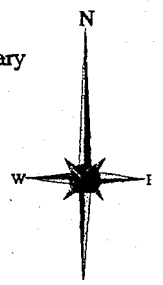
Private lands within the boundary are not subject to the recommendations in this plan. Private lands are acquired through willing sellers only.

City of Seattle - Cedar River Watershed

- |  |                                  |   |                                 |
|--|----------------------------------|---|---------------------------------|
|  | Rattlesnake Mtn. Scenic Area     |  | Main Roads                      |
|  | DNR Managed Lands                |  | Other Roads, not all maintained |
|  | NRCA's and NAP's                 |  | Abandoned Roads                 |
|  | Cedar River Watershed            |  | Trails                          |
|  | City, County or State Park Lands |  | Powerline Corridor              |
|  |                                  |  | Forest Resource Zone Boundary   |
|  |                                  |  | Communication Tower             |

## LEGEND

- |   |   |
|---|---|
|   | Proposed Scenic Area Boundary   |
|   | Scenic Area Boundary to be determined                                     |
|  | Proposed Acquisitions for inclusion in Scenic Area (10-year draft vision) |



Due to changing ownership status and reliance on outside

conifer and snag-rich habitat near the RMSA (good potential for environmental education); slopes in this section are highly visible from I-90 corridor and contain several small recently-harvested clearcuts

- D** (approx. 160 ac., Sec. 5) This parcel, the "Tollgate Connector," provides a critical wildlife connection through a wildlife crossing under I-90 (additional public acquisitions are being pursued by other parties in order to provide a continuous wildlife connection across the Snoqualmie Valley in the face of encroaching development); this site also contains a high quality forested wetland
- E** (approx. 160 ac., Sec. 8) These six parcels, highly visible from the I-90 corridor, provide a critical wildlife connection through a wildlife crossing which passes under I-90; combined with the acquisition of parcel D (Tollgate Connector), these parcels form the basis for the only currently feasible wildlife corridor linking the north and south sides of I-90 near North Bend; although on steep slopes, these forested parcels may also be at risk from development
- F** (80 ac., Sec. 8) These lands contain a dramatic waterfall and sensitive riparian areas, as well as steep slopes which are highly visible from the I-90 corridor; parcels may be at risk for residential development (zoned RA-10)
- H** (372 ac., Sec. 21 and 28) Provides an essential buffer between the Scenic Area and planned residential developments to the north and east; contains some steep slopes and riparian zones likely to be unsuitable for forestry or development; contains sensitive stream corridors and excellent wildlife habitat (particularly for elk); owners have applied for a change from forestry to rural zoning and are seeking to develop the property
- I** (69 ac., Sec. 27 and 28) Provides buffer between core of RMSA and the dense development of the Wilderness Rim subdivision to the east; contains very steep slopes and sensitive riparian areas; stream corridors empty into Brewster Lake (which has sedimentation problems); timber harvesting by the current owner is planned for these parcels

## Part IV: Stewardship Recommendations

### MANAGEMENT VISION

The Rattlesnake Mountain Scenic Area provides a unique combination of ecological, scenic, recreational and educational resources. The management vision for the RMSA is based on the priorities or policies established by the Natural Resources Conservation Areas Statewide Management Plan Guidelines, King County's Conservation Futures Fund and the adopted King County Park, Recreation and Open Space Plan (1995). The management vision also reflects the individual opportunities, constraints, and conditions of this area, both within its borders and in the context of other open space and conservation areas in the region.

The management vision for the RMSA is as follows:

*The Rattlesnake Mountain Scenic Area (RMSA) will be managed to protect ecological systems and sensitive areas. The Scenic Area will also be managed to protect and enhance wildlife habitat and corridors, scenic views, and the generally undeveloped character of the mountain. Where public use does not compromise natural systems, the Scenic Area provides opportunities for limited low impact public use including environmental and cultural education.*

Rattlesnake Mountain is a linear geographic form, its shape creating an open space corridor connecting other valuable public open spaces such as the Cedar River Watershed, the Tiger Mountain State Forest, and to King County Parks' Three-Forks Natural Area, Mt. Si and the Middle Fork of the Snoqualmie through wildlife crossings under I-90. All of these corridors are particularly valuable for wildlife due to the Scenic Area's unique proximity to the Cedar River Watershed. The Scenic Area corridor also functions as a scenic backdrop for travelers in the I-90 corridor and as a potential recreation link in the Mountains to Sound Greenway. As development pressures increase at the base of Rattlesnake Mountain, the value of its green forests and ridges to wildlife, human visitors and viewers from I-90 will only increase over time.

At present, Rattlesnake Mountain is not subject to heavy public use. This lack of exposure to heavy human use, combined with difficult access, make Rattlesnake Mountain a relatively undisturbed habitat for wildlife, but also a remote scenic spot for human visitors who enjoy the solitude of the site. These features make Rattlesnake unique in the area and provide an opportunity to preserve the undeveloped character of this scenic place.

## Organization of Stewardship Recommendations

The management vision for the RMSA is supported by general goals that apply, where appropriate, to the entire Scenic Area. Management strategies and specific prescriptions to implement each goal are included under each general goal.

### GENERAL MANAGEMENT GOALS, STRATEGIES AND PRESCRIPTIONS

The following sections outline the general goals, strategies, and management prescriptions for the RMSA. These general goals provide broad direction for the present and future management of the RMSA. They also will provide direction for the management of land which may be added and incorporated into the Scenic Area at a later time:

- ❖ Maintain, Enhance, and Restore Ecological Systems
- ❖ Maintain Habitat for Threatened, Endangered, and Sensitive Species
- ❖ Maintain Scenic Landscapes and Views
- ❖ Enhance Opportunities for Environmental and Cultural Education
- ❖ Provide Opportunities for Low Impact Public Use While Preserving the Undeveloped Character of the Scenic Area

Following are the management strategies and prescriptions for each of the General Management Goals.



Council amended 1/12/98 clerk

## **Goal: Maintain, Enhance and Restore Ecological Systems**

### **Management Strategies:**

- ❖ In order to reduce habitat fragmentation, managers should maintain and enhance corridor connections to the Cedar River Watershed, Tiger Mountain State Forest, Mt. Si NRCA, Three-Forks Natural Area, and Meadowbrook Farms Open Space through fee simple acquisitions by willing sellers, or through other preservation techniques including cooperation with existing land owners, participation in the King County Public Benefit Rating System, acquisition of development rights, or conservation easements. Support integrated forest management and encourage voluntary participation in the Greater Rattlesnake Mountain Planning Area (see Map 9 in Appendix B of this document) to protect wildlife habitat corridors through this area.
- ❖ Maintain, enhance, and restore sensitive areas on the site including unstable slopes, high erosion areas, riparian areas, wildlife corridors, priority habitats, and areas of sensitive vegetation. Keep public use and access in these areas to a minimum.
- ❖ Identify, enhance and protect essential and valuable habitat and facilitate biological diversity.
- ❖ Allow natural successional processes to proceed while maintaining management flexibility to enhance or restore disturbed areas where natural successional processes have been disrupted. Facilitate habitat diversity in even-aged, densely planted forests through enhancement or creation of late-successional features such as species and structural diversity.
- ❖ Maintain relatively remote and undeveloped character of the Rattlesnake Mountain area.

### **Management Prescriptions:**

- Establish formal and informal voluntary management agreements with adjacent private landowners and appropriate public agencies to protect and enhance wildlife links among areas such as the Tiger Mountain State Forest, Weyerhaeuser's Raging River and Snoqualmie River tree farms, Mt. Si NRCA, Three Forks Natural Area, Meadowbrook Farm, the Middlefork Valley, Twin Falls State Park and the Cedar River Watershed.
- Support efforts to improve wildlife crossings under I-90 (Map 5); coordinate with Washington Department of Transportation, Washington Department of Fish and Wildlife and Metropolitan King County to plan and construct functional and effective crossings; encourage public acquisition from willing sellers (or conservation easements) of lands which connect RMSA with areas across I-90 for preservation or enhancement of wildlife corridors under I-90.

- Support efforts of the Mountains to Sound Greenway Trust to promote a system of natural areas forming a connected corridor from Puget Sound to the eastern foothills of the Cascade mountains in the Interstate 90 corridor.
- In order to preserve the ecological integrity of the forested slopes of Rattlesnake Mountain, pursue acquisitions or conservation easements from willing sellers which buffer the core of the RMSA from encroaching urbanizing areas
- Monitor development proposals for adjacent private lands that have the potential to impact the ecological health of the Scenic Area.
- Allow natural events to occur, except in cases where there is an imminent threat to public safety, adjoining landowner property, long-term ecological health of the Scenic Area or facilities located on the site.
- Work with the Cities of North Bend and Snoqualmie, and property owners, to develop technical data and, if necessary, recommendations to protect environmentally sensitive areas and steep ravines within the RMSA and surrounding properties.
- Define minimum habitat requirements and limits of acceptable change for wildlife in the Scenic Area; as habitats mature, pay particular attention to late-successional species, assessing habitat value, and performing population surveys for indicator species; develop a monitoring program for indicator species; protect existing and potential habitat and encourage native species to establish. Support and defend the Forest Production Zone boundary surrounding the RMSA as designated by the 1996 King County Comprehensive Plan.
- Assess habitat for native species which require large undisturbed areas for life cycles including bear, cougar, bobcat, and elk. Encourage protection of suitable habitat in the GRMPA through voluntary integrated management with adjacent lands.
- Decommission all non-essential roads and revegetate to prevent erosion, and reconstruct natural stream channels and banks where disturbed.
- Evaluate recreation use levels regularly and increase recreation control, maintenance, and enforcement activities when use levels interfere with ecological maintenance, enhancement, and restoration efforts.
- Evaluate use of restoration or enhancement activities which increase biodiversity and habitat complexity and create late-successional forest characteristics such as:
  - Planting native plant species from local stock
  - Reseeding/replanting disturbed slopes to minimize erosion

Council amended 1/12/98 clerk

- Stabilizing stream banks
- Thinning stands to create gaps in canopy
- Creating wildlife snags
- Modifying/increasing forest edges
- Commodity-based activities on publicly owned land (i.e. special forest products production, timber harvesting) shall be precluded except for selective forest management activities associated with the maintenance, enhancement, or restoration of natural ecosystem processes and regionally significant viewpoints.
- Improve drainage and prevent erosion from trails and primitive roads with waterbars or other methods of directing water to other natural drainages
- Locate and remove exotic plant (such as English holly, English ivy, and Scot's broom) and animal species where they threaten ecosystem integrity or habitat of sensitive species. Monitor regenerating areas, recently closed roads and other disturbed areas for the invasion of exotic plant species.

**Goal: Maintain Habitat for Threatened, Endangered and Sensitive Species****Management Strategy:**

- ❖ Maintain, enhance, and restore habitats required by designated threatened, endangered, or sensitive (TES) plant and animal species.

**Management Prescriptions:**

- Identify suitable habitat for likely TES species (see Appendix A, Vegetation and Wildlife Inventory).
- Work cooperatively with the State Dept. of Fish and Wildlife and the City of Seattle Cedar River Watershed staff for the evaluation of regional TES species and the potential for enhancing habitat and corridors in the Rattlesnake Mountain area.
- Evaluate reintroduction of extirpated TES species in areas of suitable habitat.
- Promote cooperative research with colleges and universities to evaluate baseline botanical and wildlife information, habitat availability and areas suitable for habitat restoration and enhancement.

## **Goal: Maintain Scenic Landscapes and Views**

### **Management Strategy:**

- ❖ Preserve and enhance visual and aesthetic resources provided by the Rattlesnake Mountain Scenic Area's strategic position as a gateway from the Puget Sound lowlands to the Cascade Crest, as a scenic backdrop for the I-90 corridor, and as a source of expansive aerial and terrestrial views of the surrounding region.

### **Management Prescriptions:**

- Enhance scenic views of Rattlesnake Mountain from the I-90 corridor through restoration and management activities in disturbed areas such as recent timber harvests or visible roads. These activities may coincide with wildlife habitat enhancements or the decommissioning of non-essential roads.
- Promote the use of natural vegetation screening of site development throughout the Rattlesnake Mountain region, especially for those structures (communications towers, housing developments, etc.) which are visible from major viewpoints within the Scenic Area. Protect on-site aesthetic qualities by using rustic materials in the design of public facilities and site furnishings.
- Maintain scenic views of Mt. Rainier, the Cascades, the Olympics, and of Mt. Si at prominent viewpoints including Rattlesnake Point, Snoqualmie Overlook and East Peak (see Map 6). Work with the City of Snoqualmie to maintain and enhance views from the Snoqualmie Winery site. Evaluate long-term maintenance (brushing, thinning of vegetation, etc.) of additional viewpoints based on ecological impacts.
- Work cooperatively with owners of communications towers and utility corridors in the Scenic Area to mitigate negative visual impacts of existing or future communications sites. Work towards long-term goal of reducing size, height and visibility of towers from Snoqualmie Valley and from within the Scenic Area.

**Goal: Enhance Opportunities for Environmental and Cultural Education****Management Strategies:**

- ❖ Maintain and enhance environmental, cultural and historic educational opportunities for all audiences. Develop such themes as ecological systems (i.e. snag-rich forests), Native American culture and history, the Mountains to Sound Greenway vision, and the geological history of the Snoqualmie Valley.
- ❖ Create a greater understanding of Rattlesnake Mountain Scenic Area's connectivity and how it relates to neighboring protected areas as a corridor, scenic landscape, and conservation area. Instill a sense of stewardship in the protection of the site's sensitive and valuable natural resources through education, understanding and volunteer projects.
- ❖ Coordinate education efforts with local and regional education programs such as those provided by the Mountains to Sound Greenway, King County Parks, King County Cultural Resources Division's Snoqualmie Valley Cultural Enhancement Project, the Cedar River Watershed, the Snoqualmie Valley Historical Museum, Tiger Mountain State Forest, West Tiger and Mt. Si NRCAs.
- ❖ Incorporate site restoration activities into educational programs in order to instill stewardship values.

**Management Prescriptions:**

- Develop a long-range outreach plan to educate citizens about the nature of RMSA so that through understanding they may gain stewardship responsibility.
- Develop ecological, geological, historical and cultural themes provided by the views of the surrounding landscape to guide the development of educational materials and programs.
- Provide interpretive signs and materials at or near areas of particular biological, geological, or historical interest. Avoid overuse of signs and use appropriate materials to blend with the natural surroundings.
- Concentrate education where higher levels of public use occur, particularly at easily accessible places close to entry points to the Scenic Area.
- Provide informational signs, kiosks, maps, or brochures at entry points to the Scenic Area that explain the purpose of the Scenic Area (conservation goals) and the unique and important partnership that exists between King County and the DNR in the management of this site. This information should also explain

appropriate uses of the site, rules of public use, and identify boundaries and trails.

- Provide informational signs at areas where use restrictions occur that explain the purpose of restricting or prohibiting public use in the area.
- Seek funding through grants, gifts, or agency resources to fund education and volunteer coordination to promote educational activities among Rattlesnake Mountain Scenic Area and other natural areas in the region.
- Coordinate with the Mountains to Sound Greenway to develop a regional interpretive sign program.
- Pursue cooperative education efforts with the City of Seattle's Cedar River Watershed Interpretive Center, planned for Rattlesnake Lake.
- Involve environmental educators and students from throughout the region with the RMSA monitoring program.

**Goal: Provide Opportunities for Low Impact Public Use While Preserving the Undeveloped Character of the Scenic Area**

**Management Strategy:**

- ❖ Accommodate public recreational activities only where use levels and activities do not conflict with Scenic Area goals and do not diminish ecosystem quality and natural site characteristics.

**Management Prescriptions:**

- Coordinate with the City of Seattle Cedar River Watershed for improved access to the Scenic Area (trail maintenance, signs, etc.) and consistent public use regulations.
- Pursue acquisition of lands which increase public access opportunities onto the RMSA through willing sellers.
- Pursue designation of a ridgeline trail which would connect Tiger Mountain State Forest and Rattlesnake Lake Trailhead. Coordinate with surrounding landowners and the Mountains to Sound Greenway Trust to establish trail easements, acquisitions, and trail signs.
- Coordinate with private landowners who currently allow public access to the Scenic Area across their lands to ensure that landowner-user conflicts are minimized and that use restrictions on these lands are upheld by Scenic Area visitors (The Weyerhaeuser Company, Plum Creek Timber Company). Where access to the RMSA occurs across private lands, clearly post signs which explain private owner's use, closure, or parking restrictions. Signs should also signify boundaries between the RMSA and private land along roads and trails.
- Consult with adjacent private landowners before implementing plans for improvements to public access consistent with the restrictive covenants (see Appendix A).
- Keep RMSA as a day-use area, open during daylight hours only. No overnight camping should be permitted. Any emergency vehicle access roads shall be gated and closed.
- As necessary, temporarily restrict public access during stewardship activities (for example, ecological restoration or thinning activities) and during extreme fire conditions. Seasonal closures may also be needed to protect sensitive plants, wildlife, or highly erodible soils.



- Prohibit activities that present a safety hazard to users and/or wildlife populations and conflict with NRCA or King County program goals. These activities include hunting or trapping within the jointly-owned Scenic Area.
- Allow only those activities that are consistent with Scenic Area, NRCA, and King County Parks goals and policies to protect landscape elements from degradation. Allowable public uses on the RMSA include the following activities. Please refer to the site-specific recommendations for exact trail locations and allowable uses according to land units.

**Figure 3 - Allowable Public Uses on RMSA**

(refer to site-specific recommendations and Public Use Map 6 for locations of designated trails)

Allowable Public Uses on RMSA (in alphabetical order)	Conditions of Public Use
Bird watching	On designated trails
Cross-country skiing	On designated trails
Education/Interpretation	On designated trails, entrances to RMSA
Hangliding	Present use unknown; may be opportunities but user groups need to define potential use
Hiking	On designated trails; improved signage, trail maintenance, and trail connections are proposed; additional designated trails may be proposed by user groups over time - these will be evaluated according to the goals and strategies outlined in this plan
Mountain Biking	On designated trails; existing routes have been accommodated; an additional trail connection for bikes is proposed
Pack and Saddle	On designated trails; existing routes have been accommodated
Pet Recreation	On designated trails; leashes required
Photography	Along designated trails
Picnicking	No infrastructure provided (pack-in, pack-out policy encouraged)

- Activities not consistent with the Rattlesnake Mountain Scenic Area goals or with NRCA Statewide Plan and King County Parks and Open Space policies include camping/overnight use, hiking/mountain biking/horseback riding off-road or on non-designated trails, off-leash pets, hunting, use of motorized vehicles, target shooting/archery, and collection of plants, mushrooms, or

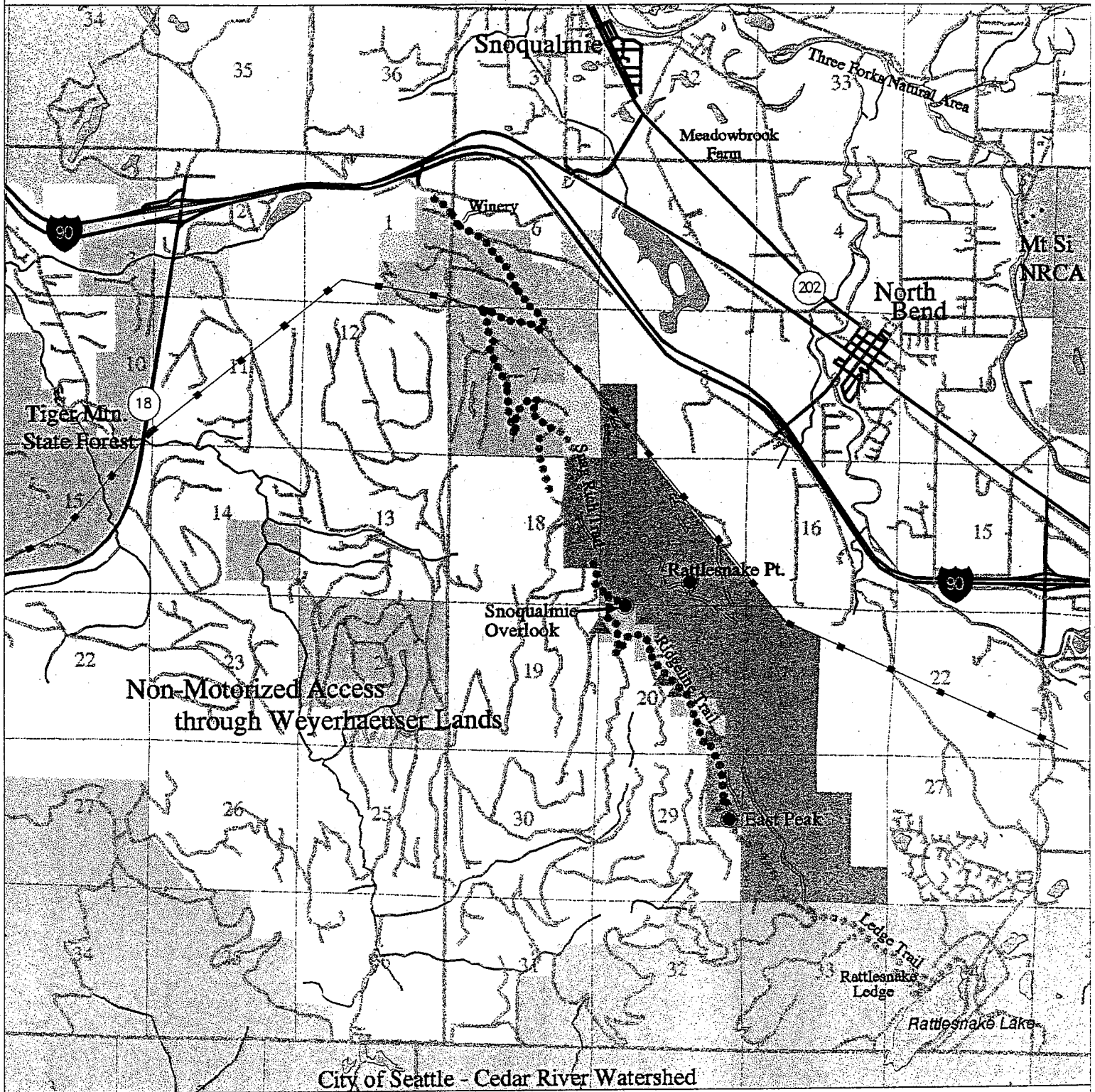
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firewood for non-tribal purposes. Exceptions for motorized vehicles are limited to emergency response and stewardship activities, and use in designated areas (with permits) by those who are differently-abled.



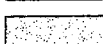
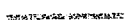
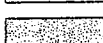

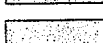

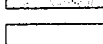
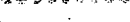

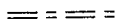
- Rehabilitate and improve trails where necessary to encourage trail use and discourage off-trail activities. Maintain official trails and informational signs.





# RMSA - Proposed Public Use Map 6

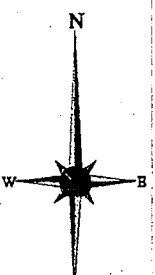


City of Seattle - Cedar River Watershed

- |  |                                |   |                                |
|--|--------------------------------|---|--------------------------------|
|  | Rattlesnake Mtn. Scenic Area   |  | Paved Roads                    |
|  | DNR Managed Lands              |  | Road Surface Unknown           |
|  | NRCA's and NAP's               |  | Multiple Use Trails            |
|  | Cedar River Watershed          |  | Hiker Only Trails              |
|  | City, County, State Park Lands |  | Possible Bike/Horse Connection |
|  |                                |  | Abandoned Roads                |
|  |                                |  | Proposed Roads to Abandon      |

10379 LEGEND

-  Viewpoints
-  Communication Tower



Due to changing ownership status and reliance on outside

- Avoid leading Scenic Area visitors on trails or roads to locations that would encourage unwanted trespass on private or leased land or to the communication towers.
- Promote and post signs encouraging “Pack In, Pack Out” garbage policy as necessary to reduce maintenance needs and to maintain the natural character of the Scenic Area.
- Require that permits be obtained for scientific research, large group activities, or other special events. Large group activities and special events include any event involving more than 12 participants which is advertised in advance, sponsored by any individual or organization, and conducted at a predetermined time and place within the Scenic Area. Post the general rules and regulations of the Scenic Area, as well as a map of the area at developed trailheads. Work with user groups to reduce impacts and conflicts arising from multiple-use roads and trails.
- Pursue funding for interagency coordination among public agencies in the Upper Snoqualmie Valley (DNR, King County, State Parks, City of Seattle, US Forest Service, City of North Bend, City of Snoqualmie) to develop and coordinate regional trails and low-impact public uses consistent with Scenic Area program goals.
- Keep pets leashed at all times within the Scenic Area to minimize conflicts with other users and wildlife. Monitor and assess damage done by pets to vegetation and wildlife habitat areas. Consider restricting pets from the Scenic Area if necessary to accomplish preservation and conservation goals.
- Develop monitoring plan which will evaluate baseline public use levels and activities, monitor use over time using key indicators, and develop criteria to evaluate resource impacts caused by continued low-impact public use. Pursue partnerships with public schools and universities to accomplish monitoring goals.

## **SITE-SPECIFIC MANAGEMENT RECOMMENDATIONS**

The previous section outlined general goals, strategies, and prescriptions which will guide the overall management of the RMSA. This section provides site-specific management recommendations for different portions of the site. These include stewardship, public use, and maintenance activities recommended or required for the RMSA.

Site-specific management recommendations in this section apply only to areas within the current 1800-acre RMSA. Site-specific management recommendations for areas outside the current 1800-acre RMSA are included in Appendix B. This appendix contains stewardship recommendations for proposed acquisitions as well as recommendations for the voluntary integrated management of lands adjacent to the proposed RMSA boundary in a "Greater Rattlesnake Mountain Planning Area."

Site-specific recommendations are based on the resource, public use, and land sensitivity analyses for the site, including the general goals, strategies, and prescriptions for the RMSA. Allowable public uses for specific areas on the RMSA are based on the following criteria:

- Legal constraints of the NRCA Statewide Plan or King County Parks policies;
- Compatibility with ecological goals and the vision for the Scenic Area;
- Availability of appropriate sites within the Scenic Area which will not be overly sensitive to the proposed activity

Public uses not addressed in this plan will need to be evaluated by land managers in the future based on these criteria.

### **Site-specific Management Recommendations - 1800-Acre RMSA Ownership**

#### *RIDGE UNIT*

The Ridge Unit (Map 4) includes the ridge line of Rattlesnake Mountain, much of which lies within the present RMSA ownership. The Ridge Unit contains dense conifer plantations, old logging spur roads, some moderate slopes and a communications tower at the south end of the ridge. This unit has a low sensitivity rating and offers unique opportunities for scenic and educational views of the surrounding landscape. Existing roads and trails in this unit provide opportunities for low-impact public use.

#### **Management Recommendations**

- Assess trail connections from the existing Rattlesnake Ledge Trail to East Peak and designate a single hiking route as the southern portion of a Ridgeline Trail route (Map 6). Where possible, make use of existing logging roads and avoid access roads to the communications tower. As necessary, decommission spur roads east of the communications tower to re-establish slope contours and reduce potential for soil erosion and mass-wasting.
- Enhance viewpoint at East Peak through vegetative screening of communications towers and maintenance road. Views should be focused towards the Cascades, Snoqualmie Valley, Mt. Si, Mt. Rainier and the terminal moraines of the South and Middle forks of the Snoqualmie River to provide opportunities for geological, cultural, and historic interpretation.
- Work with the Cedar River Watershed to erect gates and ensure that visitors to the East Peak do not enter the Watershed except on the designated hiking trail which leads to Rattlesnake Ledge and is outside of the hydrological boundary of the Watershed. Work with the Watershed to officially restrict the Ledge Trail to hiking only due to steep terrain and unstable conditions. Work with Watershed to provide signs at Rattlesnake Lake Trailhead indicating acceptable uses, length of trail, and caution about steep grades and cliff areas.
- Work with DNR Trust Land managers to designate the continuation of the Ridgeline Trail linking East Peak and Snoqualmie Overlook. Access to the East Peak on the Ridgeline Trail will be for multiple uses, accessible by foot, mountain bike, and horseback from the Snoqualmie Overlook. Currently this route follows existing roads maintained for access to communication towers. To accommodate multiple use and to avoid added ecological impacts, trail designation should remain on existing roads. Where possible, avoid close proximity to communications towers. Clearly mark trail route.
- Screen access to cliffs with vegetation where steep cliffs cause safety concerns and cliff vegetation is sensitive to trampling.
- Enhance viewpoint at Snoqualmie Overlook through vegetation and restoration enhancements. Access to this point at present is by foot and other non-motorized use, crossing through private lands (Weyerhaeuser Co. and Plum Creek Timber Co.). Although these owners presently allow non-motorized public use, this access is subject to change without notice. Place signs at the entrance to the Scenic Area land from the private lands to signify a change of ownership and to instill a sense of stewardship of the RMSA.

Industrial Forest Public Use Policies as of 4/15/96:

- Weyerhaeuser Company, Snoqualmie Tree Farm access: non-motorized recreation allowed on roads; no camping, fires, shooting;

roads will be closed to public use during timber harvesting, fire hazard, or road construction.

- Plum Creek Timber Company access: allows public recreational use of their lands provided there is no damage to roads, forests, or other land features; all Plum Creek lands in the RMSA area are gated and restricted to non-motorized use.
- As the young plantations at the top of the ridge grow taller, views from both the Snoqualmie Overlook and the East Peak viewpoints will be blocked. As this occurs, thinning or pruning of obstructing trees may be necessary to preserve the scenic views. When vegetation alterations become necessary, assess methods for thinning and/or pruning which have the least disruptive effects to wildlife habitat and cover.
- Assess quality of habitat in this unit, pursuing thinning to open small gaps in second-growth, even-aged, densely planted or forested stands to improve structural diversity, increase wildlife habitat values, and help create late-successional forest characteristics. Replant with a mixture of shade-tolerant species which will further increase habitat value and diversity.
- In order to enhance diversity and habitat values, work to create mixed conifer stands in the dense noble fir plantations at the top of the ridge.
- Renew lease for the communications tower on the East Peak of RMSA. This tower currently provides revenue for stewardship of conservation areas. Include in lease requirements for aesthetic enhancements (native vegetative screening, etc.), safety improvements and vandalism protection. Require existing lease to be consistent with the following criteria (provided in the NRCA Statewide Plan Guidelines):
  - must be on a temporary basis and subject to periodic review
  - shall not detract from a natural setting, risk threat to a natural resource or conflict with low-impact public use
  - shall not be issued for an exclusive use
  - shall be determined to be in the public interest and of public benefit
  - shall not prevent a threat to public safety or health
- Monitor Ridgeline Trail for invasive/exotic plant species and remove.
- In keeping with the present vision for RMSA as a relatively undeveloped natural site, added infrastructure along the ridgetop should be minimal.



### *EAST FACE UNIT*

The East Face Unit consists of the highly visible northeast face of Rattlesnake Mountain (Map 4). The unit is characterized by very steep and unstable slopes, rocky cliffs, highly erodible soils, pockets of old-growth forest, areas of snag-rich habitat, and many deep ravines containing high-energy streams. This high sensitivity unit will be managed to protect these very sensitive features.

#### **Management Recommendations**

- Efforts in this area should focus on preservation of the thin, erodible soils, mass-wasting areas, many stream corridors, snag-rich conifer stands, and the viewshed from I-90.
- No new trails should be constructed in this unit due to the extreme sensitivity of the soils, topography, priority habitats and riparian corridors.
- Due to inaccessibility and mature vegetation cover, ecological enhancement activities (such as thinning) in this unit should be minimal. Disturbances in this area, whether natural or man-made, may cause landslides and debris flows due to the high-energy streams, steep slopes, erodible soils, and high mass-wasting potential.
- Coordinate with the Seattle Water Department to improve and protect the Rattlesnake Ledge Trail area. Protection of the unique sub-alpine communities should be the highest priority. Erosion of steep slopes and trampling of vegetation has occurred on the ledges and on the section of trail connecting the RMSA to the Ledge Trail (on Seattle Watershed property). Trail improvements such as waterbars, switchbacks, and revegetation should be pursued. Work with hiking groups to maintain trail.

### *SNOQUALMIE UNIT*

The Snoqualmie Unit contains the lower northeast slopes of the Scenic Area (Map 4). This hillside contains recent clearcuts, several sensitive stream corridors, moderately steep slopes (30-65%), and decommissioned roads. Management in this unit will focus on ecological restoration and visual enhancements in the recent clearcuts and protection of stream and wildlife corridors.

### **Management Recommendations**

- Work to create mixed conifer-deciduous stands in the clearcuts to enhance diversity and habitat values. Thin portions of the dense alder stands in the recent clearcuts to improve habitat diversity and scenic character of slope by allowing the planted conifer stands to survive.
- Consider modifications to the linear edges on highly visible clearcuts on the northeast facing slope of the mountain to decrease the negative visual impact from I-90 and the City of North Bend. Creating softer, wider edges will also increase biodiversity and provide cover for species adapted to edge habitat.
- The high visibility from the I-90 corridor and the Snoqualmie Valley should dictate careful use of ecological forest management methods in this unit. Accompany management activities such as ecological thinnings or brushing with public education and interpretive material.
- Install signs which mark the closure of the two decommissioned roads along the lower northeast face of the Scenic Area to ensure rehabilitation of these areas. Actively pursue revegetation in these areas.
- Assess quality of habitat in this unit, pursuing thinning to open small gaps in second-growth, even-aged, densely planted or forested stands to improve structural diversity, increase wildlife habitat values, and help create late-successional forest characteristics. Replant with a mixture of shade-tolerant species which will further increase habitat value and diversity.
- Work with adjacent landowners to develop and implement strategies to prevent trespass on private property and the Bonneville Power line, and on access routes to the RMSA from North Bend. Presently, there is no public access from North Bend to the Snoqualmie Unit and Rattlesnake viewpoint. Public access to Rattlesnake Point may be pursued only after careful analysis, which would include discussions with affected property owners and an extensive public involvement process.

## Part V: Implementation and Monitoring

Implementation of the goals of this plan will require extensive interagency coordination. Enforcement, fire management, staffing and funding are critical activities for implementation.

### INTERAGENCY COORDINATION

The dual ownership and management of Rattlesnake Mountain Scenic Area by the DNR and King County makes interagency coordination critical. Many of the management recommendations outlined in this document involve coordinated efforts between agencies, private landowners, scientists, recreationists, community organizations, the Mountains to Sound Greenway Trust, and neighbors. Coordination between agencies will prove valuable in pooling funds for land acquisitions for the Scenic Area, regional planning, sharing mapping capabilities and data, and for performing baseline studies of vegetation, wildlife and public use.

Adding support for interagency coordination will enhance management between the two co-owners of the RMSA. Interagency coordination similar to that occurring amongst the Squak, Cougar, and Tiger Mountain group (SCAT) will similarly benefit management activities in the Rattlesnake Mountain region. It will be crucial to facilitate communication and cooperation with other land management agencies in the region including the US Forest Service, the City of Seattle Watershed, the cities of North Bend and Snoqualmie, and State Parks and Recreation Commission.

To further facilitate cooperation, King County and the DNR will need to continually assess their cooperative management agreement in order to designate and clarify respective management roles. The following management matrix (Figure 4) shows the projected management and budgetary responsibilities of the respective agencies. The primary roles of public use enforcement, ecological restoration and enhancement, trail and road maintenance, enforcement of fire regulation, administration of the communications tower lease, and coordination of environmental education have been assigned between the two agencies. Over time, however, these assigned roles and responsibilities may evolve and change as public land acquisitions in the region create a different management environment. The management matrix is thus a draft vision for management rather than a fixed plan.

Figure 4 - Management Matrix

**Management Responsibilities  
Rattlesnake Mountain Scenic Area**

<b>Management Tasks</b>	<b>Original Interim Management Agreement</b>	<b>Current Status</b>	<b>Projected Responsibility</b>
General Operations and Maintenance (signs, gates, trails, viewpoints, etc.)	KC	DNR/KC (little required at present)	KC
Planning - Management Plan, Revisions, Public mtgs., etc.	DNR	DNR	DNR/KC
Ecological Restoration and Enhancement	n/a	DNR	DNR
Public Use Enforcement	n/a	DNR	DNR
Public Use Monitoring	n/a	KC	KC
Ecological Monitoring	n/a	DNR	DNR/KC
Administration of Leases/Permits	KC	DNR	DNR
Environmental Education	n/a	n/a	KC/DNR
Volunteer Coordination	n/a	DNR	KC/DNR
Acquisitions	n/a	DNR & KC	DNR & KC
Fire Management	DNR	DNR	DNR
Capital Improvements	n/a	n/a	KC/DNR
Grants and Funding Coordination	n/a	DNR	KC/DNR

**MANAGEMENT MATRIX - RATTLESNAKE MOUNTAIN SCENIC AREA  
DNR/King County**

Management Activities & Responsibilities		0-2 years		2-5 years		5-10 years		Estimated Cost one time/annual
		DNR	KC	DNR	KC	DNR	KC	
<b>Operations/ Maintenance</b>	Ridgeline Trail signs (approx. 20 signs)		x		x			\$1000
	Boundary signs (approx. 10 signs)		x					\$ 200
	Designation of Ridgeline Trail / Mapping	x	x					\$1000
	Pruning / thinning at view points		x		x		x	\$ 480
	Trail maintenance		x		x		x	\$6000
	Rattlesnake Point signs (approx. 10 signs)		x		x			\$1000
<b>Ecological Restoration &amp; Enhancement</b>	Road abandonment (approx. 1 mile)			x				\$23000
	Vegetation screening (plantings, etc.) at viewpoints, cliff-areas, abandoned road entrances (approx. 10 areas)			x				\$6000
	Habitat assessment & enhancement evaluation	x						\$12000
	Habitat enhancement (ecological thinning, etc.)	x		x				\$4000
	Alder thinning (in old clearcuts)	x						\$4000
	Assessment of edge modification/enhancement			x				\$4000
<b>Public Use Enforcement</b>	Enforcement patrols	x		x		x		\$2800
<b>Public Use Monitoring</b>	Monitoring of Ridgeline and Rattlesnake Trail areas for overuse, trail damage, etc.	x	x		x		x	\$1200
<b>Ecological Monitoring</b>	Design of monitoring plan	x						\$1000
	Monitoring implementation		x		x			\$1000
<b>Adminis- tration of Leases/ Permits</b>	Communications Tower Lease Admin.	x				x		\$1000
	Permit Administration (groups, etc.)	x		x		x		\$300

Management Activities & Responsibilities		0-2 years		2-5 years		5-10 years		Estimated Cost one time/annual
		DNR	KC	DNR	KC	DNR	KC	
Environmental Education	Interpretive material - Rattlesnake Point						x	\$2000
	Interpretive material - Snag Trail						x	
	Interpretive material at future trailheads / other viewpoints						x	
	Wetland interpretation - Plum Pond						x	
	Interpretive Programming	x	x					\$2000
Volunteer Coordination	Interagency Trails Coordinator - new position	x	x	x	x	x	x	\$5000 each agency
	Enhancement of East Peak, Rattlesnake Point Snoqualmie Overlook		x		x		x	\$1600/ \$400
	User Group Coordination/Education	x	x	x	x	x	x	\$2500 each agency
Potential Acquisitions Both agencies will pursue funding. Show are 1996 estimated costs. Appraisals have not been done.	Weyerhaeuser Raging River Sec. 20 170 ac.	\$2,000,000						
	Weyerhaeuser Canyon Cr. Sec. 18 240 ac.	\$2,500,000						
	Tollgate Connector approx. 150 ac.	\$1,000,000						
	Plum Creek Section 7 320 ac.	\$1,500,000						
	Sections 21, 28 372 ac.	\$1,000,000						
	Waterfall site 80 ac.	\$ 150,000						
	North Slope properties approx. 160 ac.	\$ 900,000						
	Upper Wilderness Rim approx. 70 ac.	\$ 450,000						
Fire Management	Fire response	x		x		x		see enforcement

Management Activities & Responsibilities		0-2 years		2-5 years		5-10 years		Cost
		DNR	KC	DNR	KC	DNR	KC	one time/annual
<b>Capital Improvements</b>	Future Trailhead near Winery site						x	Subject to agreement w/Snoqualmie
	Build 1.3 mi. hiking trail (Snag Trail)				x			\$7000
	Build .25 mi. multiple-use trail (Snag Trail)				x			\$5000
	Multiple-use trail connections (Winery to Rattlesnake Lake, assuming land acquisition)						x	\$4800
<b>Grants &amp; Funding</b>	Grant writing and funding coordination							routine

## REGULATION, ENFORCEMENT AND FIRE MANAGEMENT

Regulation, enforcement and fire management are important aspects of effective implementation. Adequate access and guidance for fire management, emergency response and law enforcement are necessary. Use of the roads which access communications towers on the top of Rattlesnake Mountain provide vehicular access for maintenance and emergency purposes. As public use levels increase and public access is improved, enforcement and regulation will take on additional importance.

Because of the threat of wildfire escape to surrounding private forest lands and surrounding residential development, wildfires within the RMSA must be extinguished. Land managers should consider the primary goals and the most sensitive resources of the RMSA in choosing fire suppression techniques, including location of control lines, role of equipment, use of chemical retardants, location and extent of mop-up, and type of mop-up activity. Natural resources should be protected wherever possible. Sites should be left in a "natural setting" including effects from natural events. Mop-up activities should be limited to use of water, foam, and hand tools. Any activity that could produce slumping or increased sedimentation into stream or wetland systems should be avoided. Any activity that would alter flow of water into or out of streams or wetlands should be avoided. Use of fire suppressants should be limited to plain water, "wet water," or "foam." Retardants may also be appropriate in order to protect sensitive areas and private lands. Helicopters should be used whenever possible. Mechanized equipment should be restricted to roads. Managers should work with King County Emergency Services to provide adequate emergency response under the same guidelines as fire response.

Enforcement on the RMSA will emphasize non-confrontational techniques and voluntary compliance. Education programs may also help reduce conflict among user groups. Where certain uses are not permitted, it is hoped that informing the user where these activities are permitted will reduce the number of violations. Because enforcement of regulations is integral to the effective implementation of recommendations made in this plan, funding for continued enforcement should be pursued by both agencies to meet program goals (see Figure 1).

## STAFFING AND FUNDING

Effective implementation of the management plan will require staffing and funding to ensure that stewardship activities are not disrupted and future public-use guidelines are followed. Contributions and cooperation from both agencies will aid in keeping costs low and provide efficient use of staff time.

King County and the DNR will agree on an annual maintenance and stewardship budget that will designate selected management activities such as restoration, education and recreation enhancements according to the proposed management matrix (Figure 4). Stewardship funding from both agencies should be provided on a long-term basis. In



order to assure stewardship funding, King County and the DNR should establish a designated stewardship account for long-term management of the RMSA.

Interagency cooperation between King County and the DNR should involve implementation of the management plan including the implementation of ecological and public use monitoring activities. It should also include coordination of volunteers for stewardship and environmental education activities. Facilitating cooperation with public school or university students to perform resource and public use monitoring projects will also contribute to cost-effective and publicly responsive management. Public relations, coordination of regulation and enforcement and coordination with the Cedar River Watershed are other key staff responsibilities.

## **MONITORING PROGRAM**

To establish standards against which changes in ecology or public use on the RMSA can be measured, additional research to develop baseline data is necessary. Research should take into consideration the high variability in site resource conditions and use patterns that occur on the site. To establish baseline conditions to augment the data compiled in the resource inventory (Appendix A), the following assessments should be considered to develop appropriate monitoring and regulation standards:

- Assess terrestrial and aquatic habitat types, range and value, including threatened, endangered and sensitive plant and animal species.
- Collect other environmental quality data such as water quality, understory vegetation composition and hydrologic conditions.
- Establish and maintain records of erosion areas, exotic plant invasion, wildlife sightings, trail conditions, and types/levels of use.

Monitoring activities should be carried out based on overall Scenic Area goals as well as specific site conditions. Monitoring tasks should be prioritized as follows to help decide which monitoring activities should be emphasized based on funding and staffing limitations. Cooperative partnerships with public schools and universities to perform monitoring activities could help accomplish better monitoring while providing educational or research opportunities.

### **1. *First priority monitoring:***

Activities should include addressing key gaps in ecological information, including TES (threatened and endangered species) and key indicator plant and wildlife species, priority habitats, forest structure, habitat and understory vegetation, aquatic systems, and other characteristics.

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2. *Second priority:*

Monitoring should be given to ecologically sensitive areas identified in the resource inventory (Appendix A), particularly those that are subject to public use impacts.

3. *Third priority:*

Monitor public use and resource impacts in non-sensitive areas and facilities, such as trails, roads, trailheads and interpretive sites.

Once baseline conditions have been determined, monitoring indicators will need to be designed. Monitoring indicators should be selected to address monitoring objectives, to provide an early warning of change, be cost-effective and relatively easy to implement. The following are examples of monitoring activities that could be used to track ecological conditions and visitor use on the RMSA.

- Use vegetation transects to measure species occurrence and cover as well as successional change in plant community conditions;
- Use photographic recording from fixed points to measure change of the amount and extent of plant community and wildlife habitat types;
- Maintain records of reported wildlife sightings; Map location of nests;
- Document types and location of exotic plant species present and rates of invasion;
- Record the abundance of insects, annelids and other benthic organisms in aquatic communities;
- Measure water quality parameters such as pH, turbidity, dissolved oxygen, nutrient levels, bacteria, temperature and heavy metals;
- Assess changes in the trail width, number of bootleg trails and rates of erosion through field checks and photographic recording and measurements;
- Use photographic recording to document visual changes from designated scenic viewpoints in the RMSA;
- Meet with agencies and interest groups to monitor activities on adjacent lands potentially effecting the RMSA;
- Document frequency of reports of user non-compliance and user conflicts and enforcement actions;
- Document frequency, type of damage and vandalism to structures, facilities, and vegetation (e.g. carving initials in trees and rocks, etc.);
- Maintain regular contact with local educators and user groups. Record frequency and location of use of the RMSA for organized education programs;

- Perform user surveys on a periodic basis at specific locations that assess activity types, levels of use, and preferences.

## MONITORING IMPLEMENTATION AND EVALUATION

Monitoring of the RMSA should take place at regular intervals to determine how well objectives are being met and how closely management standards have been applied. A systematic method for recording and storing monitoring data should also be developed. A report assessing plan implementation based on monitoring results should be prepared annually and should include a summary of monitoring activities and an analysis of monitoring results. Recommendations for changes in this document or in management direction should be developed if necessary.

Threshold levels for change in monitored resources should be developed that will effectively signal when action is needed. The following are recommended actions that should be taken if monitoring results determine that additional stewardship activities are needed:

- If newly revegetated areas do not show improvements, reseeding or replanting of the areas may be needed. If revegetation or other areas show damage due to human presence, educational efforts should be increased. Temporary fences may need to be installed to protect areas, and as a last resort, areas may need to be temporarily closed to the public.
- If diversity and number of wildlife species is not maintained or enhanced, further limited human use of the area during nesting periods may be necessary. The practice of leaving snags and other decaying material should also be continued to the extent possible without increasing the risk of fires.
- A user survey should be conducted at least twice during each ten-year review cycle at times of peak use to monitor visitor use levels, use patterns and preferences. Volunteers could be encouraged to administer user surveys if a standardized survey form was developed. Surveying should take place on both weekends and weekdays in various seasons. Other information may be obtained by contacting known organized user groups.

## Appendix A: Summary of Resource Inventory

This section summarizes an in-depth resource inventory completed in 1995 with the assistance of a graduate class at University of Washington. The complete inventory with citations and references is available as a management reference at the DNR and King County staff offices. Much of the inventory applies to an area larger than the present 1800-acre RMSA ownership, including the northwestern, southwestern and ridgetop slopes of the mountain. The inventory information may therefore be used to inform future management decisions for areas of proposed acquisition. The following is a summary of the resource characteristics of Rattlesnake Mountain and potential management implications of these existing conditions.

The features of Rattlesnake Mountain summarized in this section include:

- Legal and Land Use
- Geographic Location
- Topography and Climate
- Scenic Resources
- Geology
- Soils
- Hydrology
- Vegetation and Wildlife
- Historic and Cultural Resources

### LEGAL AND LAND USE

Rattlesnake Mountain Scenic Area is unique in its joint ownership and management. As a result, a wide variety of laws and regulations apply to the creation and continued joint management of the Scenic Area. This legal and land use inventory includes an overview of applicable laws, legal constraints and land uses around Rattlesnake Mountain, including the management implications due to these legal and land use conditions.

#### *APPLICABLE LAWS AND AGREEMENTS*

One contract and four laws form the basis for the finance, purchase, and continued management of Rattlesnake Mountain Scenic Area by King County and the Washington State Department of Natural Resources.

**Interlocal Cooperative Agreement** - This contract between King County and the DNR specifies that RMSA will be preserved as open space for conservation purposes in a manner consistent with the purpose and intent as stated in RCW 79.71 and RCW 84.34, and King County Ordinances 10750 and 11068. Both agencies hold an equal and undivided interest in the RMSA. Because this agreement dictates joint management, the plan must adhere to the rules and regulations of both King County and DNR NRCA lands.

**King County Ordinance 10750** - This ordinance authorizes a 20-year bond acquisition program for Conservation Futures in the amount of \$60 million. Conservation Futures are defined as "green spaces, greenbelts and trail rights-of-way proposed for preservation for public use by either the county or cities in the county." The general conditions restrict use of the property to "passive use recreation", in particular, the development of facilities to support organized or structured athletic activities such as ball fields, courts and gyms are not allowed.

**King County Ordinance 11068** - This 1993 ordinance establishes a Conservation Futures Bond Acquisition program and appropriated \$60 million for the purposes of acquiring public green spaces, green belts, open space, parks and trails. Rattlesnake Mountain Scenic Area was purchased with these funds.

**RCW 79.71 (NRCA Act)** - This state law created the Natural Resources Conservation Areas programs within the DNR. It defines suitable land types for Natural Resources Conservation Areas, the allowable activities within an NRCA (management and public use activities), and creates a stewardship account for NRCAs. The RMSA was purchased with a special legislative appropriation in 1993. The legislative intent for management of the RMSA was to be consistent with the original NRCA Act. Management activities are restricted to enhancing, restoring and maintaining the natural systems at the site. Public use is restricted to low-impact activities. Low-impact use for each site will be determined on a site-specific basis.

**RCW 84.34 (Open Space, Agricultural, and Timber Lands - Current Use Assessment - Conservation Futures)** - This law authorizes the acquisition of open space lands through the issue of public bonds by counties, cities, or metropolitan municipal corporations.

Other state and local laws, regulations, plans and covenants influence the planning and management of the RMSA. These include:

**NRCA Statewide Management Plan** - In 1995, the DNR and King County agreed to use the DNR Natural Resource Conservation Area Statewide Plan to guide the planning for the Rattlesnake Mountain Scenic Area.

**Washington Growth Management Act (GMA)** - requires all urban counties and cities to develop and adopt comprehensive plans and regulations to implement these plans. As a measure of GMA plan consistency, the RMSA has been designated as open space in the comprehensive plans of King County, Snoqualmie, and North Bend.

**King County Growth Management Planning Council - Countywide Planning Policies** - adopted by the King County Council and signed by the County Council Chair on August 15, 1994, Ordinance 11446; Ratified by the cities, November 21, 1994, as mandated by the Growth Management Act, RCW 36.70A.210.

**King County Comprehensive Plan** - adopted under the provisions of the Washington State Growth Management Act.

**King County Parks, Open Space and Recreation Plan** - This plan outlines policy guidelines for lands managed by the King County Parks and Cultural Resources Department. Rattlesnake Mountain qualifies as a Natural Area where “development and use will focus on keeping the environment in a nearly undeveloped state...there may be little or limited public access to these areas.”

**King County Sensitive Areas Ordinance 9614** - broadly identifies hazardous and environmentally sensitive areas in King County. Hazard areas designated on the RMSA include landslide and high erosion areas and environmentally sensitive areas such as steep slopes and streams areas. These areas were considered in the planning process for RMSA.

**State Environmental Policy Act (SEPA)** - requires governmental agencies to consider the environmental impact of proposals before making project decisions. The management plan for RMSA requires the preparation of an environmental checklist to determine whether a declaration of non-significance is appropriate. Future management activities which have the potential to impact the environment such as major trail or facility construction need to be individually reviewed through the SEPA process.

**Americans With Disabilities Act (ADA)** - a federal law requiring existing architectural, structural, and communication barriers that restrict accessibility by disabled persons be removed wherever readily achievable. Whenever possible, facilities constructed on the RMSA must be made readily accessible for individuals with disabilities.

**Forest Practices Act (FPA)** - a state law requiring the DNR to regulate a wide range of forestry activities including road and trail construction, harvesting, thinning, reforestation, fertilization, prevention and suppression of diseases and insects, salvage of trees and brush control. Although the central goal of RMSA is the maintenance, restoration, or enhancement of natural systems, certain forestry operations such as ecological thinning may require an FPA permit.

**Restrictive Covenant:** The RMSA is subject to a restrictive covenant arising out of Weyerhaeuser’s conveyance of the property that benefits some of the adjacent surrounding lands.

“The purpose of this conveyance is to allow the Grantee and its successors and assigns to prevent or control any logging or land development on the conveyed lands, while allowing the Grantor and its successors to make normal uses of the surrounding lands unencumbered by the separate ownership status of the conveyed lands. No severance damages or similar compensation is being paid for any restriction of future use of the

surrounding lands. Neither party intends that this conveyance, or any subsequent preservation, protection or management policies for the conveyed lands, shall directly or indirectly restrict any otherwise permissible uses of the surrounding lands. Therefore, the Grantee, for itself and its successors, agrees that it will not assert in any administrative or judicial proceeding (including any agency review of applications for land use permits) that otherwise permissible uses of the surrounding lands should be prohibited, delayed, restricted or subject to special studies by reason of: (1) the ownership of the conveyed lands by Grantee or its successors, or (2) the fact that such lands are owned, preserved or managed under policies different than those of the owners of surrounding lands. If the Grantee or its successors should desire to provide roads, trails, campgrounds or other facilities to accommodate public use of the conveyed lands: (1) the Grantor or its successors shall be consulted at least 90 days before construction or other implementation of plans for such facilities, and (2) such plans shall be designed to minimize to the extent practicable any foreseeable adverse effects of normal use of the surrounding lands which might be caused by members of the public using the conveyed lands. The purpose of this conveyance and the Grantee's obligation to consult with Grantor prior to the construction or the implementation of the plans for facilities shall not be construed as a limitation or restriction upon the use of the conveyed lands." (Statutory Warranty Deed (9312201972), dated December 13, 1993.

#### *EXISTING LAND USE*

**Utilities** - One 80-foot communications tower and an associated transformer are located at the East Peak on the southern end of the RMSA. The lessee must have vehicular access to the site. Several fiber optics and communications cables cross the RMSA to reach other communications towers on DNR Trust lands at the top of the ridge. Bonneville Power Administration (BPA) transmission lines intersect the property in two areas and traverse along the northeast boundary of the site for nearly a mile.

**Roads** - An extensive network of existing logging roads lead to the top of Rattlesnake Mountain through private lands (Map 2). Easements on these roads exist for access to communications towers on adjacent DNR Trust and RMSA lands. Most roads on the present 1800-acre RMSA ownership are maintained by Weyerhaeuser Co. through a cooperative maintenance agreement. The unmaintained spur roads on the RMSA (two dead-end roads exist on the ridge top at the south end) are the responsibility of Scenic Area managers.

**Access** - At present no designated public access exists to the RMSA. Existing public use of the Scenic Area requires access through neighboring private lands.



No public easements with these landowners exist at this time except for an unofficial agreement with the City of Seattle for access from the Watershed side of the mountain. Access from the Watershed public parking facility leads very steeply up the Rattlesnake Ledge Trail and continues to the RMSA. Access from Highway SR-18 and I-90 crosses private lands where public access is not secured. The Mountains to Sound Greenway Trust, the DNR, and King County are working on creating better public access opportunities to the RMSA through purchases or trail easements on several neighboring properties.

**Public Use** - Present public use is seasonal and light. It includes hiking, mountain biking on logging roads, and some equestrian use. Hunting activity may occur within the RMSA but it is not extensive due to the long distance from vehicle-accessible roads.

**Zoning** - King County zoning for the RMSA is under Forest Production (1:80 acres). Surrounding zoning includes forestry, rural and urban categories, though these designations may be subject to change over the coming years as development pressures increase. Interaction or conflict between zoned land uses could be mitigated by buffers, especially between subdivisions and the RMSA.

#### *LAND USE ON SURROUNDING PROPERTIES*

The following section describes current land uses on properties adjacent to the present 1800-acre Rattlesnake Mountain Scenic Area ownership (Map 2):

**The Cedar River Watershed** - Managed by the City of Seattle, most of this 90,000-acre property has almost no public access. A section of the Watershed surrounding Cedar Falls and Rattlesnake Lake is open to public recreation and contains the Rattlesnake Ledges Trail. The Watershed has plans to improve visitor facilities at the lake including the construction of a visitor's center and extensive parking, the improvement of public recreation facilities at Rattlesnake Lake, and the construction of trailheads for the John Wayne Trail, the Snoqualmie Valley Trail, and Rattlesnake Ledge/Ridge Trail.

**DNR Trust Lands** - The State of Washington owns much of the ridge top of Rattlesnake Mountain and manages this land as DNR Trust land. These lands are managed under a revenue-production mandate and include numerous radio/communication towers.

**North Bend Urban Growth Areas** - The North Bend Comprehensive Plan designates areas north of I-90 for future growth (RMSA is south of I-90). The plan recognizes the importance of preserving and retaining the existing rural land use around North Bend in order to maintain the rural perception of the city. The plan also acknowledges the importance of maintaining the wooded hillsides surrounding North Bend to complement the rural perception of the area.

**Sections 21 & 28** - This 372-acre site borders the RMSA for nearly two miles and is currently zoned for Forest Production. Logged in 1986, the property has since been subdivided into 20-acre parcels known as "Plateau Associates." Current owners applied for a rezone amendment to the King County Comprehensive Plan in order to develop the property. The status of this application is pending at this time.

**Section 17:** A 160-acre parcel borders the Scenic Area at the eastern boundary and lies uphill from the Forster Woods subdivision. The timber on this highly visible area has recently been harvested in all areas with the exception of sensitive riparian corridors with vegetation buffers. This site represents a potential access conflict as hikers currently use roads through this property to access the east face of the Scenic Area. Parking and official easements have not been secured, so use of this area represents trespass.

**Section 7** - This area is currently owned by Plum Creek Timber Company and is within the forest production zone. Extensive timber harvesting has occurred on the site, but some snag-rich conifer stands remain intact. The Mountains to Sound Greenway, the Trust for Public Lands, and the US Forest Service Forest Legacy Program are currently working towards public acquisition of this property. This section contains an example of wetland habitat. This site provides trail connections between the RMSA and public access at the City of Snoqualmie "Winery Site."

**Section 6** - This site has recently been purchased by the US Forest Service through the efforts of the Mountains to Sound Greenway Trust and the Trust for Public Lands. Managed by the DNR, continued forestry activities are expected on this site. Public ownership of the site provides a link between the RMSA ridgetop and the Snoqualmie Winery site where public access and parking are available.

**Snoqualmie Winery Site** - This parcel is owned by the City of Snoqualmie. Part of the site is presently leased to the Snoqualmie Winery while approximately 40% of the site is zoned as public open space by the city. Public access on this site is currently assured, and ample parking, panoramic views, and sewer and water connections exist on the site.

## **GEOGRAPHIC LOCATION**

Rattlesnake Mountain is a high ridge which rises 3,517 feet above sea level southwest of the City of North Bend. The mountain is approximately 35 miles east of downtown Seattle. The present ownership of the RMSA encompasses the steep east face of the mountain. The Rattlesnake Ledges, Rattlesnake Lake, most of the top of the ridge, and the northwest portions of the mountain are outside the present ownership of the Scenic Area (Map 2). The entire west side of the mountain is owned by private industrial forest owners and the lowest slopes of the mountain to the east contain residential subdivisions. The City of Snoqualmie's Winery site (Map 2) lies at the northern-most end of the mountain, while the City of Seattle Cedar River Watershed owns and manages the south end of the mountain.

## **TOPOGRAPHY AND CLIMATE**

Rattlesnake Mountain is a part of the foothills, often called the "Issaquah Alps, of the rugged, glacially-carved peaks of the Cascade Mountains. The Mt. Si Natural Resources Conservation Area (DNR) is across the Snoqualmie Valley from the RMSA to the east, forming a "Gateway to the Cascades." Rattlesnake Mountain is a long rolling ridge trending northwest to southeast for approximately five miles (Map 3). The southeast end of the mountain ends with dramatic cliffs that drop down to Rattlesnake Lake in the Cedar River Watershed.

Much of the east face that comprises the Scenic Area is steep and inaccessible with slopes exceeding 65%. Rocky cliffs at the top of the ridge define steep ravines and stream corridors that drop rapidly as waterfalls and stream corridors down the east face of the mountain. Gentler slopes within the Scenic Area boundary are limited to the narrow ridge tops at the northern and southern ends of the mountain. A moderate slope extends from the northwest peak of the mountain towards the City of Snoqualmie Winery site.

Average temperatures for the RMSA area range from 40° to 72° F in the summer months, and from 24° to 48° F in the winter. During the winter, occasional polar continental air masses cross the Cascades from the east and lower temperatures close to 0° F. Wind direction surrounding the RMSA is generally from the southwest in the winter and from the north to northeast in the summer. Severe winter windstorms with velocities exceeding 100 mph have been recorded on the ridgetop of Rattlesnake Mountain.

The upper reaches of Rattlesnake Mountain (above 2,500 feet) are often shrouded in snow during the winter months while heavy rains fall on the lower slopes of the mountain. Rain-on-snow events where rain rapidly melts snow and causes flash flooding occur within the Upper Snoqualmie River area and may occur during the fall and winter months on the upper slopes of Rattlesnake Mountain.

## Management Implications - Topography and Climate

The extremely steep slopes along the east face of Rattlesnake Mountain make much of the Scenic Area inaccessible and seriously restrict human use of most of the site. Crossing the upper reaches of the steep ravines with roads or trails would be extremely difficult, if not impossible. Networks of logging roads presently exist on the mountain in most areas where topography allows (see roads on Map 2). These roaded areas include the top of the ridge and the western and northern slopes of the mountain. An existing trail leads up the steep southern end of the mountain from Rattlesnake Lake in the Watershed, up through the Rattlesnake Ledges to the East Peak on the Scenic Area. The topography of this trail makes it appropriate only for relatively athletic hikers. The east face, which has several decommissioned roads leading half-way up the face, is likely to be prohibitively steep for further roads or trails which would lead to the top of the mountain.

High winds, cold temperatures and snowy conditions on RMSA during winter months may limit recreational and educational use of the site. Blowdown of trees, especially at forest edges, may be a hazard to visitors during the winter months. Rain-on-snow events during the winter may create erosion and sedimentation problems in the streams which originate on the slopes of Rattlesnake Mountain. Typical of this area, dry summers, lightning strikes and high winds may combine to create a fire hazard on the mountain.

## SCENIC RESOURCES

The entire east face of Rattlesnake Mountain is visible from Interstate 90 and from the cities of North Bend and Snoqualmie. Large communications towers located at the top of the mountain on DNR Trust lands are prominent features of the ridgetop. The Scenic Area also contains one communication tower at the southeast peak of the mountain but its small size and low height make it relatively inconspicuous when viewed from the valley. Other visual characteristics of the mountain include recent clearcuts along the north and east faces of the mountain. The edges of these clearcuts form distinct geometrical outlines which do not follow the contours of the site, making them visually conspicuous when viewed from the valley. Alder shrubs within the clearcuts are beginning to overshadow planted fir trees and create clear color patterns of light green (alder) in the cuts against dark green (conifer) in the surrounding uncut areas. These patterns accentuate the clearcuts and will likely remain visually conspicuous for the life span of alder trees (approximately 50-70 years).

Scenic views from the upper portions of Rattlesnake Mountain are important features of the Scenic Area. The log landing near the top of the southern-most clear-cut (Rattlesnake Point, Map 6) provides expansive views of the Cascade Mountains, North Bend and Snoqualmie, Mt. Si, the Middle and North Fork Valleys, and many other elements of the

Mountains to Sound Greenway. The best viewpoints from the top of the Scenic Area are at East Peak near the communications tower and from Snoqualmie Overlook, a log landing below the northwest peak of the mountain (Map 6). Views from these spots offer broad views of Seattle, Bellevue, the Snoqualmie Valley, the Cascade Mountains, Mt. Rainier to the south and Tiger Mountain to the west. Views of the mosaic of managed forests, glacial formations, and historical and cultural trade routes add to the value of these viewpoints for environmental education. However, all of the viewpoints are located within young forest plantations that will eventually block views as trees mature.

Other expansive views exist from sites outside of the present ownership of the RMSA. These include views from the Snoqualmie Winery site of Mt. Si and the Snoqualmie Valley, views from Rattlesnake Ledge in the Cedar River Watershed, views of the Cascade Mountains from viewpoints on Sections 6 and 7, and extensive views of Mt. Rainier, Weyerhaeuser Company's Snoqualmie Tree Farm, and Tiger and Taylor Mountains from the roads leading up the west side of Rattlesnake Mountain.

### **Management Implications - Scenic Resources**

The negative visual impact of the clearcuts on the east face of Rattlesnake Mountain pose a concern for the long-term scenic character from the Snoqualmie Valley and I-90. Modifications to the vegetation both within and along the edges of these clearcuts could lessen the geometric visual impact to viewers from below.

The large communications towers along the ridgeline detract from the scenic character of the mountain. Existing roads and paths along the ridgetop (many are maintained to service the towers) pass by the towers and contribute to an unnatural visual experience for recreational visitors to the mountain. The small tower that lies within the Scenic Area (at East Peak) detracts from the scenery at this viewpoint.

Scenic views of the surrounding landscape will be blocked by growing vegetation over the next several decades. Young noble fir at the top of the mountain now partially obstruct views while maturing trees in younger clearcuts on the east face will eventually block views of the valley from Snoqualmie View. In order to preserve and enhance scenic views from the site, limited thinning or pruning of vegetation will be required. These techniques may be used to shape existing views to capture particular scenes or to block detracting elements such as communication towers or encroaching development.

## **GEOLOGY**

Rattlesnake Mountain represents an erosional landform created by the glacial retreat of the Puget lobe, the southwestern most extension of the Cordilleran ice sheet which last

advanced into the Puget Sound region about 15,000 years ago. Rattlesnake Mountain is the easternmost and the highest of the so-called "Issaquah Alps," rising to a maximum elevation of 3,517 feet. The mountain connects to Mt. Washington at the Cascade front by a terminal moraine of the Puget lobe, located below Cedar Falls in the Cedar River Watershed. The ice sheet that pushed towards the Cedar River Valley and formed the dramatic Rattlesnake Ledges never reached the top of Rattlesnake Mountain. It was the only peak of the Issaquah Alps not buried by the ice, its tip forming a rock island (or "nunatah") above an expanse of ice.

Underlying rocks in the Snoqualmie Valley region are sandstone, shales, and lava flows which have folded, eroded, and been covered by glacial debris. Rattlesnake Mountain itself is volcanic rock composed of andesite flows and tuffs with rare breccia and volcanic siltstone. Along the cliff areas on the upper eastern face of the mountain are altered volcanic rocks, 80% of which are composed of chlorite, pyrite, and calcite. Below the east face where soils are moderately developed, parent material consists of thin deposits of glacial outwash.

The steep upper slopes of the mountain contain cliffs and ridges that are extremely unstable. The extensively altered and fractured rock outcrops of the east face have been subject to weathering and seismic activity from a northwest trending fault zone that lies at the base of the mountain. Earthquake activity, even in the past year (1995) near Rattlesnake Mountain suggests that some fault structures in the area may still be active.

Mass-wasting is also a concern within the Scenic Area. Evidence of both recent and historical landslides occur along the east face of Rattlesnake Mountain and large blocks of rock found near Brewster Lake and Wilderness Rim development were evidently transported there by rockfalls or landslides. The places most susceptible for mass-wasting are at the higher reaches of the streams that run from the top of the east face and at areas of topographical convergence (hollows where altered bedrock tends to be weaker because of the concentration of seepage). Evidence of mass wasting can be seen in scoured drainages along the length of the east face of Rattlesnake Mountain. The old logging road which winds halfway up the east face was recently decommissioned by the DNR due to erosion and the potential for mass-wasting in the steep stream crossings.

The potential for rain-on-snow flooding could adversely effect the slope stability at Rattlesnake Mountain. The elevation range of the upper slopes on RMSA straddles the range having the highest incidence of rain-on-snow flooding events (transient snow zone) in this part of Washington.

The geological evidence from Rattlesnake Mountain - extensively altered and faulted rock, evidence of debris flow, landslides, and high erosion rates - suggests that potential for future slope failures is high. Some slope failures could occur in the absence of human disturbance due to the prevailing poor-quality bedrock and the relatively steep slopes. A recent debris flow (Winter, 1995-96) occurred due to natural processes along the northeast face of the RMSA. Considering the orientation of the bedrock structures and

their alteration, wedge and circular failures, traditional landslides and debris flows are the types of slope failures most likely to occur.

Very little economically profitable mineral material exists on Rattlesnake Mountain. A limited attempt at coal mining occurred at the Niblock Mine, northeast of the Scenic Area on Rattlesnake Mountain during the early years of the 1900's. The mine produced small amounts of high grade coking coal that served a variety of smelting and metallurgical industries in the Puget Sound region. Although mineral resource rights within the RMSA are held by the previous owner (Weyerhaeuser Co.), future mineral prospecting in the Scenic Area is unlikely.

### **Management Implications - Geology**

The views from Rattlesnake Mountain provide a unique opportunity for education about the geological history of the Snoqualmie Valley. Evidence of glacial activity and landscape formation are visible from the vantage of Rattlesnake Mountain: glacial moraines, the valleys of the Snoqualmie River, the Cascade peaks, and the looming vista of Mt. Si across the valley create many points for geological interpretation.

Due to the likelihood of natural slope failures along the steep east face of the Rattlesnake Mountain, new roads and trails bisecting this area would require extensive and expensive construction techniques and may still be subject to failure. Natural processes are likely to cause repeated landslide and debris flows in the stream channels along the northeast face of Rattlesnake Mountain. Future development, infrastructure, utilities, and private property along the lower slopes of the mountain will be highly susceptible to damage and/or destruction due to these natural occurrences. Natural buffers should be retained to protect development from mass-wasting events.

### **SOILS**

As detailed in the geology inventory, parent material of the soils on Rattlesnake Mountain is primarily volcanic in nature. Most of the soils on the steep east face of the ridge are very young and not well-developed. Shallow soils, with only an A-horizon (organic debris) overlying highly fractured and altered bedrock predominate. Moderately developed soils can be found on the site but tend to be limited to local terraces composed of glacial deposits. On the steeper slopes, creeping colluvium is attributable to soils not staying on the steep slopes long enough to develop beyond the A-horizon stage. The lack of a well-developed soil profile on most of the steep slopes is indicative of high erosion rates. Soil instability on the northeast face of Rattlesnake Mountain may be due to the geological vertical fracturing inherent in the bedrock material. For a complete list of soil types, characteristics, and mapped locations, refer to the complete resource inventory in

Appendix A, available for reference from DNR and King County Parks management staff.

Most soils on Rattlesnake Mountain are rated as well to moderately well-drained with slight to moderate erosion hazard. One area along the northeast portion of the mountain contains a soil with a severe erosion hazard rating due to high contents of silt and clay (Toakul-Pastik complex). Soils on the northeastern face would be highly unstable in situations where vegetation is removed or where excavation occurs for road construction or logging.

### **Management Implications - Soils**

Much of the Scenic Area site is not well suited to excavation for structures, trails, and roads due to steep slopes and unstable soils and bedrock, especially on the northeast face. Based on potential erosion hazards, trails or viewpoints should be located where slopes are moderate (less than 30 percent slope). Further construction activity on the northeast face should be avoided due to potential for mass failure and high erosion hazard. The gentler slopes around the Snoqualmie Winery site contain soils more suitable than those within the current RMSA for trails, structures, or parking areas.

## **HYDROLOGY**

Most of the Rattlesnake Mountain Scenic Area is within the South Fork Snoqualmie River watershed. It is bordered to the west by the Raging River watershed and to the south by the Cedar River Watershed. The riparian areas and high water quality of these river systems are valued for many uses including wildlife habitat, fisheries, recreation, and agriculture.

Three headwater stream systems are located within or adjacent to the Rattlesnake Mountain Scenic Area. The first system is made up of the many small streams on the northeast face of the mountain which flow east into the South Fork of the Snoqualmie. The second and third systems are the Raging River and Canyon Creek drainages immediately to the west of the current RMSA ownership (on Weyerhaeuser lands). The streams within the upper portion of the Scenic Area are small and intermittent, increasing in size, velocity and seasonal duration as they converge at the northeastern base of the mountain. These streams drain into the South Fork of the Snoqualmie River in the vicinity of North Bend. The Raging River and Canyon Creek headwaters develop more rapidly into large streams on the western flanks of the mountain. The high water quality of these streams is important for the health of salmonid species downstream. One of the streams on the east face provides drinking water to portions of the community of Harman Heights, located in the southwest quarter of Section 16 (Map 7).



Streams within the present RMSA ownership classified as Type 4 and Type 5 with permanent, intermittent and seasonal water courses whose significance lies in their impact on downstream waters. Larger streams (Type 3 and above) surround the RMSA and include the Raging River and Canyon Creek drainages and the South Fork of the Snoqualmie River which have resident and/or anadromous fish.

In the past, high-energy streams along the east face of the Scenic Area have eroded existing roads and possibly contributed to debris flows. Stream crossings under the decommissioned road on the northeast face were recently restored to their natural contours with the removal of culverts, placement of rock and soil along the road cuts, and large rocks and debris placed in stream crossings.

There are no wetlands within the present ownership of the RMSA. Four wetlands exist on lands adjacent to the site (Map 7): Rattlesnake Lake to the south, Brewster Lake to the southeast within the Wilderness Rim development, a wetland to the northwest of the RMSA on Section 7, and a forested wetland that lies north of the site between I-90 and Route 202. The forested wetland in the western 1/2 of Section 7 is the nearest high-quality wetland to the Scenic Area. This wetland, buffered from logging activities by its present owners, contains rich wetland vegetation and cover for a variety of wildlife species. Brewster Lake lies within the Wilderness Rim subdivision to the southeast of the

Scenic Area. Due to a lack of good drainage and sedimentation problems, this wetland complex causes flooding problems for surrounding neighbors. Brewster Lake is fed by streams which originate within the RMSA.

### **Management Implications - Hydrology**

The construction of new trails and roads that intersect streams may cause degradation of water quality. Special care should be taken near the drinking water source for Harmon Heights in Section 16.

Permanent preservation of the high-quality wetland in Section 7 would protect water quality of Canyon Creek provide a nearby environmental education site.

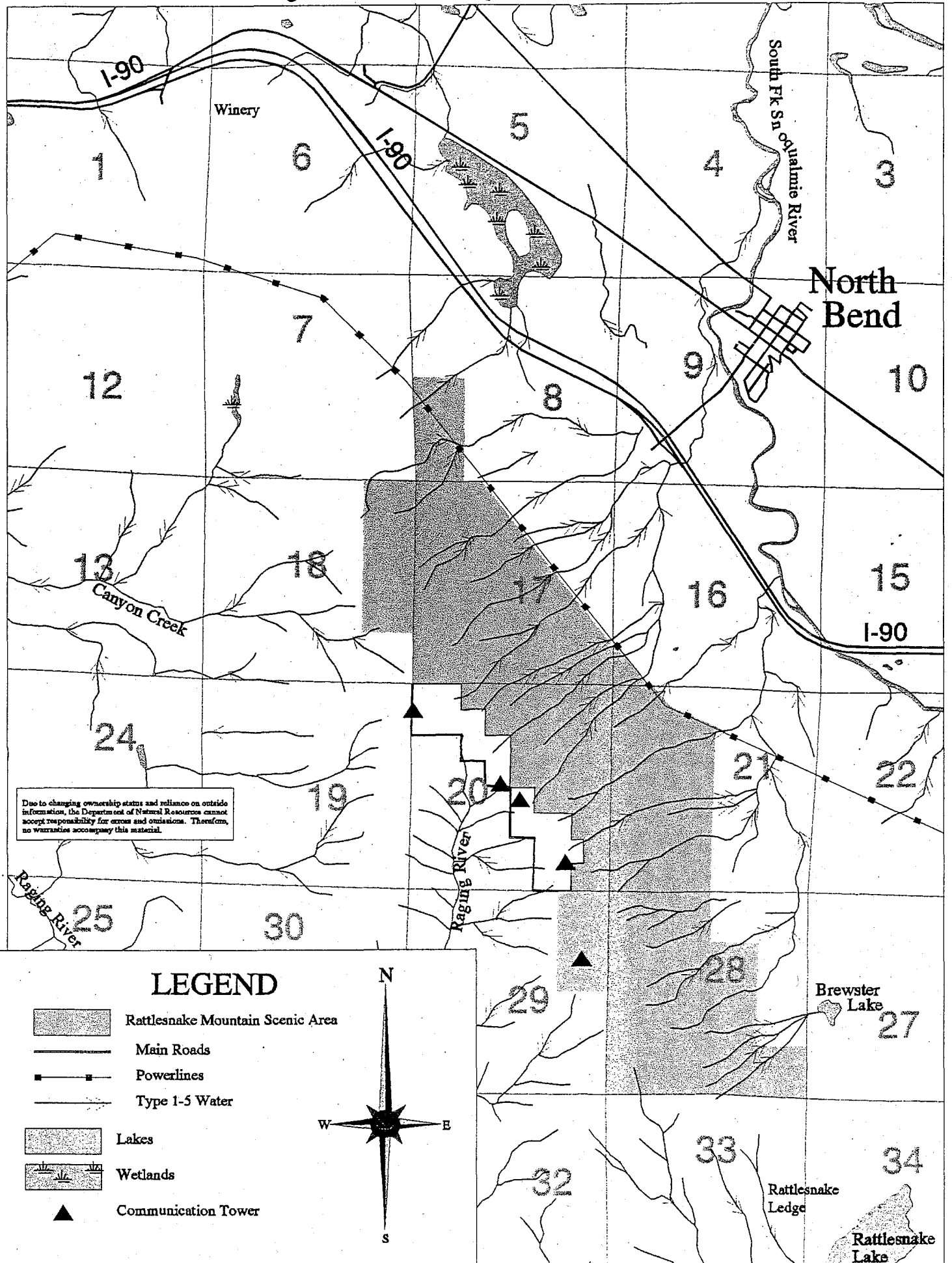
Sedimentation and flooding around Brewster Lake could be exacerbated by human disturbance near the streams which feed the lake.

Map 7 - Hydrology

10379

# RMSA - Hydrology

# Map 7



103791

## VEGETATION AND WILDLIFE

### *VEGETATION*

A vegetation cover map for Rattlesnake Mountain was created based on site visits, extensive aerial photography interpretation, and a 1995 botanical survey of the Scenic Area (Map 8). The vegetation around Rattlesnake Mountain is typical of lowland forests in the Puget Sound region. Prominent tree species include western hemlock, western red cedar and Douglas-fir, with Pacific silver fir on north-facing slopes above 2800 ft and noble fir on portions of the ridgetop and in Section 19.

Small pockets of mature and old-growth conifer forest occur in the Scenic Area in the upper ravines of the steep east face. Although these areas exhibit old-growth characteristics such as large trees, abundant snags, and well-developed understory, the pockets are isolated by cliffs and outcrops and therefore do not represent accessible old-growth habitat.

The upper slopes of the Scenic Area contain 15-20 year-old plantations of noble fir. Trees in these stands have undergone harvesting of their branches by previous owners for seasonal greens. Evidence of this "bough harvesting" activity is not noticeable. Other young conifer stands occur in the numerous recent clearcuts across the east and north sides of the mountain. These stands contain heavy concentrations of alder which are likely to shade out the slower-growing Douglas fir seedlings in the near future.

The riparian and other wet areas around Rattlesnake Mountain contain dense deciduous vegetation such as alder, bigleaf maple, vine maple, willow, and black cottonwood. These deciduous species also occur in mixed second-growth stands (<80 years old) and along roadsides.

Understory vegetation in the area is also typical of western Washington forests. Some communities of high-elevation plants such as phlox and cliff penstamen occur on the rocky outcrops along the eastern and southern flanks of the mountain, especially in the areas around Rattlesnake Ledge. Information on plant communities on Rattlesnake Mountain is sparse. Few exotic, non-native plants have been observed in the RMSA. English holly was observed in some of the lower elevation deciduous forests and invasive such as Scot's broom can be found in the powerline right-of-way at the eastern border of the Scenic Area.

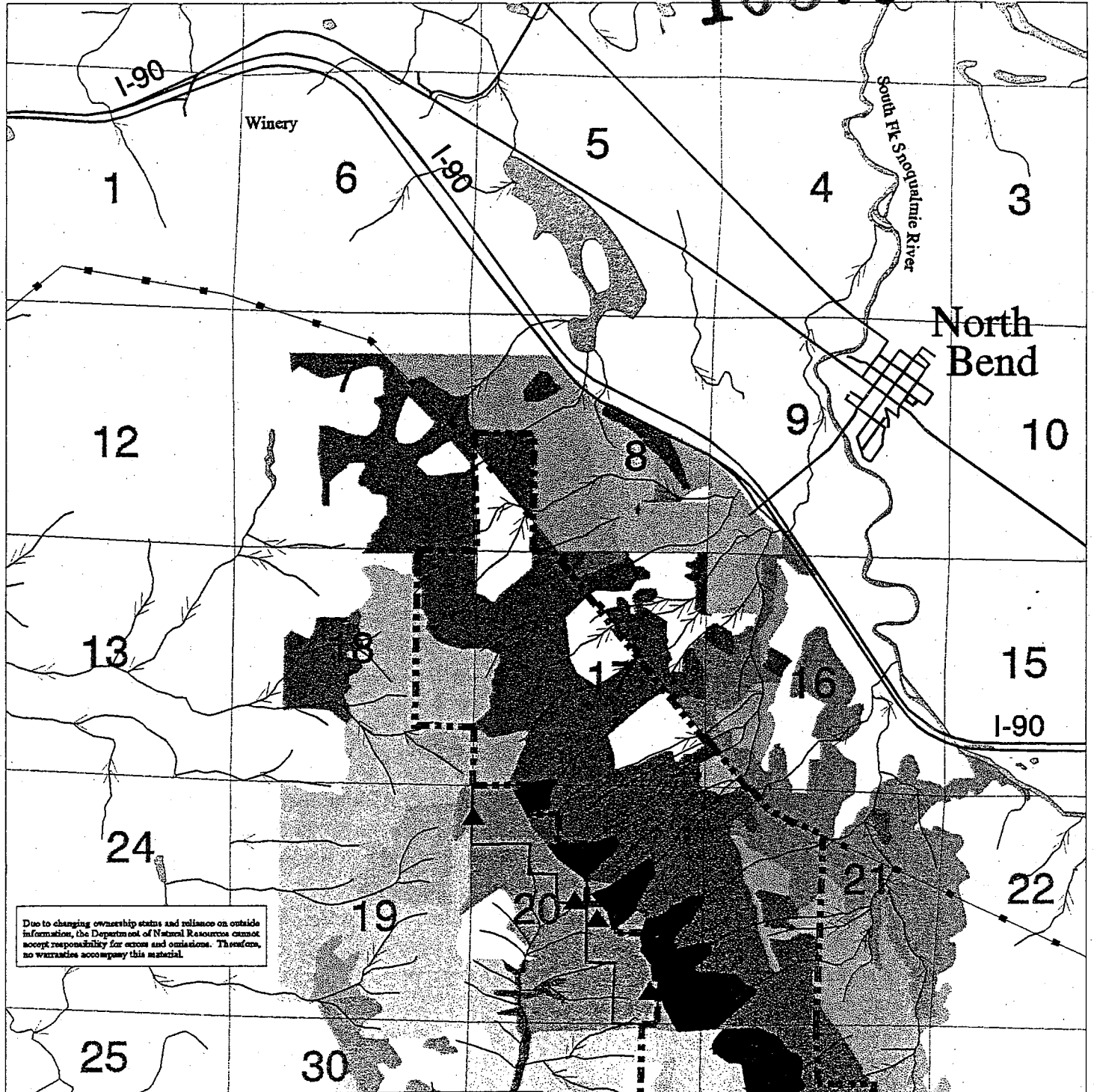
The major disturbances to the site over the last 100 years have been from timber harvesting and associated road building. The oldest harvests in the RMSA probably date to the turn of the century. Most of the undeveloped lower northeast side was harvested between 1925 and 1935, and the accessible timber on the upper northeast slopes was cut

between 1945 and 1960. Harvests occurred within in the Scenic Area over the last ten years in Sections 8, 17, 18, 28 and 29. To the east of the Scenic Area on industrial timber

**Map 8 - Vegetation**












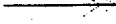



# RMSA - Vegetation

10379 Map 8



Due to changing ownership status and reliance on outside information, the Department of Natural Resources cannot accept responsibility for errors and omissions. Therefore, no warranties accompany this material.

## LEGEND

- |  |                         |   |                     |
|--|-------------------------|---|---------------------|
|  | Old Growth              |  | Riparian            |
|  | Conifer Mature          |  | Developed           |
|  | Conifer Pole            |  | RMSA Boundary       |
|  | Conifer sapling         |  | Main Roads          |
|  | Conifer seedling        |  | Powerlines          |
|  | Clearcut/bare           |  | Type 1-5 Water      |
|  | Deciduous               |  | Communication Tower |
|  | Mixed Deciduous/Conifer |   |                     |



Rattlesnake Ledge

lands extensive harvesting of second growth forests has created a mosaic of early and mid-successional stands.

Fire is the other major disturbance on the site. Although the exact history is not clear, evidence such as fire scars on large decayed snags suggests that fire burned portions of the east and north sides of the mountain between 1913 and 1935.

In 1995, a botanical survey failed to locate any threatened or endangered species (TES) of plants in the RMSA. However, marginal habitat was found for four sensitive species:

- ❖ *Pleuricospora fimbriolata* (fringed pinesap)--found in dense coniferous forest with thick duff, rarely on sites that have been logged
- ❖ *Orobanche pinorum* (pine broomrape)--found in brushy areas in dry open forests
- ❖ *Montia diffusa* (branching montia)--occurs in moist woods, occasionally on disturbed sites
- ❖ *Cimicifuga elata* (tall bugbane)--found in moist, partially open mixed forest.

Outside the RMSA on the Rattlesnake Ledges, twenty-two geographically unique flora have been identified. These unusual species are not known to exist on neighboring Squak, Tiger or Taylor Mountains and are more closely associated with habitats in Eastern Washington and the high Cascades (Weinman 1994).

#### *WILDLIFE*

Although the wildlife species inhabiting the Rattlesnake Mountain area are typical of west Cascade second-growth forest habitats, the Scenic Area is of particular importance to wildlife due to its proximity to the Cedar River Watershed. Since human disruption and hunting are not allowed within the Watershed, animal populations within this 94,000-acre area are rich and relatively undisturbed. Wildlife also thrives on Rattlesnake Mountain, likely due to remoteness of the site and historically low levels of human use. With the increasing habitat fragmentation and forest conversion that is likely to occur in areas surrounding Rattlesnake Mountain, the RMSA will become increasingly important for core wildlife habitat and as a movement corridor to and from the Watershed and other wild areas in the region.

Wildlife on Rattlesnake Mountain includes a variety of birds, mammals, and amphibians. Habitat for fish exists outside of the present RMSA ownership in the larger stream systems of the Snoqualmie, Raging River and Canyon Creek drainages. Large mammals known to use the Scenic Area and surrounding habitats include blacktail deer, elk, bobcat, cougar, black bear, and coyote. Red-tailed hawk and osprey have been observed on the Scenic Area, and pileated woodpeckers, great horned owls, pygmy owls, and screech owls are likely to inhabit older forests that contain large snags and good nesting cavities.

Habitats with high wildlife diversity and those containing unique physical features required by specific animals are defined as "priority habitats" by the Washington Department of Fish and Wildlife Priority Habitat and Species Listing. The four priority habitats identified in the Rattlesnake Mountain area include:

- **Snag-rich** - the presence of many dead and decaying trees greater than 20 inches in diameter provides essential feeding and nesting habitat for cavity nesting birds, bats, small mammals and black bears, as well as perching habitat for raptors; found extensively in mature and old growth on the north and east slopes of Rattlesnake Mountain and on the slopes above Canyon Creek.
- **Riparian** - its adjacency to water and its high plant diversity are attractive elements to most forest species for feeding and traveling; vital habitat for some aquatic breeders; distributed along streams throughout area.
- **Old growth** - its complex structure and controlled microclimate provide food and shelter for a large number of wildlife species; found around stream headwaters along the northeast face.
- **Cliffs** - the cracks in exposed rock offer shelter to small mammals and bats (if cracks are large enough) and the open ledges offer perches to raptors; found above Rattlesnake Lake and along the upper ravines of the east face.

Another habitat element, termed "edge," exists where different habitats meet. Many edges exist within the Rattlesnake Mountain area due to both human and natural factors. Many species such as deer, elk and hawk use edge habitats for breeding and feeding. Habitat and species diversity increases as contrast between adjacent habitats increases and as the edge between habitats becomes more complex (structurally diverse, non-linear).

Since an extensive wildlife inventory has not occurred on the RMSA to date, it is unclear whether any endangered, threatened, or sensitive (TES) wildlife species are found within the Scenic Area. The following list of potentially occurring species which are listed by federal or state agencies as TES species or are candidates for listing were derived from studies done for the Habitat Conservation Plan on the adjoining Cedar River Watershed.

**Potentially Occurring TES Species on RMSA:** unless otherwise noted, species have not been recorded to have been observed on the RMSA.

- **VanDyke's Salamander** (state candidate) - an amphibian occurring in seepages, talus slopes and under bark and logs in moist coniferous forest up to 1550 meters.
- **Larch Mountain Salamander** (federal candidate and state sensitive) - an amphibian occurring in dry talus slopes away from seepages.



- **Spotted Owl** (federal threatened and state endangered) - this bird nests and roosts primarily in old growth; uses cavities created by heart rot or structural breakage; forages in old growth and mature conifer and mixed conifer forest; may use upwards of 1000 acres of old growth.
- **Northern Goshawk** (federal and state candidate) - there has been one observation of this bird on the RMSA (Autumn 1995); requires dense old-growth/multiple-canopy conifer stands for nesting, and logs or stumps up slope from the nest for roosts and "plucking sites"; nests are usually on a north slope near a source of water.
- **Vaux's Swift** (state candidate) - nests in snags and broken-topped trees of mature and old growth coniferous forests; feeds aerially over many habitats; migrates in winter.
- **Olive-sided Flycatcher** (federal candidate) - nests primarily in old growth and mature forest; forages over edges and riparian areas.
- **Purple Martin** (state candidate) - nests in snags; previously common, but outcompeted by European starling.
- **Pileated Woodpecker** (state candidate) - evidence of foraging sites of this bird in the snag rich portion of Section 20 (Autumn 1995); generally nest in coniferous snags with bark that are at least 27 inches in diameter and 87 feet high (usually featured in old growth); foraging occurs where there are abundant dead or dying trees and downed wood (old growth, mature, and older pole stands).
- **Lewis' Woodpecker** (state candidate) - utilize snags for breeding and logs for feeding, primarily at edges (grass/forest, shrub/forest) and in deciduous forest.
- **Yuma Myotis** (federal candidate) - this bat breeds and rests in snags, cliffs and caves; forages over riparian zones, lakes and ponds; migrates in winter.
- **Keen's Myotis**: (federal candidate) - this bat breeds and rests in snags, cliffs and caves; forages over riparian zones, lakes and ponds; migrates in winter.
- **Long-eared myotis** (federal candidate, state monitored) - this bat breeds and rests in snags and caves; forages over streams, lakes, ponds and wet meadows.
- **Long-Legged Myotis** (federal candidate, state monitored) - this bat breeds and rests in snags and caves; forages over streams, lakes, ponds and wet meadows.

Rattlesnake Mountain is often cited as an important wildlife movement corridor between the Watershed and areas to the west, north, and east and as a connection across the I-90

corridor through wildlife crossings. Large mammals with big home range requirements such as elk, bear, cougar, and bobcat are of particular concern as development and logging increasingly fragment the landscape around Rattlesnake Mountain. These species often utilize riparian zones along streams for moving across the landscape. Riparian corridors are also used by small mammals, amphibians, and birds as movement corridors.

Two significant riparian corridors exist on the southwest side of Rattlesnake Mountain along the Raging River and Canyon Creek drainages, currently a part of the Weyerhaeuser Company's Raging River Tree Farm. Existing roads and trails along the ridgetop of Rattlesnake Mountain are also utilized by wildlife and may provide a north/south corridor between the Cedar River Watershed and habitat on the north side of I-90 via existing wildlife tunnels. However, the wildlife crossings under I-90 are threatened by widening roads and increasing development the resulting disturbances of vegetation. Unused trails, re-vegetated former roads and shrubby power-line right of ways may serve as travel corridors for animals such as elk, deer and (occasionally) large predators.

#### **Management Implications - Vegetation and Wildlife**

In the absence of active forest management on the Scenic Area, much of the site will eventually revert to an old growth stage of coniferous forest within 150 to 200 years. Most of the northeast slope is already in mid to late successional stages and could provide a significant patch of old growth by 2050. Forestry management of younger stands through selective thinnings and plantings of late-successional species would increase structural diversity and decrease the amount of time needed to acquire old growth characteristics. Other techniques to increase diversity and enhance forest structure include the creation of beneficial snags (in mature forest), planting of late-successional, shade-tolerant species and enhancement of riparian area composition and structure.

Information on the plant communities of Rattlesnake Mountain is scarce - more work needs to be done in this area to determine habitat values and to assess the health and structure of the vegetation communities.

The RMSA currently contains a moderately diverse mosaic of vegetation of different sizes and ages which can serve as habitat patches for wildlife. Generally, the more diverse the landscape, the more number of plant and animal species are present. Diversity within patches is highest in conifer stands in the 5-25yr and 200+yr ranges and in riparian zones. Because the 1800-acre RMSA is smaller than the home ranges of most medium and large mammals as well as some birds it is necessary to view the RMSA as a component in the larger open space system, including the Cedar River Watershed and the other protected areas of the Mountains to Sound Greenway. Preservation, maintenance and enhancement of riparian corridors and special habitat features like snags within the RMSA and in

the Raging River and Canyon Creek drainages (currently in private ownership) will preserve existing wildlife connections between large habitat patches. The gentle slopes to the north of the RMSA (Sections 6 and 7) provide a habitat connection with the north side of I-90 through an existing wildlife tunnel under the highway. However, increasing development in North Bend and Snoqualmie is making these wildlife crossings increasingly ineffective. An effective crossing of I-90 for wildlife at this lower elevation would require a crossing where large amounts of habitat on either side of the highway is protected and maintained. Several acquisitions are proposed in this plan to improve safe wildlife crossings of I-90.

The increasing urbanization along the northeast side of Rattlesnake Mountain poses serious concern for wildlife as the buffer between developed areas and quality habitat erodes. Forage areas will be lost; domestic animals may prey on native species; and natural predators may prey on domestic animals. Large predatory mammals may be considered pests in urbanizing areas. Any corridors designed for these animals should consider the consequences of adjacent human settlements.

Of the TES wildlife species suspected of occurring on the site, the pileated woodpecker and the northern goshawk are most vulnerable to disturbance during the spring breeding season (approx. March-July), while amphibians are sensitive to changes in microclimate, moisture and habitat structure at any time of the year.

Evidence of rich wildlife populations in the RMSA area and low levels of public use suggest that these populations are probably not heavily disturbed by humans. However, increased public access for all types of low-impact public use have the potential to adversely affect wildlife populations and movement corridors. Additionally, increased conversion of forest lands to residential development adjacent to the RMSA will adversely affect wildlife habitats.

## **HISTORICAL AND CULTURAL RESOURCES**

No known archeological sites exist on Rattlesnake Mountain. Given its severe topography and strong winds, it is unlikely that the site was ever inhabited for any length of time. Nearby archaeological sites in the Cedar River Watershed date back 9,000 years. The region surrounding Rattlesnake Mountain was a very important trade and transportation link between coastal tribes on Puget Sound, the upper river tribes, and the tribes on the eastern side of the Cascades in the area surrounding Yakima. The Snoqualmie Valley is the traditional territory of the Snoqualmie Tribe. The Snoqualmie's economy was based primarily on trade as they, the Snoqualmie, took advantage of their strategic location and were able to prosper within the east-west trade network of tribes. The prairies along the Snoqualmie Valley below Rattlesnake Mountain served as sites for

seasonal food gatherings, camps, and trading which were reached by foot or horseback along the major trails.

As an important visual landmark in the Snoqualmie Valley, Rattlesnake Mountain plays a role in several creation myths of the Snoqualmie Tribe. The name of Rattlesnake Mountain is a topic of some debate. Some attribute the name to historic use by the Snoqualmie Tribe whose teachings include references to rattlesnakes. The undulating ridge of Rattlesnake Mountain could be construed to be in the shape of a rattlesnake. Another theory, reported by Harvey Manning and Ira Spring, has a Seattle surveying party exploring the mountain passes of the Cascades in the 1850's. As the story has it, their party camped on the prairie which is now Rattlesnake Lake. Hearing a rattle in the nearby weeds, they originally mistook the sound for a rattlesnake. After investigating, they discovered the sound was caused by the dry seed pods in large fields of camas plants.

Several army forts were built in the Snoqualmie Valley in the mid-1800s in response to conflicts with tribes in the region. Later, people of other ethnicity's filed land claims in the rich valley below Rattlesnake Mountain establishing homesteads, the 1800+ acre Meadowbrook Farm hop farm, and later, timber mills. Timber harvesting gradually increased from the lowlands up the sides of the Cascade foothills and included the slopes of Rattlesnake Mountain. Parts of the steep east face of the Scenic Area appear to have been logged between 1910 and 1925, though the northern portion of the ridge shows evidence of stand-replacing fires also occurring around this time.

Mineral resources also attracted many people to the Snoqualmie Valley in the late 19th century. The Niblock coal mine was built just north of the Scenic Area near what is now Exit 27 on I-90.. Shafts were dug into the northwest base of Rattlesnake Mountain and the high grade coking coal was shipped out via rail. This mine ceased operations in 1906.

After the Seattle fire of 1889, city residents recognized the need for a large water supply. In 1902 a dam was built at Cedar Lake (now Chester Morse Lake) in the Cedar River Watershed. The town of Cedar Falls, now at the shores of Rattlesnake Lake, was established in 1903 to house dam and powerhouse workers. The community of Moncton was established along the shores of Rainy Season Lake (Rattlesnake Lake) in 1909, but the community was short-lived. To increase water storage capacity of Cedar Lake, a smaller reservoir was built in 1915. As a result, water began seeping through the glacial till between Moncton and the reservoir causing Rainy Season Lake to overflow its banks. The water level rose slowly over the next several months, eventually becoming the present day Rattlesnake Lake. To protect water quality, Moncton was condemned, dismantled and burned in 1916. In 1970, the Seattle Water Department created Rattlesnake Lake Park for public recreational use.

### **Management Implications - Cultural and Historic Resources**

Although there are no apparent historic sites on Rattlesnake Mountain itself, scenic views of and from the mountain provide an unparalleled visual

interpretation of the cultural history of the Snoqualmie Valley. Common themes in the area's history such as trade and travel routes, easily viewed from several locations along the Scenic Area, could make excellent educational opportunities.

Existing interpretive trails and sites in the region near Rattlesnake Mountain include those at West Tiger Mountain NRCA, Tiger Mountain State Forest, Snoqualmie Valley Heritage Trail, Iron Horse State Park, the John Wayne Trail, and the planned interpretive areas at Rattlesnake Lake, Meadowbrook Farm, and Three Forks Natural Area. Themes of existing educational materials in these areas include coal mining history, wetland and other ecological topics, geological and glacial history, logging history, tribal cultures in the area and railroad and wagon trail history.

Interpretive information on the RMSA should complement and integrate themes from nearby areas in ways that are specific to the mountain. From vantage points on the Scenic Area, ancient trade and travel routes and sites of historic settlements can be easily seen and understood. Plants and animal communities important to the Snoqualmie tribes (either on a functional or spiritual basis) could also be identified along trails. Any habitat rehabilitation or restoration that may occur on the Mountain will also provide an opportunity to describe the historic use of natural resources in the area.

## Appendix B - Adjacent Lands

This appendix provides management recommendations for areas surrounding the present 1800-acre RMSA which are proposed for future acquisitions according to the boundary recommendations in this document. This appendix also includes recommendations for voluntary management cooperation with other landowners in the region surrounding the RMSA.

### PROPOSED ACQUISITIONS

This section examines the ecological, recreational, and educational opportunities offered by areas adjacent to the present 1800-acre RMSA which are proposed for acquisition. If any of these parcels is added to the RMSA in the future, these recommendations will provide guidance for management of the newly acquired areas. The recommendations in this section apply only to those lands within the proposed Scenic Area boundary (Map 5) which become publicly owned and managed jointly by King County and the DNR. Private lands within the Scenic Area boundary are not subject to the recommendations made in this plan.

Parcels proposed for acquisition comprise many different land management units of varying degrees of land sensitivity (Map 4). Therefore, description of management recommendations in this section will refer to the section numbers of the parcels and the letters corresponding to proposed acquisitions in Map 5 rather than to the management units (e.g. "Ridge Unit"). As new parcels are added to the RMSA, consistency of management according to land sensitivity will continue to be critical to ensure protection of the sensitive features of the site.

### Management Recommendations - Proposed RMSA Acquisitions

- The headwaters of the Raging River and Canyon Creek (parcels A & B, Sec. 18, 20), key ecological acquisitions to the Scenic Area, should not be disturbed further due to the sensitivity of stream corridors in these parcels. Unessential roads should be decommissioned.
- Coordinate with landowners surrounding wildlife crossings under I-90 (parcels D & E, Sec. 5, 8) to protect and enhance forest buffers and wildlife corridors. Pursue conservation easements or fee simple land acquisition to preserve the long-term viability of these crossings.
- Evaluate modifications to linear edges on highly visible clearcuts on the northeast facing slope of the mountain (parcel C, Sec. 7) to decrease the negative visual impact of the clearcuts from I-90 and the City of North Bend. Creating softer, wider edges will also increase diversity and provide cover for species adapted to edge habitat.

- In the SE 1/4 of Section 7 (parcel C), improve the primitive hiking-only trail ("Snag Trail," Map 6) connecting logging roads from the Winery site to the RMSA and the Ridgeline Trail. This improved trail should stay within the moderate and low capability land units (Map 4) located on this north-facing slope. Due to topographical limitations on much of the Scenic Area, this relatively gentle slope affords the only opportunity for visitors to view the snag-rich mature conifer forest which covers the steep and inaccessible northeast face of the Scenic Area. Assess opportunities for ecological interpretation and environmental education on forest understory, snag habitat, and wildlife. Particular care in maintaining the remote and primitive characteristics of this area is critical. Public use impacts to vegetation and wildlife should be monitored using ecological indicators; if disturbance to indicators occurs, access restrictions should be employed.
- Assess feasibility of a multiple-use trail connection through the E 1/2 of Section 18 (parcel B) linking the network of roads on Section 7 to the road system leading up to the top of the Scenic Area. A short trail connection (suitable for equestrian and mountain bike use) should be built in Section 18 paralleling the (hiking only) Snag Trail. The trail should follow hill contours, use existing spur roads and remain within the young plantation areas recently harvested in this area. The new trail connection would be no longer than 1/4 mile long (Map 6).
- Scenic views from North Bend and the I-90 corridor are critical components of the Scenic Area and Mountains to Sound Greenway. Some of these areas are not included in the boundary, however, opportunities may exist to preserve these views through creative acquisition strategies. Work with adjacent landowners to develop and implement strategies to prevent trespass on private property and the Bonneville Power line, and on access routes to the RMSA from North Bend. Presently, there is no public access from North Bend to the Snoqualmie Unit and Rattlesnake viewpoint. Public access to Rattlesnake Point may be pursued only after careful analysis, which would include discussions with affected property owners and an extensive public involvement process.
- If public access with parking is secured, consider establishment of a viewpoint destination at Rattlesnake Point (Map 6). As public access to this trail is secured, the hike to this viewpoint will be the easiest, shortest route onto the Scenic Area. As a decommissioned road already exists along this slope (see Snoqualmie Unit management recommendations) additional disturbance to ecosystems would be minimal. The expansive views offer easily accessible opportunities for education on the Mountains to Sound Greenway, geological and natural features of the Snoqualmie Valley and historical features of the scenery.

- Establish a forested buffer between the sensitive, landslide-prone northeast face of the RMSA and encroaching residential development to the east and south. Acquisition of parcels in Sections 21 and 28 (parcels H, I) would provide an essential buffer between the steep slopes of the RMSA and proposed residential development to the east. The unstable slopes and potential for mass-wasting in the high-energy stream corridors along this northeast face make additional development in these areas unsuitable. Limiting disturbance to vegetation in the drainage above Brewster Lake is also recommended in order to minimize erosion and sedimentation of the lake below. As a long-term goal, managers of the RMSA should investigate future trail connection possibilities through this area along the lower slopes of RMSA.

## **INTEGRATION OF MANAGEMENT WITH ADJACENT LANDS**

In addition to the RMSA boundary as outlined in Part III, a planning area has been designated surrounding the Scenic Area (Map 9), referred to as the Greater Rattlesnake Mountain Planning Area (GRMPA). This larger area has been defined to provide a framework for integrated management of the Rattlesnake Mountain region.

### **The Greater Rattlesnake Mountain Planning Area (GRMPA)**

Parcels within the Greater Rattlesnake Mountain Planning Area include public and private lands which contain a variety of ecological, scenic, and public use values. Coordinated voluntary management of these lands with the management of the RMSA could provide enhanced scenic views, trail connections, buffers against development and preservation of wildlife habitat and movement corridors in the area around Rattlesnake Mountain. Except for lands included in the proposed RMSA boundary (see Map 5) this plan does not advocate the addition of these lands to the RMSA, but instead recommends coordinated management among landowners in the entire region, particularly among public land managers such as DNR Trust Land managers, the US Forest Service, City of Seattle Watershed, City of North Bend, City of Snoqualmie, and King County.

As development pressures increase in the areas around Snoqualmie and North Bend, integrated voluntary management in the GRMPA could preserve a forested wildlife connection between the Cedar River Watershed and Tiger Mountain State Forest to the west. By providing an analysis of the values provided by these surrounding lands, it is the hope of RMSA managers that management of the lands surrounding the RMSA will complement the goals and values of the Scenic Area.

The following list contains descriptions of the important ecological, scenic and public use values in each of the areas which lie within the GRMPA (Map 9). This plan advocates the consideration of these values for land management activities planned for these lands.



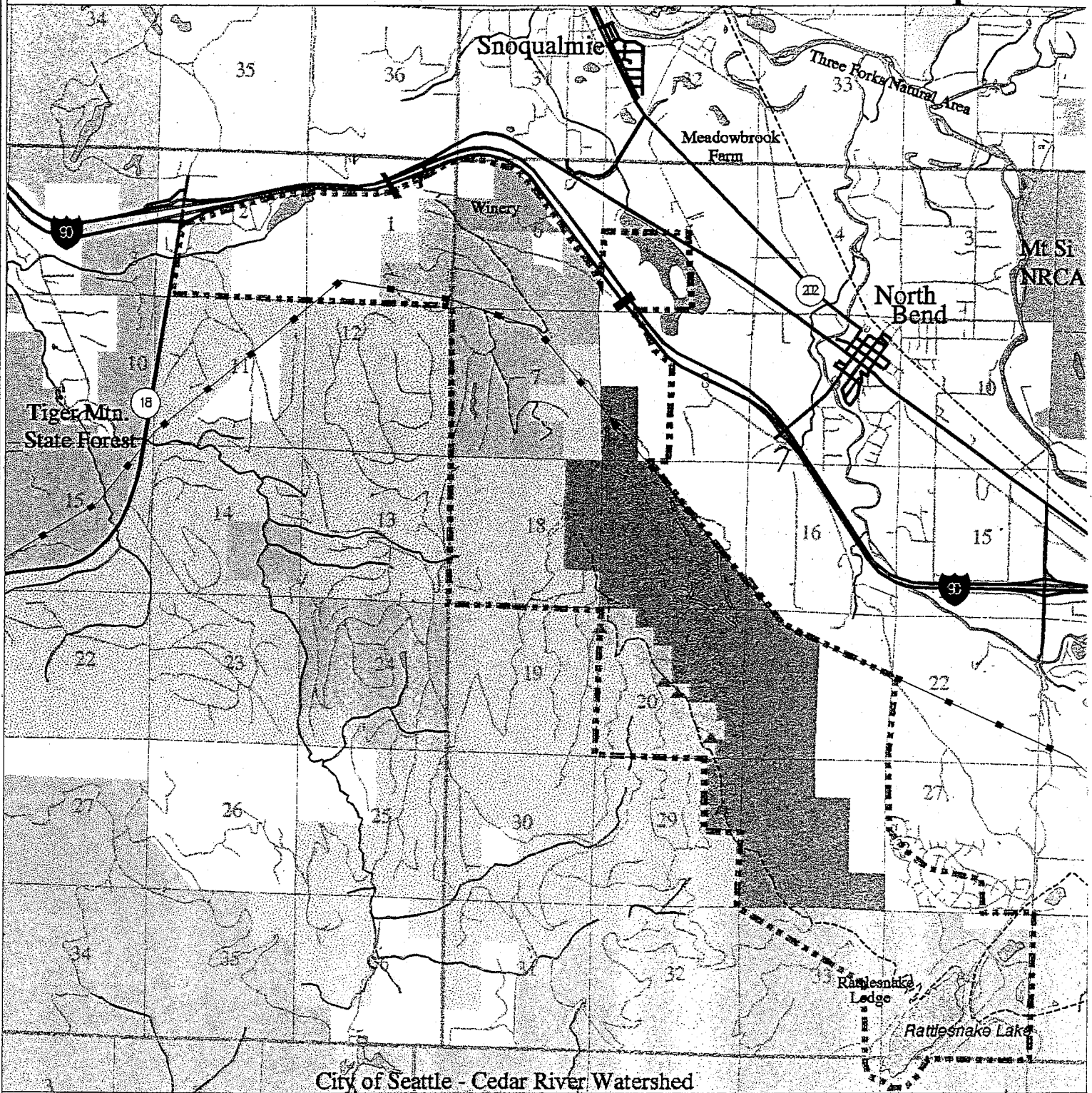
**Sections 33,34:** These City of Seattle Watershed lands provide public access, trail connections, parking facilities, and interpretation (planned) at Rattlesnake Lake; portions of Watershed property which connect to the RMSA are set-aside as a visual protection area in the City of Seattle's Cedar River Watershed Habitat

**Map 9 - Proposed Greater Rattlesnake Mountain Planning Area (GRMPA)**






# Proposed Greater Rattlesnake Mtn Planning Area


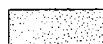


Recommended Area for Voluntary Integrated Management of Public & Private Lands

## Map 9

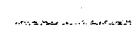
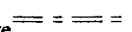
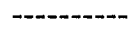
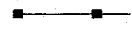



City of Seattle - Cedar River Watershed

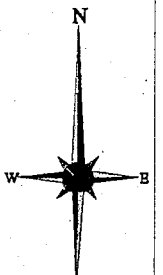
-  Rattlesnake Mtn. Scenic Area
-  DNR Managed Lands
-  NRCA's and NAP's
-  Cedar River Watershed
-  City, County or State Park Lands

-  City of Snoqualmie Winery
-  Weyerhaeuser
-  Proposed Greater Rattlesnake Mountain Planning Area
-  Main Roads

### LEGEND

-  Other Roads, not all maintained
-  Abandoned Roads
-  Trails
-  Powerline Corridor
-  Communication Tower

Due to changing ownership status and reliance on outside sources, this map is not a guarantee of accuracy.



Conservation Plan (Draft); timber harvesting in this area is expected to be limited; coordination with managers of RMSA on trails, signs, enforcement, interpretation and education, habitat enhancements and wildlife corridors will enhance the natural resource values and public use opportunities of the mountain

**Section 18:** Contains the lower sections of the Canyon Creek headwaters, important riparian habitat and wildlife corridors; includes Type 3 waters which contain resident and anadromous fish

**Section 7:** Provides trail connection on existing logging roads from Winery site (through Section 6); contains high quality wetland which offers environmental education opportunities; few stands of mature forest remain in this area after extensive logging; slopes are not highly visible from Snoqualmie Valley or I-90 corridor

**Section 6:** Provides trail connection from Winery site to Section 7 and RMSA; gentle slopes offer potential for recreation, trailhead, and interpretive material; slopes are highly visible from Winery and I-90 corridor

**Snoqualmie Winery Site:** Provides public access, trail connections, parking facilities, scenic views, and opportunities for interpretation; current zoning by the City of Snoqualmie provides open space and public access

**Sections 1, 2:** Provide scenic views of forested slopes and cliffs from I-90 corridor and Snoqualmie Valley; trail or conservation easements could connect Tiger Mountain State Forest/West Tiger NRCA and the Rattlesnake Mountain Scenic Area through the Snoqualmie Winery site; contains residential community adjacent to Echo Lake which is not a part of this plan.

### **Stewardship Recommendations for the GRMPA**

The following are recommendations for integrated voluntary land management between managers of the RMSA and managers of other lands within the surrounding GRMPA.

- Work with managers of any newly acquired lands in the GRMPA to ensure management consistent with the vision of the RMSA.
- In order to preserve the undeveloped, remote character of the RMSA, public vehicular access on existing logging roads in the GRMPA should be limited to maintenance and fire control vehicles only. Where feasible, unnecessary spur roads should be decommissioned and revegetated.
- Work with the Mountains to Sound Greenway to promote aesthetic and ecologically sensitive forestry practices on all lands in the GRMPA. Partial harvests, helicopter thinnings, commodity production from non-timber forest

products, wide riparian buffers, leaving of downed woody debris and other practices will help to maintain the ecological and aesthetic integrity of Rattlesnake Mountain. Particularly important areas include the mature forests in the S 1/2 of Sections 1 and 2 and other forested slopes which are highly visible from the I-90 corridor. Protection of the sensitive riparian areas of Canyon Creek within Sections 7 and 18 and the forested wetland in Section 7 will preserve critical riparian habitat, water quality, and wildlife corridors in the Canyon Creek drainage (see high sensitivity rating for these areas, Map 4).

- Assess potential for access and educational opportunities at the forested wetland in Section 7 while ensuring the preservation of ecological processes and protection of wetland habitat. Work with present or future managers of this area to develop educational opportunities based on wetland ecology and forest management practices which preserve sensitive landscape features.
- Work with surrounding landowners and managers to extend the Ridgeline Trail from State Route 18/I-90 interchange to the City of Snoqualmie Winery Site, and from the Winery to the ridgeline of the Scenic Area connecting to the trail which leads to Rattlesnake Lake. Wherever possible, trails should make use of the extensive network of logging roads to reduce disturbance to ecological systems. Stream crossings by trails should be minimized; if necessary, any new, existing, or improved trails should cross perpendicular to creeks to protect sensitive riparian areas.
- Work with managers of the City of Seattle's Cedar River Watershed to coordinate forest management in this wildlife and scenic connection to the RMSA. Coordinate public use of the Ledge Trail as outlined in site-specific recommendations for the RMSA Ridge Unit.
- Work with the City of Snoqualmie and the Snoqualmie Winery to ensure continued public access and parking at the Winery site. Approximately 40% of the parcel is zoned by the city for open space. This site presents an opportunity for a trailhead to the RMSA should trail connections be made across Sections 6 and 7. Post signs at the Winery site describing RMSA rules, regulations, and trails. Assess potential for accessible environmental education opportunities on or surrounding the Winery site. The re-generating forests and excellent views of the Snoqualmie Valley, Mt. Si and the forested ridge of the Scenic Area provide ample interpretive material.

## Glossary

**Alteration:** Any action, usually human-induced, which changes the existing condition of a sensitive area.

**Buffer:** An area that surrounds and protects an environmentally sensitive area from adverse impacts to the functions and the values of that area.

**Clear-cut:** A harvest practice in which all or almost all of the trees are removed from a site.

**Corridor:** A defined tract of land, usually linear, through which a species may travel to reach habitat suitable for reproduction and other life-sustaining needs. Important for maintaining diversity in gene pools.

**Critical Habitat:** Those areas which are necessary for the survival of endangered, threatened, sensitive or monitor species.

**Cultural Resources:** Archaeological and historical sites or artifacts.

**Disturbance:** A force that causes significant change in structure and/or composition of the landscape through natural events such as fire, flood, wind, or earthquake, mortality caused by insect or disease outbreaks, or by human modification.

**Diversity:** The variety, distribution and abundance of different plant and animal communities and species within an area.

**DNR:** Washington State Department of Natural Resources

**Ecosystem:** All living components of a biological system.

**Enhance:** To re-create characteristics that existed on the site before alteration.

**Exotic Species:** Species that is not native to a particular area.

**Habitat:** The place where a plant or animal naturally or normally lives and grows.

**GRMPA:** Greater Rattlesnake Mountain Planning Area. Area that contains public and private lands suggested for voluntary integrated management.

**KC:** King County

**Land Unit:** A management designation on the landscape based on the sensitivity of the landscape to modification and disturbance (land capability). Created using various types of ecological data.

**Low Impact:** An activity that results in very low alteration of the landscape which may easily be reversed or mitigated.

**Mass Wasting:** Severe disruption of soil base through landslides, mudslides, windthrow or human caused disturbance.

**Monitoring:** The process of collecting information to evaluate if objectives and goals of a management plan are being realized or if implementation is proceeding as planned.

**Native Species:** Animals or plants indigenous to a particular area.

**NRCA:** Natural Resources Conservation Area, managed by the Washington State Department of Natural Resources.

**Priority Habitat:** Habitats with high wildlife diversity and those containing unique physical features required by specific animals. Designated and categorized by the Washington Department of Fish and Wildlife Priority Habitat and Species Listing.

**RCW:** Revised Code of Washington.

**Restore:** To ameliorate human disturbance to the landscape.

**Restrictive Covenant:** a provision in a deed limiting the use of the property and prohibiting certain uses; see Appendix A for a complete text of the Restrictive Covenant.

**Riparian zone:** Those terrestrial areas where the vegetation complex and microclimate conditions are products of the combined presence and influence of perennial and/or intermittent water, associated high water tables, and soils that exhibit some wetness characteristics. Normally used to refer to the zone within which plants grow rooted in the water table of these rivers, streams, lakes, ponds, reservoirs, springs, marshes, seeps, bogs and wet meadows.

**RMSA:** Rattlesnake Mountain Scenic Area. A 1,800 acre area of equal and undivided ownership between King County and Washington Department of Natural Resources, purchased in 1993. Also known as Scenic Area.

**Stewardship:** Management activities that are intended to maintain, restore or enhance ecosystems.

**Scenic Area:** See RMSA.

**Succession:** A series of dynamic changes by which one group of organisms succeeds another through stages leading to potential natural community or climax.

**TES Species:** Species listed under the federal or Washington State Endangered Species Act.

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**Viewshed:** The landscape that can be directly seen from a viewpoint or along a transportation corridor.

**Watershed:** The drainage basin contributing water, organic matter, dissolved nutrients and sediments to a stream or river.

**Wetland:** Lands where saturation with water is the dominant factor determining the nature of soil development and the types of plant and animal communities living in the soil and on its surface.

**Wildlife:** All species of the animal kingdom whose species are native to Washington and exist in an undomesticated state.



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Backcountry Horsemen of Washington  
Issaquah Alps Trails Club  
King County Bicycle Advisory Committee  
King County Executive Horse Council  
Mountains to Sound Greenway  
Snoqualmie Valley Historical Society  
Snoqualmie Valley Trails Club  
Trust for Public Lands