



the North Cascades

Challenger



Mt. Baker-Snoqualmie National Forest
North Cascades National Park

Free!

Lake Chelan, Ross Lake National, & Mt. Baker National Recreation Areas

1991 Anniversary Edition



Welcome to...
the North Cascades, a region of unsurpassed beauty.

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Celebrate



100 years of
National Forest
Conservation



75 years of
the National
Park Service

Reflect on a remarkable century of change. Look forward through this decade of the environment to the next century of wise use and conservation of our natural resources.

Discover...More...

Find a sense of wonder... a peaceful place away from life's day to day worries in the beauty of the North Cascades.

Walk through a lush forest or along a bubbling stream to discover life's perfection.

Breathe fresh air and exalt the expansive views. Absorb large panoramas or focus on the small.

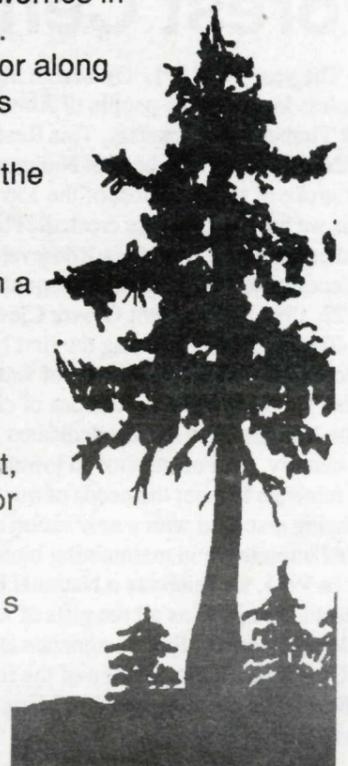
Share your experience, join a nature walk or eat a fresh caught fish.

Find glimmering sunlight reflecting from jade green lakes.

Hide in the deep dark forest, focusing on mushrooms, flowers or trees.

Listen to the sounds of the mountains to relax away from life's frantic pace.

Have fun through your personal experience in the North Cascades.



Anniversaries Celebrate Peoples' Ideals

It has been 100 years since the passage Federal Reserve Act and 75 years since the establishment of the National Park Service. What does all this mean to us? Those who came before us had foresight enough to realize that our natural resources should be managed wisely for the benefit of all Americans. There were hundreds of people responsible for this thinking, many whose ideals conflicted. These pages highlight a few whose ideals helped preserve our land. Let's celebrate the lives of these people, so diverse yet far thinking.



Evolution of an Idea

Imagine our lives today without the unimpaired views of Yosemite, Yellowstone, North Cascades or Grand Canyon! We take for granted that we can always visit national parks to view their natural features. What if, instead, stores, hotels and homes blocked our scenic views? Ironically, a strong philosophy of commercial development was a stimulus for creating the National Park Service. The Organic Act establishing the National Park Service in 1916 was passed when political and social attitudes were quite different from today.

Around 1900 there did not seem to be a need to "conserve and protect" as is imperative today. Instead, the National Parks were thought of as scenic recreational areas, ripe for big business and economic development. By 1914, the nation had 31 parks and monuments not under any central management and not being managed very well according to Stephen Mather, a prominent Chicago businessman. After his complaint, Secretary of the Interior Lane asked him to come and "run them yourself". Under that direction Mather campaigned for the parks and became the first Director of the National Park Service after its establishment on August 25, 1916. A valuable alliance was made with Horace Albright then clerk to the Secretary of the Interior. Together with complementary skills they made an ideal team bringing order, notoriety and central management to our National Parks.

The purpose of the National Park Service as stated in the Organic Act is,

"To conserve the scenery and the natural and historic objects and the wildlife therein and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations."

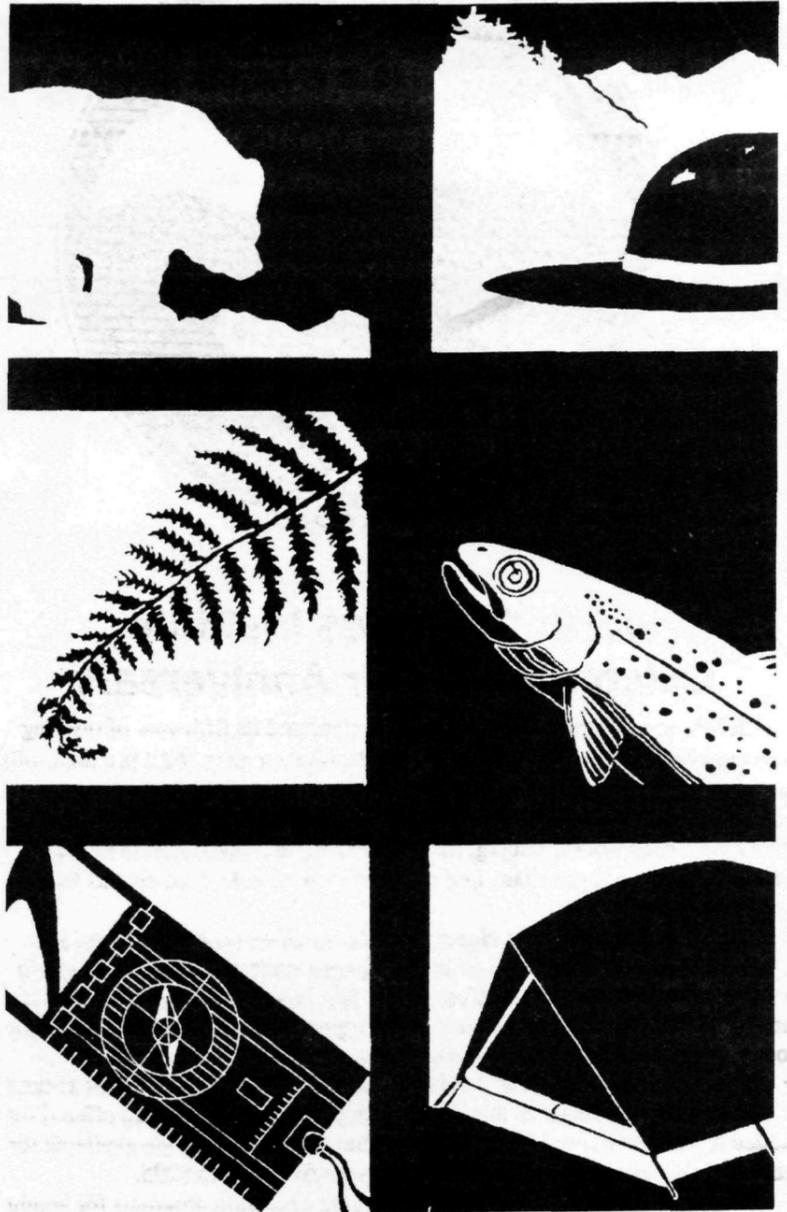


National Forest Centennial

The year was 1891. On March 30, President Benjamin Harrison granted a priceless legacy to the people of America when he designated the Yellowstone Park Timber Land Reserve. This Reserve, now part of the Shoshone and Teton National Forests, was the first National Forest. In the seventeen years following that stroke of the pen, most of the 156 National Forests and 19 National Grasslands we have today were created. The majority of these were championed by another President, Theodore Roosevelt. (The Washington Forest Reserve, predecessor to the Mt. Baker-Snoqualmie National Forest, was created on February 22, 1897 by President Grover Cleveland.)

The purpose of creating the first National Forests was to "protect the forest...securing favorable conditions of water flows, and furnish a continuous supply of timber for the use and necessities of citizens of the United States". That early era of the National Forests was dedicated to forest protection. During the middle of this century, the Forests moved toward road building, and the removal of timber and minerals to meet the needs of our growing nation. Today, the National Forests are being managed with a new vision of land stewardship that recognizes their global importance in maintaining biological diversity and climatic stability.

In 1991, we celebrate a National Forest system that manages 191 million acres and brings to us all the gifts of water, scenery, outdoor recreation, wildlife, wilderness, timber, forage, minerals and historic and prehistoric sites. By marking the Centennial of the creation of the first National Forest, the richness and beauty of these lands are recognized as being as special today as they were in 1891, and will still be in 2091.



Forest Ranger Lives through Changing Times: Milkcow to Motorhome

Harold Engles has outlived the paper clip on the pages of his Forest Service field diaries from the early 1920s. The paper clip rusted away by the 1990s. Harold is still striding about the mountains with his friends in the "Over 70 Hiking Club". Harold was sixteen years old when he joined the Forest Service in 1919. He knew Gifford Pinchot, the first chief of the Forest Service, and Bob Marshall, one of the early advocates of wilderness areas. Engles worked for the Forest Service for more than thirty years and remained active as an advisor and volunteer for more than thirty years after his retirement. He helped create the history of the national forests.

In 1927, he came to Darrington, Washington, as the district ranger of the Darrington Ranger District of the Snoqualmie National Forest. The district had only two employees back then—a forester in charge of timber sales and Harold, who was in charge of everything else, including administration, blacksmithing, and secretarial services. They worked out of a small, unfinished ranger station with no electricity. The only vehicle parked outside was a wagon with a team of mules.

Engles spent most of his time in the field, locating trail, supervising lookout construction, and fighting fires. Hikes of forty-five miles in one day were commonplace, and Harold thought nothing of carrying a 100-pound pack and spending nights out under a boulder or a fallen tree. It was part of the job and he loved it. To Engles, nothing was impossible, and he often proved it. He decided a fire lookout could be built on the south spire of 6,800-foot Three Fingers Mountain, and he built one.

The Forest Service of today is a far different organization from the one Harold Engles signed on with in 1919. Today's Forest Service district rangers spend more time at a computer than on a mountaintop. At the age of eighty-eight, Harold sat in his rocking chair in his Darrington home and talked about changes in the Forest Service during his lifetime. "I go to Forest Service meetings today, and it boggles my mind," he said. "I think one of the biggest changes I've seen is the intensive study that goes into timber sales. They cover so many angles—soil testing, the effect on wildlife and fisheries. Everything seems to be carefully considered and interwoven into one large plan."

When asked how national forests have changed during the more than seventy years he has known them, Harold merely told a story. He had recently been driving on the highway and passed a big motorhome towing a little car. As he looked at the bicycles and other paraphernalia strapped to the huge recreational vehicle, a memory popped into his mind. He was out hiking in a national forest in 1919 when he heard a terrible clanging noise. Around a curve in the trail came family: mother, father, kids and a milk cow. Bossy was packed up with all the gear they needed for a week or two of fishing in the mountains. The kettle and frying pan were bouncing around, banging into each other, making the racket. Not only was that cow a pack animal, she gave fresh milk twice a day to boot. Harold didn't spell out the moral of the story. He just described the motorhome and the milk cow and left value judgments to his listeners. But there was a bit of wistfulness in his voice when he spoke of the simplicity and challenges of the early days of the national forests.

Excerpted from: National Forests of Washington by Wendy Walker, Falcon Press: Helena, MT, 1991.



North Cascades Institute Celebrates 5 Year Anniversary

In February, North Cascades Institute celebrated its fifth year of offering innovative environmental education in the North Cascades. NCI is a nonprofit organization, "The mission of North Cascades Institute is to increase understanding and appreciation of the rich natural, historical, and cultural legacy of the region," says Saul Weisberg, Executive Director. "Our goal is to help people learn about, appreciate, and ultimately care for the land and all its inhabitants."

This spring and summer, North Cascades Institute is offering sixty-two field seminars on a wide range of natural history subjects. Seminars begin in May, with explorations of wildflowers, the San Juan Islands by kayak, and the birds of the Skagit Valley. Other seminar topics include native plants, nature poetry, birds, elk ecology, and photography, etc.

NCI seminars range from 2-5 days in length, just the right amount of time to begin to feel the magic of this special place. Many seminars are offered for academic credit through Western Washington University and are available for teachers' continuing education. Tuition ranges from \$80 to \$295.

North Cascades Institute is also developing education programs for young people. New this summer is Mountain Camp, a series of week-long seminars for kids. Mountain Camp gives children the opportunity to hike and camp for a week in North Cascades National Park while taking part in science and environmental education activities. "Education for young people is the best way to ensure an environmental legacy that will carry over into future generations," said Wendy Scherrer, coordinator of children's programs.

New programs include Mountain School, field camps for school children; Backyard to Backcountry, an outreach project about wilderness and wild land for the public schools; Using the Outdoor Classroom, teacher training about mountain environments; and Elderhostel programs teaching seniors about the North Cascades landscape. New publications and curricula are available including *Living with Mountains*, *Teaching for Wilderness* and *From the Mountains to the Sea*.

North Cascades Institute was developed with the joint cooperation of the National Park Service and the Forest Service and continues to work with those agencies as well as with Western Washington University. NCI encourages enquiries on all of its programs. For a catalog or more information, contact: North Cascades Institute, 2105 Highway 20, Sedro Woolley, WA 98284, (206) 856-5700.

Uncovering the Story

Bob Mierendorf, North Cascades National Park archaeologist has attained some astounding firsts in his life. He is the first to spend better than half a decade discovering many remnants of early life in these mountains. Most Washington archaeologists busy themselves with rich sites of river valley or coastal villages, in locations similar to where we settle today. They ignore these mountain regions due to the difficulty involved in extensive exploration of the remote region with severe climatic changes and doubt about use of these mountains by native Americans. Bob is the first to take a scientific and sociological view of the previously unknown link between early cultures and the dynamic environment of the North Cascades. In just over 5 years the number of archaeological sites has increased from 18 to 198. He and his crew of scientists have shown that there was significant use of these mountains.

The story of the past in our region shows an overlapping of some unique yet similar cultures with villages clustered in the river valleys. Trade and settlement was dictated by geography and climatic changes, or perhaps in a broader sense the whole ecology of our region. Questions regarding effects of the little ice age or massive floods on these people known mostly for their fishing, gathering, and hunting cultures arise when Bob shares his findings in the North Cascades.

An exciting yet controversial first was the discovery which occurred in 1987 near Wenatchee. The first and only Washington State Clovis site was accidentally dug up by orchard workers. Bob Mierendorf was the first archeologist on this 11,000 year old site. This cache of Clovis tools contained more than 70 artifacts with hunting points as large as 9 1/2". This was the first indication that people lived here who hunted the woolly mammoth and mastodon, animals long since extinct. Bob secured this site so that it could be excavated in a scientific way and that the knowledge that can be gained from the earliest people in our region could be preserved. The North Central Washington Museum brought many visitors to see the site and learn what archaeologists were discovering about these early people. Washington's Clovis site has the largest known Clovis points with the largest number of Clovis points and bone fore shafts found in North America. With help from Bob and other socially conscious scientists, we are beginning to uncover the stories of the earliest peoples of the Cascades.

BLACK MINER'S SPIRIT FREE IN THE NORTH CASCADES

A search for gold brought freedom to a special man who settled in a lonely mountain valley in the North Cascades. George Holmes' life began in slavery and reached a level of freedom which few of us attain.

George Holmes came to the Upper Skagit as a stable hand for mining developers during the gold excitement in the late 1800s. He soon sought his own "diggins." Little was known of Holmes' background other than he was born a slave in Virginia. Some speculated that he was "escaping" from some past situation.

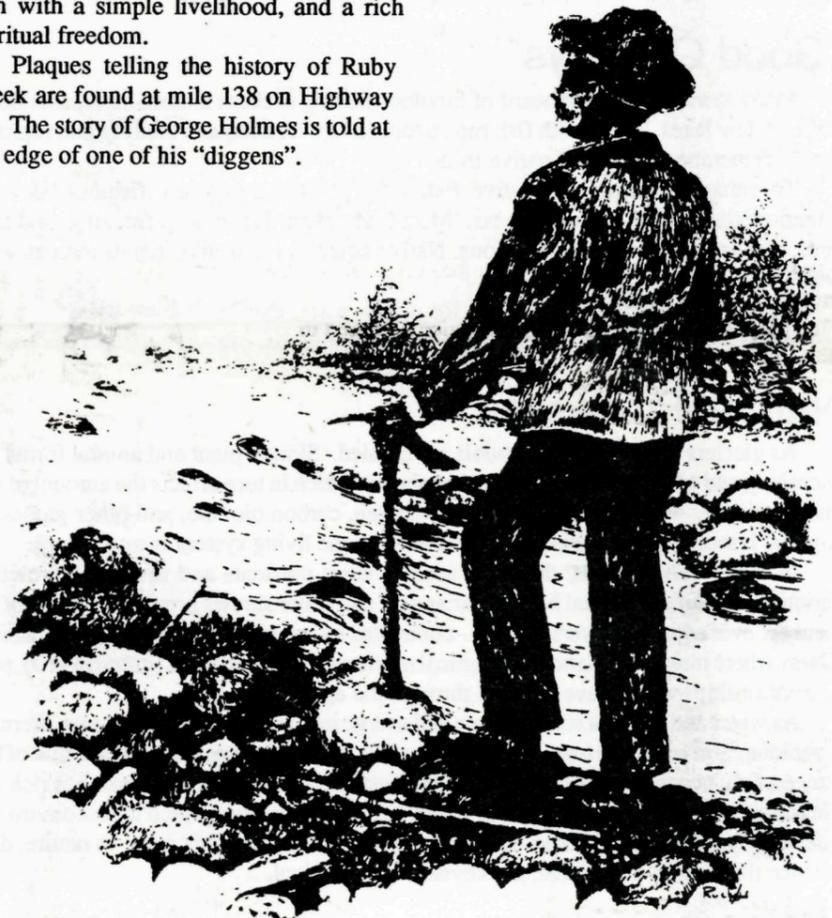
Friends described Holmes as a devout man, of great integrity and physical strength -- who, while somewhat reclusive, was always on hand when someone needed help. When word came that Emma McMillan was bringing her sick husband, John, up-trail to die at their Big Beaver homestead, George Holmes quietly arrived to ease that passage.

Many came and went from Ruby Creek during times of gold excitement. Few survived long. George Holmes patiently worked the gravel -- and loved the seclusion for the last quarter century of his life. During times of high water he dug deep pits above the creek's banks to expose old deposits. It was said that when George made occasional trips to Seattle, every two or three years, there were jewelers who vied to pay top dollar for his polk. Ruby Creek gold was not plentiful, but it was said to be of the purest and finest color. A friend told of meeting George on the trail one day and passing the news that a railroad was being planned to the Upper Skagit. Holmes, usually a reserved man, emphatically expressed his displeasure of accepting that possibility. The friend wrote: "That's when I was convinced that Holmes preferred the solitude, the contentment of his lonely existence, to anything else the world had to offer."

While the North Cascades Highway runs close by, Ruby Creek is a natural and peaceful place. Old scars from gold rush days are hard to find. The remnants of his cabin on Ruby Creek are carpeted with moss and his hand forged tools lie rusting where he laid them. With a rock bluff and deep waters protecting one side, and a steep forested slope on the other, George's cabin goes unnoticed. Yet, his spirit remains free in the wilds of the Upper Skagit.

George Holmes's will be remembered for his connection with the land, his kindness, and a love for the place which provided him with a simple livelihood, and a rich spiritual freedom.

Plaques telling the history of Ruby Creek are found at mile 138 on Highway 20. The story of George Holmes is told at the edge of one of his "diggins".



"...The sublimity of true mountain scenery in the Cascades Mountains...must be seen, it cannot be described. Nowhere do the mountain masses and peaks present such a strange, fantastic, dauntless, and startling outline as here. Whoever wishes to see nature in all of its wildness must go and visit these mountain regions..."

Henry Custer, 1859
(Topographer, U.S. Northwest Border Commission)



Favorite Waterfalls:

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, providing hydroelectric power to surrounding communities (one of the first two hydroelectric power plants in Washington).

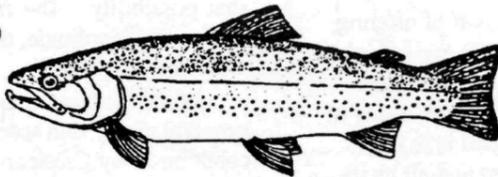
Rainbow Falls: located in the Baker Lake Basin, Rainbow Creek cascades down a steep gorge with over a 100 foot drop. On a sunny day a colorful rainbow is visible from the Rainbow Falls Viewpoint on FS road #1130.

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 into Gorge Lake. 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 Valley 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.

WATER, FISH, PEOPLE, AND SPECIAL PLACES



Waterfalls, Lakes, and Streams

Many North Cascades streams originate from small glacial lakes in the high country—often displaying spectacular falls as they plunge to forested valleys below. Streams may again pool in valley canyons due to blockages from land slides or from past glacial gouging and deposits. These abundant waters provide beautiful settings and a rich variety of aquatic habitats.

“Good Old Days”

Many stories have been heard of fabulous fishing in these mountain streams before dams and roads were built. A few lakes, linked with fish run streams and with adequate feeding and reproductive habitat, also were fondly remembered for their native trout.

To enhance fishing, non-native fish were planted into many fishless lakes and streams. This well intentioned effort had mixed success. Most high lakes, due to deep freezing, and lack of food and spawning beds, could not sustain fish populations. Native aquatic organisms often suffered or were eaten when competing with introduced species.

New reservoir lakes were “hot” for a few years, than as fishing pressure increased and nutrient/food production levels adjusted to cold, deep water conditions, catches began to decline.

Natural Processes

As glaciers melt back, small pools are created. Simple plant and animal forms soon take hold. Bedrock chemistry and emerging life affects acid balance, which in turn affects the amount of minerals and salts leached into the water. With growth and decay, oxygen, carbon dioxide, and other gasses reach tentative balances. Aquatic insects lay their eggs. A fragile and unique living system is under way.

In lower valley ponds, there are usually more nutrients and favorable growing conditions for greater varieties of plant and animal life. Salamanders and water shrews prey on a variety of insects. In deeper waters, there are ever adjusting layers of life — controlled by temperature, light, and interactions with other organisms. Always there must be a balance of chemical nutrients, food producers (green plants), plant eaters, and carnivores — relationships which have evolved through the ages.

As water and nutrient sources flow and merge into more complex systems, there may be adequate prey for voracious carnivores like trout. Predation by fish, excreted wastes, and interaction of birds and mammals which prey on fish, become important parts of that system. A mature beaver marsh is rich in nutrients and variety of life forms. A fast flowing stream is simpler, with life superbly adapted to that environment. Here, the cutthroat trout may occupy a small “hole” and wait for food that washes his way. In nature, diversity of life forms, and balance throughout the system, are keystones to survival.

Our Role

When we become involved with natural systems, we must be aware, as managers and users, that our actions may have great impacts. In the North Cascades National Park, fish stocking of highland lakes is a major concern. An extensive study is underway to gain better knowledge of pristine waters and to determine effects of fish planting and fishing activity on these fragile ecosystems.

The Ross Lake drainage has special regulations to allow natural reproduction to come to balance with fishing pressure. On Ross Lake, there is still the opportunity to hook a large native rainbow or Dolly Varden trout. Other reservoirs and some lowland lakes are periodically stocked with hatchery started fish.

In National Parks, our mission is to protect and preserve natural systems for present and future generations. Here in remote areas of the North Cascades we have the opportunity to learn from and enjoy nature in all her capacities. A natural lake or stream, with or without fish, is a special place. Perhaps, as we experience nature on her terms, we will remember that we too must fit into a natural order.



Edible Delights of the Forest

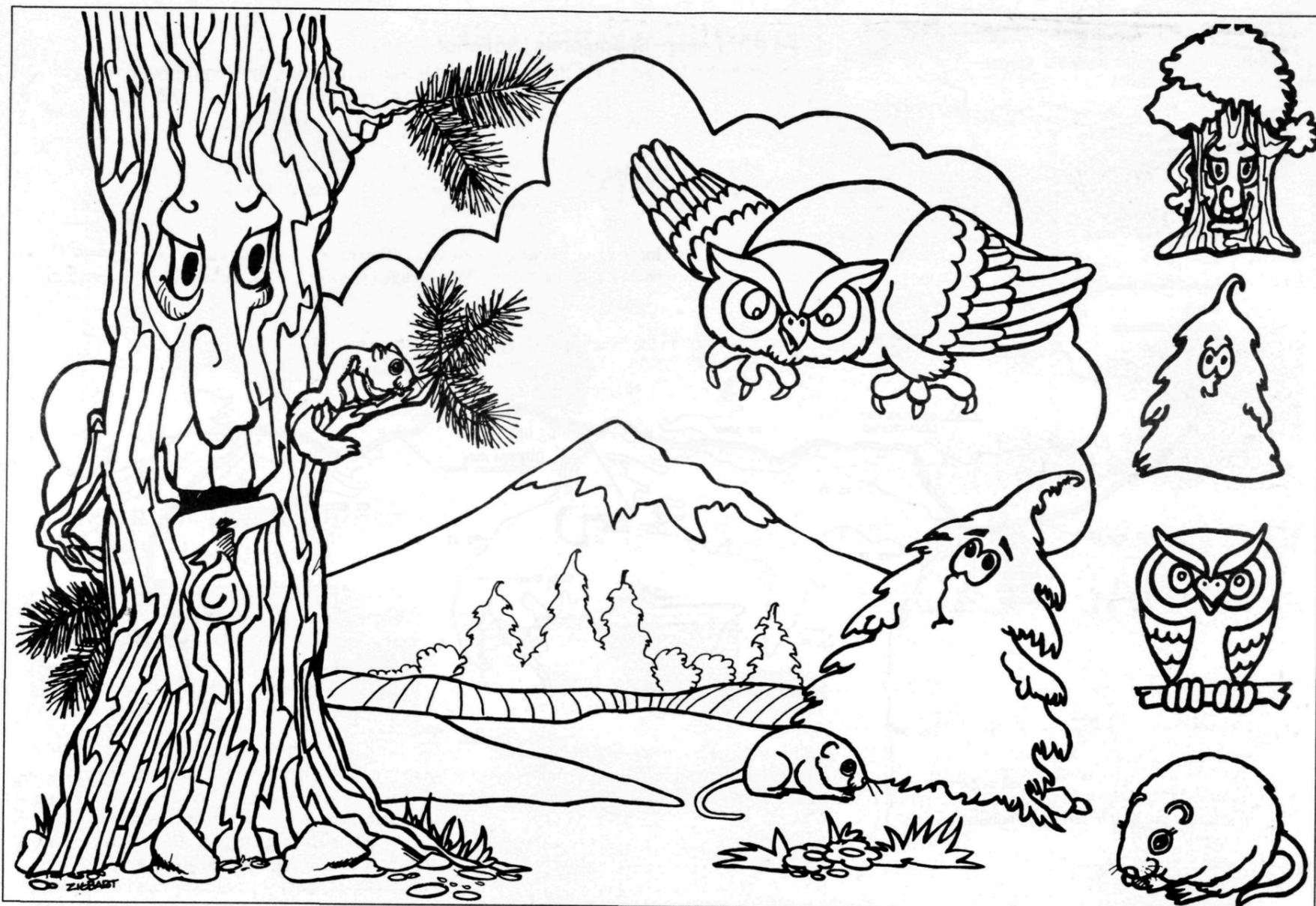
Berrypicking seems to go hand in hand with camping, fishing and hiking. Many forest visitors time their vacations to coincide with the ripening of their favorites; including many species of huckleberries, salmonberries, blackberries and thimbleberries that cover the land.

Most berries in the forest are edible. Some, like oregon grape, pucker your face when eaten straight from the bush, but make excellent jam. Others, like mountain ash, are labeled edible, but seem to resist efforts to make them taste good. Poisonous berries like the red fruit of devils club grow alongside the edible species. Some can cause severe illness and even death. To prevent discomfort or tragedy, learn the berries before beginning to pick. Field guides and information on berry edibility are available at Park and Forest Service offices.

The bright colors and sweet taste of berries make them a flashy example of a forest edible. However, other, more subtle foods also grow among the trees. During most seasons of the year, a wild feast awaits the gatherer who knows what to look for.

A fire lookout stationed on an isolated subalpine ridge far from the nearest road would often go for weeks without fresh food if it weren't for the delightful supplements to her dried food diet growing around her tower. Miners lettuce picked along a creek provides greens. In late summer, chunks of king boletus mushrooms float in her spaghetti sauce.

Meanwhile, in the lowlands, other gatherers pick nettles and fiddlehead ferns for steamed greens. Some southeast Asian families harvest bushel baskets full of fiddleheads to add to their restaurant menu. Since these ferns are for commercial use, they **must obtain a permit from the local Forest Service office. Collections for commercial use are not allowed in the National Park and collection for personal use is limited.** But, feel free to enjoy the edible berries as you walk along your favorite trail.



Color this forest scene. Can you name the plants and animals living there? How about guessing what they may eat? Have your parents read the spotted owl article so you can all talk about what is happening in your forest.

More Than Spotted Owls

The northern spotted owl is a two-pound, feathery, rodent hunter that lives in old-growth forests of the Pacific Northwest. The owl was listed as a threatened species in 1990 by the U.S. Fish and Wildlife Service. Old-growth where it feeds and nests is being set aside for owl habitat, reducing the amount of timber available for harvest. This makes it challenging for the Forest Service to meet its congressional mandate to produce a continuous supply of timber. The reduction in timber harvest also affects the economics of timber dependent communities. As a result, the spotted owl has become a famous and controversial bird.

But old-growth forests are much more than just homes for spotted owls. The fame of the owl sometimes disguises the fact that it is only a small part of the complex story of old-growth forests. For example, spotted owls could not survive without lumpy, brown fungi called truffles. The truffles are food for rodents like voles and flying squirrels. The rodents, in turn, are food for the owls.

Sometimes connections between organisms in a forest are hard to see. For instance, truffles grow only underground. They need to reach the surface in order to reproduce. When a vole digs up and eats a truffle, truffle spores are spread around, insuring a healthy truffle population in the forest.

One of the most astonishing interrelationships in a forest is the cooperation between fungi and trees. Many species of trees grow much more vigorously if they have certain species of fungi growing in sheaths around their roots. The fungi feed nutrients to the tree and the tree feeds sugars to the fungi.

As ecologists discover more and more fascinating relationships between forest organisms, a forest seems almost like a giant living creature, with its plants and animals functioning like interconnected body parts. No part can survive alone, and all are necessary to the health of the forest as a whole.



Forest Pharmacy

There are many roles that "nontimber" forest products play in our lives. Plants have been the source of nearly a third of the drugs listed in the Physician's Desk Reference. Many of the little pills we swallow to cure our ailments would not exist without the green leaves, nodding blossoms, and dark roots that convert sunlight, water, and carbon dioxide into complex organic compounds.

Past, present and potential treatments for disease grow throughout Pacific Northwest forests. A tea brewed from a groundcover plant—kinnikinnick—has been used for centuries as a urinary tract disinfectant. Bitters extracted from the dark purple subalpine flower, gentian, promote digestion and provide flavoring for carbonated drinks. The chemical taxol found in yew tree bark shows promise as a cancer cure.

Plant dabblers utilize a wide array of medicinal plants. Mountain ash berries cooked with sugar make a bland jam that some people think cures mild diarrhea. Oregon grape rootstock, on the other hand, can be boiled to produce an infusion that may work as a laxative. Maidenhair fern tonic seems to help clear up coughs and congestion. Hemlock bark can be powdered and put in shoes to ease tender feet and control odor.

Although collection of medicinal plants for home use on Forest Service land requires no permit, care should be taken not to over-harvest in any one area, or to damage local ecosystems. Also, collectors must be aware that National Parks prohibit any collecting, even for personal use. Remember the motto "take only pictures and leave only footprints".

Amateur harvesters of medicinal plants outnumber commercial harvesters. Some products like cascara bark (used as laxative) are commercially harvested by permit in some Pacific Northwest National Forests.

Recently, due to the increasing interest in taxol, derived from Pacific Yew bark there is a petition to list the tree as a threatened species. The National Cancer Institute is keenly aware of the importance of taxol in cancer treatment and is actively researching and procuring this compound. Forest Service employees and researchers are identifying stands of Pacific yew and propagating trees that are a high source of taxol. Steps are being taken now to preserve this and other important plant resources through the "New Perspectives in Forestry" program.

Other pharmaceutical products derived from Pacific Northwest forests include aspen leaves, used in cough Preparations; pippissewa, used as a diuretic; false hellebore root, used as a heart drug; and yerba santa, used as an expectorant.

Researchers continue to explore the forest for plants with medicinal uses. Pharmaceutical companies regularly send ethnobotanical expeditions into South American rain forests. More than 700 species of medically active plants have been identified in the Amazon Basin alone.

Scientists have proven that some ancient herbal remedies can cure modern physical ills. They have also discovered plants with no known medicinal history that have promise for future pharmaceutical development. We do not yet know which of the thousands of plants found in the mature forests of the world may hold the keys to our health locked within their leaves and branches. But the complex plant "gene pool" of forest ecosystems probably hold many as-yet undiscovered medicines: all part of the well-stocked forest pharmacy.

MT. BAKER SCENIC BYWAY MAP

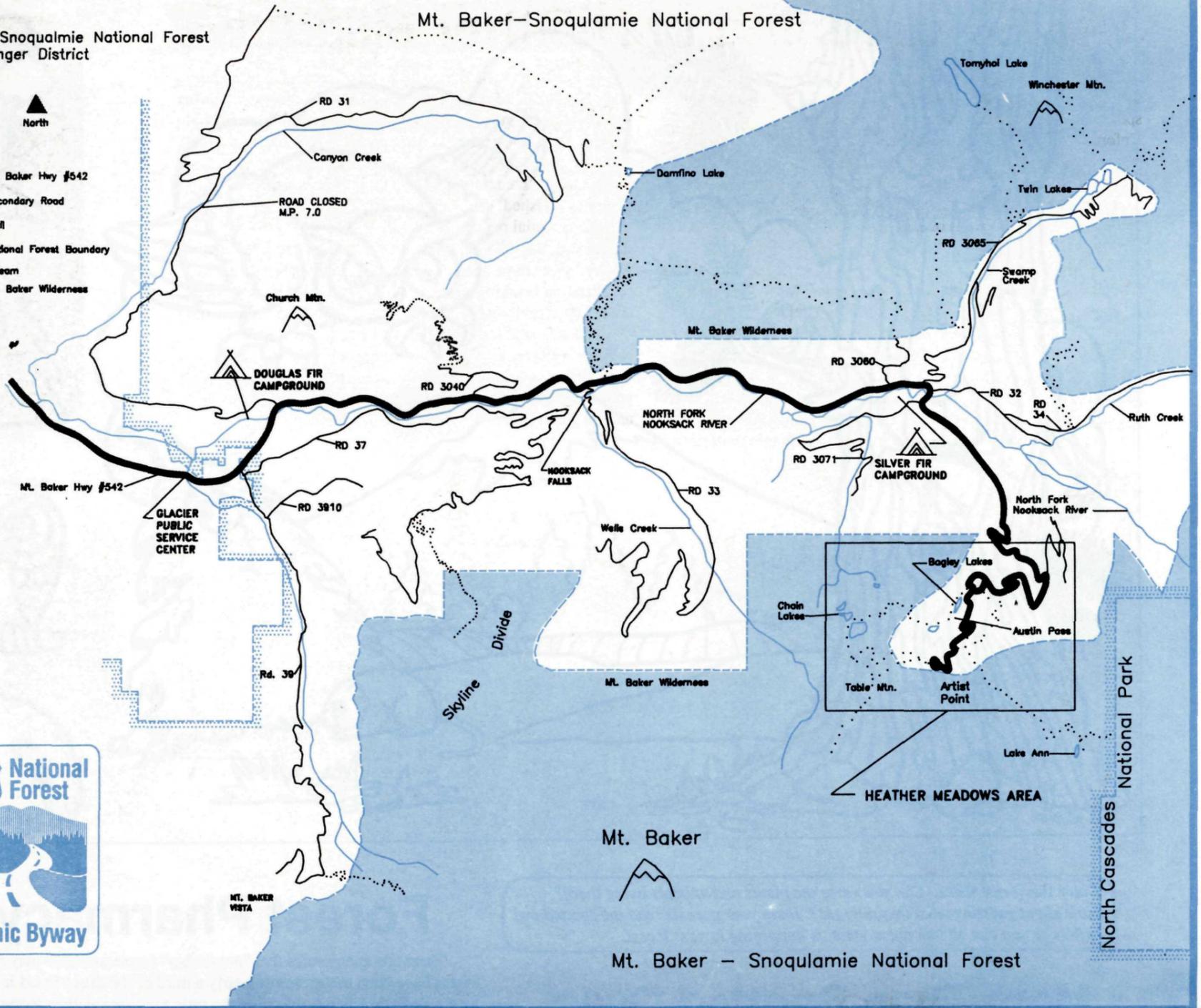
CANADA

Mt. Baker - Snoqualmie National Forest
Mt. Baker Ranger District

North Fork Nooksack Area



- Mt. Baker Hwy #542
- Secondary Road
- Trail
- National Forest Boundary
- Stream
- Mt. Baker Wilderness



MT. BAKER SCENIC BYWAY

Beginning at the Glacier Public Service Center the Mt. Baker Highway, newly designated as a National Forest Scenic Byway, winds its way up through the narrow valley floor of the North Fork of the Nooksack River to magnificent sub-alpine scenery at Heather Meadows. The road is kept open year round to the Mt. Baker Ski Area where winter visitors enjoy the challenges of downhill and nordic skiing in the Cascades.

National Forest Roads Affected by Winter Storms

Due to flood damages and severe winter storms several roads on the Mt. Baker Ranger District will not be accessible to vehicular traffic this summer season. The following information includes tentative opening dates and schedules for reconstruction. Please check with the information staff at the Mt. Baker Ranger District office in Sedro Woolley and at the Glacier Public Service Center for current road and trail status before heading out into the National Forest.

Canyon Creek Road

Road closed at MP 6.8 due to major flood damages. Hikers wishing to access Damfino Lakes will need to travel up Excelsior Pass trail off of the Mt. Baker Highway approximately 7 miles east of Glacier.

Glacier Creek Road

Road closed at MP 2.7 due to major flood damages. Possible closure throughout summer season. Tentatively scheduled for reconstruction beginning in July. Climbers and hikers wishing to access the Coleman glacier area on Mt. Baker and the Heliotrope Ridge trail may not be able to access this area until reconstruction is complete.

TRAVEL MAPS AVAILABLE

The Mt. Baker Ranger District has completed a set of maps containing information about the District road and trail system as set forth in the Mt. Baker-Snoqualmie Land and Resource Management Plan. All roads and trails on the permanent District transportation system are shown.

For recreational users these maps indicate roads open for snowmobile use and trails available for hikers, stock, bicycles and motorcycles. They also highlight roads seasonally restricted to protect important wildlife habitat, roads not accessible because they are not maintained to a standard suitable for motorized use, and roads gated. The various surface types are indicated for each road so you can decide if your car or truck is suited for a particular destination.

The maps cover four different areas of the District. The Glacier and Baker Lake area are printed on one map and the Upper Skagit and Finney areas on the other. You can view these maps at the Mt. Baker Ranger District office and are available to purchase at \$1 each.

Mt. Baker: Mountain Wilderness

Early recreation

Recreation activity on Mt. Baker began in 1866 when a librarian and amateur explorer named Edmund Coleman mounted an expedition for the first ascent. It took him three attempts but he finally reached the summit on August 17, 1868.

Recreational activity increased throughout the early part of the century with the advent of climbing organizations such as the Mazamas and the Mountaineers. Since World War II, roads have pushed up most of the major valleys leading to Mt. Baker. In the late 1940's a road was constructed up Glacier Creek to within three miles of the Coleman Glacier. This became the standard route for Mt. Baker climbs due to its relatively easy access and technical demands.

The mountain becomes Wilderness

In 1984 Congress set aside most of Mt. Baker, including the Coleman Glacier, to be managed as Wilderness. This changed the ground rules for the mountain. Now the area was to be managed to remain forever wild and free from human impact. The intent of Congress was clearly to manage these lands to provide a certain experience. This experience is difficult to define but involves intangibles such as risk, challenge, discovery, inspiration, and solitude.

The Forest Service began to develop a management plan for the Coleman glacier area in 1990. A task force, led by the Forest Service and composed of representatives of the Washington Trails Association, the Mountaineers, the Skagit Alpine Club, Huxley College, and the American Alpine Institute was formed to help focus on the key issues and begin formulating some options. The group has met periodically over the last year and a half.

In addition, summer rangers have been stationed at the trailhead to the Coleman. Last summer they spoke at length to over 1400 visitors about a variety of subjects such as what their expectations for solitude were or how were they handling sanitation on the glacier.

The task force is now in the process of taking all this information and developing a series of alternative strategies for managing recreation in this area. After additional public involvement, the Forest Service will select a preferred alternative and publish the decision in an Environmental Assessment along with an implementation schedule and plan.

If you have comments on this issue. Please address them to:

Mt. Baker Ranger District

Attn: Scott Paul, Trail & Wilderness Coordinator
2105 Hwy 20 Sedro-Woolley, WA 98284

The Re-Greening of Heather Meadows

Heather Meadows is one of the most popular destinations on the Mt. Baker-Snoqualmie National Forest. Its easy access and spectacular views attract 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 done, the Forest Service is constructing clearly marked trails and has begun the difficult task of revegetating the nine miles of user-built trails criss-crossing the meadows.

The whole process begins as seeds are collected on site during the fall. Come spring the seeds are germinated in flats inside a greenhouse operated by North Cascades National Park. Each flat is carefully labeled so that, come late September, the plants can be transplanted to the same meadow where the seed was collected.

Other plant restoration techniques are also employed at Heather Meadows. Sometimes the collected seed is planted directly on site. The soil is loosened up with hand tools and seed is scattered around. The area is then covered with two materials:

wood fiber to insulate the ground and protect it from erosion and clear plastic to retain the soils heat and moisture. Another successful technique has been to transplant vegetation plugs in trampled areas immediately after digging them up from trail and road construction sites. These transplants must be frequently watered and protected until their root systems are firmly established.

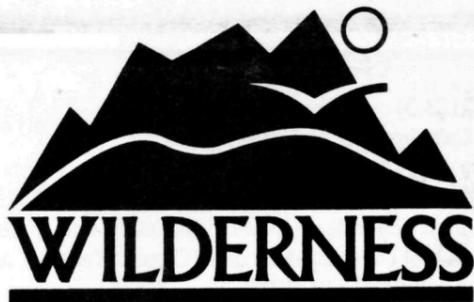
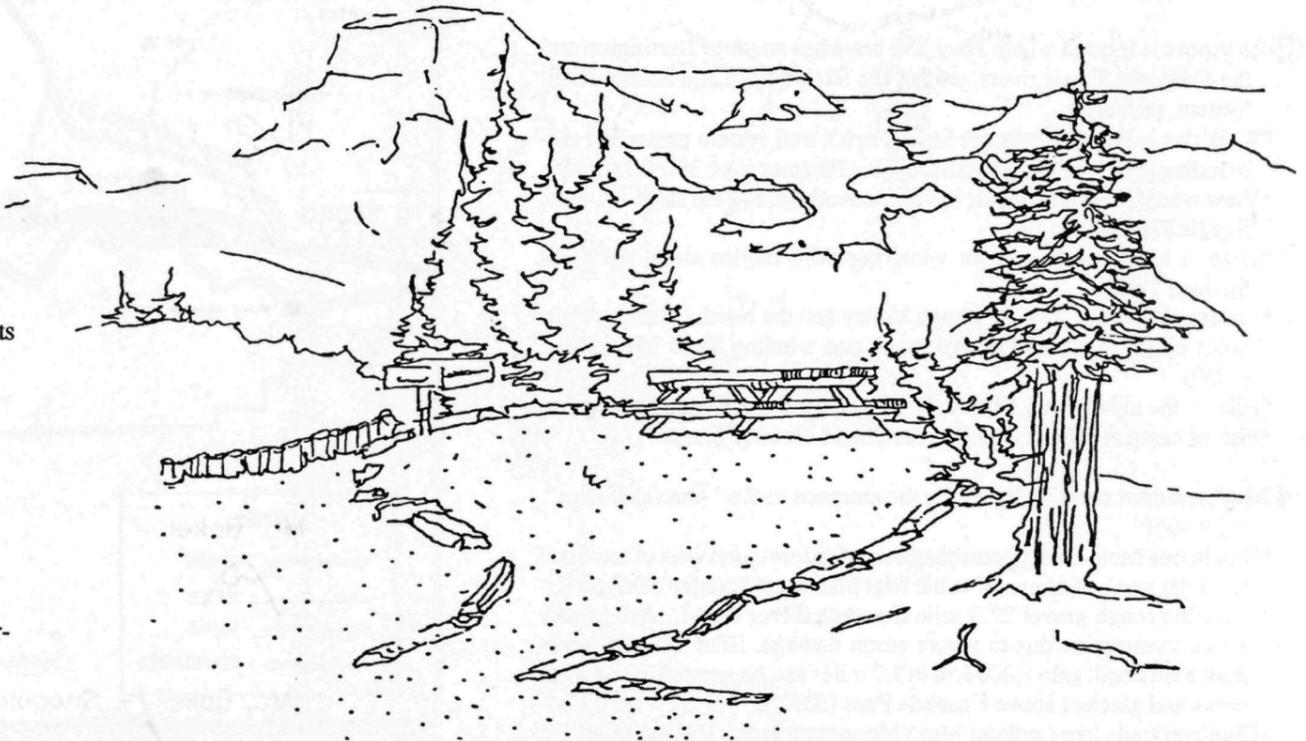
An essential part of this whole revegetation effort is letting you, the visitors, know what is being done. "Meadow Repair" signs have been placed at ground level where active revegetation is taking place. You can help the effort tremendously by staying off of these sensitive areas and walking only on the designated trails. Please feel free to ask any of the rangers or Forest Service crew members if you have any questions or would like to know more about the project. With your help Heather Meadows will someday be restored to its natural green state.



SUMMER INTERPRETIVE PROGRAMS

Interested in learning more about the natural history of the Mt. Baker area? Curious about some of the early explorations into this wondrous mountain setting? Join with Forest Service sponsored guest specialists this summer season in the Heather Meadows area and learn about your surroundings in a relaxed natural setting.

Programs are free and will be scheduled each weekend beginning in mid-July on Saturday and/or Sunday at 2 pm. Group size is limited at times to 25 participants. A summer schedule and a sign up sheet are maintained at the Glacier Public Service Center. Programs go on rain or shine and participants are reminded to come prepared for inclement weather.



Hiking into the Wilderness

Several trails leave the Heather Meadows area and lead into the Mt. Baker Wilderness. Party size entering the Wilderness is limited to 12 persons in each group. Overnight stays do not require a permit but hikers may not have campfires at Lake Ann and along the Chain Lakes route in order to help minimize impacts at these fragile sub-alpine settings.

HEATHER MEADOWS TRAIL OPPORTUNITIES

Picture Lake Path

0.5 mile loop trail. Scenic viewpoint with interpretive signs.



Fire & Ice Trail

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



Chain Lakes Trail

6.5 mile hiking trail. Access at Bagley Lakes or Artist Point. Enters Mt. Baker Wilderness. No Campfires.



Lake Ann Trail

4 mile hiking trail. Enters Mt. Baker Wilderness. Junctions with 3 mile long Swift Creek trail at 2.5 mile. Campfires prohibited.



Artist Ridge Trail

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

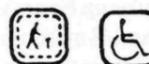


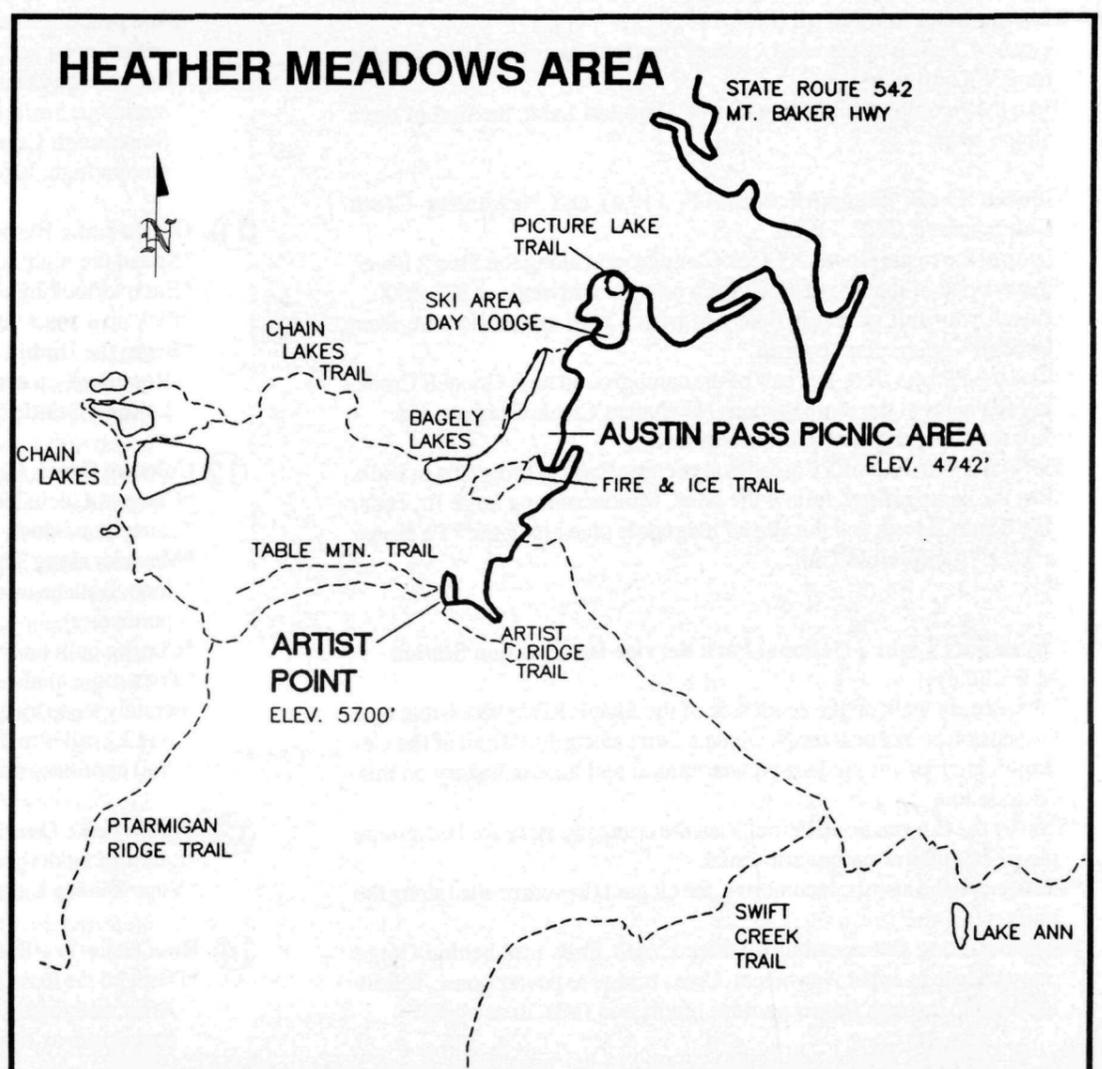
Table Mt. Trail

1 mile steep, hiker-only trail to top of Table Mt. Enters Mt. Baker Wilderness.



Ptarmigan Ridge Trail

Junctions off Chain Lakes trail 1 mile from Artist Point. Enters the Mt. Baker Wilderness.



Points of Interest

- 1 Reach Baker Lake by turning at M.P. 82 onto the Baker Lake Hwy

 - *Enter the Mt. Baker-Snoqualmie National Forest after 12 miles.
 - *Continue on paved road to the Baker Lake Resort or beyond on gravel road to the upper reaches of the Baker River Valley.
 - *Camp & Boat on 9 mile long Baker Lake.
 - *Launch your boat at the Upper Baker Dam, Horseshoe Cove, & Panorama Point Campgrounds / or at the Baker Lake Resort (cabin and boat rentals available 853-8325).
 - *Fish in season on the lake, adjacent streams and high lakes.
 - *Hike on favorite trails like Park Butte, Blue Lake, Baker River, East Bank, Anderson and Watson Lakes.
 - *Marvel at the old growth forest along Shadow of the Sentinels Interpretive Trail.
 - *Access climbing routes on the south side of Mt. Baker & Mt. Shuksan.

- 2 Concrete was once a small town named Baker. For many years the Lone Star Cement Plant provided work making concrete. Today's diversified economy includes logging and tourism. Major services include the Saturday Market providing local crafts and produce.

- 3 Rockport is located where Hwy 530 branches south to Darrington and the Sauk and Skagit rivers, part of the Skagit Wild and Scenic River System, converge.

 - *Walk five miles of Rockport State Park's trail system protecting surrounding stands of old growth Douglas Fir trees over 300 years old.
 - *View where Wild and Scenic Rivers converge along the short 1/4 mile, Skagit View Trail.
 - *Gaze at lush undergrowth or wintering Bald Eagles along the Sauk Springs Trail.
 - *Access panoramic views of Skagit Valley and the North Cascades eight miles up the National Forest's rough and winding Sauk Mtn. Road (1030).
 - *Hike to the top of Sauk Mtn. (2.1 miles) from the trailhead parking lot.
 - *Fish or camp at Howard Miller Steelhead County Park.

- 4 Marblemount community boasts the entrance to the "American Alps". (M.P. 106)

 - *Obtain free backcountry permits and travel information west of town and one mile north of Hwy. 20 at the Marblemount Ranger Station.
 - *Drive the rough gravel 22.3 mile Cascade River Road. Ask locally about construction due to severe storm damage. Hike to alpine areas from road's end, gain 1,800 feet in 3.7 miles and be greeted by views of peaks and glaciers above Cascade Pass (5392').
 - *Climb up trails like Lookout Mtn., Monogram Lake, Hidden Lake, the Middle and South Forks of the Cascade River and others leading into the Glacier Peak Wilderness; all accessible from points off the Cascade River Road.
 - *Be prepared with maps, appropriate gear and a permit (in the National Park) for overnight stays.

- 5 Enter the Ross Lake National Recreation Area (M.P. 111.8)

 - *View the Skagit River and waterfalls cascading down from the heights of T-bone ridge.

- 6 Thornton Lake Road/Trail (M.P. 117.3)

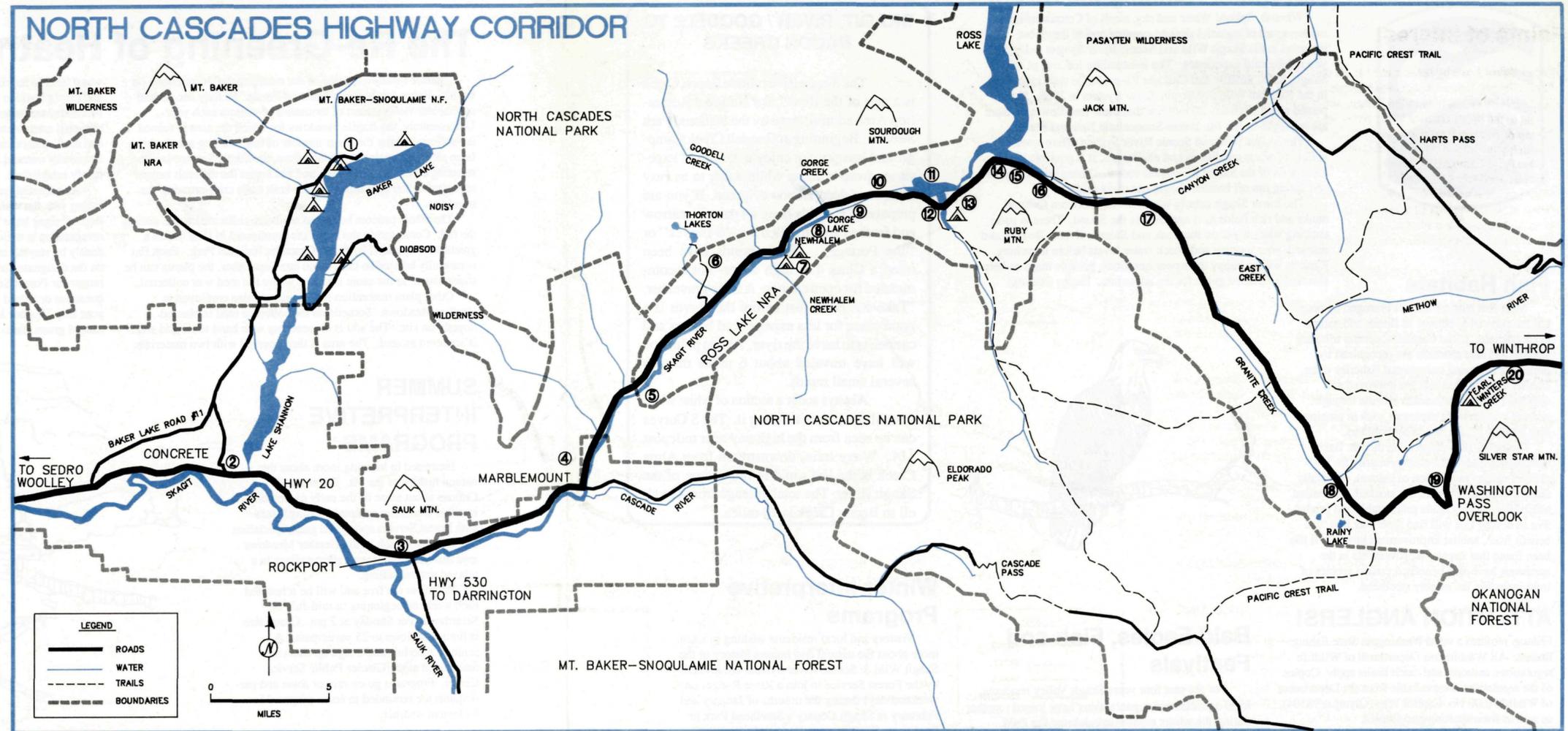
 - *Ascend 4.7 miles up the windy, gravel Thornton Lakes Road (not suitable for RV's or trailers).
 - *Hike the rigorous 5 miles into Lower Thornton Lake, the first of three alpine lakes.

- 7 Goodell Creek Campground (M.P. 119.4) and Newhalem Creek Campground (M.P. 119.9)

 - *Camp at the rustic Goodell Creek Campground along the Skagit River.
 - *Reserve one of the two nearby group camps in advance at 873-4590.
 - *Launch your raft or take a float trip with a park concessionaire from Goodell Campground Launch.
 - *View the Pickets from just east of the campground near Goodell Creek.
 - *Stay the night at the more modern Newhalem Creek Campground.
 - *Visit the Ranger Station for information.
 - *Find out about the North Cascades at evening Ranger Programs or walk.
 - *Skirt the campground, follow the river, wander among large fir, cedar and hemlock trees and thickets of lodgepole pine along the "To Know a Tree" Interpretive Trail.

- 8 Seattle City Light / National Park Service Information Station (M.P. 120.6)

 - *Take an easy walk on the south side of the Skagit River accessible by a suspension bridge near the Newhalem Store along the "Trail of the Cedars". Interpretive plaques picture natural and human history on this 0.3 mile loop.
 - *Stop by the Information Station. Visit the company store for last minute picnic supplies or unique souvenirs.
 - *Photograph the historic locomotive, the elegant flowers or sites along the trails.
 - *Meander along the cascading Ladder Creek Falls trail behind Gorge power house in upper Newhalem. Cross bridge to power house, follow signs, loop through flower gardens, pools and falls, lit at night.



- 9 Gorge Creek Overlook (M.P. 123.3)

 - *View and photograph Gorge Lake and Gorge Creek Falls.
- 10 Gorge Lake Boat Launch / Diablo / Seattle City Light Tours (M.P. 126)

 - *Tour the Skagit Project including a boat ride on Diablo Lake and a tour of Ross Dam. Several options available Thursday-Monday (Closed Tuesday and Wednesday). For reservations call (206) 684-3030.
 - *Picnic along Gorge Lake near the boat launch or in Diablo near the tour office.
 - *Gain a sense of history by visiting the Museum or the Davis Family cabin.
 - *Find peace and seclusion along the densely forested, 2.5 mile trail up the Stettin Creek bed. The trailhead is on the left of the green bridge near Diablo.
 - *Tax your physical strength to gain magnificent views of the valley. The very strenuous 5 mile trail to Sourdough Lookout has views beginning at 2.2 miles. Sourdough Creek crossing can sometimes be difficult. This is a long day or an overnight hike.
- 11 Diablo Lake Resort (cross dam at M.P.127.6)

 - *Spend the night in rustic cabins. Call (206) 386-4429 for reservations.
 - *Eat overlooking the lake at the restaurant.
 - *Pick up a snack at the grocery.
 - *Begin the Diablo Lake Trail (3.8 mi.) at Diablo Lake Resort or at the base of Ross Dam on a suspension bridge crossing the Skagit River. Ride up Diablo Lake on Seattle City Light's tug boat and hike back along the trail.
- 12 Colonial Creek Campground (M.P.130.2)

 - *Camp at a secluded spot among tall trees or along near the shore of Diablo Lake.
 - *Launch and dock your boat on Diablo Lake.
 - *Meander along Thunder Creek trail or the self-guided Thunder Woods nature loop. Both begin at the south end of Colonial Creek Campground (near the amphitheater).
 - *Check a bulletin board or ask a Ranger about guided walks or evening programs.
 - *Try a more challenging hike up Fourth of July/Panther Creek Trail, a moderately steep trail, starting 1.8 miles up the Thunder Creek Trail. At this point it is 3.2 miles to the pass where there are views of the peaks. From the pass the trail continues another 5 miles on the Panther Creek Trail to Highway 20.
- 13 Diablo Lake Overlook (M.P.131.8)

 - *Learn about the geology of the North Cascades and types of rocks you find here.
 - *View Diablo Lake and surrounding peaks.
- 14 Ross Lake Trailhead (M.P. 134.1)

 - *Descend the Ross Dam Trail to the top of Ross Dam and continue to Ross Lake. After walking across the top of the Dam you could hike along the westbank of Ross Lake to Pumpkin Mtn. Camp or Big Beaver (7 miles from Happy Flats).

- *Stay a night or two in a floating cabin at the Ross Lake Resort (206) 386-4437. Boat rentals and portage service available.
 - *Enjoy the Happy Creek Forest Walk located 0.2 miles beyond Ross Lake Trailhead on the south side of Highway 20. This 0.3 mile boardwalk highlights the trees and animals of this creekside forest. Explore your senses; become aware of the colors, smells, sounds and feeling of this delightful forest.
- 15 Ross Lake Overlook (M.P. 135.1)

 - *View the 24 mile long Ross Lake with farthest peaks in Canada.
 - 16 East Bank Trailhead (M.P.138)

 - *Horsepack or hike from the East Bank Trailhead. After a moderately steep descent to Ruby Creek suspension bridge, level trails continue both up and down Ruby Creek connecting the Ross Lake National Recreation area with the Pasayten Wilderness. After a 2.6 mile walk west, the main trail along the east bank of Ross Lake extends 14 miles north to Hozomeen.
 - *Day hike down to the shore of Ross Lake at the mouth of Ruby Creek or continue north gaining 800' elevation to Hidden Hand Pass and Campsite.
 - 17 Canyon Creek Trailhead (M.P.141.2)

 - *Branch off the Canyon Creek Trail into Rowley's Chasm after 2.5 miles.
 - 18 Rainy Pass/Trailhead (M.P.157.6)

 - *Picnic in this lovely sub-alpine pass.
 - *Walk the 1 mile paved trail to Rainy Lake with a waterfall and glacier view platform at the end.
 - *Hike farther to Lake Ann (2 miles) and on up to Heather Pass (3 miles) and Maple Pass (4 miles).
 - 19 Washington Pass Overlook (162.2)

 - *Loop the short paved trail leading to incredible views of peaks. The overlook, picnic sites and restrooms are handicapped accessible.
 - 20 Upper Methow Valley

 - *Visit Early Winters Ranger Station and Campground in Winthrop Ranger District in Okanogan National Forest
 - *Traverse Hart's Pass Road off Highway 20 reaching the highest point accessible by road in Washington State (over 7,000ft.). This 22 mile long road offers panoramic vistas of the northern Cascade Range.

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. Camping spots can normally be found. 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 and Newhalem Campgrounds also offer flush toilets and Ranger programs.

	Accessible by Disabled Persons	Picnic Tables	Flush Toilets	Garbage Disposal	Backpacking Trail	Fishing	Tent or Trailer Camping (units)	
Douglas Fir								30
Silver Fir								21
Excelsior (Groups)								13
Kulshan Puget Power								40
Horseshoe Cove								34
Bayview (Groups)								
Panorama Point								16
Boulder Creek								10
Park Creek								12
Shannon Creek								20
Rockport State Park								62
Steelhead Park (County)								39
Goodell Creek								22
Newhalem Creek								129
Goodell Upper/Lower (Groups)								
Colonial Creek								164
Lone Fir								27
Klipchuck								46
Early Winters								12
Marble Creek								24
Mineral Park								4
Cascade Islands								15
Maple Grove								5
Hozomeen								122



Adventure Running the Rivers

Whoosh, Splash! Water and sky, smell of Cottonwoods, the insistent pull of a glacial stream; running one of the rivers, included in the Skagit Wild and Scenic River System will give you a delightful experience. The outstanding features of the Skagit, Sauk, Suiattle and Cascade Rivers led to their inclusion in the National Wild and Scenic River System in 1968. Signs posted along Highway 20 indicate that these free-flowing waters are managed by the Mt. Baker-Snoqualmie National Forest.

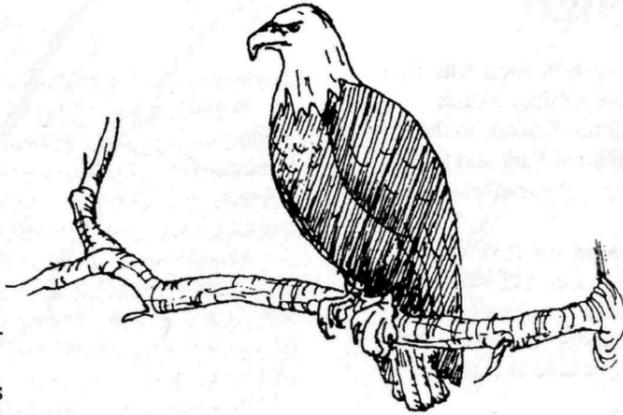
The Skagit Wild and Scenic River System offers a wide variety of water conditions and challenges. It is possible to raft most parts of the Skagit River year-round. During winter floods and spring run off boaters should use extra caution.

The lower Skagit calmly winds its way between forested banks and rich fields as it approaches the Sound. There is some enticing white water on the Sauk and Suiattle rivers. Be sure and research your journey and check water levels before launching. Rangers will be happy to answer questions, provide maps or help you find a licensed guide for the adventure. Happy floating!

Fish Habitats

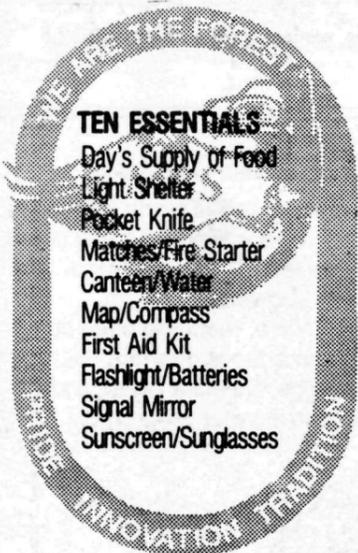
Most fish habitats are not managed by people but are allowed to change as floods and natural events dictate. In the Cascades, certain tributary streams and side channels are recognized by biologists as having exceptional fisheries value. Habitat in these channels are improved and stabilized against streamside erosion through various enhancement measures such as pinning logs into the stream or adding boulders.

Biologists plan projects on the Mt. Baker-Snoqualmie National Forest primarily for increased natural production of salmon, especially chum and coho. Fish are not stocked, but natural habitats are simply made more stable and productive so nearby fish will find their way into, and benefit from, habitat improvement projects. It has been found that stream improvements in the northwest have also benefited certain species of trout including the mighty steelhead.



ATTENTION ANGLERS!

Fishing requires a valid Washington State fishing license. All Washington Department of Wildlife regulations, seasons, and catch limits apply. Copies of the regulations are available from the Department of Wildlife (600 No. Capitol Way, Olympia 98504), as well as from sporting good stores.



ROSS LAKE

Tall timber stands around Ross Lake act as sentinels guarding passage ways into the enticing environments of this 25 mile long man-made lake.

Vehicular access to Ross Lake is only possible from the north, through Canada to Hozomeen, via the 40 mile gravel road south of Hope, British Columbia. Hozomeen provides a 122 site campground and a boat launch ramp. All litter and refuse must be packed out and a State fishing license is required.

Access to Ross Lake from the south is limited to trail and water routes only. Diablo Lake, Ross Dam, and Ruby Creek trails provide access for hikers and backpackers from trailheads off the North Cascades Highway. Ross Lake Resort has small rental boats and provides portage and water-taxi service for trailheads and campgrounds. An alternative way to reach Ross Lake is to ride the Seattle City Light tug up Diablo lake to Ross Powerhouse and hike up around the dam to the lake. Seventeen boat access camping areas are located along the shore and seven major trails connect Ross Lake with other parts of the backcountry. Obtain free permits in Marblemount for camping or backpacking.

Taking the time to journey into Ross Lake provides an experience full of wonderment, solitude and self-renewal.

Bald Eagles, Fish and Festivals

For the past four years Skagit Valley residents, local agencies and organizations have joined together during the winter months to celebrate the Bald Eagles' return to the Skagit Wild & Scenic River System. This impressive eagle migration, one of the largest in the lower 48 states, begins in November with the first salmon spawning and peaks toward the end of January.

The Upper Skagit Bald Eagle Festival honors the eagles' winter migration. In the past festival events have included eagle-watching float trips, educational programs and displays, slide presentations, childrens' programs, food, and live entertainment.

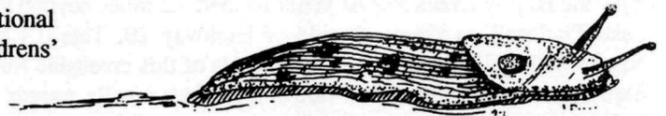
SKAGIT RIVER / GOODSELL TO BACON CREEKS

The Skagit River above Bacon Creek is a part of the Ross Lake National Recreation Area administered by the National Park Service. Beginning at Goodsell Creek Campground boaters can enjoy a variety of experience from broiling white water to an easy float on a deep ribbon of green. If you are prepared for rapids hang on past the narrow and frothy canyon called the "S Curves" or "the Portage". These rapids have been rated a Class 4 at high water- not recommended for open canoes. A large gravel bar, "Take-out Bar", just before the curves is a good place for less experienced boaters and canoeists to leave the river. At this point you will have traveled about 6 miles through several small rapids.

Always scout a section of white water from shore before tackling it. The S Curves can be seen from the highway near milepost 114. Wavy train, downstream from Alma Creek is the last rapid in this section of the Skagit River. The total mileage from Goodsell to Bacon Creek is 10 miles.

Winter Interpretive Programs

Visitors and local residents wishing to learn more about the natural and human history of the Skagit Wild & Scenic River System are invited by the Forest Service to join a River Ranger on weekend days during the months of January and February at Skagit County's Steelhead Park in Rockport. Slide presentations and activity oriented interpretive programs are offered. Programs are free and schedules are posted during the winter months on information boards along the river system and at the Joint Information Station in Sedro Woolley.



Safety Tips

- Driving

-Be extra careful when pulling on or off a highway. Viewpoints may be dangerous, perched on a cliff or mountain top. 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 logging traffic, rocks, washouts, or downed trees may cause unforeseen hazards. Check at a ranger station to determine whether the road you will travel has active logging.

-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.

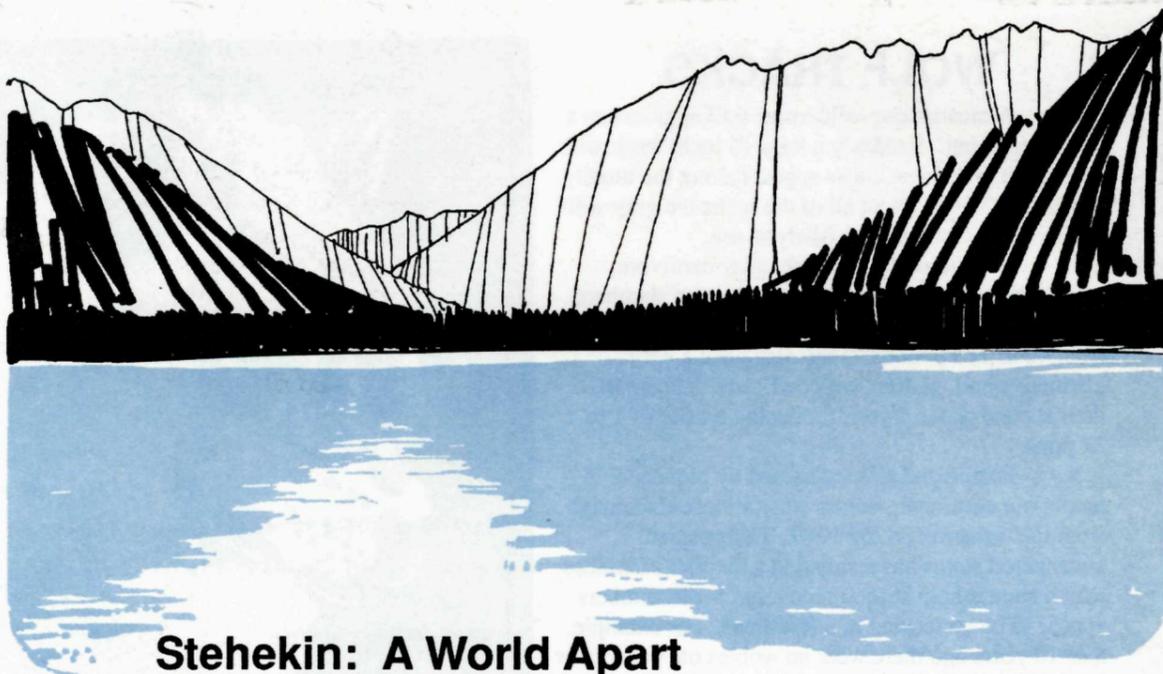
-Build fires only in existing fire pits when allowed. Do not leave until all coals are cool enough to hold.

-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.



Stehekin: A World Apart

Surrounded by wilderness, Lake Chelan National Recreation Area is nestled against the eastern flank of the Cascade Range. To the west is Glacier Peak Wilderness in Mt. Baker-Snoqualmie and Wenatchee National Forests, to the north is Stephen Mather Wilderness in North Cascades National Park and the Pasayten Wilderness in the Okanogan National Forest, and to the southeast is the Sawtooth Wilderness in the Wenatchee National Forest.

Stehekin, at the head of Lake Chelan may be the most remote community in the contiguous 48 states; it is the focal point for exploring this part of North Cascades National Park Service Complex. To reach Stehekin, one must ride the **Lady of the Lake** (a four hour trip from Chelan) or **Lady Express** (a two hour trip), fly in with **Chelan Airways** (1/2-hour from Chelan), or hike at least 17 miles from the nearest road.

A gradual transformation occurs as you travel up 55-mile long Lake Chelan from Chelan to Stehekin. At first, dry rolling hills covered with sagebrush slope gently to the lakeshore. By the time you reach Stehekin, mountains tower 8,000' above the lake, their steepness reminiscent of Norwegian fjords. Forests of ponderosa pine and douglas fir coat the mountain slopes thickly. High cliffs and cascading waterfalls contrast with the gray cliff walls. The view from Stehekin of the glacier-mantled cascade crest at the head of Stehekin Valley reminds visitors of the Swiss Alps.

No roads connect Stehekin Valley with outside road systems. The Stehekin Valley Road follows the Stehekin River 23 miles to Cottonwood (a campground at the trailhead to Cascade Pass and Horseshoe Basin). National Park Service shuttle buses transport backpackers, fishermen, day hikers, and round-trip sightseers to trailheads and camps. **Heavy flood damage to the road above High Bridge (11 miles from Stehekin) in November 1990 will delay opening of the road above High Bridge this season.**

Hundreds of miles of trails climb mountains, approach glaciers, lead to mines, enter giant forest cathedrals, cross mountain passes, and lead to sparkling mountain lakes. These trails offer real solitude. Agnes Gorge, with its tumultuous torrent of water and misty waterfalls pouring into a narrow, deep canyon seems of another land. Discover wildflowers and a variety of trees; indeed, North Cascades National Park Service Complex hosts more species of plants than any other park in the USA. Wildlife are at home in the Stehekin Valley. Here you will likely see mule deer, Canada geese, Douglas squirrels, and Stellar's jays. You may not see black bears, cougars, elk, coyotes, or rattlesnakes, but they are here also.

A community of 70 year-round residents hang on to some of early America's pioneer life style; Stehekin remains a remote and wild place where anyone can find peace and solitude amongst high mountains and deep forests.

Recreational options at Stehekin include a full complement of naturalist programs, bicycle rentals, guided raft and horseback trips. Overnight accommodations, restaurants and a public shower are

available in the Stehekin Valley.

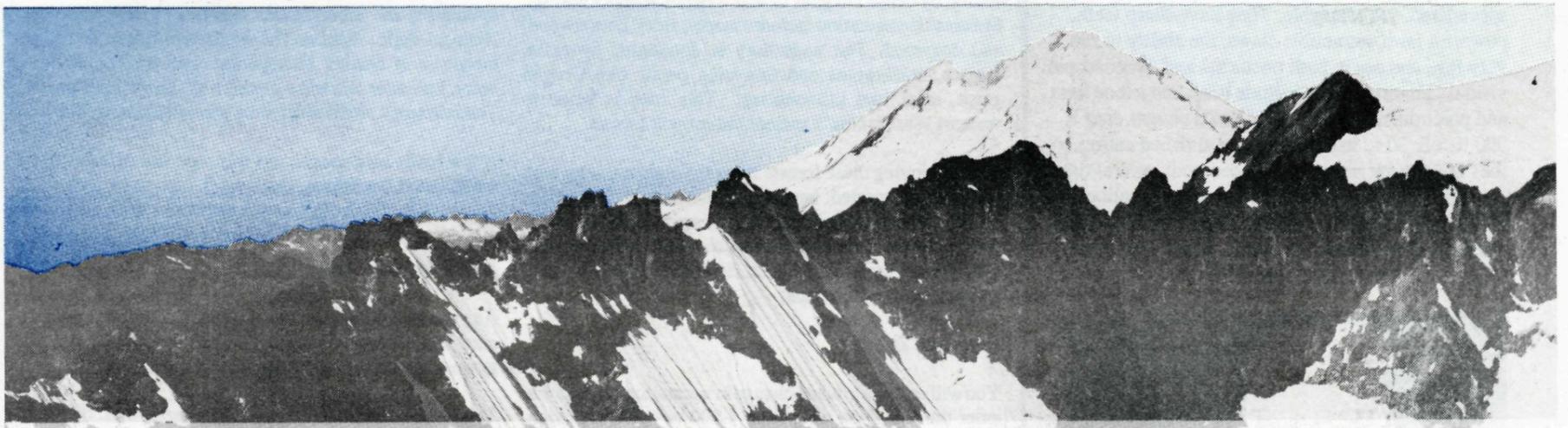
While the **Lady of the Lake** is docked at Stehekin Landing enjoy a short guided walk to see historical exhibits and a slide program about Stehekin. Concurrently, North Cascades Lodge offers bus tours to 312' Rainbow Falls, 3.5 miles up the valley. Aboard the boat a ranger will be available to answer questions and give short talks.

Shuttle buses run daily from May 15 through October 15. Beginning June 16 through September 15, runs will be made at 7:30 a.m., 9:00 a.m., 11:30 a.m., and 2:00 p.m. The cost of the shuttle bus is \$3.00 one-way. Adults over 62 years of age and children between 6 and 12 years of age are half price, and children under six are free. Annual passes are available.

Reservations are required for the shuttle bus and can be made up to 30 days in advance. Either drop by in Stehekin or write to:

**Shuttle Bus Reservations
National Park Service
P. O. Box 7
Stehekin, WA 98852**

The **Golden West Visitor Center** is open daily, June 16 through September 15 from 8:00 a.m. to 4:30 p.m. Find camping permits, shuttle bus reservations, publications, an orientation slide program, and information here. Also, evening programs on local natural history topics are offered nightly at 8:30 p.m. **Buckner Orchard Historic Walks** will be provided daily from June 30 through September 15, beginning at 9:00 a.m. at the Stehekin Landing. The programs feature a pioneer homestead and the largest remaining common delicious apple orchard in the United States, replete with a chronology of orchard equipment.



Mountains in Motion

The northern Cascade Range is one of the youngest mountain areas in the world. These mountains are still rising at about the rate your fingernails are growing. This upthrust mountain range is formed near where the earth's North American and Pacific plates meet. There are two distinctively different types of mountains: the young volcanic cones like Mt. Baker and Glacier Peak and the much older metamorphic rocks that make up most of the Cascades.

The volcanos of the North Cascades are less than a million years old - young by geologic standards. These symmetrical, glacier clad cones tower above the rest of the Cascades. Glacier Peak at 10,500 ft. is the 4th highest and Mt. Baker at 10,778 ft. is the 3rd highest in Washington.

Glacier Peak and Mt. Baker are dormant volcanos, but like their counterpart to the south, Mt. St. Helen's, they could awaken at any time. Steam from Mt. Baker's Sherman Crater and hot springs on the flanks of both volcanos remind us that these volcanos may erupt again.

View the mountain up close at Mt. Baker Vista at the end of Glacier Creek Road, or Artist Point at the end of the Mt. Baker Highway. View the south side of Mt. Baker along the Baker Lake Hwy and approach the mountain by turning left on forest road 12 and then right on FS 13 to the Mt. Baker National Recreation Area. Hike through Schrieber's Meadow and turn north along the railroad grade moraine until you find yourself staring into the icy blue eyes of the Easton Glacier. The 13 glaciers surrounding Mt. Baker form a striking dollop of "ice cream" protruding above the older cracked "layers of cake" which form the bulk of the mountain range.

One of the best places along the North Cascades Highway to study the complex geological features of the metamorphic rocks at the core of the mountain range is the Diablo Lake Overlook. The road cut across the highway from the overlook is a good place to interpret the story of the formation of these upthrust mountains. You will notice two types of rock. One is a gray mass and the other is a series of thin white veins.

The gray rock is a gneiss ("nice") which formed from sediments, perhaps as much as 200 million years ago, molded by intense high temperature and pressure deep below the surface of the Earth. The white rock is a mixture of quartz, feldspar, and other minerals which was intruded into cracks in the gneiss less than 90 million years ago. Look carefully at the border between the two types of rock, both rocks are altered along the contact. This resulted from the younger, molten intrusion interacting with the older, cold gneiss.

Though these rocks seem firmly anchored here today, geologists speculate that they may have formed elsewhere. Crystals which form when a molten rock cools, orient themselves to the prevailing magnetic field. Thus, a geologist can tell where a given rock must have formed. It appears that they might have originated hundreds of miles away and have been moved here by the collision or slippage of two of the gigantic crustal plates that form the surface of the Earth. This theory is corroborated by the presence of two massive faults, both long inactive, through the North Cascades. Tremendous amounts of movement along the line is indicated since rocks on opposite sides of each fault bear no resemblance to each other.

The forces which developed the large faults also created smaller faults and fractures. These zones of weaker rock (sometimes several miles wide), can be seen today as linear areas of increased erosion. Sourdough Creek, north of Diablo Lake, occupies one such zone. This fault can be traced across the lake to a notch left of Colonial Peak.

At other times, thrust faults, have transported younger rocks over older rocks. One such fault occurred on Jack Mountain, moving the summit nearly six miles. The combination of all these activities has been responsible for the uplift of the Cascade Range, giving these mountains their rugged feeling of motion.



The Elusive Wild Cat

Is it a cougar, mountain lion, puma or panther? There are many names (more than 50) for this wild member of the cat family. Although, local names vary, everyone has heard of the legendary and widespread mountain lion or cougar (*Felis concolor*, cat of one color).

Cougars historically had the most extensive range of any land mammal. Although, numbers are significantly reduced the range is still large, encompassing parts of the entire western hemisphere. Since the establishment of the park in 1968 almost 100 sightings have been recorded on wildlife observation cards.

Most encounters have been fleeting glances as the wild cats cross roads or trails. Although, lone hikers may fear the cougar no one has ever been harmed or attacked by a cougar in the park. There are a few rare cases of interaction with humans but, secrecy is inherent to their survival as a large predator.

These resilient cats may reach almost 8 feet in length and weigh up to 200 lbs. Typically, they are smaller around 6 feet and under 150 lbs. Females are smaller than males and can bear 1-6 young after a three month gestation. Cubs have been sighted a few times normally in pairs in the late summer in this area.

Cougars are keenly efficient hunters; highly specialized, yet adaptable. They have sharp teeth, powerful jaws, retractible claws, the ability to run very fast, and see in both nocturnal and stereoscopic vision. Favorite foods include deer, snowshoe hare and porcupine. One observer saw a cougar drag a 990 lb. elk 30 ft. to cover. When finished eating, they cover prey and return to feed on it several times.

These cats have been seen in many locations and habitats throughout the region. They seem to follow available food sources and prefer areas with some rocky areas and cliffs in their home ranges.



MOUNTAIN GOATS ARE NOT TRUE GOATS

Mountain Goats are more closely related to the antelope family than to goats. These amazing mammals have interesting adaptations in order to cope with the harsh conditions of mountain life. They have thick, hollow hair and wool "subfur". Their powerful forequarters and hooves with soft inner pads and a hard outer lining help them maneuver on steep rocky slopes.

In the North Cascades, there are about 1200 goats in a 5 county area. In contrast with the introduced goats that thrive in the Olympic peninsula (about 7,000), the native mountain goats in the cascades seem to be dwindling in population. In this area there is a 60-70% mortality in the first year and 50% during the second year of life. Causes of high mortality include avalanches, falls, predation (cougar, golden eagles) and poor winter conditions causing stress and parasite loads. Mountain goats are mature in 2 1/2 years and live about 10 years in the wild.

During the summer, there are 18 family groups of about a dozen individuals each surrounding Mt. Baker. Some of these animals can be observed at a distance from Artist Point. During morning and evening hours they browse on huckleberry and shrubs. Mid-day they are more sedentary, often resting on snow banks during warm summer afternoons.



WOLF TRACKS

A meandering wilderness trail approaches a stream crossing. Suddenly a large (6 inch) track with four sharp prominent claws appears along the muddy shoreline. This is about all of the elusive gray wolf (*Canis lupus*) that you are likely to see.

This powerful blackish-gray carnivore, which resembles a large domestic German shepherd or husky, measures from 4.3 to 5.9 feet and weighs from 40 to 175 pounds. They also have a very distinctive and well-known howl. Adults breed in their second or third year, producing a litter of 1 to 11 pups.

Feared and misunderstood by pioneers across our continent, wolves were almost eradicated from the western U.S. by 1940. Their present endangered status has resulted in a number of studies which should help in their recovery. Wolf numbers appear to be increasing in a few areas. For example, 5 or 10 years ago there were no wolves on Vancouver Island or in Montana and Wisconsin. Natural re-population of these areas has since occurred, with each now supporting small breeding populations.

Apparently the northern Cascade Range is also experiencing a natural increase in wolves, which hopefully will lead to reestablishment of a breeding population. In the past few years numerous wolf tracks have been photographed just south of the Canadian Border in the National Park Service Complex. By using a scientific method to distinguish them based on track shape, Park biologists here have found several tracks that they believe were wolves. In 1990, agency personnel confirmed 3 reproducing packs in the North Cascades ecosystem: one of these packs was located in the Ross Lake NRA. An increased frequency of sightings is adding to the evidence that wolves may be breeding in the North Cascades, again, the first time in 50 years.

Bird Zones

The abundance and diversity of life are influenced by climate, elevation, soil development and other physical factors, which can be divided into distinct zones. Each zone has its unique complement of continually evolving plant and animal communities. The North Cascades is an excellent showcase of the North American life zone system. From the west slopes' humid river valleys to the east slopes' arid sage brush plains the steep mountain range encompasses five distinct life zones.

Humid Transition Zone

The west slope from sea level to about 1,500 ft. is characterized by dense Douglas fir and western hemlock forests. Streamside vegetation includes maple, alder, cottonwood, and dogwood. The understory is dominated by ferns, mosses, mushrooms and flowering plants like Oregon grape, salal, and salmonberry. This zone is home to western Washington's ancient old-growth forests.

While enjoying these forests along the highway stop, look and listen for spotted, barred and great horned owls, ruffed grouse, band-tailed pigeon, Vaux's swift, pileated woodpecker, Steller's jay, winter wren, chestnut-backed chickadee, golden-crowned kinglet, Swainson's thrush, song sparrow, and purple finch.

Canadian Zone

You will notice a gradual change in vegetation types as you enter the Canadian zone from 1,500' to 4,500' elevation. The wet western slopes are dominated by western hemlock, red cedar and silver fir. Lodgepole pine, Douglas fir, and Engelmann's spruce forest dry eastern slopes.

Birds of this zone include Barrow's goldeneye, red-breasted sapsucker, Stellar's and gray jays, mountain chickadee, red-breasted nuthatch, winter wren, dipper, varied thrush, MacGillivray's warbler, Lincoln's sparrow, and red crossbill.

Hudsonian Zone

From 4,500 feet to timberline you are in the Hudsonian zone. Similar to the northern climes on central Canada, this zone is characterized by mountain hemlock, subalpine fir, and white-barked pine.

Though no bird species are confined to this zone, typical inhabitants include blue grouse, rufous and calliope hummingbirds, three-toed woodpecker, Clark's nutcracker, Townsend's solitaire, hermit thrush, Townsend's warbler, fox sparrow, and white-winged crossbill.

Arctic-alpine Zone

The arctic-alpine zone is that area above timberline that epitomizes the mountainous terrain of North Cascades National Park. Here on the windswept ridges lie alpine meadows of heather interspersed with luetkea, huckleberry, Labrador tea, and a plethora of showy wildflowers. The landscape is dominated by snowfields, rock and ice.

A few hardy bird species use this zone and include white-tailed Ptarmigan, black swift, common raven, horned lark, water pipit, and rosy finch.

Arid Transition Zone

As you descend the east slope of the Cascade Range you enter a ponderosa forest sparsely understoried by Oregon grape, snowberry, wildcurrants, and sagebrush.

This zone is home to the western screech-owl, common nighthawk, Hammond's and dusky flycatchers, pygmy nuthatch, house wren, gray cartbird and Cassin's finch.

See if you can identify what zone you are in by the animals and plants you observe. Do you notice changes in birdlife as you change life zones? Notice gradual zone changes. You should be able to predict what birds you may see from the types of trees, shrubs and flowers surrounding you.



FORAGING FOR FUNGI

On any autumn day after a rain, the woods are full of foragers, heads bent and eyes on the ground, searching for the gold fluted stalk of a chanterelle, or the rounded spongy head of a boletus, enjoying the excitement of a fungi hunt.

Fred Rhoades compares this excitement to the thrill a child feels when collecting Easter eggs. He's been gathering and studying mushrooms for over 20 years, ever since a gifted professor introduced him to the wonders of lower organisms. Today he has a PhD in Biology and serves as the scientific advisor for the Northwest Mushroomers Association in Whatcom County, Washington.

Fred can tell you the scientific name, the spore print, and habitat needs of most any mushroom, but his interest goes beyond the science. He confesses to having always been a woods wanderer and enjoys sharing his knowledge with others during his annual mycology class in the North Cascades (offered through the North Cascades Institute). Mushroom hunting gives him an excuse to get out in the fall and the spring.

Many mushroomers care less about the Latin names and more about the edibility of the fungi they find, collecting morels in the spring and chanterelles in the fall. Others enjoy exploring the forest with their children or just the leisurely pace of fungi hunting.

Amateur mushroomers usually come home with a few pounds of mushrooms a trip. Some do not even collect at all, but search out fungi for photography or just as feasts for the eyes. Recently, however, the amateurs are sharing the fungi-growing lowlands with professional harvesters who can gather hundreds of pounds in a day, sometimes literally raking them up from the forest floor. Buyers sell to regional processors who distribute the mushrooms world-wide. Price per pound varies with the species, but matsutake mushrooms sell in Japan for \$100 a pound.

The Pacific Northwest is one of the prime mushroom-growing areas of the world, and wild mushroom harvesting, processing, and distribution is a multi-million dollar business. Washington State passed a bill in 1988 requiring that mushroom buyers and processors be licensed. Fees fund research on how different harvest methods affect mushroom populations.

Some mushroomers have strong feelings about managing forests for fungi propagation. One avid amateur and says, "Clearcutting is the worst thing you can do for a mushroom." He also points out that timber units that are burned yield many fewer species of mushrooms than the unburned units.

Mushroom species go through successions just like tree species. An alder forest grows a different collection of fungi than a Douglas-fir forest. Varied and fascinating fungal associations grow in old forests where fungi grow sheaths around tree roots, providing the trees with nutrients in exchange for food. Many mushroomers would like to see old-growth stands preserved for fungi as well as for trees.

Some amateur collectors believe that all commercial harvest should be banned. Professional harvesters argue that picking mushrooms is like picking apples. In each case the plant remains to produce fruit another year. Park and Forest regulations differ for collection of mushrooms. Check with a ranger before collecting anything.

Many questions about mushroom harvest remain unanswered. Are wild mushrooms a viable commercial product? Do they need to be managed closely like timber, or can they be harvested without regulation? What does commercial harvest do to mushroom populations or to forest health? How do land management agencies like the Forest Service balance the needs of amateur collectors and commercial harvesters?



Park Herbarium Dedicated to 20 year Volunteers

North Cascades National Park has the herbarium with the largest number of species in the National Park Service with over 5400 specimens from over 1,700 different species of plants found in the North Cascades Ecosystem. Credit for this collection goes to volunteers Ralph and Dorthy Naas since they have spent over 20 years preparing it. The herbarium is a collection of dried, pressed plants mounted on special paper and housed in large cabinets at the National Park Headquarters in Sedro Woolley.

This reference collection becomes more valuable each year to scientists, gardeners, students and government agencies. As members of the Washington Natural Heritage Program the Naases have helped verify and identify threatened, endangered and sensitive plants. Their contribution has also been to help the National Park Service monitor these listed plants.

North Cascades National Park has dedicated this collection of plants as the Naas Herbarium of Vascular Plants. The Naases began their work before there was a formal volunteer program. Recently, their efforts were further recognized. Dorthy and Ralph Naas are finalists in the Take Pride in America Program and may Prepresent Washington State in the Awards ceremony in Washington, D.C.

The Mysterious Marbled Murrelet

The marbled murrelet (*Brachyramphus marmoratus*) has long been considered the "mystery bird" of the Pacific Northwest. Although, murrelets can be found feeding in saltwater in the winter, during spring and summer they seem to 'disappear' inland as far as 50 miles in mature forests to nest and rear their chicks. This small, chunky seabird continues to baffle us, despite scientists efforts to find out about its unusual nesting habits.

Scientists are beginning to unravel the mystery of these birds that have a unique association with old-growth forests. The first solid documentation of nesting in Washington was not obtained until the summer of 1990, when Forest Service and Department of Wildlife biologists discovered two nests near each other in the Mt. Baker-



Snoqualmie National Forest, and one nest on the Olympic Peninsula. The proximity of the two nests east of Verlot suggest that marbled murrelets may nest colonially (in groups). The nests were not made of gathered materials. Instead they use a naturally cushioned depression in thick moss found on large horizontal tree limbs to lodge the chicks. Trees usually don't develop these characteristics until they are 175 years old.

Loss of nesting habitat (mature or old-growth forests) is believed to be a threat to murrelets, a species of concern in Washington State. The U.S. Forest Service has murrelets on their sensitive species list for our region. The population has not yet been determined in Washington and there are less than 1,000 pairs each in Oregon and California. Alaska and British Columbia are the center of today's marbled murrelet population with estimates ranging to as much as 100,000 individuals in Alaska. A decision by the U.S. Fish and Wildlife Service on whether to list the marbled murrelet as "threatened" in Washington, Oregon and California is expected this year. Meanwhile extensive surveys will be done by Forest Service and Department of Wildlife biologists. They hope to get more information on the distribution of murrelets from saltwater inland and on their unique breeding habits.

Wildflowers are found everywhere in the Cascade mountains and meadows. Summertime sparks every color of the rainbow; every size and shape imaginable. Hours of enjoyment can be spent in discovery for the photographer, nature lover, artist and scientist: glacier and avalanche lilies, penstemon, Indian paintbrush, monkeyflowers, composites galore, columbine, buttercups, phlox, pearly everlasting, Columbia tiger lilies, elephanthead, heather, lupine, and more!

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, wolf, mountain goat, and occasionally grizzly bear, elk and moose. Marmots, large members of the squirrel family are easily recognized by their shrill whistle. The quick little pika, cousin to the lowland rabbit is also common at higher elevations. Beavers may occasionally be seen along rivers and streams. Nearly 200 species of birds have been seen in the park and recreation areas alone; a wide diversity of waterfowl, raptors and songbirds can be found throughout the area. Check with a ranger for recent sightings, and be sure to fill out an observation card for the wildlife that you see. A form of wildlife also abundant in the Cascades is the insect world, represented by the mosquito, the black fly and the notorious no-see-um.



Fall Colors From mid-September through mid-October, the hillsides and meadows of the region are ablaze with color. Vine and Douglas maple, dogwood and aspen, huckleberries and mountain ash paint the mountain scenes with yellow and gold, orange and red, and every hue in-between. Even the needle and cone-bearing larches (both western and alpine) turn a brilliant golden-yellow and eventually lose their needles. Similar to the eastern "tamarack," these trees grow only at the highest elevations in the north Cascade Mountains.

Wild huckleberry bushes offer a gorgeous display of fall colors, as well as delicious and plump berries for nature loving palettes. These are commonly found in lower elevations and meadows; however, one of the most popular picking areas is Heather Meadows.

NORTH CASCADES CHALLENGER

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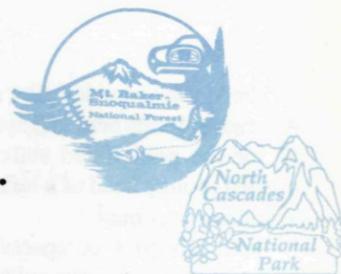
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