Welcome to the North Cascades!

This newspaper is the namesake of a prominent peak in the North Cascades. The name evokes what these mountains have meant to people for generations: challenge. The enjoyment that comes from encountering wild nature, whether through study or recreation, is alluded to by Mount Challenger, found in the heart of the North Cascades.

Turning Points is the theme for this issue of the North Cascades Challenger. This is a year of significant anniversaries in the Park and Forest, one reason for the theme. The era in which we live represents a turning point for many of the ways in which public lands are managed. This issue of the Challenger celebrates the most recent turning points within the North Cascades.

We hope your visit is inspiring as well as safe. We invite all feedback, comments and questions on the managing of these public lands, via e-mail or the old fashioned way; both addresses are provided below. We are glad you have made your way to the North Cascades experience!

Jon Vanderheyden
Mount Baker District Ranger
Mount Baker-Snoqualmie National Forest

William F. Paleck
Superintendent
North Cascades National Park

Wilderness: An Enduring Mountain Landscape

The North Cascades, shaped by water, formed by ever moving rock, emerge as one of the world's great mountain ranges. The life and climate of the Pacific Northwest evolve under the constant influence of these dynamic mountains. The core of this range is nearly two million acres of wilderness lands administered by the North Cascades National Park Service Complex and three National Forests. Cooperative management of these areas allows natural processes to occur without regard to political boundaries.

Wilderness allows opportunities for recreational use, scientific study, and education. Personal challenge and opportunities to mountain climb, hike, ride stock, and experience subalpine environments are essential elements of wilderness. Natural processes are allowed to operate freely, ensuring biodiversity. Recent emphasis on managing these areas similarly has made wilderness ethics and "Leave No Trace" principles (see page 4) better understood by everyone who touches this land.

Mt. Baker Ranger District of the Mt. Baker-Snoqualmie National Forest includes more than 530,000 acres in northwestern Washington.

The District encompasses:
Mt. Baker Wilderness
Noisy-Doobs Wildness
Sections of Glacier Peak Wilderness
Skagit Wild & Scenic River System
Mt. Baker National Recreation Area and Baker Lake
Mt. Baker Scenic Byway and Heather Meadows

www.fs.fed.us/r6/mbs

North Cascades National Park Service Complex - North Cascades National Park, Lake Chelan & Ross Lake National Recreation Areas - totals 684,000 acres.

In 1988 Congress designated 93 percent of the complex as the Stephen Mather Wilderness.

These areas embrace the crest of the North Cascades Mountains and are bounded on the west by the Mt. Baker-Snoqualmie National Forest.

www.nps.gov/noca

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Turning Points

This year marks the anniversaries of notable turning points in the national park, forest, and recreation areas in the North Cascades. Congressional designation of the North Cascades National Park Service Complex, 35 years ago in 1968, preserved the heart and core of this great mountain range. Only 15 years ago in 1983, the first North Cascades National Park Service Visitor Center opened near Newhalem as a window and passageway into the Wilderness.

Today as ever, wild remote mountains extend beyond Park boundaries. Invisible lines on maps are all that separate North Cascades National Park from Ross Lake and Lake Chelan National Recreation Areas, adjoining forest wilderness areas and recreation areas in Canada. The North Cascades ecosystem includes the largest contiguous protected area along the 4,000 mile U.S.-Canadian border.

Many turning points were reached for this dynamic land before the National Park Service stewards recorded the picture. A half century ago three social to-be-famous writers and poets made the lookouts above these mountains. In the 1950's, fire lookouts Gary Snyder, Philip Whalen and Jack Kerouac sat atop Sourdough, Sauk, Craner and Desolation writing reflective poetry and prose that still connects us with a sense of yet within close proximity to over 5.5 million people between the major metropolitan areas of Seattle and Vancouver, British Columbia. Increasing pressures and conflicting demands for natural resource management of the national forest. The Forest Service's goal is to provide lasting benefits by caring for the land and serving people's needs.

Relationships between forest managers and people living in communities near the national forest present opportunities to develop perspectives beyond geographic, legal and administrative boundaries. The diverse benefits these public lands have to offer of varied habitat for wildlife and fish, clean air and water, renewable resources like wood and a wide variety of recreation provide the framework for contemporary thought.

One common thread is concern for the health of watersheds and the Pacific Northwest salmon.
Questions

Please stop by or call one of the Park & Forest Information Stations listed on the back page.

◆ The Forest/Park Service Information Office, along the North Cascades Highway (SR 20) in Sedro-Woolley, offers year-round visitor services.

◆ The North Cascades Visitor Center, near Newhalem off SR 20, provides information, naturalist programs, exhibits and multi-media presentations.

◆ Glacier Public Service Center, at milepost 34 off Mt. Baker Hwy SR 542 east of Bellingham, is jointly operated by the Forest Service and Park Service from mid-May to mid-October, and intermittently during the winter.

◆ Heather Meadows Visitor Center, off SR 542 at milepost 6, showcases the natural and cultural heritage of the Mt. Baker area and is usually open from July to October.

◆ Chelan Ranger Station, operated by the Forest Service and Park Service, provides information about Chelan NRA and Wenatchee NF. From Chelan or Field’s Point Landing, take a ferry to Stehekin.

NORTHWEST FOREST PASS

Passes & Special Use Permits

The Northwest Forest Pass is a vehicle parking pass for the use of many improved trailheads, picnic areas, boat launches and interpretive sites on National Forests throughout Oregon and Washington and North Cascades National Park Service Complex.

Northwest Forest Pass required signs will be posted at participating sites. Revenues from pass sales go directly to improving and developing the trails, and facilities you own and enjoy. Cost is either $5.00 per day or the annual pass (full 12 months) is $30.00. Passes should be displayed either from the rearview mirror or dashboard.

These passes can be obtained:

- In person at ranger stations
- By calling 1-800-270-7504

An improvement this year is that Federal Recreation Passes will also be honored at Northwest Forest Pass sites on the National Forest and Park:

Golden Age (US citizen 62 or older) $10
Golden Access (Qualified disabled citizen) Free
Golden Eagle Passport $65 (Valid for entrance to National Parks, National Recreation Areas and Monuments)

National Park Pass w/upgrade $80, plus $15 for the upgrade.

National Park Pass without upgrade costs $50 and will be honored at National Park trailheads. The upgrade, if you purchase a Federal Forest Pass, stop at a station listed above for a plastic holder.

- Washington State Parks require a vehicle parking permit. A vehicle parking permit is $5 per day, or the annual permit costs $30. Permits are available from the parks, at park headquarters or region offices, or online at www.parks.wa.gov/parking/

- Forest Service special use permits for firewood and Christmas trees are available on a very limited basis. Christmas tree permits are available during the latter part of November through December. Permits are issued first-come, first-served basis. Call or stop by the district office for details.

- Mushroom Collecting is prohibited in the North Cascades National Park Service Complex but is allowed on some state and national forests. Check with a local ranger station for rules. NOTE: Where collecting is permitted, collection of any item in quantities more than for personal use is strictly prohibited.

Accessible Opportunities for All

Barrier-free, trail camps, viewpoints, restrooms, and visitor information centers are being added and upgraded for accessibility throughout the North Cascades.

Accessible restrooms are available at all visitor information stations and most campgrounds. Several trails and adjacent high use areas are either boardwalked or surfaced for wheelchairs and strollers, as well as for individuals who have difficulty walking.

Accessible trails are indicated on trail lists on pages 6-10. For more information, visit our website: www.nps.gov/noco/accessibilityguide/accessguide.htm

Hike & Climb

Hundreds of miles of trails lead into the North Cascades mountains. Most long hikes and climbs enter designated wilderness. Staff at Sedro-Woolley, Glacier, Stehekin and the Information Center in Marblemount can help you plan your trip.

Climbers should choose experienced partners or licensed guides and fill out Voluntary Climbing Registration at station near your intended location. Ask for a Wilderness Trip Planner and Climbing Notes or a list of Outfitter Guides. Check out the forest website: www.fs.fed.us/r6/wsb/mbs/recreation

Where to Stay

Campground options and reservation information are listed on pages 8-9, along with the North Cascades Highway Map.

Remote accommodations in the North Cascades include:
- Ross Lake Resort, Rockport, WA 98283, (206) 368-4437; North Cascades Stehekin Lodge, Box 457, Chelan, WA 98806, (509) 682-4494; and Baker Lake Resort: 1-888-797-3110.

Private accommodations are available in local communities. Listings are available from Chamber of Commerce offices listed on page 9.

Drive

Highway drives access the scenic routes of the North Cascades. Gravel access roads may not be safe for travel by all vehicles. State Route 20 runs east/ west across the mountains and closes during the winter from milepost 134 to 171. By April it is usually possible to travel the entire Cascade Loop outlined on the back page.

The Mt. Baker Scenic Byway, State Route 542, leads visitors to Heather Meadows on the divide between Mt. Baker and Mt. Shuksan. The Mt. Baker Ski Area operates here during the winter months.

Bike

Many people tour the North Cascades by bicycle. Remote routes offer a unique and challenging experience. Travel single file on the right edge of the road and use reflectors and bright clothing. Bike use is not allowed on forest or any national park trails. Side roads are rugged enough for avid mountain bikers. The Okanogan National Forest, east of Washington Pass, allows trail riding on designated trails. We do not supply with water, food, and warm, waterproof clothing. Ask for the site bulletin: Cycling the North Cascades Highway.

Ride

Stock (horses, mules, donkeys, and llamas) are welcome on trails maintained to stock standards. Trails in the national park and national forests have different rules and seasons of use. Please check with the ranger station for detailed information and a listing of stock trails and their current conditions.

Stock in Wilderness:
- Stock parties on trails are limited to a total of 12 people and stock combined; for example, five people and seven horses. In national park areas where stock are allowed off-trail, the limit is six.
- Grazing is permitted in Ross Lake and Lake Chelan National Recreation Areas. Grazing permits are required and can be obtained with your backcountry permit.
- Grazing is prohibited in North Cascades National Park.
- Grazing is permitted, with a permit, in national forests but must be at least 200 feet (61 m) from the shoreline of any lake.
- In wilderness, pack in sufficient processed feed pellets for your trip. Possessing or transporting any unprocessed livestock feed is prohibited.

Pets

Dogs are not permitted on the trails or in cross-country areas within the National Park. Leashed dogs are allowed in Ross Lake and Lake Chelan National Recreation Areas, along the Pacific Crest Trail and along roads in the national park. Dogs must be leashed in developed recreation areas within the national forest, as well as on trails in Heather Meadows in the Mt. Baker Ranger District.

Backcountry Camping

◆ National Park Service: More than 200 backcountry campsites are available. Most camps have toilets; signs along trails indicate location. Permits (no charge) are required for all overnight camping in the Park Complex’s backcountry, which includes the National Park and Ross Lake and Lake Chelan National Recreation Areas. Permits are issued in person only on a first-come, first-served basis. For areas not accessed through Marblemount, permits may be obtained at the ranger station nearest your point of entry. Ranger stations on the west side are located in Marblemount, Sedro-Woolley, Hozomeen, and Glacier; and on the east side in Chelan, Stehekin and Winthrop. For permit information, contact:

- Wilderness Information Center North Cascades National Park 7280 Ranger Station Road Marblemount, WA 98267 Phone: (360) 873-4500, ext. 39

◆ Forest Service: Camping in the national forest does not require a permit; however, if staying at trailheads managed by the National Park Service: Olympic National Forest, Ross Lake, Lake Chelan, and Ross Lake. Boat ramps are at Baker Lake, Gorge Lake, Diablo Lake, the north end of Ross Lake at Hozomeen and Lake Chelan.

- Palm Harbor: Coordinates for snow-covered passenger ramps are available from the company (509) 682-2224 or from any ranger station.

Boat

Lots of water-oriented activities are available. River floating is an adventure worth planning. Experienced boaters run the Skagit, Nooksack, and Stehekin Rivers. For boating trips, plan in advance by calling for a list of Outfitter Guides or Accommodations on page 6. Life jackets are required, and personal watercraft (such as jet skis) are prohibited in the North Cascades National Park Service Complex.

Lake recreation: Boat rentals are offered at Baker Lake, Lake Chelan, and Ross Lake. Boat ramps are at Baker Lake, Gorge Lake, Diablo Lake, the north end of Ross Lake at Hozomeen and Lake Chelan.

- Passengers travel to Stehekin by cruising up 50-mile (80 km) long Lake Chelan. The Lake Chelan Boat Company operates year-round, daily spring to fall. Schedules are available from the company (206) 386-4437; North Cascades Stehekin Lodge, Box 457, Chelan, WA 98816, (509) 682-4494; or on the Internet.

Fish

Fishing in Washington, including in national parks and forests, requires a valid Washington State fishing license. See Skagit River, Washington’s second largest Atlantic salmon river, is home to seven species of anadromous fish (five salmon, steelhead and cutthroat trout) and freshwater trout and char. Ross, Diablo and Gorge Lakes have fresh water species including rainbow, cutthroat and brown trout as well as Dolly Varden char. Lake Chelan has fresh water cod, trout and salmon. The Stehekin River gives anglers a good chance at rainbow and cutthroat trout. Bait shops and local anglers are the best sources of information and advice.

In order to protect spawning fish populations, it is necessary to comply with special regulations including closures, seasons, catch limits and gear restrictions. These are listed in the Washington State Department of Fish and Wildlife game fish regulations.

Visitor Information
Travel Safely, Tread Lightly

Opportunities to enjoy the beauty of the North Cascades are abundant, but fragile. Take time to learn how to interact as a responsible steward.

Safety Tips
- Use caution on forest and park access roads.
- At trailheads, safeguard your possessions by keeping them out of sight. Lock your vehicle.
- Bring extra water on hikes. A fine filter may be necessary since even clean-looking water can carry giardia. Treat and/or boil all ground water.
- Hiking over challenging terrain with inadequate skills or equipment is the primary cause of accidents in the North Cascades. Staying on trails, wearing adequate footwear, and using a good topographic map can minimize the hazards of this rugged land.
- Be prepared. You may encounter mosquitoes, wasps, bees, biting flies, and ticks. After hiking, check yourself for ticks, which may carry Lyme Disease.
- Bear and cougar encounters may be dangerous situations. Aside from the tips in the adjacent article Coexisting with Wildlife and ask for the brochure Living with Wildlife.

When hikers are approaching, hikers should talk to make their presence known and step off the trail on the low side.

- Some stream crossings are not bridged. Cross streams in the morning (when they are lowest), scout for the safest crossing, or turn back if the rushing streams are too deep.
- Travel and Camp on Durable Surfaces: Try to have your sleeping area and minimize potential litter. Pack out all trash, including food waste, as animals can become accustomed to and dependent on unnatural food sources.
- Dispose of Waste Properly: Dispose of human waste. Use vault and compost toilets where available. In glacial areas pack out human waste - the "blue bag" system or other commercial options are available. Check with ranger station for details. In forested areas, dig a "cat hole" 6-8 inches (15-20 cm) deep in organic soil at least 20 feet (6 m) from water, trails, and camps. Urinate on rock or bare soil. Waste water from dishwashing, cooking, bathing, or laundry should be scattered at least 200 feet (61 m) from camps and water sources.

Leave No Trace

The following backcountry travel tips are based on principles developed by the national 'Leave No Trace' program. For more details, contact LNT at 1-800-332-4900 or visit its website (http://www.lnt.org).

- Plan Ahead and Prepare: Plan ahead by considering your goals and those of your group. Prepare by gathering information, communicating expectations, and acquiring the technical skill, first aid knowledge, and equipment to do the trip right.
- Travel and Camp on Durable Surfaces: Make sure your campsite is located in such a way that minimal damage occurs. Make the best decision for your safety, including turning back.
- Do not depend on cell phones; there are many 'dead spots' in these mountains.
- Food Storage: Keep wildlife wild by not feeding them. Store food, garbage, cooking gear and toiletries properly at all times. Bear-resistant canisters for backcountry use are available commercially and on loan from National Park Service offices where you obtain backcountry permits. Ross Lake campsites have bear boxes available. Otherwise, place items in a plastic-coated dry bag or backpack and hang it from a branch or rope stretched between two trees in your cooking area at least 9 feet (3 m) above the ground and at least five feet (1.5 m) out from the tree trunk. Also hang cosmetics, sunscreen, soap, toothpaste and any item with an odor.
- Hunting and Fishing: Where hunting is permitted, store meat the same as food. Dispose of fish entrails by puncturing air bladders and dropping them into the water.
- Horses: Store horse pellets the same as human food. For information about horse and trail safety and minimum impact riding, ask for a Stock Use bulletin or call the Backcountry Horsemen of Washington at (253) 359-3575 (www.bchw.org).
- Camping in the front country: Lock food in your car. Use septic or vault facilities to deposit graywater from cooking or washing.

Naturalist Programs
- Amphitheaters at Colonial Creek: summer nightly programs, and at Newhalem Creek: weekends; see posted schedules.
- North Cascades Visitor Center: daily walks, talks, multi-media, and children's programs.
- Hoezomeen: weekend programs at Ross Lake.
- Heather Meadows: summer programs.
- Golden West Visitor Center: summer daily talks, evening and children's programs.

Coexisting with Wildlife

By carefully planning travel and sanitation needs you can reduce your impacts on wildlife.

- Cooking: Try to have your sleeping area and personal gear about two yards (2 m) uphill or upwind from your cooking area. Do not sleep in the clothing you wore while cooking. Keep sleeping gear free of food odors and cosmetic scents.
- Navigation
  - Topographic map and compass.
- Food
  - Extra food and water.
  - Boiling water kills giardia; treatment pills may not.
- Clothing
  - Extra clothing, including rain gear, wool socks, sweater, gloves, and hat.
- Light
  - Flashlight with spare bulb and batteries.
- Fire
  - Waterproof matches and fire starter, such as a candle.
- Sun Protection
  - Sunglasses and sunscreen.
- First Aid
  - Aid kit including any special medications you might need.
- Knife
  - A folding pocket knife.
- Signal
- Emergency Shelter
  - Plastic tube shelter or waterproof bivouac sack.

Traveling with Children

Children should remain with adults for their safety. Establish rules for keeping together; stop periodically to rest and for the entire group to reconnect. Try to adjust walk length goals to children's ages and abilities. If separated, the child should hug a tree near an open area and stay put.

Bring along extra items such as:
- Wholesome snack foods
- A whistle to use if lost
- Extra water
- Sunscreen
- Rain gear

Activity Ideas for Children:

Have children bring along a friend. Play observation games. Watch for birds in the forest or sky, identify bugs, butterflies, or flowers. Listen for wildlife, like the drumming of a woodpecker or the shrill "whistle" of a hoary marmot. Draw a picture or write a poem about nature. Encourage kids to explore using their eyes.
Water is the life force of the North Cascades. It falls from the sky, melts from glaciers, trickles off mountains, replenishes lakes and flows to the sea. Within the Puget Sound watershed, the Skagit is the largest and most bounteous river. With its 2,000 streams, the Skagit River Watershed accounts for one third of the water that empties into Puget Sound. All five species of salmon and four species of anadromous trout begin life in the cool gravel bottoms of the Skagit River system. Estimates for 2003 predict as many as 25,000 Chum, 3,000 Chinook, 45,000 Pink, 120,000 Coho and 75,000 Sockeye salmon will return to the Skagit Watershed. The majority of Pink salmon spawn during odd years (like 2003) in the Skagit River. Sockeye and Chinook salmon spawn for their autumn spawning sites, the two species have peak populations during opposite years. This natural adaptation reduces competition between the two species while ensuring the long-term survival of both. Chinook salmon numbers are currently much lower than historical levels. To help protect and recover Chinook populations, the Puget Sound Chinook stocks were listed as threatened under the Endangered Species Act in 1999.

The Skagit River and other watersheds of the North Cascades are habitats that attract one of the largest winter gatherings of bald eagles in the lower 48 states. More than 500 bald eagles may spend the winter along the river. They travel here to feed on spawned-out salmon carcasses. The eagles help cleanse the river and return the nutrients in the fish to the land. This completion of a key life cycle reminds us that nature's recycling and clean, clear water are critical to survival.

Hydro Project on the Baker River

Tribes, government agencies and citizens are participating in committees to determine appropriate resource protection, mitigation and enhancement measures that will become a part of the license agreement for Baker River dams. The committees' topics currently being discussed are aquatics, fish passage, recreation and aesthetics, terrestrial, heritage resources, and economics. In April 2004, Puget Sound Energy hopes to submit a Settlement Agreement to the Federal Energy Regulatory Commission. If you want more information visit www.pse.com/hydro/(looped).

Boyd Creek Interpretive Trail

During the 1960's a combination of flood damage and road failures seriously impacted wild salmonid stocks in Boyd Creek. Silt and sediment carried by water-buried spawning beds, reducing oxygen available for developing eggs and fish. High flows eroded spawning gravel beds, flushing eggs and juveniles downstream and killing them. The lack of physical structure (e.g., hiding places for fish) further reduced the quality of the stream habitat.

To restore Boyd Creek as healthy habitat, the Forest Service initiated an in-stream restoration project designed to restore and improve juvenile fish rearing and adult spawning habitat. Along with road repair, the sites chosen for rehabilitation were placed and anchored in the creek. The placement of large woody debris and boulders increased the stream's complexity and improved fish habitat. In the following years, the USFS proposed and initiated work on an interpretive trail for Boyd Creek. Trailside signs describe the stream restoration project and provide an example of healthy fish habitat. This multi-year project was made possible through the efforts of multiple agencies and dedicated community volunteers.

Where to View Glaciers

Mt. Baker Highway SR 542: From Glacier Creek Road - Take Horseshoe Ridge Trail to Mt. Baker's Coleman Glacier and dynamic views. From Heather Meadows, several of nine glaciers that surround Mt. Shuksan are visible along Picture Lake Trail. View some of the 13 glaciers surrounding Mt. Baker from the Artist Ridge Trail.


State Route 20: Glaciers on Colonial and Snowfield Peaks are visible from the Ross Dam Trailhead. From the Cascade Pass parking area at the end of Cascade River Road you can view spectacular glaciers on Johannesburg Mountain.

Brady Green - Biologist -
Mt. Baker-Snoqualmie National Forest
Mt. Baker Ranger District

Brady Green is retiring from the Forest Service this spring. We wish you luck in the future, Brady!

My Work: Over my thirty or so years as an aquatic biologist, most notably with the U.S. Forest Service, my work has changed significantly. I started out doing mostly fieldwork, but now spend much of my time attending watershed-related meetings. I feel lucky when I do get out into the forest, see the streams and lakes, and do some "ground truthing".

My job has also become more complex. Many diverse agencies, tribes and other groups now work closely together to share aquatic information and combine their efforts to accomplish mutual goals and projects. It is overall betterment of our watersheds. I feel privileged to have been part of this effort in the Skagit and Nooksack River basins for the past nineteen years.

Approach to Solutions: Try to respect all viewpoints and find common ground in order to accomplish worthy things.

Defining Moment: While serving in the Peace Corps in South America I realized how small the world is, how diverse our cultures are, and how much people around the world have in common.

Dreams: That the U.S. people, including elected officials, will be more humble, take time to learn about other countries and cultures, and respect their differences. I hope we can reduce fear and paranoia around the world so we can live in peace.

Quote: President John F. Kennedy's "...ask not what your country can do for you—ask what you can do for your country."

Icy Glaciers

"Water is the driver of nature" - Leonardo da Vinci

One of the most striking features of the North Cascades is the incredible number of glaciers in the region. Boasting 316 glaciers and countless snowfields, the North Cascades National Park Service Complex is one of the snowiest places in the world and the most heavily glaciated area in the United States outside of Alaska.

Glaciers are formed when more snow accumulates in winter than melts or evaporates during the following summer. The immense weight of this continuous buildup causes the snow to compact into ice, which then slowly moves downhill. As glaciers move, they gouge and scrape the land, redefineing the landscape. Mountains may appear to be in suspended animation, but like everything else, they are in a continuous state of change.

The North Cascades glaciers are disappearing. Since the mid 19th century, most of these glaciers have shrunk dramatically. This is due to the combined effect of less precipitation and warmer summers. Over 90 percent of the North Cascades glaciers could disappear within 40 years if the annual temperature increases by 2 degrees Celsius (3.6 degrees Fahrenheit).

People in the North Cascades recognize that if glaciers continue to shrink, substantial adjustments to lifestyles, agriculture and industry will be necessary. Salmon and other aquatic life also would encounter difficulties if glaciers disappeared.

Life changes as a result of climatic change; glaciers mirror these trends. Glaciers are indicators of climate changes such as temperature and precipitation. As reservoirs of snow from past winters, they can show concentrations of atmospheric pollutants trapped in their ice. Subsequent snow melt washes the pollutants into mountain lakes and streams where they enter the food chain by way of insects, then amphibians and fish, and finally fish eaters.

Several related projects are helping scientists understand the ecological importance and changing nature of the park's glaciers. Data collection on the Noisy, Silver, North Klawatti, and Sandalee Glaciers provides valuable information about the climatic character of the North Cascades as well as the amount and timing of meltwater released by glaciers. Through these studies, park managers are developing a greater understanding of the glaciers' ecological role and function and are educating the public.
Segments of the Sauk, Suiattle, Cascade and Skagit Rivers make up the federally designated Skagit Wild & Scenic River System. Enjoy the rivers at several sites. Boating, picnicking, camping, hiking and wildlife observation opportunities are available. Pacific salmon travel between ocean waters and the rivers, followed in the winter months by the return of bald eagles. The Forest Service and North Cascades Institute coordinate educational efforts aimed at telling some of the stories behind the Skagit Wild & Scenic River System. One such effort is the Eagle Watcher Program. During winter months Eagle Watchers offer insight about wildlife watching etiquette, furnish spotting scopes and share reference materials with visitors. Interpreters program on eagles, salmon and river ecology are also offered during summer at several locations. Check with the Ranger Station for a current schedule of program offerings. Also, ask for a Skagit River Boating Map and Guide and a listing of outfitters who offer raft trips.

**Baker Lake**

Nine-mile (14 km) long Baker Lake offers opportunities for camping, boating, fishing, picnicking, hiking and pack & saddle trips.

- Developed campgrounds and a summer resort are located along the western side of the lake. The Baker Lake Trail extends along the eastern shoreline, crossing the Baker River at the north end. Boating and fishing at Baker Lake are governed by Washington State regulations.

- For campground information see pages 8-9; for Baker Lake Resort information call 1-888-711-3033.

**Mt. Baker National Recreation Area**

8,600 Acres; established 1984

Appearing on the map as a pie shaped wedge pieced out of the Mt. Baker Wilderness, the Mt. Baker NRA was established outside Wilderness legislation to allow for snowmobile use during months when snow levels are sufficient. This impressive landscape on the southeast flanks of Mt. Baker’s slopes is accessible by trail only. Trails lead from the end of Forest Rd. 13 or through the Mt. Baker Wilderness from the Middle Fork and South Fork Nooksack river drainage. During summer months, hikers share the trails with stock parties. Winter recreation includes skiing, snowmobiling and snowshoeing. Trails are open to stock parties from August 1 to November 1. Backcountry campers in the NRA must stay at designated sites. One night only campsites are established for hikers and/or stock parties at the Mt. Baker NRA trailhead at the end of Forest Rd. 13. No campfires are allowed in the Mt. Baker Recreation Area.

Please refer to the trail chart for information and ask for a detailed handout on designated campsites and area regulations at ranger stations.

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**Popular Trails - Baker Lake Basin**

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<th>Trail #</th>
<th>Name</th>
<th>Trailhead</th>
<th>Distance one way (Miles)</th>
<th>Remarks</th>
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<tr>
<td>603</td>
<td>Park Butte</td>
<td>Road 13</td>
<td>3.5 (4.6)</td>
<td>Enters Wilderness, no fires, stock, looks to lookout</td>
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<tr>
<td>603.1</td>
<td>Scott Paul</td>
<td>Road 13</td>
<td>6.5 (10.5)</td>
<td>No camping, hikers only</td>
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<tr>
<td>603.2</td>
<td>Railroad Grade</td>
<td>Trail 603</td>
<td>1.0 (1.6)</td>
<td>Camp at designated sites, no fires, hikers only</td>
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<tr>
<td>606</td>
<td>Ridley Creek</td>
<td>Road 38</td>
<td>3.5 (5.6)</td>
<td>Rocky sections, primitive, not maintained, Wilderness</td>
</tr>
<tr>
<td>607</td>
<td>Elbow Lake</td>
<td>Road 12</td>
<td>3.0 (4.8)</td>
<td>Moderate hike through old-growth, stock, Wilderness</td>
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**Baker Lake Area Trails**

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<th>Distance one way (Miles)</th>
<th>Remarks</th>
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<td>604.1</td>
<td>Dock Butte</td>
<td>Road 1230</td>
<td>1.5 (2.4)</td>
<td>Great mountain views</td>
</tr>
<tr>
<td>604</td>
<td>Blue Lake</td>
<td>Road 1230</td>
<td>0.5 (0.8)</td>
<td>Easy trail for children</td>
</tr>
<tr>
<td>606</td>
<td>Baker River</td>
<td>Road 11</td>
<td>3.0 (4.8)</td>
<td>Old-growth river walk enters National Park</td>
</tr>
<tr>
<td>610</td>
<td>Baker Lake</td>
<td>Road 107</td>
<td>14.0 (22.5)</td>
<td>Moderate trail, steep side slope; stock year-round</td>
</tr>
<tr>
<td>611</td>
<td>Watson Lakes</td>
<td>Rd 107-022</td>
<td>25.4 (40.0)</td>
<td>Wilderness, no fires, camp at designated sites</td>
</tr>
<tr>
<td>611</td>
<td>Anderson Lakes</td>
<td>Rd 107-022</td>
<td>25.4 (40.0)</td>
<td>Non-wilderness</td>
</tr>
<tr>
<td>623</td>
<td>Shadow of Sentinels</td>
<td>Baker Lk. Hwy. 0.5 (0.8)</td>
<td>Accessible, self-guided wayside exhibits</td>
<td></td>
</tr>
</tbody>
</table>

**State Route 20**

<table>
<thead>
<tr>
<th>Trail #</th>
<th>Name</th>
<th>Trailhead</th>
<th>Distance one way (Miles)</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>603</td>
<td>Sauk Mountain</td>
<td>Road 1036</td>
<td>2.1 (3.4)</td>
<td>Steep side slopes, great views, wildflowers</td>
</tr>
</tbody>
</table>
The scenic Mt. Baker Highway winds along the North Fork Nooksack River, ending at spectacular Artist Point, elevation 5,100 feet (1545 m), in the Heather Meadows Area. The last 24 miles (39 km) is designated a National Forest Scenic Byway. At road's end, trail systems lead into the Mt. Baker Wilderness. During winter months, motor traffic ends at the Mt. Baker Ski Area 4 miles (6 km) below Artist Point.

**Points of Interest**

- **Glacier Public Service Center** Located at MP 34 is listed on the National Register of Historic Places. Jointly operated by the Forest Service and National Park Service during the summer season.
- **Mt. Baker Vista** Dramatic viewpoint at the end of Glacier Creek Road - Forest Road 39.
- **Horseshoe Bend Trail** - MP 36 One-and-a-half mile (2.4 km) hiker-only trail wanders along a forested ledge above the North Fork Nooksack River.
- **Boyd Creek Interpretive Trail** Short self-guided nature trail focused on healthy habitat for fish. Located on Forest Road 37.
- **Nooksack Falls - MP 41** Dramatic waterfall plummets more than 100 feet over rocky outcrops. Fence-lined pathway leads to viewpoint.

**Experience Wilderness**

The Mt. Baker Ranger District contains two wilderness areas, Mt. Baker and Noisy-Diobsud, and part of a third, Glacier Peak. Keeping wilderness intact requires some regulation. Party size is limited to 12, including saddle and stock animals. To preserve solitude no motorized or mechanized equipment is allowed. Campfires are prohibited in many areas.

When entering wilderness areas, be prepared for risk and challenge. The terrain can be rugged and the weather unpredictable. Once you enter wilderness there are few if any man made conveniences like sign, be safe and prepared. Park and Forest staff are available year round to help you plan your trip into the wilderness areas. During winter months check forecasts through the Northwest Avalanche Center.

**Camping Along the Scenic Byway**

Developed campgrounds, Douglas Fir, Silver Fir and Excelsior Group Camp, are located along State Route 542. See page 8-9 for details.

**Heather Meadows Area**

Located along the upper reaches of the Byway, this spectacular subalpine setting offers summer day use recreation along a network of trails. Longer hikes lead into the Mt. Baker Wilderness. Visitors can spread out a picnic lunch at scenic spots in the Austin Pass Picnic Area and enjoy self guided interpretive opportunities. During the winter recreationists enjoy skiing and snowboarding at the legendary Mt. Baker Ski Area operating within Heather Meadows.

Heather Meadows Visitor Center is open seven days a week during the late summer season. NW Forest Pass required.
Ross Lake National Recreation Area

Discover natural and human history in the heart of the North Cascades. Accessed along State Route 20, this thirty mile upper area of the Skagit River watershed offers many of the region's best camping, hiking and boating opportunities. The map above and the trail chart below will help you plan your adventure. A series of overlooks and accessible trails are available to those seeking a relaxing drive along Washington state's first designated scenic highway.

The free flowing section of the Skagit River below Newhalem provides excellent rafting and wildlife observation. Careful planning is necessary to float the swift Skagit River; a launch is located adjacent to Goodell Creek Campground.

Diablo Lake is the central jewel of the three lakes offering the best accessibility. Thunder Creek, its major tributary, carries fine glacial sediment that gives the lake its brilliant turquoise color. This valley is surrounded by the highest concentration of glaciers in the lower 48 states.

Ross Lake winds nearly 25 miles north from the dam to Hozomeen on the Canadian border, creating the largest of the three lakes. A quality sport fishery of naturally reproducing trout opens July 1 each year on the lake. For special regulations contact the ranger station. A Washington State fishing license is required.

### State Route 20 Trails

<table>
<thead>
<tr>
<th>Trail Name</th>
<th>State Route Milepost</th>
<th>Distance (Round-Trip) Miles (km)</th>
<th>Elevation Gain Feet (m)</th>
<th>Difficulty</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thornton Lakes *</td>
<td>117</td>
<td>10.4 (16.7 km)</td>
<td>2,300 (700 m)</td>
<td>moderate</td>
<td>Long day hike; permit needed for overnight backcountry camping.</td>
</tr>
<tr>
<td>Sterling Munro</td>
<td>120</td>
<td>0.13 (0.2 km)</td>
<td>level</td>
<td>very easy</td>
<td>Boardwalk; view into the Picket Range; accessible.</td>
</tr>
<tr>
<td>River Loop</td>
<td>120</td>
<td>1.8 (2.9 km)</td>
<td>50 (15 m)</td>
<td>easy</td>
<td>Forested walk to river; accessible.</td>
</tr>
<tr>
<td>Rock Shelter</td>
<td>120</td>
<td>0.3 (0.5 km)</td>
<td>30 (9 m)</td>
<td>easy</td>
<td>Boardwalk to campsite used 1400 years ago by hunting, gathering Native Peoples.</td>
</tr>
<tr>
<td>Gorge Overlook Trail</td>
<td>123</td>
<td>0.5 (0.8 km)</td>
<td>level</td>
<td>very easy</td>
<td>Accessible 0.2 mile (0.3 km) paved. Unpaved portion 0.33 mile (0.5 km) compact gravel loop.</td>
</tr>
<tr>
<td>Pyramid Lake *</td>
<td>127</td>
<td>4.2 (6.8 km)</td>
<td>1,500 (455 m)</td>
<td>moderate</td>
<td>Steep forest; stream; small lake. Trailhead located across Diablo Dam.</td>
</tr>
<tr>
<td>Diablo Lake</td>
<td>128</td>
<td>7.6 (12.2 km)</td>
<td>400 (120 m)</td>
<td>moderate</td>
<td>Trailhead located N. end Colonial Creek Campground.</td>
</tr>
<tr>
<td>Thunder Knob Trail</td>
<td>130</td>
<td>3.6 (5.8 km)</td>
<td>425 (130 m)</td>
<td>easy</td>
<td>Easy 1.6 miles (2.6 km) round-trip to suspension bridge. Access trail by hiking 1.8 miles (2.9 km) up Thunder Creek Trail; steep to pass; permit needed for overnight backcountry camping.</td>
</tr>
<tr>
<td>Thunder Creek</td>
<td>130</td>
<td>1.6 - 38 (2.8 - 61.1 km)</td>
<td>6,300 (910 m)</td>
<td>easy-difficult</td>
<td>Access trail by hiking 1.8 miles (2.9 km) up Thunder Creek Trail; steep to pass; permit needed for overnight backcountry camping.</td>
</tr>
<tr>
<td>Fourth of July Pass/Panther Creek *</td>
<td>130</td>
<td>10 (16.1 km)</td>
<td>2,900 (880 m)</td>
<td>moderate</td>
<td>Trail east (Canyon Creek) or west (Ross Lake); permit for overnight backcountry camping.</td>
</tr>
<tr>
<td>Ross Dam *</td>
<td>134</td>
<td>1.5 (2.4 km)</td>
<td>-500 (-150 m)</td>
<td>easy</td>
<td>Access trail by hiking 1.8 miles (2.9 km) up Thunder Creek Trail; steep to pass; permit needed for overnight backcountry camping.</td>
</tr>
<tr>
<td>Happy Creek Forest Walk</td>
<td>134</td>
<td>0.3 (0.5 km)</td>
<td>level</td>
<td>very easy</td>
<td>Access; boardwalk.</td>
</tr>
<tr>
<td>East Bank *</td>
<td>138</td>
<td>0.5 - 62 (0.8 - 99.8 km)</td>
<td>1,500 (455 m)</td>
<td>easy</td>
<td>Accessible; boardwalk.</td>
</tr>
</tbody>
</table>

* NW Forest, National Parks, Golden Eagle, Age, or Access Pass required
Visit the North Cascades Visitor Center to enjoy wilderness exhibits and theater programs featuring plants and animals of the region. Learn about the local geography highlighted on maps and models or access one of the many interpretive trails and viewpoints near the center.

OPEN SATURDAY AND SUNDAY year-round
OPEN DAILY April 20 - November 15, 2003
DAILY RANGER PROGRAMS June 21-September 7, 2003

Skagit Tours 75th Anniversary 1928-2003

J. D. Ross, Superintendent of Seattle’s municipal electric utility, City Light, founded Skagit Tours in 1928 to showcase the mighty Skagit River in the North Cascades and its potential for the production of hydroelectricity. Seattle City Light was granted federal approval to build a series of dams and power plants on the river in 1917. Ross designed a public tour that would highlight the rugged beauty of the area as well as the luxuries and entertainment afforded by electricity. His dream was that all would visit the Skagit area, not only to learn how electricity is made but to enjoy the abundance of recreational opportunities including fishing, wildlife viewing, boating, hiking and strolling along family-friendly trails through ancient forests.

Relive the history of the Skagit and visit many of the same places that have enchanted generations of families from all over the world. The Diablo Lake Adventure tour is a fully escorted two and a half-hour excursion departing from Newhalem, twice-daily weekends in June and September and Thursdays through Mondays in July and August. The tour includes a relaxing boat cruise on remote Diablo Lake with panoramic views of snow-capped peaks and glaciers. The tour departs at 9:45 am and 12:45 pm. Fares include tax and are Adults $17, Seniors 62 and over $15, Youth Ages 6 to 12 $12, and five and younger free. Reservations are recommended although walk-ins can be accommodated as space allows. The morning tour is best suited for walk-ins. Contact 206 684-3030 or www.SkagitTours.com for more information or reservations.

“Ladies and Gentlemen, boys and girls, I invite you to experience the magic and the splendor of the North Cascades. Cascading waterfalls, towering mountain peaks, emerald green lakes and alpine vistas are yours to enjoy. Please join us for SKAGIT TOURS, a trip you will never forget!”

- J.D. Ross Seattle City Light Superintendent, 1911 - 1939. Father of Seattle City Light and Founder of Skagit Tours.
Lake Chelan National Recreation Area

Wildfire Management: A Balancing Act

Fire managers make decisions that balance the ability to protect and enhance ecosystem diversity and provide for safety of firefighters and the community. The National Fire Plan provides the framework for this decision-making process. Questions we need to answer include: what projects can we undertake that will make communities more fire safe while restoring health and vigor to plant and forest communities? How do we prepare ourselves for the upcoming fire season? Finally, how do we decide where we need to suppress a wildland fire immediately and where shall we welcome natural fire to burn with little or no suppression action?

The North Cascades National Park (NOCA) Fire Plan recognizes that lightning fires allowed to burn to natural boundaries with little or no suppression action are vital to maintaining ecosystem diversity. To enable this diversity through fire, greater than 90 percent of the Park's 650,000 acres are in a category allowing the management of natural fire. However, the effects of fire on the Park's natural and cultural resources impact the Park. Figure out which lightning fires will be suppressed or allowed to burn. Fortunately, the NOCA fire management plan provides guidance and information, including modeling of long term spread of fire throughout the park that assist the North Cascades Fire management team make this decision. Only those fires considered good risks will be managed to their natural outcome. As always, all human-caused ignitions are suppressed in the safest manner possible. Deciding to manage a potentially large fire from the end of July to mid-October requires the commitment of resource specialists, local and national fire managers, and the tolerance and understanding from vacationers and local inhabitants who may be affected by smoke and area closures.

Fire managers play a balancing act. Figuring out which wildfires to suppress, which wildfires should be managed from which to draw in order to make the best decisions for the benefit of resources, and which treatments aretolerance and understanding from vacationers and local closures.

View the effects of managing fire in the Stehekin Valley:

- Visit Flat Creek area along the Stehekin Valley road to view a lightning-caused fire. This fire was allowed to burn to natural fire breaks, thus playing a more natural role in the Flat Creek drainage.
- Walk the Flat Creek trail into the glory mountain fire perimeter where you can witness the rebirth of a forest community following the August 2002 wildfire. Compare the richness in plant and animal diversity to the adjacent forest where all fires have been suppressed.
- Later, upon your return to the Stehekin community, compare the effects of a forest thinned and underburned for community protection to the effects of the wildfire in Flat Creek.

Discover Buckner Homestead

The Buckner Homestead and apple orchard are located about 3.5 miles up the Stehekin River Valley from the head of Lake Chelan. In 1921, William Van Buckner and his family moved onto their new property and began building their dream—a working apple orchard and homestead. Eventually, the apple orchard was expanded to 60 acres and the home "ranch" featured more than a dozen outbuildings. In 1970, Harry Buckner sold the ranch to the National Park Service, and in 1984 the ranch and 90 acres of surrounding area were listed on the National Register of Historic Places as the Buckner Homestead Historic District.

Today, the Buckner Homestead remains essentially intact. The structures, buildings and apple trees show the wear of time, but are being used or restored. An important part of the community, the Buckner ranch has a special feeling, as if the past, present and future exist at once. The large old apple-packing shed was once a gathering place where folks met at harvest time to help pack apples or attend an occasional dance. Washington's National Park Fund's Adopt a Tree Program encourages the future of common delicious apples and people's use of this historic orchard. Come explore this living example of our cultural heritage and pioneer spirit.

Sthekin, the heart of Lake Chelan National Recreation Area, is a remote community situated along the lower few miles of the Stehekin River Valley with no road connections to the rest of the world. Stehekin offers a pleasant escape from life's frantic pace. Visitors and residents arrive by passenger ferry, float plane, hiking, horseback and private boat. There are over 16 public docks along Lake Chelan including four in the recreation area. Boaters using any of these federal docks need to purchase a dock site pass. By day or 240 seasonal passes are available to help defray dock maintenance expenses. Passes needed from May 1 - October 31.

During the summer of 2003, renovation of the Golden West Lodge will be completed and the park service visitor center and district office will move into this historic building. Until then the park service Information Center with a combined show of works produced by Stehekin residents, past and present, and the Holden winter community. This show will open May 1 and will continue until the Golden West Lodge renovation is completed.

Opening receptions, held by the artists, will be held on the first Friday of each exhibit. Programs, including hands-on workshops for children and adults, are offered throughout the season in conjunction with the gallery. Announcements for gallery related events are posted at the visitor center. The Golden West Gallery is dedicated to increasing understanding and appreciation of the natural, historic, cultural and artistic landscapes of the North Cascades through the arts. The gallery is a cooperative venture of the resident artists of Stehekin and North Cascades National Park. It is managed by the Arts and Humanities of Stehekin (AHS), a nonprofit group operated by volunteers. If you would like more information or want to support AHS, the Golden West Gallery and its associated educational programs by becoming a Friend of Arts and Humanities of Stehekin, please write to:

Arts and Humanities of Stehekin, PO Box 83, Stehekin WA 98852.
Mt. Baker Stewardship

Mt. Baker has been a magnet for a variety of recreational activities for over a century. An estimated 5,000 climbers attempt to summit in an average year and thousands of day hikers and backpackers enjoy the trails and dispersed campsites around the mountain. Visitors are attracted to the mountain because of the easy access to glaciers and scenic vistas. However, the popularity of the mountain is leading to resource impacts on its slopes.

In response to the impacts occurring on Mt. Baker, the Mt. Baker Ranger District is currently conducting the Mt. Baker Recreation Use Study. The goal of the study is to identify current and potential patterns of use, determine appropriate recreational use levels and define monitoring protocols for assessing impacts.

The district has also developed a partnership with North Cascades Institute to create the Mountain Stewards Program. The program, entering its second season, unites and engages with visitors on Mt. Baker. Mountain Stewards interact with visitors about resource management issues, low-impact recreation skills and natural history. They help increase the public’s knowledge and support for natural resources and improve the visitor’s enjoyment of Mt. Baker.

Through these efforts, the Forest Service and the public will help refine future management direction for the mountain. Hopefully, the next century will continue to provide all the unique recreational opportunities on Mt. Baker as in the past.

If you would like to volunteer with or learn more about the Mountain Stewards Program, please contact Mt. Baker Ranger District, or North Cascades Institute at (960) 856-2900.

Don’t Eat The Yellow Snow

City sidewalks are much safer for pedestrians since pet owners have become accustomed to taking the pooper-scooper or plastic gloves each time they grab the leash. The Great Outdoors now demands the same commitment. For those visiting the area were so big that early settlers would sometimes make homes out of standing dead trees, called snags.

When ancient forests are cut, it takes decades to grow very large and old. Not so long ago ancient forests of Douglas fir and redcedar blanketed nearly all of the Pacific Northwest. These trees were so big that early settlers would sometimes make homes out of standing dead trees, called snags.

Abundant rain and mild winters in the Pacific Northwest provide the perfect environment for trees to grow very large and old. Not so long ago ancient forests of Douglas fir and redcedar blanketed nearly all of the Pacific Northwest. These trees were so big that early settlers would sometimes make homes out of standing dead trees, called snags.

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A Canopy of Ancient Forests

How can you tell if you are visiting an old-growth forest? Look for a forest canopy of many levels, such as Douglas fir towering over shade tolerant hemlocks stretching upwards, lichen covered logs and standing dead trees, called snags.

Old-growth forests are not defined solely by the size of their trees. Ancient forests are a magnificent complex of life where all things are connected. Lichen in the forest canopy absorb the surrounding air’s nitrogen, which is washed into the soil and used by forest vegetation; symbiotic fungi attached to tree roots help dispose of water and nutrients and, in return, take in carbohydrates; animals eat plants and help spread seeds across the forest to begin a new cycle of growth.

When ancient forests are cut, it takes decades to rebuild the severed connections. “When we try to pick out anything by itself,” said conservationist and nature writer John Muir, “we find it hitched to everything else in the universe.”

Where to visit Ancient Forests:

State Route 20: Thunder Creek and Big Beaver trails in the Ross Lake National Recreation Area offer long hikes through outstanding western slope, low elevation old-growth forest.

Honey Creek Forest Walk near Ross Dam is a 0.3 mile (0.5 km) accessible boardwalk with interpretive plaques that involve your senses in the story of the ancient creekside forest.

State Route 542: Horseshoe Bend Trail across from Douglas Fir Campground at milepost 16 is a 1.5 mile (2.4 km) hike on a forested ledge above the North Fork Nooksack River.

Baker Lake Trail: Shadow of the Sentinels is a barrier-free loop trail with wayside interpretive signs. The Baker Lake Trail follows the east shore of Baker Lake and enters the Baker River drainage at the upper end.
Flora and Fauna
Pick up a copy of Natural Notes for more details about biota of the North Cascades.

Natural Resource Challenge
For thousands of years nature in the North Cascades showed subsistence use of Native Americans. During the last hundred years, human caused impacts to the ecosystem have become significant. Today, human caused impacts are actually modifying natural environments on a worldwide scale.

The principle mandate of the National Park Service is to preserve natural processes, flora, fauna and cultural landscapes and to leave them unimpaired for future generations. Reducing human induced changes and preventing further impacts from occurring are imperative to protecting our natural and cultural heritage and allowing our descendants to experience national park lands in their natural and wild state.

North Cascades National Park Service Complex is in a monitoring network with six other national parks in the Pacific Northwest under the National Park Service's Natural Resource Challenge. The Challenge is an action plan to help the park service become more effective in preserving resources for the future. Its five main goals include:

- inventory and monitor natural resources
- develop techniques to protect and restore degraded natural systems
- encourage scientific research
- improve management through a greater reliance on scientific knowledge
- share the knowledge gained with the public

By financing research that focuses on water quality monitoring, glacier monitoring, exotic plant identification and removal, native plant restoration, wildlife surveys and a myriad of other projects, the Challenge monitors physical, chemical and biological indicators of change in the park's ecosystem. Specific indicators of change range from growth or shrinkage of vegetation to the presence of aquatic insects at the bottom of the Skagit River. The presence and quantities of pollutants in glaciers and waterways can indicate the extent of human impacts as revealed by indicator species. Indicator species such as macroinvertebrates (aquatic insects) and bald eagles may mirror the health of many other species in the ecosystem.

For these reasons national parks are laboratories, classrooms and libraries of importance to everyone. While few places on earth are not impacted by humans, parklands are among the most pristine in the world. To preserve and pass these lands on to our future generations.

Baseline Bat Work nears Completion
Biologists at North Cascades National Park recently completed a three-year bat inventory project. This base-line inventory has helped determine species composition, distribution and relative abundance of bats within the North Cascades National Park. Sampling sites in various habitats included low elevation forests, riparian areas, subalpine zone buildings and caves. Biologists collected data with ultrasonic bat detectors and by using capture-release methods. Information collected included species identity, sex, age, reproductive condition, weight, measurement of several morphological characteristics and recordings of each bat's echolocation calls.

During this study, biologists documented nine of the 28 species of bats thought to occur in the park complex. The Townsend's big-eared bat, a Washington State threatened candidate species was found adjacent to the park boundary, while all the other species were found within the park. The largest known nursery colony in the park complex was located in one of the park's buildings. The project report will be published this season. Continuation of bat work will include consulting with San Juan Island NHP regarding relocation of bats in buildings and public education through NCJ field seminars, classroom presentations and Science Days.

Visiting Scientists from Central America, June 2002. Happy Creek Boardwalk.

Birds Connect The Americas
As neotropical birds return to the Pacific Northwest after wintering in countries south of the U.S.-Mexican border, they stop to rest and feed on their way north towards northern breeding grounds. Some birds even travel more than just tree orchards. Research shows that knowing the relationships between birds and their habitats helps identify resource problems for other species. Research also helps predict the consequences of land management, such as fires, visitor use, snag removal and forest harvest.

Unfortunately, as human population and development expand throughout the Americas, habitat for ecologically important migratory species shrinks. Long-term studies show declines in many bird populations. The U.S. National Park System provides critical habitat for migratory birds. We share with the citizens of Latin American nations some of the birds that most characterize the Northwest. Survival of migratory birds depends on caring people throughout the Americas protecting habitats these birds need in all seasons.

Nesting Songbirds
Inventory and monitoring of birds breeding in the North Cascades began in 2001. This study is collecting data on many birds to indicate and predict resource problems for other species. Habitat relationships help predict the consequences of land management actions including fire, visitor use, snag removal and forest harvest on non-national park service lands. Songbird distribution and population densities will provide a baseline for future comparisons within and beyond park boundaries.

This project has implications that stretch well beyond North Cascades National Park.

Invasive Plant Control
More than 1,600 plant species have adapted to successfully fill habitats in the North Cascades, since the glaciers receded and plants re-occupied the landscape. Those such as thyme, yellow loosestrife, scotch thistle, thimbleberry, are native plants. Due to human presence, however, native plants are no longer the only plants in this area. Exotic plants are those that are occurring in a given place as a result of human action, whether intentional or accidental. Some exotics, such as English ivy, holly, herb Robert and reed canary grass, have been introduced to the region by accidental means or intentional introduction. Others were introduced by accident, brought in as seeds attached to vehicles, animals, or cargo.

Not all exotic species are harmful: some are innocuous, posing little threat to native species and ecosystems. However, other exotics are invasive, species whose introduction can cause harm to the biodiversity of a region. Evolving to compete in disturbed environments, many invasive plants can grow and spread rapidly, out-competing and displacing native plants. This is especially the case in areas impacted by humans, where invasives such as rush skeletonweed, knotweed, knapweed and scotch broom thrive.

To preserve the native landscape, the National Park Service and Forest Service use a range of techniques to control and eradicate invasive plant species. These methods include mechanical, biological and chemical means. Mechanical control involves removing exotic plants by hand, an extremely labor-intensive method since the seeds of some exotic plants can lie dormant in the soil for more than seven years. Another technique is biological control, exposing plants to predators and diseases from their homeland. These natural controls have not been found to attack plants native to the North Cascades. In 1994, two species of gally, which feed only on knapweed seeds, were used to help limit an infestation in the Lake Chelan National Recreation Area. Chemical controls may be used where other methods have been ineffective. Use of herbicides must be approved along with an Integrated Pest Management Plan, under which their use is carefully evaluated and administered.

Continued efforts to control exotic invasive species will help protect native plant communities in the North Cascades, and ultimately may allow native plants to reclaim the habitat that has been lost. For more information visit www.nps.gov/noco/ ‘Nature and Science’ link at www.nps.gov/noco/

Carnivore Study
American marten, fisher, lynx, wolverine, bobcat and cougars are present in the North Cascades National Park Service Complex, but relatively little is known about their population status. This is changing since a two-year study to determine the presence, distribution and relative abundance of these four wild carnivores is underway. Monitoring these animals is especially important because the health of top-of-the food-chain carnivores is dependent on the health of the organisms upon which they prey.

To find out more about these animals without disrupting their natural habits, the study uses non-invasive sampling methods to detect and monitor the target species. Carnivores are attracted to the study bait which is then attached to a tree, and any movement in the area is recorded by motion-sensitive cameras. So far, the research crew have retrieved film which shows that pine martens, spotted skunks, striped weasels, bobcat, coyote and cougar have been visiting the study sites. More site checks and film pick-ups are planned for later in the season.

Evaluation of the information collected in this study may form the basis of a strategy for long-term monitoring of these elusive predators.

Northwest Interpretive Association
Introducing the North Cascades through Books and Maps
The Northwest Interpretive Association is a non-profit organization that works cooperatively with public agencies throughout the Northwest to promote historical, scientific and educational activities. Money received through local sales, memberships and donations is used to help study and interpret areas of both North Cascades National Park and the Mt. Baker Ranger District. The association publishes this newspaper and other guides and distributes books and maps to visitors. Sales items may be purchased on site at various offices and through mail order. For further information about NWIA, visit the website at www.nwpubliclands.com or call (360) 856-5700 ext. 515 or 291.

Cougars at study site in March 2003
Jon Riedel and his team collect mass balance data on volunteers to help researchers collect data during research needs in the Skagit, including environmental, anthropological and health studies. Earthwatch Institute supported three field projects in 2002 and will support two additional projects in 2003. In addition to providing research funds, Earthwatch Institute specializes in providing volunteers to help researchers collect data during intensive field expeditions. In 2003, three research projects are planned in the park to include data collection. Last year, Earthwatch volunteers helped Jon Riedel and his team collect mass balance data on four glaciers contributing to ongoing glacial studies. In future studies, they helped Ed Liebow and Sara Breslow collect oral histories and anthropological data on the fishing cultures of the Skagit. Current plans include a new mountain meadow project and a salmon diversity program. For more Earthwatch projects and volunteer opportunities see www.earthwatch.org

Washington's National Park Fund

Every year millions visit Washington State's spectacular national parks: Mount Rainier, North Cascades and Olympic. Protecting the parks while providing for their enjoyment often requires funds greater than those available. Since 1993, Washington's National Park Fund has connected people to parks and inspired contributions of time, talent, and money. The Fund helps ensure that visitors have high quality, memorable experiences by sponsoring educational and trail projects, resource assessment and restoration, and fish and wildlife projects. By securing financial contributions from individuals, corporations, foundations, and businesses, the Fund supports park restoration, enhancement and preservation. For information about how you can help Washington's national parks call (206) 770-0627, visit the website at www.wnpf.org, or look for the Fund's brochure in any of the park's visitor centers.

North Cascades Institute

Founded in 1986, North Cascades Institute is the Northwest's leader in field-based environmental education. Focusing on natural and cultural history, our mission is to conserve and restore Northwest environments through education.

Teaching all ages, we encourage hands-on discovery and stewardship of the North Cascades—one of the wildest, most biologically diverse landscapes in North America. From the tidewater of Puget Sound to ancient forests and alpine glaciers to the sagebrush steppe of the Columbia Plateau, we serve children and adults in:

- Seminars and retreats
- School and summer youth programs
- Teacher workshops and internships
- Volunteer stewardship programs
- Graduate program in environmental education

Construction of our North Cascades Environmental Learning Center is expected to be complete in fall 2003 in partnership with the National Park Service and the City of Seattle. Located on Diablo Lake in North Cascades National Park, the Learning Center will be a hub of discovery within millions of acres of wildlands along the U.S.-Canadian border.

Contact us for a free catalog!

North Cascades Institute
850 State Route 20
Sedro-Woolley, WA 98284-1239
Phone: (360) 856-7000 ext. 209
Fax: 360-856-1934
E-mail: nci@ncasconades.org
Web: www.ncascades.org

Partners Leverage
NW Forest Pass Dollars

Funds collected through Northwest Forest Pass sales has provided a steady stream of revenue over the last several years. This program has helped forge new partnerships and provide funds that can be used as matching dollars to apply for grants. This allows the Forest to expand their ability to put volunteers on the trails, give young people a chance to work outdoors, buy materials for projects and provide opportunities for highly skilled trail contractors to complete difficult projects.

- Trail and trailhead maintenance: The Forest provided maintenance on facilities at trailheads. Trail work was accomplished using a variety of contracts, volunteer, partner and Forest Service crews. Also toilets were flown into areas within the Mt. Baker National Recreation Area where sanitation is a problem.
- Leather Meadows: The Forest hired staff to operate the Heather Meadow Visitor Center on a daily basis from July to October; clean toilet facilities and maintain area trails, picnic tables, trailhead and interpretive signs. The lower Bagley Dam trail was repaired and railings added to enhance visitor safety in 2002.
- A detailed account of the Northwest Forest Pass Program is available at www.fs.fed.us/r6/nbhs

North Cascades National Park Fees

Improve Facilities

There are no entrance fees at North Cascades National Park, but fees are collected for frontcountry camping, using the docks on Lake Chelan and for parking at certain trailheads via the Northwest Forest Pass. Among the projects completed with fee revenues in 2002 or underway in 2003 are:

- Rehabilitation of wilderness camps
- Support for Public Land Corps enrolls helping with a wide range of maintenance and restoration projects
- Accessibility improvements and replacement of the kiosk at Colonial Creek Campground
- Improvement of road access and utilities to the Golden West Visitor Center
- Replacement of the video projector in the North Cascades Visitor Center theater

World Wide Websites

Visit the web to find more information and trip planning resources.

Tourism & Accommodations:

- Washington State Tourism www.tourism.wa.gov
- Cascade Loop Association www.cascadeloop.com
- Reservations for Forest Service Campsites www.reserveusa.com

Travel & Traffic Information:

- Smarttrek (Seattle area) www.smarttrek.org
- U.S. EPA Climate Change Page www.epa.gov/globalwarming

Other Information:

- Washington Dept. of Fish and Wildlife www.wa.gov/wdfw
- Wildlife & Endangered Species www.wa.gov/wdfw/viewing/wildlifem.htm (view eagle cam online)
- Washington State Parks www.parks.wa.gov
- Washington's National Park Fund www.wnpf.org
- Skagit Watershed Council www.skagiatwatershed.org
- Nature of the Northwest (Maps, passes & books) www.naturenwa.org

North Cascades Challenger

2003-2004 Visitor Information Guide

Produced and published cooperatively by North Cascades National Park Service Complex (USDI), and Mt. Baker Ranger District of Mt. Baker-Snoqualmie National Forest (USDI).

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

SEDRO-WOOLLEY
80 State Route 20, 98284
Daily: 8:00 am-4:30 pm
(360) 856-2750
TDD (360) 856-2750 x-310

MARBLE MOUNT
Wilderness Information Center
Backcountry Information/Permits
Summer Hours:
Fri. - Sat., 7:00 am-8:00 pm
Sun. - Thurs., 7:00 am-6:00 pm
(360) 873-4500 (ext. 39)

NEWHALEM
North Cascades Visitor Center (NPS)
Daily: April 20 to November 15
July & August: 9:00 am-6:00 pm
(509) 996-4000

STEHEKIN
Lake Chelan National Recreation Area (NPS)
Golden West Visitor Center
Daily, 8:30 am-5:00 pm
(509) 824-6685

EXPERIENCE YOUR AMERICA
The National Park Service cares for special places saved by the American people so that all may experience our heritage.

For help in planning trips, contact the Outdoor Recreation Information Center (ORIC) located in the REI flagship store in Seattle at
(206) 470-4060

Mt. Baker-Snoqualmie National Forest

WINTHROP - North Cascades Scenic Highway Visitor Center-Methow Valley
Summer daily: 9:00 am-5:30 pm
(509) 996-4000

WINTHROP-Headquarters Ranger Station
Mon.-Friday: 7:45am-4:30pm
(509) 996-4003

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

LEAVENWORTH Ranger District
Daily, 7:45 am-4:30 pm
(509) 548-6977

LAKE WENATCHEE Ranger District
Mon.-Sat., 8:00 am-4:30 pm;
(509) 783-3103

For help in planning trips, contact the Outdoor Recreation Information Center (ORIC) located in the REI flagship store in Seattle at
(206) 470-4060

Mt. Baker-Snoqualmie National Forest

WINTHROP - no visitor services
Supervisor's office: (425) 773-9702
1-800-627-0062 or TDD 1-800-272-1215

GLACIER Public Service Center
Late-May to Mid-October,
8:00 am-4:30 pm (509) 599-2714

HEATHER MEADOWS Visitor Center
Daily in summer

DARRINGTON Ranger District
Daily, 8:00 am-4:30 pm (360) 436-1155

VERLOT Public Service Center
Daily, 8:00 am-4:30 pm (509) 691-7791

SKYKOMISH Ranger District
Daily, 8:00 am-4:30 pm
(360) 677-2414

SNOQUALMIE Ranger District
North Bend Office
Mon. - Sat., 8:00 am-4:15 pm
(425) 888-1421

Enumclaw Office
Mon. - Sat., 8:00 am-4:15 pm
(509) 824-6685

SNOQUALMIE PASS Visitor Center
Friday- Sunday, 8:45 am-3:45 pm
(425) 434-6000