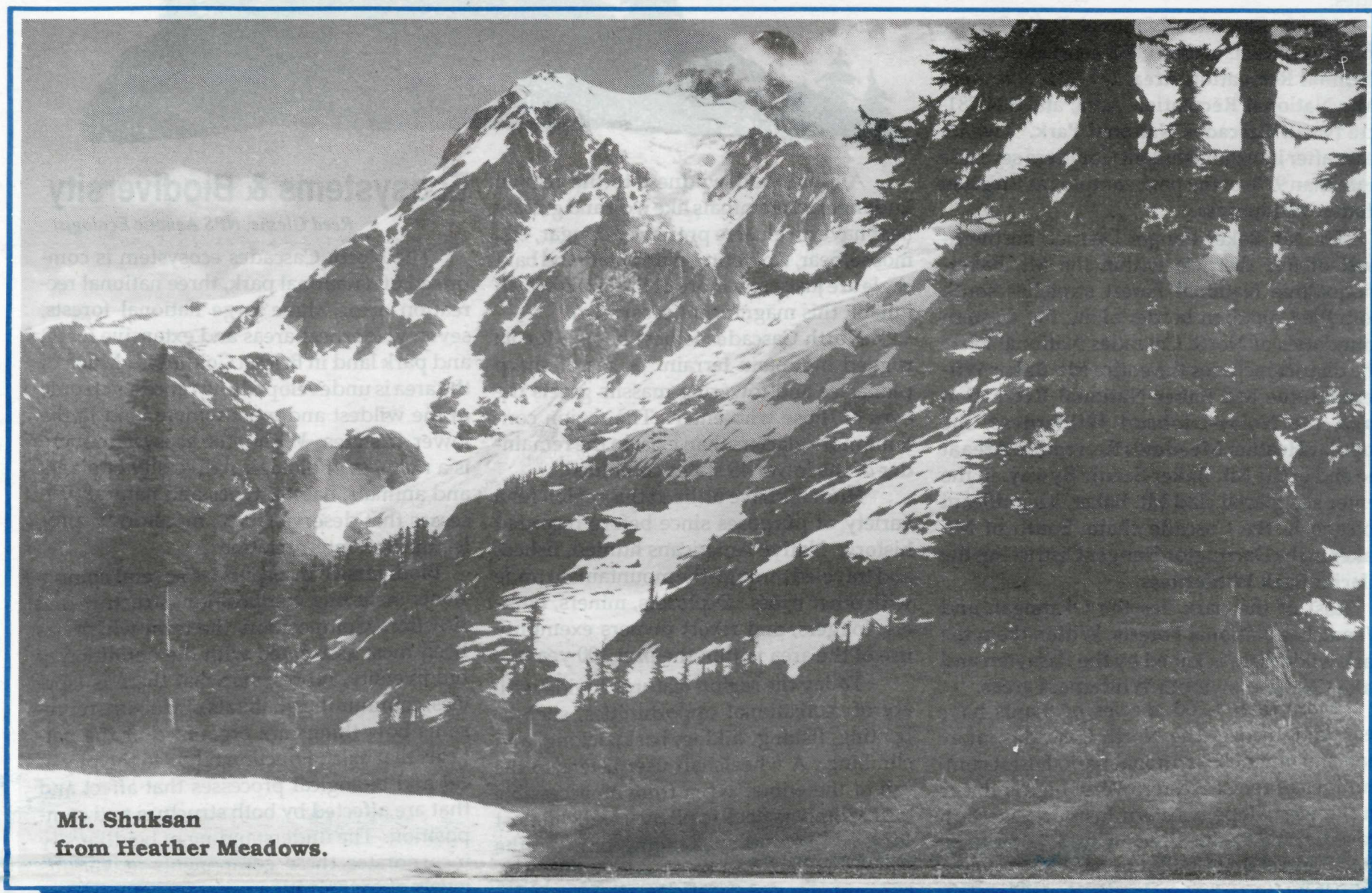
the North Cascades

Challenger

Mt. Baker-Snoqualmie National Forest
North Cascades National Park

FREE! | Lake Chelan, Ross Lake and Mt. Baker National Recreation Areas | 1992 EDITION



Mt. Shuksan from Heather Meadows.

WELCOME TO THE NORTH CASCADES...

Leave your car and you can get a better appreciation for the spectacular scenery, tiny details, and mountain sensations of the North Cascades Region. The National Park, Forest and Recreation Areas offer every variety of trail, from half hour strolls to many day backpack trips.

Be prepared for the unexpected: mountain weather can change rapidly; wildlife can show up anywhere, anytime; flowers bloom in the most unlikely places; and your idea of a "good view" may be very different from someone else's! Keep your eyes and ears open! Ask for maps and specific details about trails at a Ranger Station. Remember, play it safe, especially on longer hikes, and let someone knows where you're going and when you expect to return.
Enjoy your stay!

The 1992 issue of the *North Cascades Challenger* looks towards a positive future of change. A casual glance through it's pages presents an overview of area opportunities. A more in depth look reveals an understanding of terms like: New Perspectives, Landscape Management and Biological Diversity.

The articles within this year's *Challenger* were written by National Park and Forest Service resource professionals. Cooperative efforts, like this publication, are reflective of times ahead, when concerned persons working together will help to preserve the variety, balance and natural changes that make the North Cascades unique.

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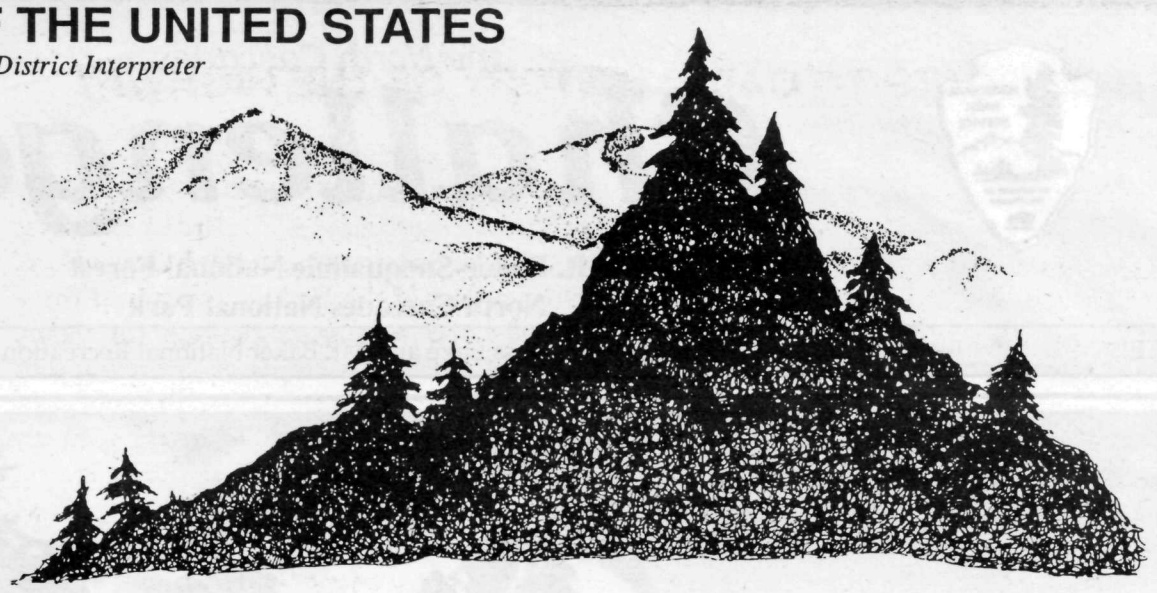
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WILDERNESS ALPS OF THE UNITED STATES

Smitty Parratt, NPS Stehekin District Interpreter



Reverberating echoes follow an ice block as it crashes from a hanging glacier to the rocks a thousand feet below. A 360 degree panorama of aretes and horns glistening with glaciers stab at the sky. Wildflowers bloom riotously in alpine meadows amidst a backdrop of roaring waterfalls. Immersed in the wilderness, we are transfixed by the wildness of the North Cascades.

North Cascades National Park Service Complex consists of the 61,883-acre **Lake Chelan National Recreation Area**; 117,574- acre **Ross Lake National Recreation Area**; and 504,781-acre **North Cascades National Park.** Twenty years after its establishment Congress set aside more than 92% of the park complex as **Stephen Mather Wilderness**.

The Mt. Baker Ranger District, northernmost of five districts within the Mt. Baker-Snoqualmie National Forest stretches south from the Canadian border along the western boundaries of North Cascades National Park. The district includes the entire **Mt. Baker Wilderness**, the **Mt. Baker National Recreation Area,** the **Noisy-Diobsud Wilderness**, the popular **Heather Meadows Recreation Area** at the end of the **Mt. Baker Scenic Byway.** In the center sits glacial clad Mt. Baker, a significant volcano in the Cascade chain. South of Mt. Baker in the Darrington Ranger District lies the **Glacier Peak Wilderness**.

East of the park lies the Okanogan and Wenatchee National Forests. Within them the park wilderness is joined by the **Pasayten and Lake Chelan-Sawtooth Wilderness** areas.

More than 1,700 species of plants have been identified in the North Cascades; more than any other U.S. national park. Forest communities of moist western Washington thrive on the west slope; western hemlock, western redcedar, and Pacific silver fir are at home here. The drier east slope of the Cascade crest is home to different trees; western larch, ponderosa pine, and lodgepole pine are more characteristic.

Animals add wildness to the region. Endangered mammals like wolf and grizzly bear have an elusive presence. Cougar, elk, moose, bear, wolverine, ptarmigan, and bald eagle are just a few more of the fauna which inhabit this magnificent ecosystem.

North Cascades is best known for its rugged mountain terrain. A sea of sharp pinnacles and towering massifs greets the eyes of those who enter. The region contains more glaciers than exist in the remainder of the lower 48 states combined.

Humans have utilized this region for a variety of purposes since before recorded history. Native Americans hunted, fished, and traveled through the mountains to trade with other tribes. Explorers, miners, hunters, loggers, and resort owners exemplify use of the area within the past 100 years.

Today the region features a wide variety of recreational opportunities, such as boating, fishing, hiking, backpacking, and climbing. A wheelchair user listens to the call of the winter wren from an accessible trail. Climbers flock to pit their skills against some of the most challenging peaks in the world. Hikers and backpackers find solitude aplenty and spiritual renewal in these wilds. ◆

Ecosystems & Biodiversity

Reed Glesne, NPS Aquatic Ecologist

The North Cascades ecosystem is comprised of a national park, three national recreation areas, three large national forests, seven wilderness areas and extensive forest and park land in British Columbia. Much of the area is undeveloped and represents some of the wildest and most remote land in the lower 48 states. Within the ecosystem there is a richness of biological diversity of plants and animals, habitat types and natural processes that deserve study, monitoring, protection and interpretation.

Biodiversity incorporates several components including composition, structure and function. Composition, the term which has been most associated with the definition of *biodiversity*, represents what there is (species, communities, habitats). Structure represents how things are organized or the patterns that exist. Function refers to the physical and biological processes that affect and that are affected by both structure and composition. The understanding of biodiversity incorporates these components at various levels of organization ranging from the genetic composition of a single species (population) to the composition, structure and function of ecosystems. These interactions are complex and dynamic and are essential to the well being of our environment. Through the *study of biodiversity better management* decisions can be made to protect the integrity of the ecosystem.

It is the intent of the National Park Service and Forest Service in cooperation with other agencies, to manage for biodiversity, and ecosystem integrity by protecting those processes that shape the natural environment. Ongoing efforts range from monitoring threatened and endangered species to the delineation and management of natural landscape vegetation patterns. The resource management projects discussed in these pages reflect these goals and unique cooperative arrangements to meet them. ◆

Discover..

Waterfalls

The Cascade Mountain Range derives its name from the abundant waterfalls found throughout the landscapes.

Nooksack Falls: located on Mt. Baker Highway (SR 542) near Glacier, the North Fork Nooksack River drops 175 feet into a roaring mass of boiling water. One of the first two hydroelectric power plants in Washington uses this drop for power.

Rainbow Falls: located in the Baker Lake Basin, Rainbow Creek cascades down a steep gorge with over a 100 foot drop. On a sunny day a colorful rainbow is visible from the viewpoint on FS road #1130.

Gorge Creek Falls: located between Newhalem and Diablo on the North Cascades Highway (SR 20), Gorge Creek drops 242 feet in a breath taking plunge. A large parking area is provided.

Horseshoe Basin: in the beautiful Stehekin Valley offers a spectacular mountain cirque (or bowl) with hundreds of waterfalls, large and small. Horseshoe Basin is a 5 mile (one way) hike (2000' gain) from the end of Stehekin road.

Rainbow Falls: (Stehekin) Beginning high above Stehekin Valley, in the snowfields of Rainbow Ridge, the waters of Rainbow Creek plunge 312 feet in a misty cascade ending its journey in the Stehekin River.◆

Celebrate..

Wildflowers

The U.S. Forest Service is sponsoring a program called **"Celebrating Wildflowers"** this summer. You are invited to enjoy many special naturalist programs and exhibits. Pick up your copy of *Celebrating Wilflowers on the Mt. Baker-Snoqualmie National Forest* for details of events and a wildflower check list.

The list of species found in the Cascade mountains and associated meadows is impressive. Every color of the rainbow, and every size and shape imaginable provide hours of enjoyment for the photographer, nature lover, artist and scientist: glacier and avalanche lilies, penstemon, Indian paintbrush, monkeyflowers, composites of all sizes and colors, columbine, buttercups, phlox, pearly everlasting, Columbia tiger lilies, elephanthead, heather, lupine, and more!



Throughout the North Cascades flowers bloom earliest along stream and river valleys and on south slopes. In the mountains flowers usually bloom May through August. ◆

Wildlife

It is difficult to predict where animals will be seen. Most animals are more active in early morning and late afternoon; good places to watch are river valleys, lakes and open areas. **Mule deer** and **black bear** are the most frequently spotted large mammals. More secretive creatures which are found in the region include **mountain lion, coyote** and **mountain goat. Marmot**, a large member of the squirrel family, easily recognized by their shrill whistle, and the quick little **pika** are common at higher elevations. **Beaver** may occasionally be seen along rivers and streams. Over 200 species of **birds** have been seen and a wide diversity of **waterfowl, raptors and songbirds** can be found throughout the area. Check with a ranger for recent sightings or and be sure to fill out an observation card for the wildlife that you see.◆

FROM GOATS TO CARS: HISTORY OF THE HIGHWAY

Christopher White, NPS Curator

The North Cascades Highway is now 20 years old, and few people remember the time and energy expended in getting it built from start to finish. It is quite a story, told only in brief here.

The idea of constructing a public means of transportation through the North Cascades dates from 1814. That year Alexander Ross crossed the unknown mountains (via the Twisp and Cascade passes) west of Fort Okanogan, looking for new routes to expand the fur trade. In the 158 years that it took to get a highway through, his route was strongly favored for many years (1893-1940) as one of the four major courses proposed by numerous surveyors, explorers, miners, orchardists, businessmen, and politicians. The other recommended routes were via Hannegan/Whatcom Passes in 1893, Harts Pass/Canyon Creek from 1905 to the 1950s, and the eventual route over Washington/Rainy passes, which was a late proposal (1933) that did not receive much support until the late 1950s. All four routes had work done and at least a semblance of road built that can still be used or seen. All were at the mercy of nature, economics, and politics. Politics changed over the years from a tangled debate over where it should be built to one over whether it should be built at all in light of its impact on the surrounding wilderness.

A wagon road reached Marblemount by the 1890s and Bacon Creek by the 1910s; from there an adventurous pack trail wound all the way to the Ruby Creek gold fields. After passing Goodell Creek, this path was known as the Goat Trail for good reason. Pictures of it have to be seen to be believed, especially a section called Devil's Elbow, which is a story in itself. Even mountain goats might have feared to pass that way. This amazing trail was used until the 1920s when Seattle City Light built a railroad up to Diablo. During the 1930s, the Civilian Conservation Corps worked on constructing the Skagit Truck Trail, as the highway was called then. By 1939, the road was open all the way to Newhalem. It was not until 1957 that the road was extended through the Skagit Gorge to Diablo, replacing the railroad that was flooded by construction of High Gorge Dam. This section of the highway required three tunnels and was a single-lane for years. Around 1960, the highway crept another seven miles to Thunder Arm to provide public access to Diablo Lake. There the western terminus remained until the completed highway opened in 1972.

The progress of the highway from the eastside was equally incremental due, in large part, to periodic flooding in the Methow Valley which often set back the effort by destroying established sections of road and bridges. Nevertheless, a road reached Winthrop and then Mazama from Twisp by around 1908 and continued to Early Winters Creek by 1910. That remained the present highway's eastern terminus until nearly 1960, though it was improved greatly in the 1930s. From 1960 until 1972, a huge effort was undertaken to complete the highway by working from both sides. They connected in 1968, the same year that North Cascades National Park was established. The North Cascades Highway was opened in 1972 with great ceremony and celebration.

Over the years the road's purpose has evolved, bringing everyone closer to the recreational opportunities of this magnificent mountain wonderland. Currently, Highway 20 is open over Washington Pass only from mid-April through mid-November due to heavy snowcover during winter months.

The highway is one of most scenic in the country and an increasing number of people are discovering and enjoying it, stopping at the historic company towns of Newhalem and Diablo and the numerous nature and hiking trailheads along the way. Even during winter months most attractions, plus bald eagle viewing are accessible since the highway remains open to the Ross Dam Trailhead on the west. There is excellent cross-country skiing near Mazama on the east. Knowing some of its history may enhance that enjoyment.◆



Nature Programs Enrich your Summer Travels

A full range of programs will be offered this summer in the North Cascades. Junior ranger programs for younger visitors are available in several locations.

In addition to **"Celebrating Wildflowers"** the Forest Service will offer a variety of programs to visitors in the Heather Meadows area of the Mt. Baker Ranger District. Guest Specialist programs will be scheduled each weekend beginning July 11 at 2 PM on Saturday and/or Sunday. Forest Service Interpreters will also give short orientation talks and answer questions at posted times at viewpoints in Heather Meadows.

At Ross Lake National Recreation Area, North Cascades National Park Rangers offer evening programs and nature walks. These are daily at Colonial Creek Campground and 4-5 days each week at Newhalem Creek Campground. Information, publications, and backcountry camping permits are provided daily at Marblemount's Wilderness District Ranger Station.

At Lake Chelan National Recreation Area, visitors aboard the **Lady II** en route to Stehekin may learn of recreational and educational options. Once ashore, mid-day programs at the Landing, afternoon walks through historic Buckner Orchard, and evening programs at the Golden West Visitor Center are just a few of the possibilities. Detailed schedules are printed on page 14. Enrich your summer travels, ask about scheduled events.◆

North Cascades Institute Shares Our Region in a Growing Way

"The deeper we dig into this special part of the world, the more we learn and want to share." says Saul Weisberg, Executive Director of North Cascades Institute. The North Cascades Institute(NCI) offers 70 seminars this season on a wide variety of topics in natural and cultural history of this region. These 2-5 day field seminars range in topics from birds to butterflies to wildflowers.

In addition to wonderful seminars, Elderhostels for seniors focus on selected topics in natural history. Teacher In-Service training and curricula help teachers learn and teach in the outdoor classroom. NCI has also published several guides to mountain ecosystems and wilderness: *Living with Mountains*, *Teaching for Wilderness*, and *A Guide to the Skagit River Watershed*.

NCI's programs for young people have been growing! In addition to four week-long Summer Camps, they also offer Mountain School: camping-based environmental education experiences for school children in grades 5-8. This year, 25 classes of young people, with the teachers and parent-chaperons, explore the mountains with North Cascades Institute, and forest and park rangers.



If you happen upon a small group of students peering through hand lenses at a moss-covered rotting log, creating environmental games, or intently discussing some natural/human interaction, you may have encountered a class in session. Students are exploring our partnerships with nature.

The newest and most challenging project in the future is the **North Cascades Environmental Learning Center**. Through a cooperative agreement with City of Seattle and North Cascades National Park, NCI will become the operator of the Environmental Learning Center, a new residential environmental education facility to be constructed in the upper Skagit Valley.

"Watching the Institute grow has been very exciting" says Saul Weisberg. But he says, "As always, the real joy lies in being out there, living and learning in the forests, meadows, and alpine crags."◆

Leave No Trace

An Outdoor Ethic

- A cooperative program to teach skills for protecting the wilderness environment.
- Endorsed by USDA Forest Service, National Park Service, and National Outdoor Leadership School.
-Do your part to minimize impact on your natural resources.

LEAVE NO TRACE
OUTDOOR SKILLS

Info & Materials
1-800-332-4100

Safety Tips

Driving

✷Be extra careful when pulling on or off a highway. Viewpoints may be dangerous, perched on a cliff. Don't go beyond guard rails.

✷Take special precautions on gravel and Forest access roads. They are normally single lane roads with pull-outs. Suitable rugged vehicles equipped with tools (ax, shovel) and extra supplies (water, fuel) are important since traffic, rocks, washouts, or downed trees can cause unforseen hazards.

✷Safeguard your possessions out of sight. Lock your vehicle at trailheads.

Hiking/Backcountry/Wilderness

✷Carry plenty of water. A special filter may be necessary since even clean looking water could carry **Giardia.** Water treatment pills may not kill it but boiling can.

✷Know your limits and when to turn back. Highwater is a hazard that has caused fatalities. Loosen packs, never cross streams alone or tie yourself to a rope.

✷Terrain is the primary cause of accidents in the North Cascades. Staying on trails, adequate footwear and a good topographic map can minimize the hazards of this rugged land.

✷Be aware that bear and other animals live where you travel. Hang your food and any items that may smell (toothpaste,etc.).

✷Be prepared for insects. Mosquitoes, wasps, bees and biting flies can ruin a trip. The small ticks that cause **lyme disease** may be spreading into this area. They are carried by white-tailed deer and mice.

✷Build fires only in existing fire pits when allowed. Do not leave until all coals are cool enough to hold. Fire danger may be especially high this summer due to much less snow than usual.

✷Hypothermia is a life threatening situation. Lowering of internal temperature of the body (hypothermia) leads to mental and physical collapse. Hypothermia is caused by exposure to cold and it is aggravated by wet, wind and exhaustion. It is the number one killer of outdoor recreationists.

Boating

✷Carry and use Coast Guard approved safety devices and life jackets.

✷Be aware of weather and wind patterns. Prudently retreat from tricky wind squalls by finding a sheltered shoreline to wait them out.



North Cascades Visitor Center to Open in 1993

Jim Harris, NPS West Slope Interpreter

What do you hope to see and do when you visit the North Cascades? With many frontcountry recreational sites, other, more remote, places only accessible by boat or trail, and vast wilderness areas, there are many ways to experience these mountains.

Some people come prepared to pack into the backcountry or enjoy extensive paddles on mountain lakes. But, so many, almost a million visitors a year, quickly pass through the Cascades. While the North Cascades Highway can excite wonder with its beautiful vistas, most of this remote land is beyond the reach of the highway traveler. It has been realized for many years that there should be a facility to bring the sights and stories of these wild lands to the highway visitor.

The North Cascades Visitor Center will be a reality in 1993. On a wooded river terrace overlooking the Skagit Valley, the lodge-like structure is nearing completion. Framed through high peaked windows are glimpses of the majestic Southern Pickett Mountains, a rugged, trailless area where few humans tread.

The visitor center site was carefully chosen to be near the highway but to allow a more natural setting. Trails will radiate out to streamsides, vista points, and Native American and historic cultural sites. Naturalist walks and brochures will show you how to view spawning salmon, mountain goats, and bald eagles in nonimpacting ways. A large-format film will allow closeups of this overwhelmingly beautiful and often ominous landscape. Exhibits will focus on the great diversity of life which inhabits ecosystems from lush westside valleys and slopes, to high mountain climes, to the much dryer eastside slopes.

Visitors, with assistance from park rangers, maps, and informational brochures, will be able to plan their stay and side trips. A wide array of publications, maps, and films will be available for purchase. Comfortable rest rooms and lounge area will encourage people to relax, enjoy the setting, and to learn more of the mountains.

The North Cascades National Park and adjacent wilderness areas were created to protect some of the last large natural areas in our country. A better understanding of these mountains, can be both personally rewarding and can help to increase awareness of the values of natural systems throughout the world. ◆



Climbing in The North Cascades - Challenge and Responsibility

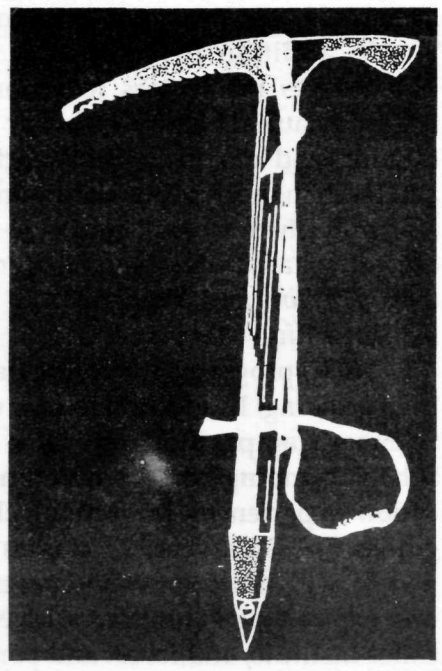
Kelly Bush, NPS Wilderness Ranger

The North Cascades offer the mountaineer a myriad of challenges with much variety of terrain and difficulty. Ascents ranging from the ice-clad slopes of Mt. Baker to the rock climbs near Washington Pass involve technical skill and special equipment. Most of the climbing in the North Cascades involves a combination of snow, ice and rock. All climbs require good judgment and a recognition of the hazards to be encountered.

In 1991 there was a dramatic increase in the number of climbing accidents in the North Cascades. Park rangers responded to over 20 accidents in the backcountry between June and October; ten of these involved injuries or deaths while climbing. Accidents happened to both novice and expert climbers. Some of the contributing causes were:

*Climbing without a belay
*Climbing without a helmet
*Poor route selection
*Underestimating climbing times; overextending
*Climbing in areas with extreme avalanche danger

The remoteness of most peaks in the North Cascades requires that a climbing party be able to function without outside help for an extended period of time. Extra food, emergency and signaling equipment, and first aid gear are recommended on all climbs. Climbers must **prepare** for the worst that might happen, as a responsibility to yourself, your partners, and those who risk their own safety in (mostly volunteer) mountain rescue groups. The challenge of climbing includes safety and responsibility in these mountains, among the wildest and most remote in the contiguous United States. ◆



MT. BAKER - Koma Kulshan

Mt. Baker dominates the northern portion of the Cascade Range. This 10,778 foot peak is the northernmost of the American Cascade volcanoes. It receives up to 200 inches of snow annually and supports 13 active glaciers.

When Captain Vancouver sailed into Puget Sound in April, 1792, his third lieutenant, Joseph Baker, recorded the sighting of "a very high, conspicuous, craggy mountain ...towering above the clouds...." Mt. Baker was named after Joseph Baker. Two years before that, the Spanish explorer Manual Quimper had also seen the peak and had christened it La Montana del Carmelo, "Great White Watcher". Long before 1792 the local Indians had called the mountain Koma Kulshan, "Broken One". To the Lummi tribe, Mt. Baker was simply known as Kulshan or "shot at the point," probably in reference to an earlier eruption that shattered part of the summit.

Mt. Baker's Sherman Crater is among the most active in the cascades. A major eruption was recorded in 1843, starting forest fires and killing fish in the Skagit River. Other eruptions occured from 1843 to 1870. More recently, an unusually large plume of vapor concerned geologists in 1975. Aerial photographs revealed striking changes in the snow and ice-filled crater. Mt. Baker continued emitting steam and occasionally ash over the next few months causing a closure of the Baker Lake area. Today, Mt. Baker occasionally vents and steam vapor can be seen for many miles.

In 1984 Mt. Baker Wilderness was created by Congress, protecting this wild, mountainous territory for future generations. Managing Mt. Baker for Wilderness values is a challenging goal of the Mt. Baker-Snoqualmie National Forest. Wilderness experience is difficult to define but involves intangibles such as risk, challenge, discovery, inspiration, and solitude. ◆

Mt. Baker National Recreation Area

on the southeast flanks of Mt. Baker was also established in 1984 as part of the Washington State Wilderness Act. Public support for keeping a portion of the mountain open for snowmobile use led to the 8,473-acre National Recreation Area designation. Year-round activities include hiking, horse-back riding, climbing, camping, cross-country skiing,

A variety of improvements are ongoing in the **National Recreation Area.** This summer the trails accessing the Park Butte Lookout, the Easton Glacier, and the Mazama Horse Camp are being worked on. The Sulphur Moraine Trail is also being reconstructed and extended to create a spectacular 8-mile loop hike.

At the same time, many of the "boot built" trails and heavily impacted campsites are being closed and rehabilitated. Seed collected from the meadows was planted in greenhouses and the small plants are flown in to try to restore the original meadow vegetation. Overnight users will be required to camp in designated areas and all visitors are encouraged to stay on the main trails.

The work is being accomplished by a variety of methods including Forest Service crews, private contractors and volunteers. The Student Conservation Association will have a crew of 10 high school students camped for 30 days in the area doing trail reconstruction.

NRA CAMPING AND TRAIL INFORMATION

In our effort to rehabilitate Morovitz Meadow, several campsites and trails within the meadow have been closed. Camping is available at Railroad Grade, Baker Pass, Cathedral Pass, and High Camp areas. Railroad Grade is closed to horse use. Mazama Park is designated as a horse camp. Refer to map detailing camp areas.

✷ Please respect the closure signs and camp in designated areas.
✷ Please stay on designated trails.
✷ Water may not be available from these sites. It will be necessary to pack your water or treat it.
✷ There are toilets near camping areas. Look for toilet signs posted on trees.
✷ Use of stoves is always preferable to building a campfire.

Wanted: Your Help!

As a citizen of the United States, YOU are a landowner- and your land needs your help. The Mt. Baker-Snoqualmie National Forest lies within a 1/2 days drive of over 6 million visitors, and protection of your resources is important. Crimes occuring on your National Forest lands range from vandalism and littering to burglary, poaching, wood and tree thefts, arson, even drug laboratories!

Working together with trained law enforcement officers, **citizens** like yourself have begun to launch an attack on these crimes. Rewards of up to $5,000 for information leading to arrest or conviction of individuals involved in crimes of national forest lands!

Phone numbers are listed on bulletin boards. These include:

1) Mt. Baker Ranger District (206) 856-5700
2) MBS NF headquarters (206) 744-3200
3) 1-800-624-4595 (Hotline)

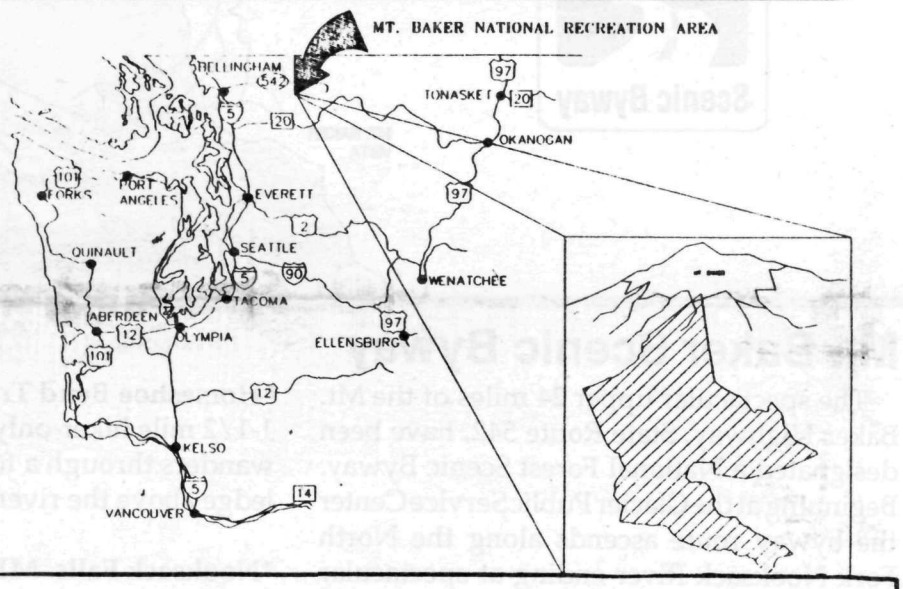
Public telephones near the District include:

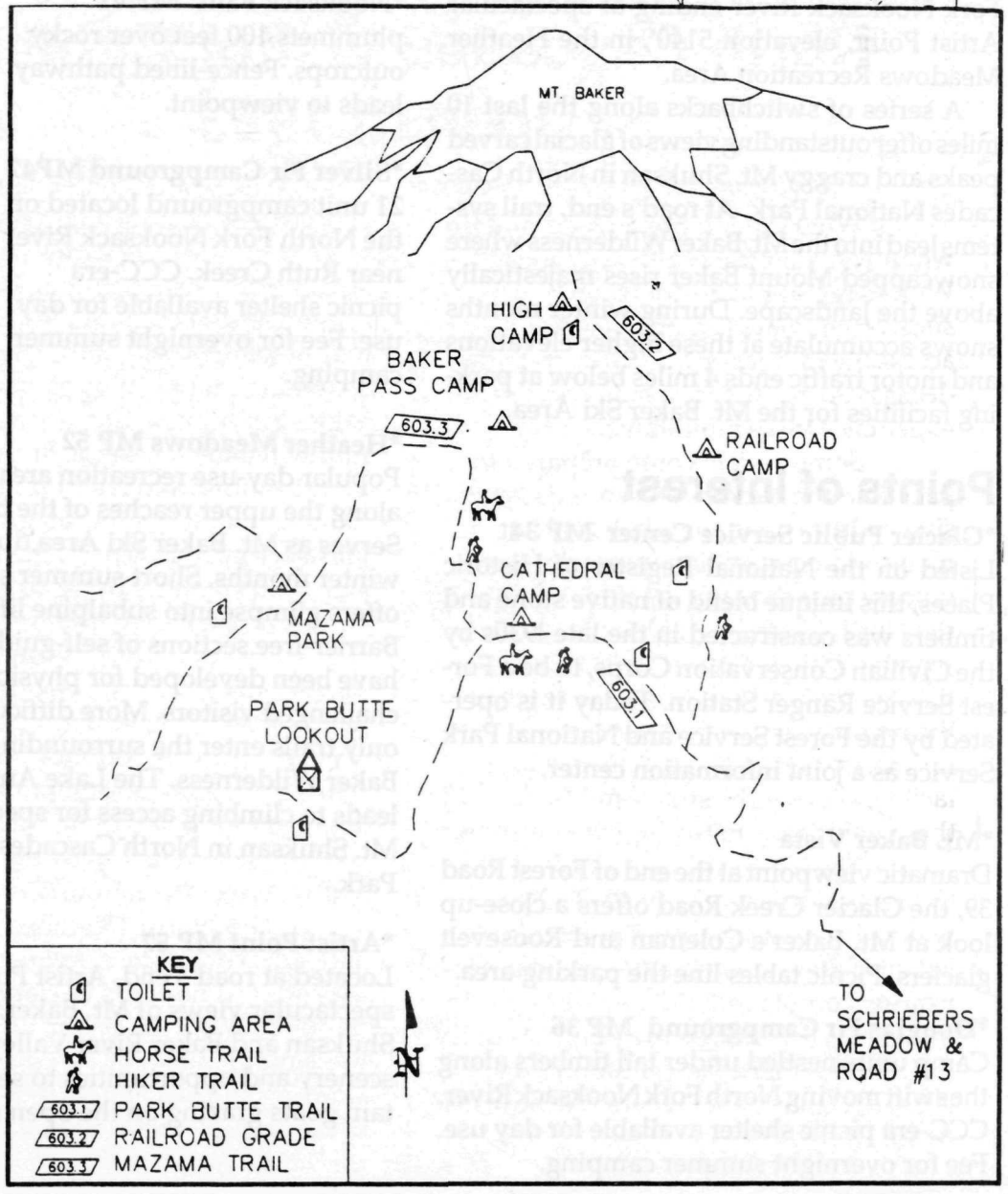
1) Nooksack River area: Glacier (town & USFS Public Service Center)
2) Baker Lake area: Lake Tyee Resort & Creekside Camping
3) Finney area: Concrete
4) Skagit River area: Rockport
5) Cascade River area: Marblemount (town & NPS ranger station)

If necessary leave a completed message on the answering machine, & please include the following:

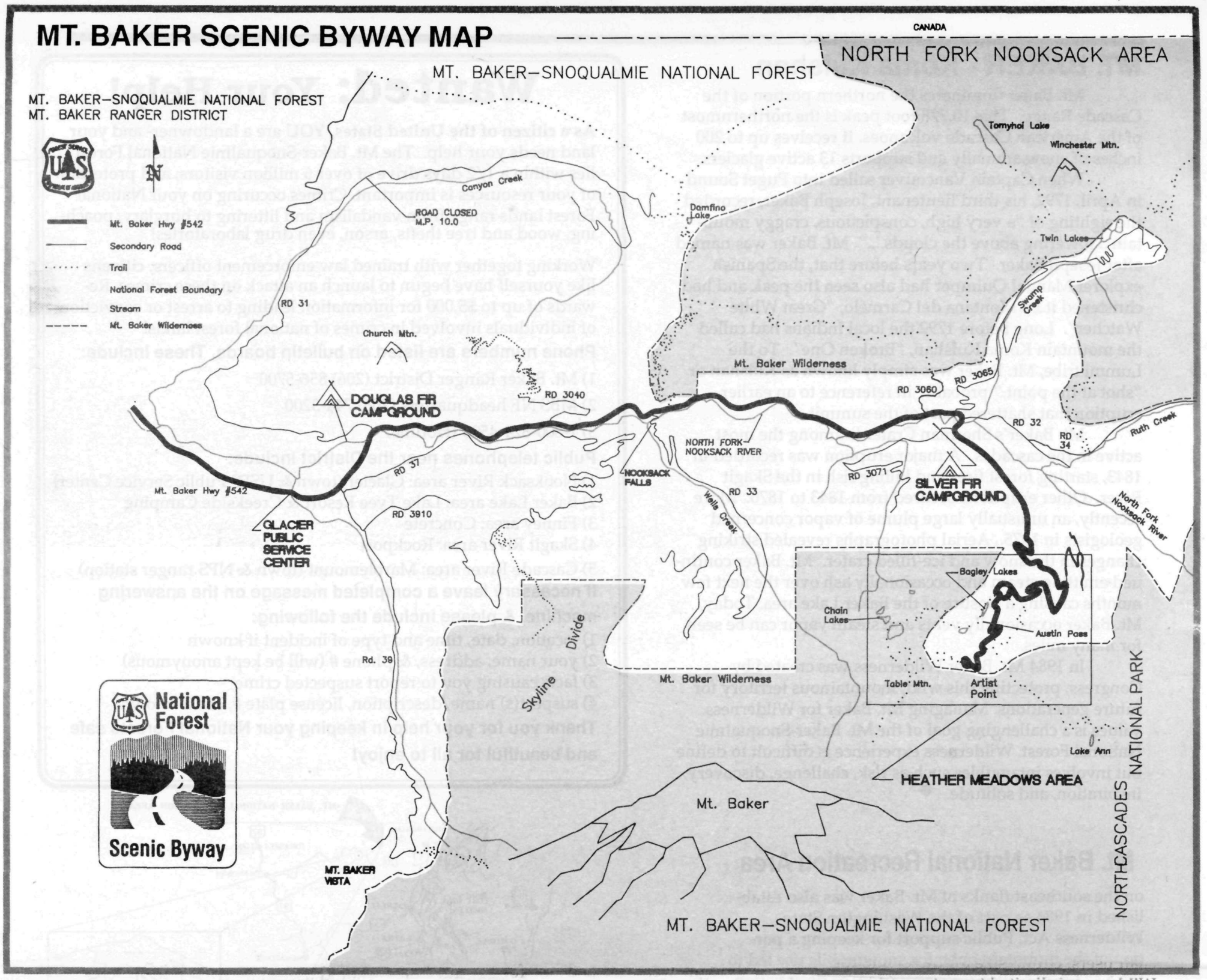
1) location, date, time and type of incident if known
2) your name, address, & phone # (will be kept anonymous)
3) facts causing you to report suspected crime
4) suspect(s) name, description, license plate #, etc. if known

Thank you for your help in keeping your National Forests safe and beautiful for all to enjoy!





MT. BAKER SCENIC BYWAY MAP



Mt. Baker Scenic Byway

The spectacular upper 24 miles of the Mt. Baker Highway, State Route 542, have been designated a National Forest Scenic Byway. Beginning at the Glacier Public Service Center the byway route ascends along the North Fork Nooksack River ending at spectacular Artist Point, elevation 5140', in the Heather Meadows Recreation Area.

A series of switchbacks along the last 10 miles offer outstanding views of glacial carved peaks and craggy Mt. Shuksan in North Cascades National Park. At road's end, trail systems lead into the Mt. Baker Wilderness where snowcapped Mount Baker rises majestically above the landscape. During winter months snows accumulate at these higher elevations and motor traffic ends 4 miles below at parking facilities for the Mt. Baker Ski Area.

Points of Interest

***Glacier Public Service Center MP 34**
Listed on the National Register of Historic Places, this unique blend of native stone and timbers was constructed in the late 1930s by the Civilian Conservation Corps, to be a Forest Service Ranger Station. Today it is operated by the Forest Service and National Park Service as a joint information center.

***Mt. Baker Vista**
Dramatic viewpoint at the end of Forest Road 39, the Glacier Creek Road offers a close-up look at Mt. Baker's Coleman and Roosevelt glaciers. Picnic tables line the parking area.

***Douglas Fir Campground MP 36**
Camp units nestled under tall timbers along the swift moving North Fork Nooksack River. CCC-era picnic shelter available for day use. Fee for overnight summer camping.

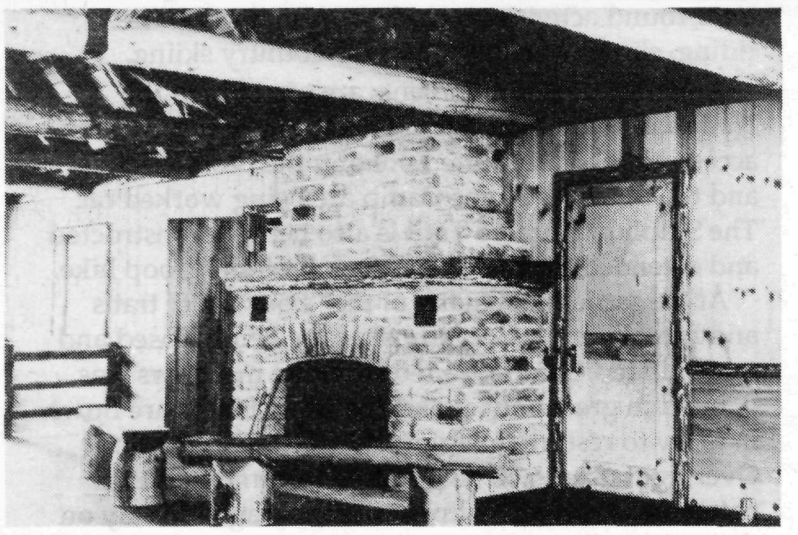
***Horseshoe Bend Trail MP 36**
1-1/2 mile hiker-only trail wanders through a forested ledge above the river's bank.

***Nooksack Falls MP 41**
plummets 100 feet over rocky outcrops. Fence-lined pathway leads to viewpoint.

***Silver Fir Campground MP47**
21 unit campground located on the North Fork Nooksack River near Ruth Creek. CCC-era picnic shelter available for day use. Fee for overnight summer camping.

***Heather Meadows MP 52**
Popular day-use recreation area located along the upper reaches of the byway. Serves as Mt. Baker Ski Area during winter months. Short summer season offers glimpse into subalpine life cycles. Barrier-free sections of self-guided trails have been developed for physically challenged visitors. More difficult hiker-only trails enter the surrounding Mt. Baker Wilderness. The Lake Ann trail leads to climbing access for spectacular Mt. Shuksan in North Cascades National Park.

***Artist Point MP 57**
Located at road's end, Artist Point offers spectacular views of Mt. Baker, Mt. Shuksan and Baker River Valley alpine scenery and opportunities to see mountain goats grazing on the open slopes.◆



Testimony to the Heroic Civilian Conservation Corp

The CCC's "Camp Glacier" boys worked hard during the summer of 1941 to finish their last architectural masterpiece. Fifty years later the Austin Pass Warming Hut stands as testimony to that heroic works project era. Constructed of massive stone and timbers, the building sits dramatically at the edge of a ridge, facing east towards Mt. Hermann and Bagley Lakes. There could not be a more perfect setting!

Now listed on the National Register of Historic Places, the hut is slated for intensive restoration. The project, led by the Mt. Baker-Snoqualmie National Forest, will begin this season as soon as snows melt. The Forest Service hopes that the facility will be ready for a grand re-opening in 1993 as the **Heather Meadows Visitor Center.**

Future plans include using the building each summer as a focal point for visitor contact and interpretation in the popular Heather Meadows area. Interior displays will offer insight to the area's colorful natural and cultural history. ◆

SUMMER INTERPRETIVE PROGRAMS

Starting the weekend of July llth interpretive programs will once again be offered to National Forest visitors in the Heather Meadows area. Roving naturalists will be available throughout the summer season to help answer questions about this unique sub-alpine area. On weekends scheduled viewpoint talks and a series of "Guest Speaker Programs", facilitated by Forest Service interpretive specialists, will take place at Picture Lake, Bagley Lakes Overlook on the Fire & Ice Interpretive Trail and at the Artist Point Overlook on the Artist Ridge trail.

Programs are free and a great way to join with local "guest specialists" and learn more about the Mt. Baker area in a relaxed, natural setting. Guest speakers and topics will vary and participants are urged to "dress for the weather" and to "come rain or shine". Pick up a summer schedule at the district office in Sedro Woolley or the historic Glacier Public Service Center along the Mt. Baker Scenic Byway.

HEATHER MEADOWS TRAILS

Trails in the Heather Meadows Area have been designed primarily for hiker use with certain sections made barrier-free for wheelchair users. Group size for travel into the Wilderness is limited to parties of 12 persons or less. All trails are closed to bicycle, motorcycle and stock use.

PICTURE LAKE PATH

0. 5-mile barrier-free loop trail. Scenic viewpoint with interpretive signs.

BAGLEY LAKES

1.5 mile hiker trail along the east shore of Bagley Lake. Junctions with Chain Lakes Trail and Wild Goose Trail.

FIRE AND ICE TRAIL

0.5-mile self-guided interpretive trail. Barrier-free section leads to scenic look.

LAKE ANN TRAIL

4.0-mile hiking trail. Enters Mt. Baker Wilderness, group size limited to 12 people. No campfires permitted at Lake Ann.

ARTIST RIDGE TRAIL

1.0-mile self-guided interpretive loop trail. Barrier free to scenic viewpoint.

TABLE MOUNTAIN TRAIL

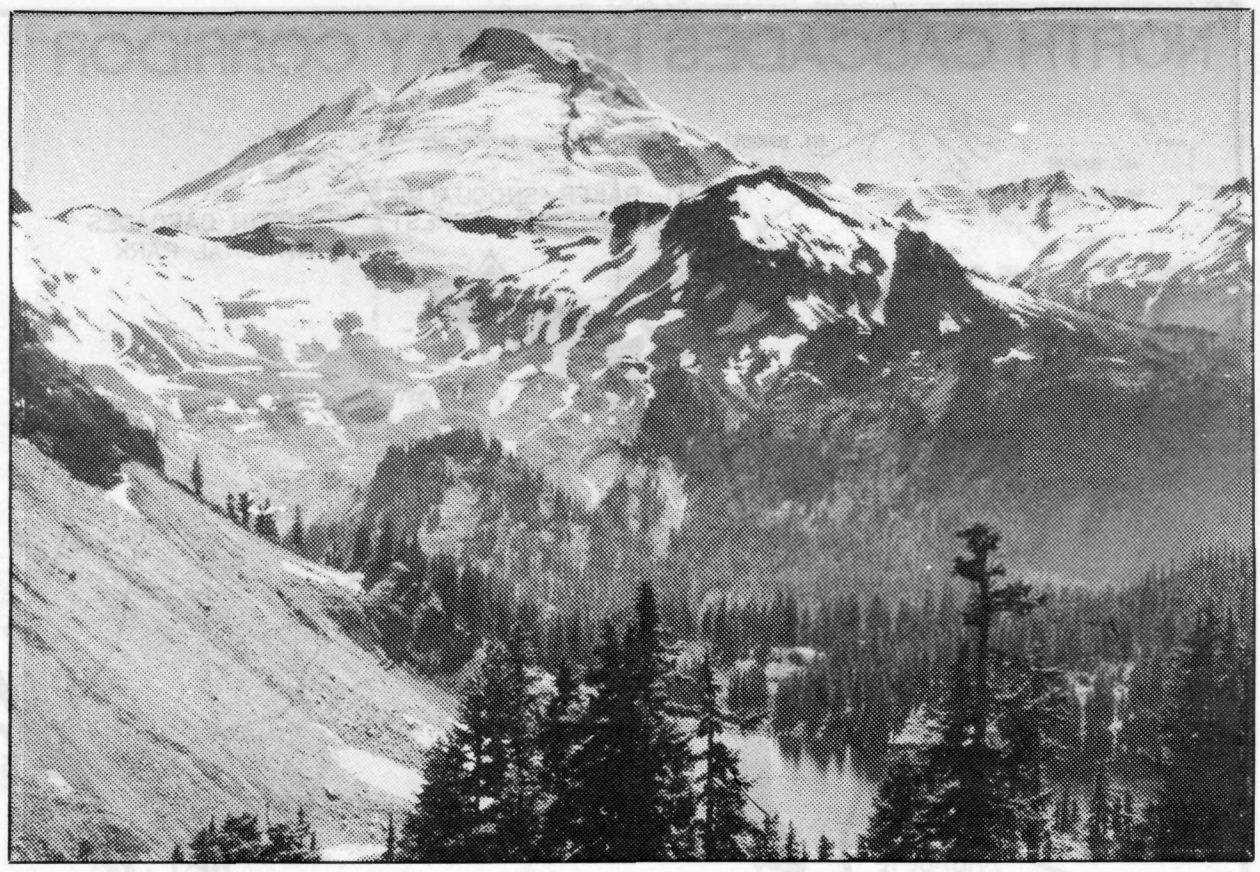
1. 0-mile hiker only trail switchbacks up vertical cliffs. Primitive trail continues across mountain top, eventually connecting with the Chain Lakes Trail.

CHAIN LAKES TRAIL

6.5 mile hiking trail accessed from Bagley Lakes Trail or Artist Point. Enters Mt, Baker Wilderness. Campfires prohibited.

PTARMIGAN RIDGE TRAIL

Junctions off Chain Lakes Trail 1.0 mile from Artist Point. Crosses permanent snowfields and rocky moraines along 6.0 mile length.



Mt. Baker as viewed from Chain Lakes trail north of the mountain.

Access Restored-- Favorite Nooksack Valley Creeks

Penny Sunblad, USFS Engineer

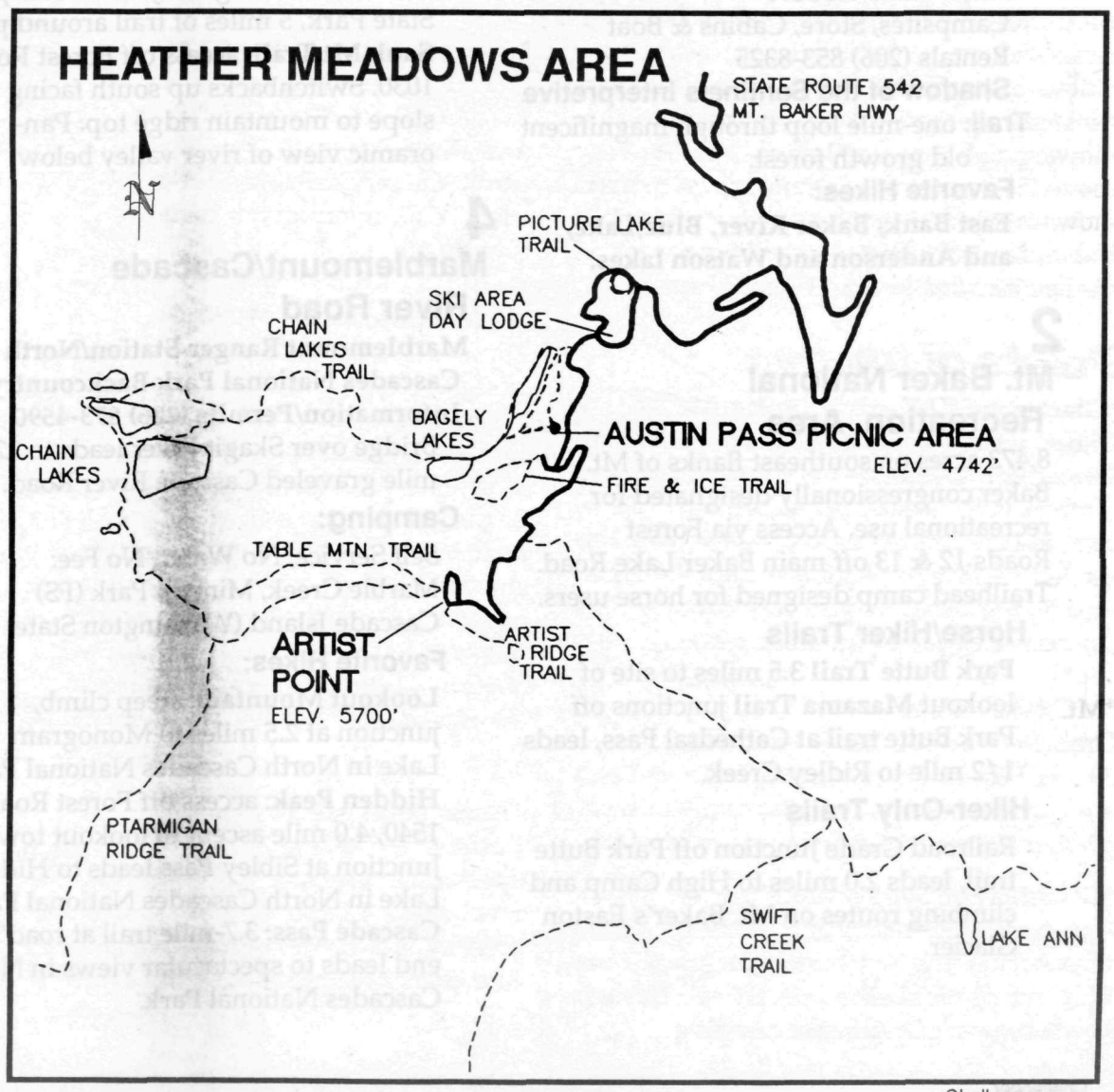
During the winters of 1989 and 1990, flooding of Glacier and Canyon creeks caused extensive damage to roads on the Mt. Baker Ranger District. Due to severe winter damage, access to several key recreational areas was blocked.

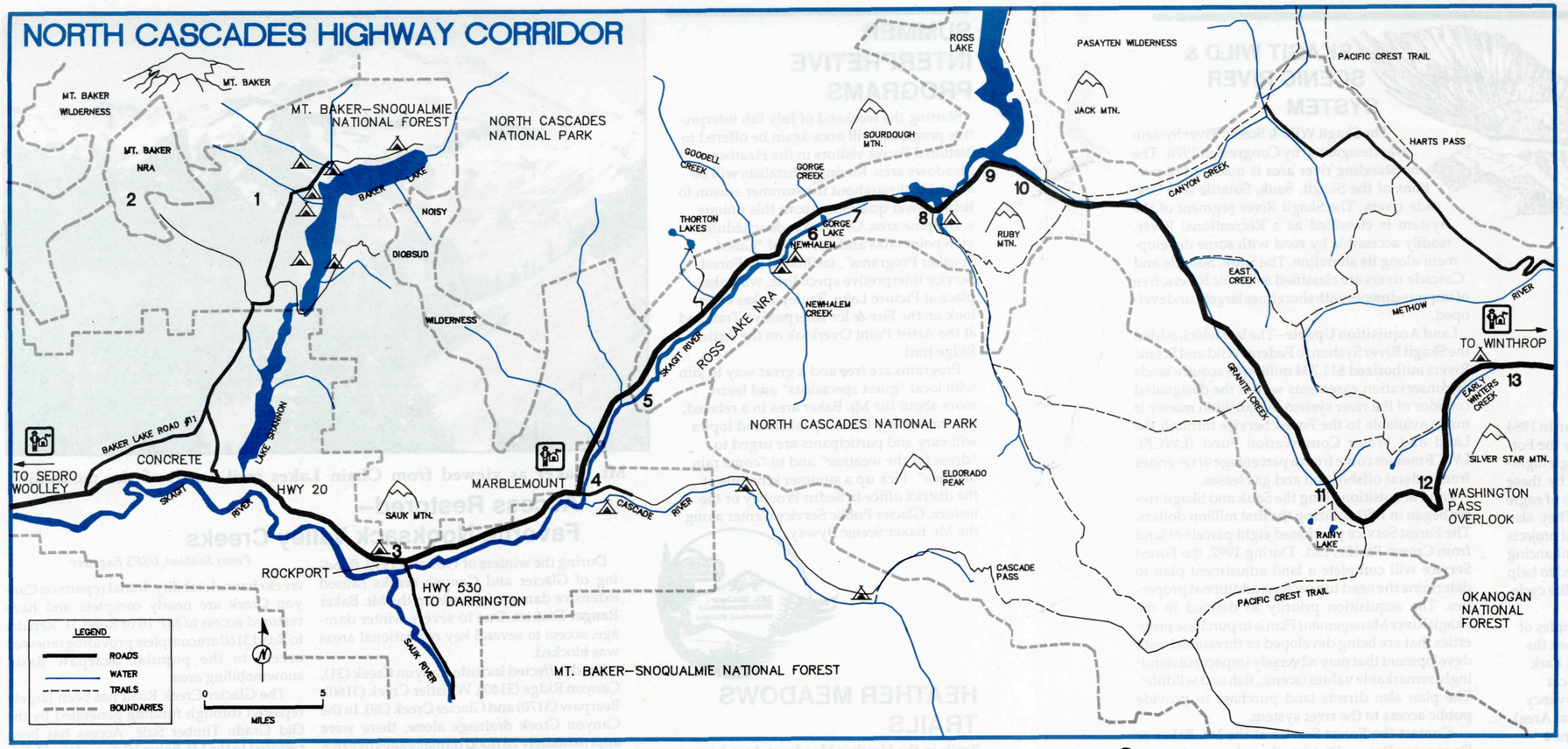
Roads affected include Canyon Creek (31), Canyon Ridge (3140), Whistler Creek (3160), Bearpaw (3170) and Glacier Creek (39). In the Canyon Creek drainage alone, there were approximately 26 flood damage sites over 8.8 miles of road. Canyon Creek campground was completely buried in silt, approaches to both the Lower Canyon and Middle Canyon bridges were washed out for several hundred feet, and a 300-foot segment of Road 31 at MP 7.7 was lost. In the Glacier Creek drainage, there were approximately 20 damage sites over 7 miles of road. Damage included a series of washouts and major slides at MP 1.2, MP 2.7 and extensive loss of road at MP 3.7.

In 1991, repairs amounting to over a million dollars were initiated to restore access, reduce sediment production and increase creek channel stability. Initial repairs on Canyon Creek are nearly complete and have restored access to MP 10 of Road 31. Repairs to Road 3160 are complete providing renewed access to the popular Bearpaw Basin snowmobiling area.

The Glacier Creek Road has been largely repaired through funding generated by the Old Grade Timber Sale. Access has been restored to the Mt. Baker Vista and the Heliotrope Trail, a popular climbing route to Mt. Baker. Although temporary repairs are complete, the road is still rough and visitors should use caution.

In addition to work already completed, several more phases of repair are scheduled to allow for drainage improvements and resurfacing. In 1993, two permanent bridges will be installed on the Canyon Creek Road, restoring access to the popular Damfino Trail. Also scheduled is the reconstruction of Roads 3140 and 3170 which will reestablish access to the Canyon Ridge West and Bearpaw Lake trailheads.◆





Opportunities For All

The National Park and Forest Service have been working hard to make recreational facilities available to everyone. Barrier-free trails, campsites, viewpoints, restrooms, and visitor information centers, are being continually upgraded and added throughout the North Cascades.

A: (fully accessible), R: (restrooms), a: (some assistance may be needed), S: (open seasonally)

VISITOR INFORMATION STATIONS:

*NPS/USFS Ranger Station-- A/R, mile 67 SR20, Sedro-Woolley.
*Wilderness Ranger Station -- A/R, mile 105 SR20, Marblemount
*Glacier Public Service Station --A/R, mile 38 SR542, Mt. Baker Scenic Byway, Glacier.
*Newhalem Visitor Information Station -- A/R/S, mile 121, SR20 Newhalem.

CAMPGROUNDS:

*Goodell -- a/R/S, mile 120 SR20, near Newhalem.
*Newhalem -- A/R/S, mile 120 SR20, near Newhalem.
*Colonial -- A/R/S, mile 130 SR20, Diablo Lake.

AMPHITHEATERS:

*Newhalem Campground-- A/R/S, mile 120 SR20.
*Colonial Campground -- A/R/S, mile 130 SR20.

TRAILS:

Access from Highway 20

*Trail of the Cedars -- a/S, mile 121 SR20, Newhalem.
*Shadow of the Sentinels -- a/R/S, Baker Lk. Highway, near Baker Lake.
*Happy Creek Forest Walk a/R/S, mile 134 SR20.
*Rainy Lake Trail -- a/R/S, mile 161 SR20, Rainy Pass.

Access from Mt. Baker Scenic Byway

*Picture Lake Path -- a/S, overlooks lake and Mt. Shuksan, near entrance to Heather Meadows.
*The Fire and Ice Trail -- a/S, overlooks Bagley Lake basin and Mt Herman, Austin Pass.
*Artist Point -- a/R/S, Artist Ridge view point spectacular views of Mts Baker, Shuksan and Baker Lake.

1 Baker Lake

9-mile-long recreational reservoir formed by the upper of two dams on the Baker River.

Forest Service Campgrounds:

Horseshoe Cove $
Panorama Point $
Self Service, No Water or Garbage :
Boulder Creek, Park Creek, Shannon Creek
Boat In/Hike In, Reduced Service:
Maple Grove

Baker Lake Resort*

Campsites, Store, Cabins & Boat Rentals (206) 853-8325

Shadow of the Sentinels Interpretive Trail: one-mile loop through magnificent old growth forest.

Favorite Hikes:

East Bank, Baker River, Blue Lake, and Anderson and Watson lakes.

2 Mt. Baker National Recreation Area

8,473 acres on southeast flanks of Mt. Baker congressionally designated for recreational use. Access via Forest Roads 12 & 13 off main Baker Lake Road. Trailhead camp designed for horse users.

Horse/Hiker Trails

Park Butte Trail 3.5 miles to site of lookout **Mazama Trail** junctions off Park Butte trail at Cathedral Pass, leads 1/2 mile to Ridley Creek.

Hiker-Only Trails

Railroad Grade Junction off Park Butte trail, leads 2.0 miles to High Camp and climbing routes on Mt. Baker's Easton Glacier.

3 Skagit Wild & Scenic River System

Federally designated segments of the Skagit, Sauk, Suiattle & Cascade rivers. Largest recorded populations of wintering bald eagles in the lower 48 states.

Camping:

Rockport State Park*
Howard Miller Steelhead County Park*

Favorite Hikes:

Skagit View and Sauk Springs trails: South side of Highway 20 at Rockport State Park, 5 miles of trail around park.
Sauk Mt.Trail: access off Forest Road 1030. Switchbacks up south facing slope to mountain ridge top. Panoramic view of river valley below.

4 Marblemount/Cascade River Road

Marblemount Ranger Station/North Cascades National Park Backcountry Information/Permits (206) 873-4590

Bridge over Skagit River leads to 22.3 mile graveled Cascade River Road.

Camping:

Self Service, No Water, No Fee: Marble Creek, Mineral Park (FS) Cascade Island (Washington State)

Favorite Hikes:

Lookout Mountain: steep climb, junction at 2.5 miles to Monogram Lake in North Cascades National Park.
Hidden Peak: access off Forest Road 1540, 4.0 mile ascent to lookout tower. Junction at Sibley Pass leads to Hidden Lake in North Cascades National Park.
Cascade Pass: 3.7-mile trail at road's end leads to spectacular views in North Cascades National Park.

5 Ross Lake National Recreation Area

Entrance to 117,574 acre Ross Lake National Recreation Area administered by North Cascades National Park Service Complex.

Thornton Lake Road/Trail:

Access trail 4.7 miles up windy, gravel road. Hike 5 miles into Lower Thornton Lake, first of three alpine lakes.

Goodell Creek Campround

Rustic sites along Skagit River, open all year, $5 charge for summer camping. Raft launch, float trips.

6 Newhalem(Milepost 119.9)

Newhalem Creek Campground

Modern summer facilities, Ranger sta tion, naturalist programs, self-guided nature trails, camping $7.

Seattle City Light/National Park Service Information Station

Newhalem Store: supplies,souvenirs.
Trail of the Cedars: 0.3-mile self-guided loop on south side of Skagit River.
Ladder Creek Falls: located behind **GorgePower House.** Loop trail through flower gardens and pools, lit at night.

7 Diablo

Skagit Tours--Seattle City Light

(206) 684-3030 Boat trips on Diablo Lake, tours of Ross Dam, incline railroad and dinner. Operates TH-M summer only. Picnic sites and museum near tour office.

Stettatle Creek Trail: densely forested 2.5-mile trail near bridge into Diablo.
Sourdough Lookout Trail: strenuous 5 mile hike to Sourdough Mtn, views at 2.2 miles.
Diablo Lake Trail: begin at site of old Diablo Lake Resort or at base of Ross Dam Hike 3.8 miles up lakeshore or ride up on Seattle City Light's tug boat and hike back.

8 Colonial Creek Campground

Boat launch and dock on Diablo Lake, interpretive programs, trailhead, self-guided trail, camping $7.

Thunder Creek Trail: begins at south end of camp ground. Junctions with **Thunder Woods** Nature Loop. Leads to junction for **Fourth of July/Panther Creek Trail.** Moderately steep climb leads 3.2 miles to Fourth of July Pass. **Panther Creek Trail** continues 5 miles back to Highway 20, east of the campground.

9 Overlooks & Ross Lake Trailhead

Diablo Lake Overlook Milepost 131.8

Ross Lake Overlook Milepost 135.1

Ross Lake Resort $ (206) 386-4437

Floating cabins, boat rentals and portage service.

Ross Dam Trail:1.0 descent to top of Ross Dam. Cross dam and hike west bank of Ross Lake to Big Beaver and backcountry camps.
Happy Creek Forest Walk: 0.2 miles beyond Ross Lake. Trailhead on south side of Highway 20. 0.3-mile barrier-free, self-guided interpretive trail.

10 East Bank Trailhead: Milepost 138

Horse/HikerTrail. Moderately steep descent to Ruby Creek suspension bridge, level trail both up and down Ruby Creek connecting Ross Lake NRA with Pasayten Wilderness. After a 2.6 mile walk west the trail extends north 24 miles along Ross Lake to Hozomeen.

11 Rainy Pass Milepost 157.6

1-mile paved trail leads to **Rainy Lake**, waterfall and glacier view platform.
Longer hikes to **Lake Ann** (2.0 miles), **Heather Pass** (3.0 miles) and **Maple Pass** (4.0 miles).

12 Washington Pass Overlook Milepost 162.2

Overlook, picnic sites, barrier-free restrooms.

13 Upper Methow Valley

Early Winters Ranger Station and Campground

Hart's Pass Road 22 mile road reaches highest point accessible by vehicle in Washington State.
Winthrop, Okanagon National Forest.

CAR CAMPING IN THE NORTH CASCADES

There are many public campgrounds adjacent to the North Cascades Highway. None of them require a reservation. They are filled on a first come first served basis. Private campgrounds and resorts may also provide cabins and showers.

Typically, free campgrounds are quite primitive, requiring that you bring your own water and pack out garbage. When a fee is charged, there are amenities like running water and garbage service. Colonial Creek, Newhalem, and Hozomeen Campgrounds also offer Ranger programs.

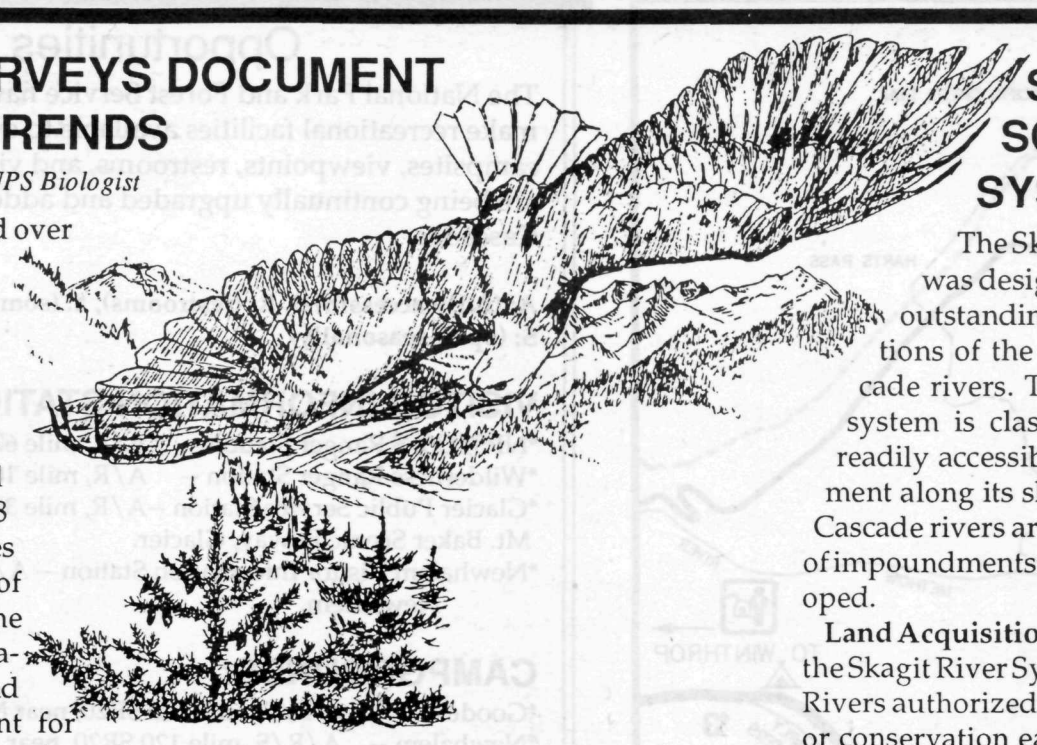
Limited "group camps" are available on a reservation basis - check with your local Ranger Station.

LOCATION	CAMPGROUND		WHEELCHAIR ACCESSIBLE FACILITIES	USER FEE MANAGED BY	DRINKING WATER	FLUSH TOILETS	VAULT TOILETS	GARBAGE FACILITIES	BOAT RAMPS	HIKING TRAILS	FISHING	DUMP STATIONS	TENT OR TRAILER CAMPING (UNITS)	*=TRAILER HOOK-UPS (MOTOR HOMES)
HWY 542	DOUGLAS FIR	FS	●		●		●		●		●		30	
	SILVER FIR	FS	●		●		●		●		●		21	
BAKER LAKE ROAD MP.14–MP.23	KULSHAN	P		●	●	●		●	●			●	40	
	HORSESHOE COVE	FS	●		●	●	●	●	●		●		34	
	PANORAMA POINT	FS	●		●		●	●	●		●		16	
	BOULDER CREEK	FS					●						10	
	PARK CREEK	FS					●				●		12	
	SHANNON CREEK	FS					●		●		●		20	
HWY 20 MP.96–MP.180	ROCKPORT STATE PARK	SP	●	●	●	●				●		●	62	*
	STEELHEAD PARK	CP	●		●	●		●	●			●	39	*
	GOODELL CREEK	NP	●		●		●	●	●		●		22	
	NEWHALEM CREEK	NP	●	●	●	●		●		●		●	129	
	COLONIAL CREEK	NP	●	●	●	●		●	●	●	●	●	164	
	LONE FIR	FS	●		●		●	●					27	
	KLIPCHUCK	FS	●		●		●	●		●			46	
	EARLY WINTERS	FS	●		●		●	●					12	
CASCADE RIVER ROAD	MARBLE CREEK	FS					●				●		24	
	MINERAL PARK	FS					●						4	
	CASCADE ISLANDS	SP					●						15	
VIA B.C.	HOZOMEEN	NP			●		●	●	●	●	●		122	

LEGEND: FS = FOREST SERVICE SP = WA. STATE PARK P = PRIVATE
NP = NATIONAL PARK SERVICE CP = COUNTY PARK

BALD EAGLE SURVEYS DOCUMENT LONG TERM TRENDS

Jonathan Bjorklund, NPS Biologist



Bald eagle surveys conducted over the last decade show recent increases in the number of bald eagles wintering along the Skagit River between Rockport and Newhalem. The Skagit Valley hosts one of the largest concentrations of this threatened bird of prey in the lower 48 states. The arrival of the eagles coincides with the spawning of salmon, whose carcasses are the birds major food source. Variations in chum salmon runs and weather patterns may account for some fluctuations in census numbers. Resource managers are concerned that increasing recreational activities could seriously impact eagles. Baseline and long-term studies are necessary to detect long-term changes in eagle numbers.

Only a small proportion of the bald eagles wintering on the Skagit River feed between Marblemount and Newhalem. National Park Service biological surveys showed an interesting trend in that area over the past 10 years. During the first 5 winters little variability existed, with total sightings ranging from 125 to 139. However, beginning in the 1987-88 winter, total sightings ranged from 221 to 319. The percent of subadults also increased. Larger numbers of immature eagles are an indication of better breeding success up north, where they spend their summers, and may partially account for an increase in the abundance of bald eagles concentrated along the Skagit River each winter.

A complementary study began in 1984 with volunteers coordinated by the Forest Service documenting bald eagle night-roost activity. Data provided by these studies may support protection of eagle habitat in the Skagit Valley. They also will lead to habitat improvement projects for salmon and eagles, thus enhancing their survival. Signs were placed to help visitors learn about the eagle's life cycle, habits and special needs.

These surveys are fine examples of interagency cooperation between the USDA Forest Service, National Park Service, Skagit Audubon, Wildcat Steelhead Club, Nature Conservancy (Skagit River Bald Eagle Natural Area) and many concerned volunteers.◆

SKAGIT WILD & SCENIC RIVER SYSTEM

The Skagit Wild & Scenic River System was designated by Congress in 1978. The outstanding river area is made up of portions of the Skagit, Sauk, Suiattle and Cascade rivers. The Skagit River segment of the system is classified as a Recreational River, readily accessible by road with some development along its shoreline. The Sauk, Suiattle and Cascade rivers are classified as Scenic Rivers; free of impoundments with shorelines largely undeveloped.

Land Acquisition Update--The law which added the Skagit River System to Federal Wild and Scenic Rivers authorized $11,734 million to acquire lands or conservation easements within the designated corridor of the river system. Acquisition money is made available to the Forest Service through the Land and Water Conservation Fund (LWCF). LWCF monies come from a percentage of revenues from federal offshore oil and gas leases.

Land acquisition along the Sauk and Skagit rivers began in 1991 utilizing the first million dollars. The Forest Service purchased eight parcels of land from Crown Pacific, Ltd. During 1992, the Forest Service will complete a land adjustment plan to determine the need to purchase additional properties. The acquisition priority as defined in the Skagit River Management Plan is to purchase properties that are being developed or threatened with development that may adversely impact outstandingly remarkable values (scenic, fish and wildlife). The plan also directs land purchase to provide public access to the river system.

Contact the Forest Service at the Mt. Baker or Darrington Ranger Districts if you have an interest in this process.

Jim Chu, Wild & Scenic River Manager
Mt. Baker Ranger District (206) 856-5700
Darrington (206) 436-1155

FIRE PRESCRIPTIONS IN THE NORTH CASCADES

Janet Kailin, NPS Fire Management Officer

Today the National Park Service sees the importance of **prescribing fire** in preserving natural ecosystems and improving habitat for wildlife. Fires are essential to many plant and animal species. Some plants need fire in order to regenerate or to compete with other species; some animals need the food variety and vegetative openings created by fire. Fire helps create a diversity of age classes and species. This makes a more stable system. Fire controls insects and tree diseases. Fire recycles some minerals back to the ground.

What is a "fire prescription" ?

Generally a "prescription" is defined as: a written direction for the preparation and use of a medicine or remedy. Fire is used as a remedy for fuel buildup and can help achieve a balanced environment, improving biodiversity.

A "fire prescription" is a written direction for the preparation and use of fire. It describes acceptable fuel conditions, winds, temperature, relative humidity, time of year, location, fire behavior, smoke dispersal, method of ignition, and special precautions that must be taken to safely achieve defined objectives. These include perpetuating fire's role as a natural process in the ecosystem; and restoring the beneficial effects that fire has on the forest environment.

How are fire prescriptions used in the North Cascades?

The recently revised (1991) Fire Management Plan for North Cascades National Park Service Complex recognizes that lightning fires are a natural phenomenon which must be permitted to continue to influence the ecosystem if truly natural systems are to be perpetuated in the wilderness.

Under the revised Fire Management Plan, prescriptions are used by rangers to prepare for two kinds of managed fires: fires that are naturally ignited by lightning, and fires that rangers carefully ignite under specified conditions. If the weather, fire behavior, location and safety conditions do not match the prescriptions, then lightning fires are suppressed and rangers will not ignite management fires. All managed fires are monitored to insure that they stay within prescription.

Last summer, prescriptions were used in managing a lightning-caused natural fire and a management-ignited fire. The lightning fire was located deep in the wilderness area. It remained small (1/4 acre), and was extinguished by rain two weeks after it was discovered. The 50-acre management-ignited prescribed fire was located in the Stehekin Valley. This fire removed a hazardous level of fuels such as needles, branches and brush that had accumulated for 100 years.

In the future? Rangers expect to continue using prescriptions to help plan and manage these types of fires. The fire prescription is the key to a safely managed fire that preserves a diverse environment.

Lucky to see a Loon

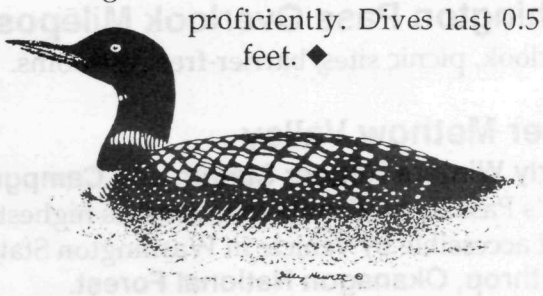
Deep in the wilderness at a wooded mountain lake a melodious call echoes off the cliffs. This is the home of the Common Loon (*Gavia immer*). If you are fortunate enough to see one, with its zebra-stripe necklace, glossy green checker-board back, and sleek graceful form, you will discover that it looks as beautiful as it sounds.

The Common Loon breeds here in the North Cascades. However, 'Common' is a misnomer. California and Oregon have no known nests. Washington has only a few. Although dozens of sightings have occurred here in spring and summer, breeding was only recently confirmed.

Populations of the Common Loon have declined due to human activities and their place high on the food chain. Here their breeding habitat seems relatively secure. However, because loons are migratory and most spend part of each year outside the park, their protection is not ensured.

Common Loons nest on the ground along lakeshores, on islands, or among wet soggy aquatic vegetation. Females lay 1 - 3 eggs in spring following acrobatic courtship behavior. After hatching, the fuzzy young leave the nest in just a few days and are able to swim, dive, and walk. Young loons are vulnerable and fall prey to hawks, mink, turtles, and other predators.

Common Loons prefer to eat fish, but will settle for a frog, small reptile, insect, leech, or aquatic vegetation. Loons can dive and swim very proficiently. Dives last 0.5 - 3.0 feet. ◆



GRAY WOLF RECOVERY IN THE NORTH CASCADES

Robert Kuntz, NPS Wildlife Biologist

Gray wolf tracks have been seen and identified near the Canadian border in the annual spring draw down of Ross Lake for several years. Yet it has only been for two consecutive springs that the elusive wolves have actually been sighted. On the morning of May 29, 1991, National Park Service and Washington Department of Wildlife biologists investigated reports of gray wolf sightings at Hozomeen in Ross Lake National Recreation Area. Lengthy observations and photographs, tape recordings of vocalizations, and plaster casts of tracks positively identified a gray wolf (Canis lupus). **This evidence near Hozomeen, and recent evidence from other locations, suggests gray wolves are naturally recolonizing the North Cascades ecosystem.**

It is believed gray wolves migrated into the Cascade Range from the Great Plains as glacial ice retreated. Native people revered wolves as spiritual helpers and had a taboo against killing them. With the arrival of the Hudson's Bay Company in 1821, wolves were trapped for their pelts. By 1930 gray wolves had been virtually eliminated in Washington. The major cause of this decline was trapping. But, intensive human settlement, mythology about wolf habits, reductions in deer, elk and moose (their prey), and direct conflict with domestic livestock contributed to their demise.

Over the past two decades, incidental, unverified observations of individual wolves or howling have been reported with increasing frequency. Despite the fact that wolves are endangered in Washington State, biologists believe that at least six wolf packs may be inhabiting the North Cascades. In response, the National Park Service, Washington Department of Wildlife and several British Columbia agencies are studying the population and distribution of the gray wolf in the Skagit River drainage of the North Cascades ecosystem.

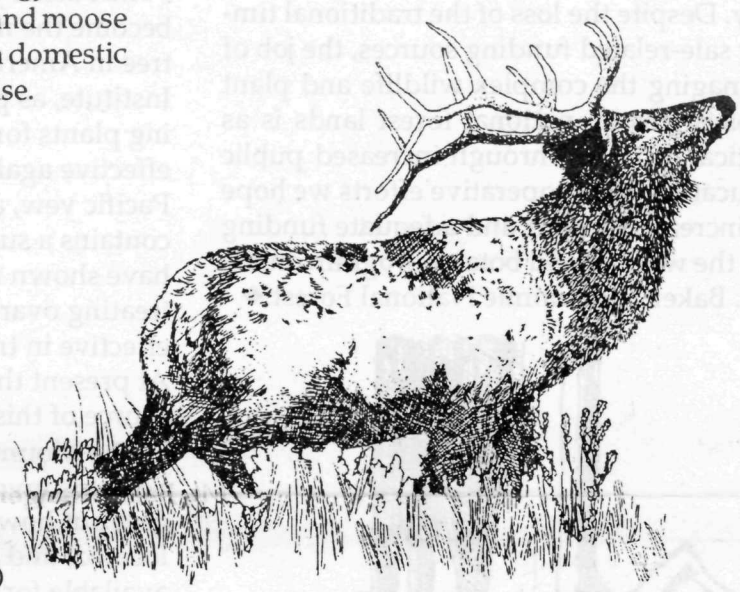
In 1992, this means a temporary closure (May 19-June 26) will be enforced at the north end of Ross Lake. This gives biologists the opportunity to capture and radio-track wolves in the area. This study will give biologists a better understanding of wolf behavior and habitat requirements, enabling better future protection. As a member of the Washington State Gray Wolf Management Group (formed in 1990), the National Park Service is cooperating to insure recovery and management of a viable gray wolf population throughout the North Cascades.◆





Elk Study Improves Habitat

Lori Farrow, USFS Wildlife Biologist



The Mt. Baker Ranger District in cooperation with the Washington Department of Wildlife (WDW) launched an ambitious elk home range and habitat utilization study in 1991. The primary goal is to improve elk habitat in the Baker Lake and South Fork Nooksack watersheds. Major objectives of the study are to monitor habitat enhancement work done by the Forest Service, to assess overall habitat effectiveness for elk, and to plan and implement future habitat enhancements.

Five mature cow elk have been fitted with radio-transmitters and will be tracked for three years to determine home range and habitat utilization, as well as to monitor existing habitat enhancements such as forage-seeding projects and road closures. A complete habitat evaluation for the study area is underway and will be used to plan and locate future habitat enhancement work.

The Forest Service, Washington Department of Wildlife (WDW) and a team of volunteers radio-collared the elk. Puget Sound Power and Light Co. is providing some personnel and funding for tracking and collaring elk. Also, the Forest Service hopes to form a partnership with the Rocky Mountain Elk Foundation for habitat improvement work.

The study is especially timely since the Nooksack herd ranges over private and public lands in both Whatcom and Skagit counties and has been in decline due to both hunting pressure and habitat loss. WDW and the Forest Service are concerned about continued viability of these elk. Effective habitat enhancement work is one good way to help these animals rebound. Through this study, the Forest Service and WDW hope to learn about the unique habitat needs of the Nooksack elk so that long-term viability of the herd can be ensured.◆

Classic Apple of the Past Spills into the Future

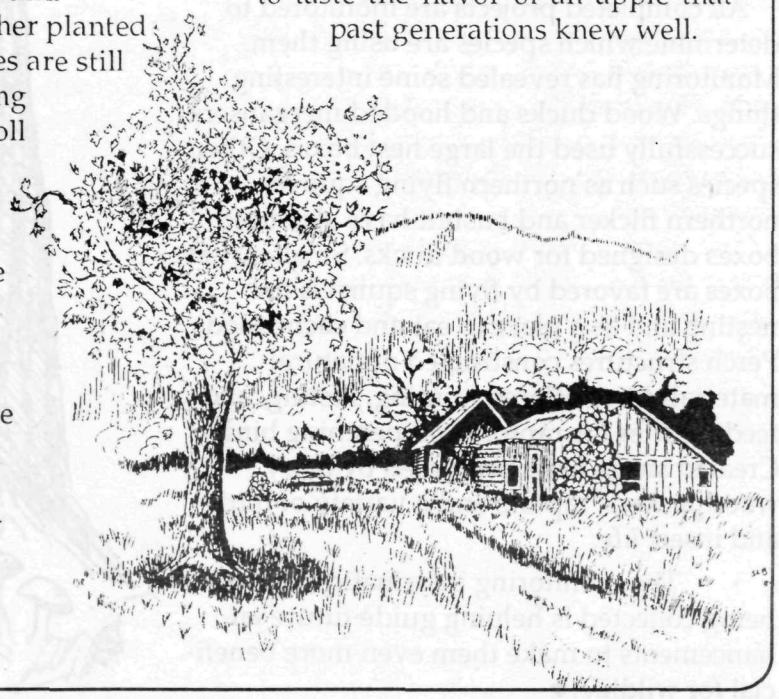
Steve Budelier, NPS Resource Management Specialist

Today the sheer beauty and peacefulness of the Stehekin setting provides a unique backdrop for the historically significant Buckner Orchard. Little has seemingly changed since the days when Harry Buckner cared for the trees with the old tools that still remain. Bill Buzzard's cabin, the old shop and other buildings are still there to be explored. However, as you look around you begin to realize that the place has changed. The old barn collapsed years ago. Other buildings have been restored. What about the aging apple trees?

Common Delicious apples were the commercial favorites in the teens and twenties when Harry and his father planted many of the trees. Those old trees are still producing some wonderful tasting apples, but every year takes its toll and a few more die. However, there are some signs of hope for the future in the orchard. Wire cages are protecting young apple trees.

The old-fashioned Common Delicious apples, precursors to modern Red Delicious apples, are not grown commercially anymore. Replacement Common Delicious seedlings are not available from nurseries. The new trees growing there are a hearty root stock for the future orchard. They were planted over the last couple of years and, thanks to the Western Cascade Fruit Society, about 75 of them received bud grafts from the old trees. The grafting process for these trees will be completed this spring by NPS personnel.

It is an exciting time at the Buckner Orchard. The genes from the old trees are passing to a new generation of trees. Future generations of visitors will be able to see and smell the blossoms against the backdrop of Rainbow Falls and the Cascades peaks and each fall they will be able to taste the flavor of an apple that past generations knew well.



CHANGES IN WILDLIFE MANAGEMENT ON THE MT. BAKER-SNOQUALMIE

Lisa Egtvedt, USFS Wildlife Biologist

Wildlife habitat management within the U.S. Forest Service (USFS) has gone through significant changes, and promises to continue evolving. Within the last four years, each of the five districts on the Mt. Baker-Snoqualmie National Forest (MBS) acquired a full-time wildlife biologist. Fish and wildlife issues and public interest have become more prominent in evaluating projects on national forest land.

The overriding goal of the wildlife and botany program of the forest is the **conservation of biological diversity**. This includes protection, maintenance, and rehabilitation or improvement of wildlife habitat (see article below). In the past, most of this was accomplished through mitigation of other resource activities, such as timber sales. The recent major decline in timber harvest results in a shift in focus to other resource-oriented projects and activities (such as trail construction, small hydroelectric projects, etc.). It also shifts the source(s) of funding for wildlife-related work from the timber division to less traditional resource divisions, such as recreation and special uses. These non-traditional funds are limited, resulting in a need to rely on partnerships and cooperative agreements with other agencies, tribes, and outside groups in order to accomplish wildlife objectives. These partnerships could involve sharing money, services, labor, or materials for projects such as interpretive trail construction, wildlife habitat improvement, wildlife surveys, and public education.

The wildlifeand botany program wants to provide education and respond to public input. Recent public information surveys have revealed a growing interest on non-consumptive wildlife use (such as viewing and photography) and less interest in traditional hunting-related recreation. It could benefit both the public and the fish, wildlife and botany program to provide viewing areas with interpretive signs. Information could be presented about plants and animals and their habitat, including those which are listed by the U.S. Fish and Wildlife Service as endangered or threatened, and management actions to protect and improve their habitat.

The MBS provides suitable habitat for five federally listed species (grizzly bear, spotted owl, bald eagle, gray wolf, and peregrine falcon), one proposed for listing as threatened (marbled murrelet), and another petitioned for listing (lynx). There is currently an increasing emphasis on threatened and endangered species, and on **ecosystem management for biological diversity**. Despite the loss of the traditional timber sale-related funding sources, the job of managing the complex wildlife and plant ecosystems on national forest lands is as critical as ever. Through increased public education and cooperative efforts we hope to increase support and adequate funding for the wildlife and botany program on the Mt. Baker-Snoqualmie National Forest.◆

WILDLIFE HABITAT ENHANCEMENT

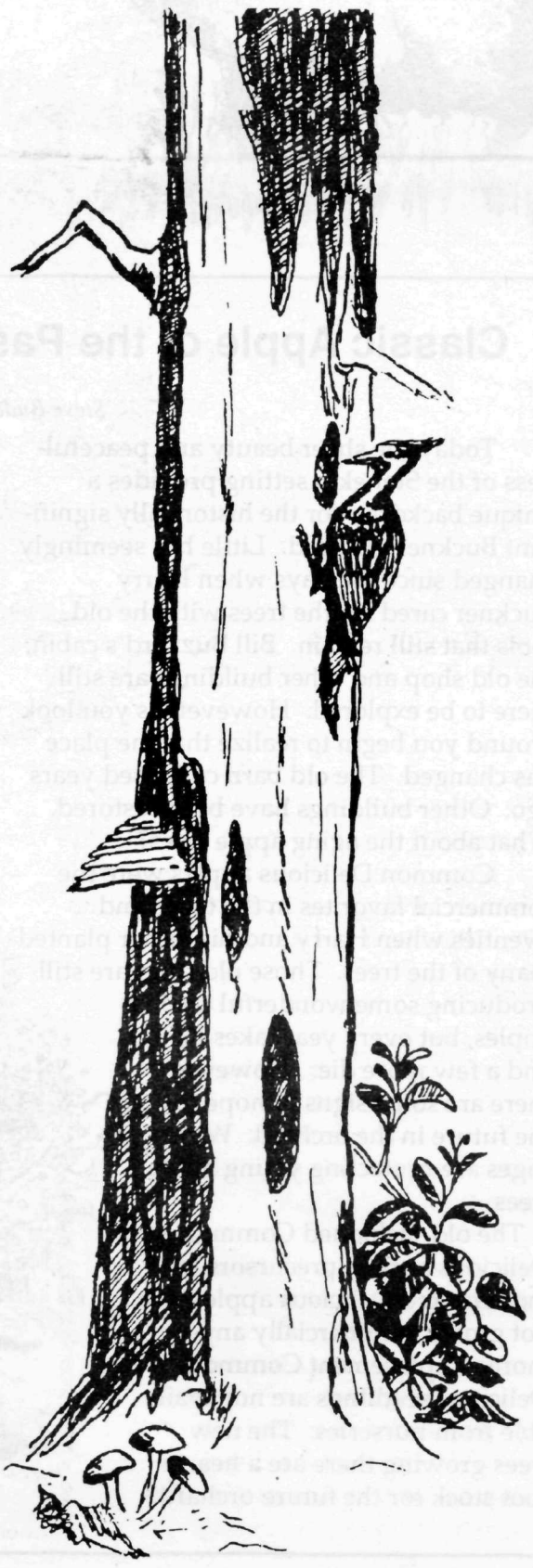
Kathy Backstrom-Goodrich, Forest Technician

The Mt Baker Ranger District has been actively enhancing wildlife habitat for many years. The objectives of the habitat enhancement program are to mitigate effects of timber harvest activities and to improve existing conditions in order to provide a balance of habitat conditions across the landscape.

Several types of projects have been accomplished. One is creating snags (dead, standing trees), which are important habitat for nearly 100 species of wildlife. Snags are created by cutting off limbs, and cutting or blasting treetops. Nest platforms have also been constructed for loons and osprey. Nest boxes of many shapes and sizes provide homes for cavity nesting species. Some areas have been seeded with plant species that deer and elk like to eat while others have been planted to provide food or shelter for other wildlife species.

All completed projects are monitored to determine which species are using them. Monitoring has revealed some interesting things. Wood ducks and hooded mergansers successfully used the large nest boxes. Other species such as northern flying squirrel, northern flicker and bushtit have also used boxes designed for wood ducks. Smaller nest boxes are favored by flying squirrels for nesting and as a place to eat and cache food. Perch structures constructed of natural materials have offered hunting, resting, and feeding sites for raptors and perching birds. Created snags have been used by hairy woodpeckers, raptors and a variety of birds and insect life.

The monitoring information that is being collected is helping guide future enhancements to make them even more beneficial for wildlife.◆





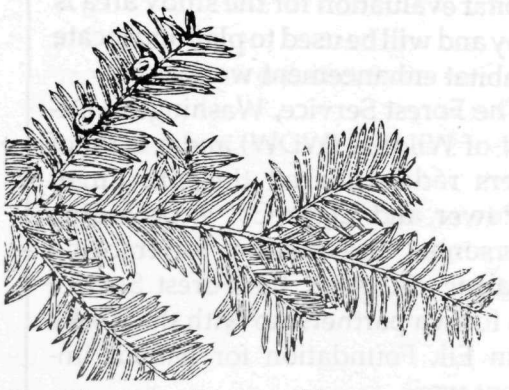
Natural Cure Becomes Forests' Dilema

Joe Iozzi, USFS Forester

The Pacific yew tree (*Taxus brevifolia*) has become the most valuable and sought after tree in America. The National Cancer Institute, as part of its program of screening plants for natural compounds that are effective against cancer, discovered that the Pacific yew, a small, uncommon tree, contains a substance called taxol. Tests have shown that taxol is 30 to 35% effective treating ovarian cancer. It may also be effective in treating other forms of cancer. At present the bark from the yew tree is the source of this drug.

The Mount Baker-Snoqualmie National Forest is involved in a Regional effort to find out how much yew exists, where it is located, and how much might be made available for making the anti-cancer drug. Until scientists discover how to produce taxol from yew needles or other sources, the only way to get it is by removing the bark from trees. This kills the trees. Yew is a very slow growing tree, increasing only 2" to 4" in diameter in 50 years. Since the need is enormous and the growth rate slow, yew can not produce enough taxol to meet the need.

Until other sources of the drug are found the Forest Service will have to balance the need to save lives with the need to preserve the species. It's a hard choice.



Getting to Know Yew...

*a slow-growing evergreen tree or shrub; found in forests of the western U.S. and Canada.

*the wood is hard and prized for such items as bows, lutes, and snowshoe frames.

*seeds are surrounded by a scarlet, Juicy, berry-like cup called an aril.

*the procedure for extraction of bark of Pacific yew (Taxus brevifolia), is difficult, low yielding and expensive at present. ◆

Cooperative Approach to Watershed/Fisheries Program

Stan Zyskowski, USFS Fisheries Biologist

The watershed and fisheries programs on the Mount Baker Ranger District have combined to improve water quality and fish habitat. Utilizing a total watershed approach, there are several program phases beginning with baseline inventories to establish overall watershed condition. These include stream surveys, road condition inventories, landslide inventories and channel stability surveys. This information is analyzed, project methods are identified and work priorities are established.

When specific projects are identified, the environmental analysis process is initiated. Resource specialists within the forest service, other state and federal resource agencies and local tribes participate in identification of issues, concerns and opportunities of various projects. Public concerns and those of local citizens and landowners are solicited and incorporated during this process. The final environmental analysis document contains a prescription for action and an annual program of work.

The projects are then ready to be implemented. The work is accomplished using a combination of private contractors, forest service crews and volunteers. These projects are funded through a variety of methods. Forest service funding is leveraged with other agencies and groups by partnership agreements and donations, increasing the scope and overall value of the project. Cooperation with other agencies and groups is the key to program success and an absolute must these days to successfully manage lands.

On a larger scale, "Watershed Initiative" efforts include the Mt. Baker-Snoqualmie and Olympic National Forests cooperatively improving watershed conditions affecting the entire Puget Sound. The The watershed initiative is necessary to deal with the challenge of managing naturally unstable, steep slopes with sensitive soils in the North Cascades and Olympic mountain ranges.◆

COOPERATIVE WATERSHED MANAGEMENT EFFORT IN DEER CREEK

Brady Green, USFS District Fisheries Biologist

Until recently, Deer Creek, a tributary to the North Fork Stillaguamish River, supported a world class steelhead fishery. The Deforest Creek Slide, a major landslide that occurred in 1983, and the combination of natural geologic instability and past timber harvest and road building activities, have added significant amounts of sediment to Deer Creek and the Stillaguamish River downstream. These conditions have resulted in a loss of fish habitat through filling in of pools needed for adult holding and juvenile fish rearing habitat and loss of quality spawning gravels.

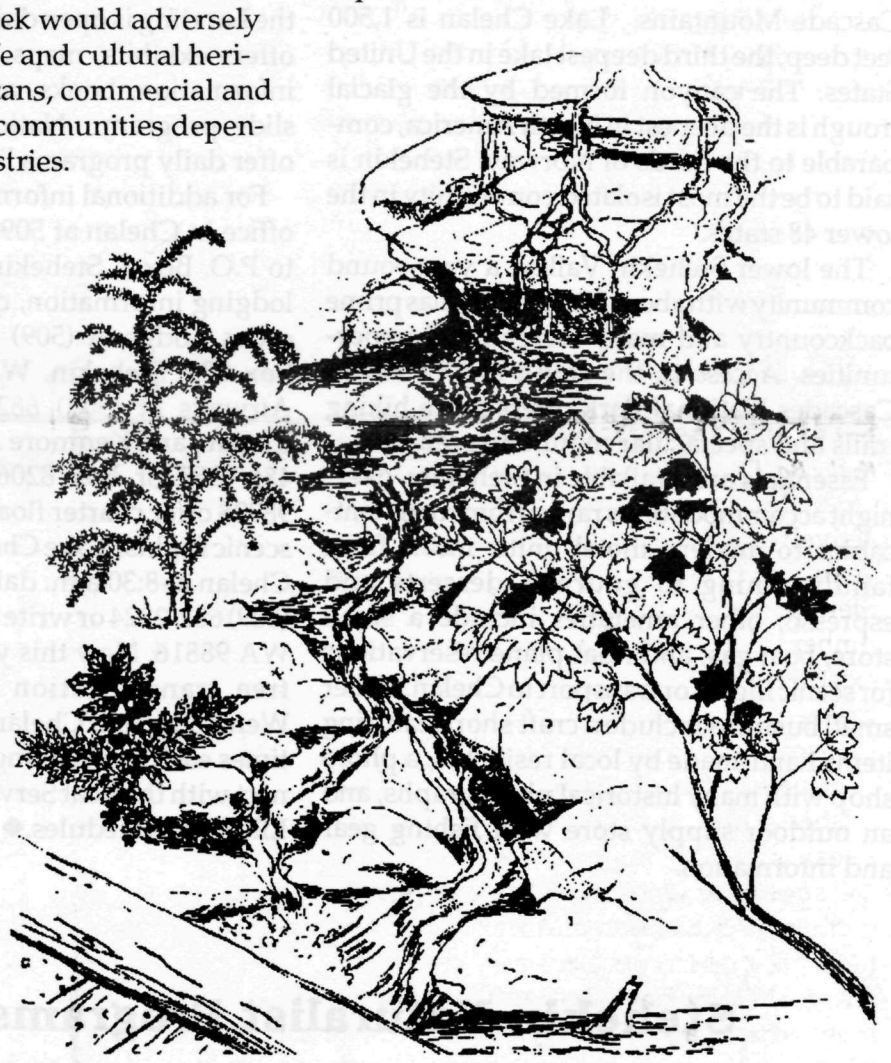
In the early 1980s, federal and state agencies, Indian tribes, environmental groups, and the timber industry formed the Deer Creek Group, a coalition with a common vision--to save the steelhead and other anadromous fish in Deer Creek. Since then, the group has promoted stream recovery, and coordinated land use activities to minimize the impact on fish habitat.

In 1991, the American Fisheries Society listed the Deer Creek summer race of steelhead at high risk of extinction. Extinction of steelhead and other anadromous fish in Deer Creek would adversely affect the quality of life and cultural heritage of Native Americans, commercial and sport fishing and the communities dependent upon these industries.

The timber industry is also affected. Currently, the Mt. Baker-Snoqualmie National Forest is deferring harvest, and focusing on watershed and fish habitat improvements in the upper Deer Creek watershed. Operations on state and private lands have been disrupted and future activities are uncertain.

The Deer Creek Basin Group is composed of representatives from the Mt. Baker Ranger District, Washington Departments of Natural Resources, Wildlife, Fisheries, Ecology, Federation of Fly Fishers, Fourth Corner Fly Fishers, Washington Trout, The Campbell Group, Stillaguamish Tribe, Tulalip Tribes of Washington, and the Washington Environmental Council.

A major goal of the group is to preserve wild fish populations in the Deer Creek watershed and to recover depressed stocks, such as the summer run steelhead, through habitat protection, recovery and enhancement. The group has been sharing resource information to help focus efforts on fish habitat rehabilitation, working to secure funding and facilitating project implementation.◆



Re-Greening of the North Cascades

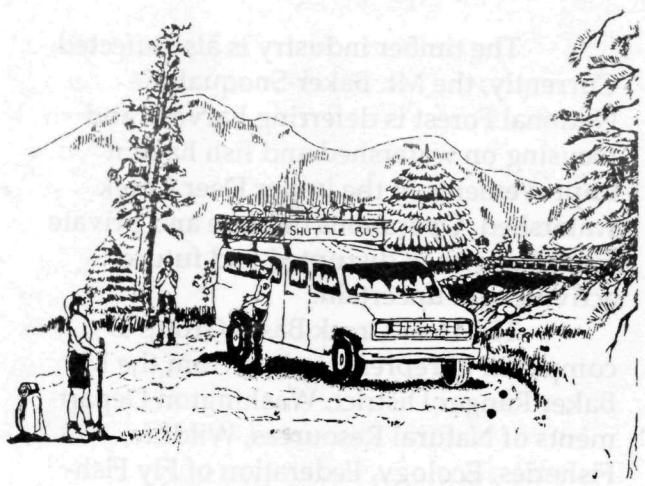
Heather Meadows is one of the most popular destinations on the Mt. Baker-Snoqualmie National Forest. Its easy access and spectacular views attract tens of thousands of visitors each year. Unfortunately, the fragile meadows for which the area is named are suffering under the sheer number of feet treading across them. In an effort to repair the damage, the Forest Service is constructing clearly marked trails and has begun the difficult task of revegetating the closed trails. Efforts are also beginning at Mt. Baker National Recreation Area, Chain Lakes, Lake Ann and Hannegan Peak.

North Cascades National Park has been a pioneer in revegetation for the past 20 years. Even though Cascade Pass requires a hike up a steep 3.7-mile trail and is much harder to reach than Heather Meadows, it too was impacted with scores of denuded campsites and a myriad of impacted trails. Rangers, with the help of volunteers and the Washington Native Plant Society have developed, tested, and improved new techniques for propagating and transplanting subalpine plants. Over 90,000 plants have been transplanted to Cascade Pass alone and the area has been restored to its natural beauty. Efforts are now being shifted to other impacted areas at Whatcom Pass and McAlester Lake.

The revegetation process begins as seeds and cuttings are collected at each park and forest site during the fall. These are taken to a greenhouse where they are germinated in the spring and allowed to grow through the summer. Each flat is carefully labeled so that in September the plants can be returned to the same meadow where the seed was collected. The transplants must be frequently watered until their root systems are firmly established. Other methods of revegetating include direct seeding and use of plugs from new trail construction.



An essential part of this whole revegetation effort is letting you, the visitors, know what is being done. Signs or exclosures are evident where active revegetation is taking place. You can help by staying off sensitive areas and walking only on the designated trails. Please feel free to ask any of the rangers or crew members if you have questions or would like to know more about the projects. If staff are present, visitors are welcome to the greenhouse program at the NPS Ranger Station in Marblemount. With your help the meadows of the Mt. Baker and North Cascades region will someday be restored to their natural green state.◆



Stehekin Shuttle Buses Serve Valley Visitors

The National Park Service offers shuttle bus service along Stehekin Valley Road. Rangers provide a narrated tour and camping and hiking information along the way. You may get on or off the buses at any location. A wheelchair lift and infant seats are available with advance arrangements. Sightseers, day hikers, and backpackers are welcome.

The road begins at Stehekin Landing and is paved for four miles. At Harlequin Campground, asphalt gives way to gravel. Beyond High Bridge, 11 miles from Stehekin Landing, the road becomes rough. There are many views of the Stehekin River, tumbling over large boulders and resting in deep, quiet pools. Glacier-clad jagged peaks are glimpsed through dense ponderosa pine, Douglas-fir, and Pacific silver fir forests. The road is normally open to Cottonwood by Fourth of July. Storms or rock slides can close the road unexpectedly. Inquire in advance about road conditions

Buses will depart daily from Stehekin Landing at 8:00 a.m. and 2:00 p.m. from May 15 through October 15. Reservations are suggested to guarantee a ride. Write with up to 30 days in advance to: Shuttle Bus Reservations, National Park Service, P. O. Box 7, Stehekin WA 98852. Be sure to your name, number in your party, date(s) and time(s) you wish to travel, and where you want to get on and off. Fees are $3.00 one-way for adults; those over 62 or between 6 and 12 years old are half price; and children under 6 are free.◆

ESCAPE TO STEHEKIN

Visitors to the beautiful Stehekin Valley find a pleasant escape from life's frantic pace. Accessible only by passenger ferry or private boat, float plane, hiking or horseback, Stehekin has retained a unique atmosphere, more common earlier this century. The absence of roads leading into the Valley requires everyone to slow down and enjoy the scenery.

Riding the **Lady II** passenger boat from Chelan to Stehekin, you enter Lake Chelan National Recreation Area in the heart of the Cascade Mountains. Lake Chelan is 1,500 feet deep, the third deepest lake in the United States. The canyon formed by the glacial trough is the deepest in North America, comparable to the fjords of Norway. Stehekin is said to be the most isolated community in the lower 48 states.

The lower Stehekin Valley, a year-round community with about 80 residents, has prime backcountry and many recreational opportunities. Access to the south end of North Cascades National Park offers more hiking trails and spectacular mountain scenery.

Essentials are available in Stehekin: overnight accommodations range from rustic tent-cabins to modern motel units; meals from family dining to gourmet desserts and espresso; other amenities include a small store, boat gas, and float plane reservations for scenic flights or transport to Chelan. Other small business include a craft shop featuring items hand-made by local residents, a photo shop with many historical photographs, and an outdoor supply store with fishing gear and information.

A 23-mile road within the valley leads to points of interest, and transportation is available. Bicycles are available for rent and provide an unhurried look at wildlife and scenery along the four miles of paved road. Pack trips take the beginner and the experienced on horseback rides lasting from a few hours to several days. River rafting the Stehekin River can offer another exciting, yet beautiful view.

The Golden West Visitor Center near the Landing is open daily in summer, and offers exhibits, maps, hiking and other information, books, and an orientation slide program. National Park rangers offer daily programs listed below.

For additional information, contact the office in Chelan at 509-682-2549 or write to P.O. Box 7, Stehekin, WA 98852. For lodging information, contact North Cascades Lodge at (509) 682-4711 or write Box 275, Stehekin, WA 98852. Chelan Airways at (509) 682-5555 or Box W, Chelan, and Kenmore Air Harbor at (206) 486-1257 or Box 82064, Kenmore, WA 98028 offer charter floatplane service and scenic flights. Lake Chelan Ferries depart Chelan at 8:30 a.m. daily in summer; call (509) 682-2224 or write to Box 186, Chelan, WA 98816. New this year is **The Link,** a free transportation service between Wenatchee and Chelan. These vans run 5 times each day making it possible to connect with the Boat Service. Call 1-800-851-LINK for schedules.◆

Stehekin Naturalist Programs

Program	May 15 - June 13	June 14 - June 26	June 27 - Sept. 15	Sept. 16 - Oct. 15
Shuttle Bus (times leaving Stehekin Landing)	Daily 8 a.m. & 2 p.m.	Daily 8 a.m. & 2 p.m.	Daily 8 a.m. & 2 p.m.	Daily 8 a.m. & 2 p.m.
Evening Programs	Fridays, Saturdays, *and Holidays* 7:30 p.m. - 8:30 p.m.	Wednesdays through *Sundays* 8:30 p.m. - 9:30 p.m.	Wednesdays through *Sundays* 8:30 p.m. - 9:30 p.m.	Fridays, Saturdays, *and Holidays* 7:30 p.m. - 8:30 p.m.
Lady of the Lake Boat Program	Fridays, Saturdays & Memorial Weekend 11:45 a.m. - 12:30 p.m.	Fridays and Saturdays 11:45 a.m. - 12:30 p.m.	Wednesdays through Sundays 11:45 a.m. - 12:30 p.m.	Fridays, Saturdays & Columbus Weekend 11:45 a.m. - 12:30 p.m.
Boat Time Program	Daily 12:30 p.m. - 1:00 p.m.	Daily 12:30 p.m. - 1:00 p.m.	Daily 12:30 p.m. - 1:00 p.m.	Daily 12:30 p.m. - 1:00 p.m.
Buckner Orchard Walks	None	Daily 2:00 p.m. - 4:30 p.m.	Daily 2:00 p.m. - 4:30 p.m.	Weekends 2:00 p.m. - 4:30 p.m.
Golden West Visitor Center	Daily 10:30 a.m. - 2 p.m.	Daily 8 a.m. - 4:30 p.m.	Daily 8 a.m. - 4:30 p.m.	Daily 10:30 a.m. - 2 p.m.

Controling Alien Plants

Alien plants have not come here from outer space but they sure act like it. They colonize disturbed sites, often displacing native plants and deleteriously affecting animals.

In their old homeland, plants like knapweed, common crupina, mullein, foxglove and many more compete with other plants and with predators that key in on them. Once they arrive here there are few competitors to keep them from spreading. Since the National Park Service is charged with preserving the natural setting, it employs a number of ways of battling alien plants.

There seems to be no perfect way to get rid of these plants. The method preferred and most used by the NPS is pulling the weeds by hand. This does not damage the environment, but is very time consuming. A control program of pulling has to be very thorough and continue for years since seeds can lie dormant for several years. This method works best with alien plants that are not too numerous and do not grow back from broken root parts. In some situations, an effective method of controlling alien plants may be use of herbicides. This method is used very carefully because it may bring unwanted damage to native plants and wildlife. Herbicides use is carefully evaluated and is done only when other methods are ineffective. Biological control refers to bringing in a predator or disease from the alien plant's homeland which will attack only the alien plant and not native plants. In some areas the National Park Service, under the guidance of specialists from universities and the state, has released flies which eat only knapweed seeds. In general, biological control does not eradicate the target plant but may slow its spread.

Control of some alien species, like knapweed, may use all three methods: mechanical, chemical and biological, depending on the severity of the infestation and the potential threat to the natural environment. As we face the future, the National Park Service will be choosing the best methods available to control alien plants in order to protect our pristine areas.◆

North Cascades Challenger
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Contributors without byline: Patty Chandler, John Douglass, Christie Fairchild, Debra & Scott Paul

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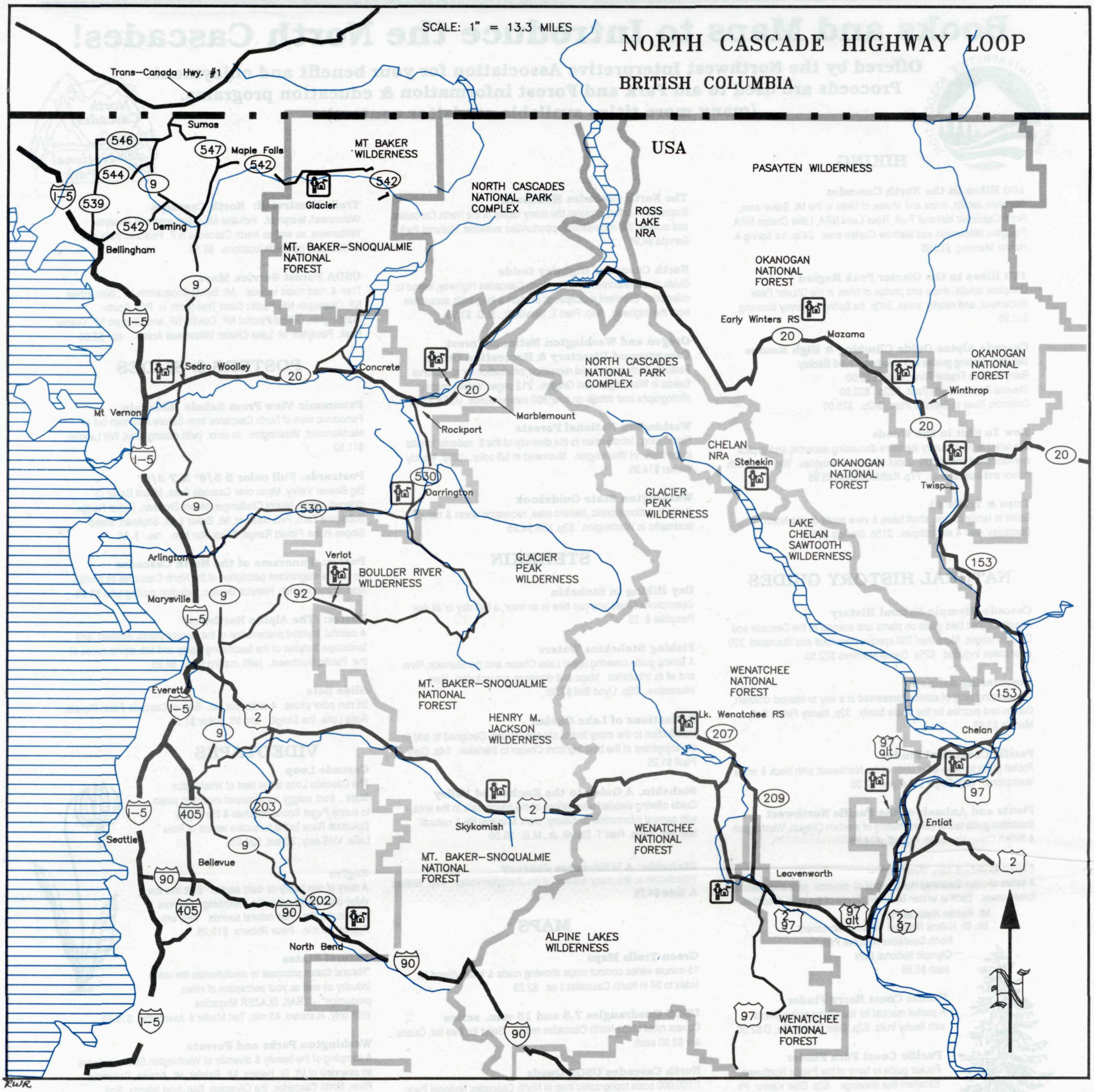
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Prices and selection subject to change without notice.



RWR

Park & Forest Information Stations

Cascade Loop--Summer Hours

North Cascades National Park
Mt Baker Ranger District
Mt. Baker-Snoqualmie National Forest

SEDRO WOOLLEY
2105 Highway 20, 98284
Saturday-Thur.: 8:00-4:30
Friday: 8:00-6:00
(206) 856-5700

MARBLEMOUNT
Skagit District / Wilderness District
Ross Lake National Recreation Area (NPS)
Backcountry Information / Permits
Daily 7:00am-8:00pm
(206) 873-4590 (ext. 37 or 39)

NEWHALEM
North Cascades National Park & Seattle City Light
*Open daily 9:00-4:30

GLACIER PUBLIC SERVICE CENTER
Mt. Baker Scenic Byway, SR 542
Late June--September
Daily 8:30-5:00
(206) 599-2714

STEHEKIN Golden West Visitor Center
Lake Chelan National Recreation Area (NPS)
June 14--September 15
Daily 8:00-4:30

Okanogan National Forest

WASHINGTON PASS & EARLY WINTERS
Summer only, June 19-Labor Day
Daily 10-4
(509) 996-2534

WINTHROP Ranger District
Mon.-Fri: 7:45-5:00
Sat.: 8:30-5:00; Closed Sunday
(509) 996-2266

TWISP Ranger District
Mon.-Sat. 7:45-4:30; Closed Sunday
(509) 997-2131

Wenatchee National Forest

CHELAN Ranger District
Lake Chelan National Recreation Area
Daily 7:45-4:30
(509) 682-2576 (USFS)
(509) 682-2549 (NPS)

LEAVENWORTH Ranger District
Daily 7:45-4:30
(509) 782-1413

LAKE WENATCHEE Ranger District
Daily 8:00-4:30
(509) 763-3103

Mt. Baker-Snoqualmie National Forest

DARRINGTON Ranger District
Mon.-Fri. 7:00-5:00;
Sat.& Sun. 8:00-5:00
(206) 436-1155

VERLOT Darrington Ranger District
Summer only
Daily 8:00-5:00
(206) 671-7791

SKYKOMISH Ranger District
Daily 8:00-4:30
(206)677-2414

NORTH BEND Ranger District
Mon.-Fri.:8:00-4:30
Sat. & Sun.: 7:30-4:00
(206) 888-1421

WHITE RIVER Ranger District
Mt.Rainier National Park
Mon.-Fri.:8:00-4:30
Sat. & Sun.: 7:30-4:00
(206) 825-6585

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