

WILDERNESS EVALUATION

Humpback Creek - 0605002

5,186 Acres

3,411 acres (Mt. Baker-Snoqualmie National Forest)

1,775 acres (Wenatchee National Forest)

OVERVIEW

History

This area has not been identified as a roadless area in any previous inventory. The area was added to the inventory because it meets the criteria for a Potential Wilderness Area (PWA) as described in Forest Service Handbook (FSH) 1909.12 Chapter 70.

This area lies within the Alpine Lakes Management Area established by Congress in 1976. Management direction was established in the 1981 Alpine Lakes Area Management Plan. Most of the area was designated the Annette Lake Recreation Area; no commercial timber harvest is permitted in this area. The northern portion of the roadless area was allocated to “scenic forest” where commercial activity could be allowed. The entire Alpine Lakes Area Management Plan was incorporated into the 1990 Mount Baker-Snoqualmie (MBS) Land and Resource Management Plan (Forest Plan); see page 1-2 of the Plan. The Alpine Lakes Area Management Plan was also incorporated by reference into the Wenatchee National Land and Resource Management Plan. In 1994, a major plan amendment (Northwest Forest Plan) allocated the entire area late-successional reserve (LSR #123); streams, lakes, etc., are allocated to riparian reserve.

The 1994 amendment allocated the western portion to late-successional reserve (LSR) and the eastern portion to Snoqualmie Pass Adaptive Management Area (AMA). These allocations are expected to provide habitat for late-successional and old-growth related species. An AMA plan was prepared for the Snoqualmie Pass AMA (Record of Decision signed November 1997). This area was recognized as a critical connective link in the north-south movement of organisms in the Cascade Range.

The following table depicts the 1990 Forest Plan management direction for the 2006 potential wilderness area.

Table 1–Management area acreages (rounded)

Mt. Baker-Snoqualmie		Okanogan & Wenatchee	
Total Acres = 3,314		Total Acres = 1,872	
LSR (underlying MA 27 SA, Special Area – Annette Lake Recreation Area)	2,151	Annette Lake Classified Special Area (SPAMA 1997)	1608
LSR (underlying MA 27 SF - Scenic Forest)	1,159	General Forest (SPAMA)	264
MA 27 GF - General Forest	4		

Location and Access

This potential wilderness area (PWA) is a small roadless parcel, located immediately south of Interstate 90 and a few miles from Snoqualmie Pass and less than 60 miles from metropolitan Seattle. The area is quickly accessed by Interstate 90 with a trailhead at Exit 48. At Exit 54, access via Forest Service Road 9070 reaches several trailheads within six miles of the interstate exit. The city of Seattle’s Cedar River Watershed adjoins this roadless area to the south.

Geography and Topography

The area is steep and rugged, rising from 2,400 feet elevation near the Iron Horse Trail State Park to over 5,600 feet at the top of Silver Peak. Lakes within the parcel include the popular Annette Lake, Scout Lake, Twin Lakes, and Mirror Lake.

The core of this roadless area is centered on the Humpback Creek drainage to the west and the Cold Creek headwaters to the east. The roadless lands include areas along the ridges to the east, south and west of Humpback Creek. Humpback Creek runs north and south - roughly perpendicular to I-90.

Current Uses

The main recreational activities occurring within the area include day-hiking to Lake Annette and other lakes, through-hiking or riding on the Pacific Crest National Scenic Trail (PCNST), backpacking to several lake destinations, and climbing of Silver, Abiel, and Tinkham Peaks.

Appearance and Surroundings

Most of the area is covered by a dense blanket of silver fir and hemlock, with Douglas-fir and western red cedar at lower elevations. In the Cold Creek drainage, trees older than 700 years have been documented. The area is a fine example of a late-successional forest of montane mixed conifer forest habitat-type. Between 4,000 and 5,000 feet elevation, the forest canopy transitions into a subalpine forest, dominated by subalpine fir and mountain hemlock. Timber line in the area is near 5,000 feet; higher peaks in this area just poke above it. The area is largely an island of naturally-functioning ecosystems, centered on Humpback Creek, within a sea of checkerboard, industrial forest lands.

Key Attractions

Key attractions are the lakes in the area, the Pacific Crest National Scenic Trail (PCNST), and the three peaks mentioned above.

CAPABILITY FOR WILDERNESS

Level of natural and undeveloped environment:

Though timber harvest has occurred in the Cold Creek basin, the headwaters remain a core of late-successional forest surrounded by subalpine parkland. Four named lakes and a pair of trailless, unnamed tarns draw many hiking visitors. The PCNST, Cold Creek Trail, and Mount Catherine Trail form a popular day hiking loop, connecting these lakes.

In addition to their attraction to hikers, the natural qualities of these lakes help provide for the healthy functioning of the ecosystem; including sediment and nutrient filtering for excellent water quality, water storage and aquifer recharge, stream energy dissipation, thermal regulation of water temperatures and forest refugia, and the protection of in-stream flows for fish and wildlife habitats.

The area is largely undeveloped; the only major improvements are the system trails. There are no known structures in the Mount Baker-Snoqualmie portion of the area. One cabin rests in the interior of the roadless area near Twin Lakes on the Okanogan-Wenatchee National Forest portion. Once used by the Federal Aviation Administration to access a light beacon on Mount Catherine, it is currently drawing a small number of winter visitors who appear to be improving the structure.

The Humpback Creek PWA is impaired by light pollution from the Snoqualmie Pass ski areas as well as the Puget Sound metropolitan area. The southwestern portion of the PWA (26 percent of the PWA) rates a Class 4 on the Bortle Scale, whereas the northern portion (74 percent of the PWA) rates as a Class 4.5. A Class 4 Rural/Suburban Transition Sky exhibits fairly obvious light-pollution domes over population centers in several directions. The Milky Way well above the horizon is still impressive but lacks all but the most obvious structure. Clouds in the direction of light pollution sources are illuminated but only slightly so, and are still dark overhead. Modest to serious impact to deep sky observing and imaging occurs. A Class 4.5 sky portrays the Milky Way as washed out but still visible on the horizon. Light domes from populated areas are up to 45 degrees above the horizon.

Water quality data is not available for most of the PWA; however, due to the relatively low level of disturbance water quality is assumed to be high.

Fish have been planted in all of the major lakes, which would have been formerly fishless waters.

There are no surveyed noxious weeds within this PWA. Various noxious weed species have been documented along the I-90 corridor adjacent to this PWA, and along eastside Forest Roads 5480 and 9070. These noxious weed species include: diffuse knapweed, orange hawkweed, bull thistle, Canada thistle, Scot's broom, St. Johnswort, and oxeye daisy. There is an infestation of Dalmatian toadflax along Trail #1091 to Annette Lake, roughly one-half mile from the trailhead.

Outstanding opportunities for solitude or primitive and unconfined recreation:

Hikers along the Annette Lake Trail begin to get out of earshot of the freeway about one-half mile up the trail. Many visitors complain about overcrowding on this trail. Solitude may be experienced at Annette Lake only at non-peak times. Large groups (over 12) often visit this area, as it is easily accessible from virtually the shoulder of Interstate 90. The lake attracts a lot of use, in part because there is no restriction on group party size at the destination lakes in this area, as there is in the Alpine Lakes Wilderness on the other side of the freeway (maximum party size limit of 12).

While the view is expansive from the summit of Silver Peak, one has a very different experience of this roadless area from this 5,600-foot peak. The towering cone of Mount Rainier is visible across a vast foreground of clearcut areas. Additional industrial forest lands lie to the west and east. The roar of the I-90 freeway, below, can be clearly heard and a maze of roads crosses the hillsides. To the east, the visitor sees the large impoundment of Lake Keechelus and more of I-90. The dark green valley of Humpback Creek stands out below. On clear days the Olympic Mountains can be seen across Puget Sound to the west. In late winter, snowmobiles often climb out of Ollalie and “high mark” on the steep slopes under the north face of Silver Peak. The view to the north of the highway includes a broad swath of the Alpine Lakes Wilderness, Mount Stuart to the east and Mount Si to the west.

The area lies almost directly under the flight path into and out of Seattle-Tacoma International Airport for flights heading to, or originating from cities to the east of Seattle. This results in a nearly constant commercial aircraft presence over this area. Off-trail use in this area is very limited due to the steep terrain and extensive brush.

Due to all of these factors, the opportunities for solitude are limited. However, the difficult cross-country travel in this area provides some users with a degree of challenge. Scrambles of Abiel and Tinkham Peaks are a cross-country attraction for a moderate number of visitors. The two small, unnamed tarns below Tinkham Peak have unsigned and unmarked user trails leading to them from the PCNST.

Mountain lakes are a popular destination for day hikers in the Puget Sound area. Annette Lake, Twin Lakes, Mirror Lake, and Cottonwood Lake are among the few easily accessible lakes in the Snoqualmie Pass area that are not located within designated wilderness. However, for the visitor, they provide a feeling similar to that found in other Pacific Northwest wilderness areas. The lack of wilderness party size limits (or other more stringent use controls) makes this spot a more attractive destination to some people than similar lakes within the Alpine Lakes Wilderness.

Special Features

The area provides source habitat for wolverines, a species with limited distribution within the region. The Pacific Crest National Scenic Trail passes through the area.

Manageability of Boundaries

Clear-cut areas created by former private land ownership surround this area, along with a substantial road system. The southern PWA boundary primarily follows a ridgeline which

abuts the closed Cedar River Watershed. A portion of the southern boundary abuts a property line with Plum Creek timber lands. The western boundary follows a combination of harvest units and has several lobes that cross contour lines. Similarly, most of the eastern portion cuts across contours, follows roads for portions, and borders a section line shared with private land. The northern boundary is defined by a clearcut edge following section lines and the Iron Horse rail trail. Those portions of the boundary that deviate from recognizable features would be difficult to manage.

AVAILABILITY FOR WILDERNESS

Recreation

There are four system trails in the area: Annette Lake #1019, Mirror Lake #1302, Cold Creek and the Pacific Crest National Scenic Trail (PCNST) #2000. The Annette Lake trail parallels Humpback Creek and leads hikers to this pretty subalpine lake at an elevation of about 3,600 feet. The PCNST follows a route close to the crest of the Cascade Range, or just east of it in the vicinity of Silver Peak. It is used by both hikers and equestrians. On the east side of the area, there are several trails that access various lakes; they link to form a popular day-hike loop.

The primary recreation use in this area is day hiking to Annette, Mirror, Scout, Cottonwood, and Twin Lakes and climbing Silver Peak. PCNST through-hikers and equestrians pass through the area primarily on their way north. Some overnight camping occurs, primarily at Annette, Scout, Twin, and Mirror Lakes; each lake has a number of undeveloped campsites. Use levels vary from place to place within the PWA. Annette Lake serves at least 20,000 visitors annually. Due to its proximity to the Seattle metro area, easy access, and low elevation of the trailhead, Annette Lake is one of the most visited mountain lakes in the state. As the snow accumulates in winter, the trail is packed down after each snowfall by a steady stream of snowshoers and an occasional cross-country skier. In most years, the trail is fairly easy to follow, even though there may be 15 feet of snow at the lake. Winter use on the east side of the PWA varies from occasional non-motorized use of Cold Creek Trail to significant numbers of cross-country snowmobile users at Mirror and Cottonwood Lakes. Silver Peak is a regular destination for backcountry skiers.

In many ways, the trails in this area mimic those found in the nearby Alpine Lakes Wilderness. The setting is similar, but less wild. Encounter levels on the Annette Lake trail are similar to high use trails in the Alpine Lakes such as Pratt Lake, Denny Creek, PCNST North, and Snow Lake. The trail system within the area is not interconnected: the Annette Lake trail is an "out-and-back" route, and the PCNST passes through. MBS managers have proposed creating a loop trail that would connect the abandoned Mount Gardiner Trail--along the ridge south of Annette Lake--to the PCNST, passing north of Silver Peak and then descending back to the Annette Lake Trail. Such a loop trail would likely be exceptionally popular with day hikers. Wilderness designation would likely disallow such a trail from being built (and there may be additional environmental concerns). The current maintained system trails on the east side of the PWA form a high-use hiking loop opportunity.

User-established scramble routes lead to Silver Peak; other popular summit scrambles in the area include Abiel and Tinkham Peaks. A user-built trail leads to Scout Lake in the western corner of the area, in the Hanson Creek drainage. Mirror Lake, in the southeast corner of this area, is a short walk from either the end of Road 5480 or the PCNST. Short, user-established trail segments also connect the unnamed tarns below Tinkham Peak with the Pacific Crest National Scenic Trail.

Wilderness designation would protect the primitive recreation setting of this area, although the probability of increased crowding would be challenging to manage especially on the Annette Lake Trail. However, the area offers a non-wilderness alternative in the Snoqualmie Pass area for large groups that would be incompatible in a wilderness setting.

Because of the close proximity of this PWA to the Seattle area and the availability of lake and peaks as use destinations, this area is likely to receive media publicity and increased use.

Table 2--Miles of recreation trails

Motorized Trails	Non-motorized Trails	Snowmobile Trails
0	9	0

Wildlife

The Humpback Creek Potential Wilderness Area provides montane mixed conifer and montane coniferous wetland forest habitats that are associated with over 200 species of terrestrial vertebrates (Chappell et al. 2001, O'Neil et al. 2001). It also encompasses unique habitats for wildlife, including talus, cliffs, lakes, and subalpine parklands.

In sharp contrast to the adjacent I-90 corridor, this area is largely pristine and devoid of open roads. In spite of some high use hiking trails, this area provides a high level of habitat effectiveness for resident wildlife, and functions as an important refugium from human disturbance.

Northern spotted owl (a threatened species) is known to nest in the area. The eastside of the study area is designated as critical habitat for spotted owl. Other threatened species that potentially occur here include marbled murrelet and grizzly bear, although the area is one mile outside of the North Cascades Grizzly Bear Recovery Zone. Canada lynx (threatened) may move through this area along the Cascade crest. Gray wolf (endangered) may use the area during snow-free months.

Other sensitive and rare wildlife that may occur here area include California wolverine, Pacific fisher, and American peregrine falcon (a Region 6 sensitive species), as well as Larch Mountain salamander, Van Dyke's salamander and the mollusk (*Cryptomastix devia*, an R6 Survey and Manage species). Other resident or potential resident species of concern here include northern goshawk, harlequin duck, mountain goat, black-tailed deer, elk, American marten, black bear, over 100 species of migratory land birds, and ten species of amphibians, including Pacific giant salamander. This high level of species richness may be attributed to the area's natural habitat diversity, the advanced age and complex structure of its forest habitats, and its unique position on the landscape, which spans both sides of

the Cascade crest and provides vital north-south and east-west habitat linkages for wildlife, including all listed and sensitive species listed above.

The ecosystem here is pristine old forest, and the landscape is functioning within the historic range of variability for montane mixed conifer forest habitat. Even more importantly, it is largely uninfluenced by open roads and is a refugium from the extreme levels of disturbance associated with open roads in the adjacent I-90 corridor. Humpback Creek also acts in conjunction with the adjacent Cedar River Watershed (a municipal watershed with a large expanse of forest that is closed to recreational use), to provide an even larger block of highly effective late-successional forest habitat. This habitat effectiveness will only increase over time as young stands in the Cedar River mature to a late-successional condition. Together, these two areas comprise a “stepping stone” for wildlife between the Alpine Lakes and Norse Peak Wilderness areas. Wilderness designation would provide an opportunity to secure the national forest piece of that stepping stone.

The PWAs provide varying levels of habitat for focal wildlife species. To help evaluate the habitat these areas provide, the following information was provided: the focal species emphasized in the area, amount of habitat for each focal species, the priority ranking for the habitat (based on conservation assessments and recovery plans), and the proportion of the total habitat available on the forest that is within the PWA.

Table 3--Availability of habitat for federally listed threatened and endangered wildlife species and R6 focal species

Wildlife Species	Acres Habitat	Habitat Priority Ranking (1=high, 2-mod, 3=low)	%Total Forest Habitat In Evaluation Area
Grizzly Bear	Not in recovery area	NA	NA
Canada Lynx	0	3	0
Wolverine	1,216	3, important for connectivity across I-90 corridor	<1
American marten	146	2, important for connectivity across the I-90 corridor	<1

A key issue relative to the sustainability of wildlife habitats is the identification of the amount of dry forest that is in a late-successional habitat area (LSHA). LSHAs that occur in dry forests can be at high risk of high severity wildfire, and insects and disease that reduce the sustainability of the late-successional habitats. Active management, such as prescribed fire and thinning, may be needed to restore these habitats and enhance their sustainability.

Table 4--Acres of dry forest habitats that are present within the evaluation area and also within a late-successional habitat area

Late Successional Habitat Area	Acres of Dry Forest
Snoqualmie Pass AMA	No dry forest

Water and Fish

This PWA covers lands on both sides of the crest of the Cascade Range. Humpback Creek is located on the west side of the crest on the Mount Baker-Snoqualmie National Forest. Small named lakes located within the PWA include Annette, Cottonwood, Mirror, and Twin Lakes. Annette Lake is located on the Mount Baker-Snoqualmie. Lands on the Mount Baker Snoqualmie are not discussed further in this analysis.

East of the crest on the Okanogan-Wenatchee National Forest, the Humpback PWA covers 1,774 acres of the Headwaters of the Yakima River subwatershed (6th HUC). The headwaters of the Yakima subwatershed cover 74,572 acres, with 58 percent managed by the U.S. Forest Service. Proposed PWA lands cover two percent of the subwatershed.

Stream reach conditions in the headwaters of the Yakima River subwatershed that respond to natural and human-caused disturbances were evaluated as fair because collected stream data values were lower than expected values measured in high functioning stream habitat elsewhere on the Okanogan-Wenatchee National Forest. Subwatershed vegetation conditions were altered from expected natural forest conditions; analyzed road effects were substantial. Vegetation condition and road effects considered cumulatively were rated poor. When vegetation condition and road effects were combined with measured stream responses to summarize overall subwatershed condition, this subwatershed was rated fair.

Headwaters of the Yakima River subwatershed contain the Cold Creek drainage, a small tributary to the subwatershed. Twin Lake is located in this drainage. Cottonwood and Mirror Lakes are located in the Roaring Creek drainage, another small tributary to the headwaters of the Yakima subwatershed.

The lakes in the Humpback PWA were historically planted with rainbow and cutthroat trout. Cold Creek supports a population of westslope cutthroat trout. An artificial passage barrier created by the construction of a railroad grade in the early 1900s on Cold Creek just upstream of Kachess Lake has been removed and will now allow bull trout to repopulate Cold Creek naturally. Bull trout in Kachess Lake are isolated from other spawning populations in the Yakima sub-basin by the dam forming Kachess Lake.

The Humpback Creek PWA has a water source protection area totaling 676 acres that contributes to a community water system for the Cle Elum Water Department.

Range

The area has no suitable range or authorized range allotments for cattle or sheep.

Vegetation and Ecology

A majority of the forests is characterized by dense overstory canopy, dominance of large, old trees (200 to 700+ years old) and abundant decaying wood structure, including very

large snags and logs. This is old growth forest, and studies indicate that fire return intervals on lower slopes here are centuries long (Buchanan 1991). Douglas-fir, western red cedar, western hemlock and silver fir grow in valley bottoms and on lower slopes. Mountain hemlock is more prominent on upper slopes and ridgelines.

Late-successional reserve #123 (which includes the potential wilderness area) currently is rated as having low-quality habitat but as crucial to north-south dispersal of northern spotted owls in an area where much late-successional, old-growth habitat has been greatly reduced (MBS Forest-wide Late-Successional Reserve Assessment (LSRA), 2001, pg. 49). This assessment notes the presence of a long edge of old growth and early to mid-successional forest west of Humpback Mountain; however, the overall LSR is well below the desired level of late-successional old growth.

The LSRA placed this LSR in priority 1 for treatment, recommending focusing on increasing old-growth patch size northeast of Humpback Mountain and reducing old growth edge contrasts with the early and mid-successional stands west of Humpback Mountain (USDA Forest Service 2001, pg. 79-80). However, any real opportunity to treat young stands would be found adjacent to the road on the south side of the Snoqualmie River--just barely inside the PWA boundary, and in the sections along Hansen Creek that can be accessed by road. If this area was designated wilderness, these very limited opportunities to accomplish LSR treatments would be lost.

Generally, the priority for restoration treatments occurs within the wildland urban interface (WUI) or within the mesic forest groups. Because there is no WUI in this potential wilderness area, precluding mechanical restorative treatments is a not concern.

Timber Harvest Suitability

The underlying criteria for determining timber harvest suitability are found in the Forest and Rangeland Renewable Resources Planning Act of 1974, 36CFR219.12, and Forest Service Handbook 1909.12, Chapter 60.

For the Colville and Okanogan-Wenatchee National Forests, the general criteria for timber suitability that will be used for timber harvest suitability are:

- Is it forest land (10 percent crown cover minimum, productivity >20 ft³/ac/yr).
- The area has not been withdrawn from timber harvest or production.
- Soil, slope, or other watershed conditions will not be irreversibly damaged (based on soil attributes for erosion, instability, or compaction potential, slopes >65 percent, and certain land types)
- Reforestation can be assured within five years (lack of shallow soils, low frost heave potential, low surface rock, plant community type, certain land types, and elevation <5,500 feet)
- Economic and technologic viability (<0.5 miles from existing transportation system, species value or condition, volume availability, logging systems)

In consideration of all the criteria for determining timber harvest or timber production suitability and not just the fact that harvestable species can grow at a specific location, it appears this PWA does not have conditions that pass all the criteria. The main criterion for

failure is that unacceptable resource impacts would likely occur due to road construction activities. This does not preclude helicopter operations that could fly material over sensitive areas to adjacent road systems. However, in most if not all cases helicopter logging and the associated expenses (such as manual slash treatments) would not be an economically viable option.

Table 5--Stand data percentages

Suitable for Timber Harvest	Forest Groups		WUI	
	0%	Parkland	9%	Total WUI
Cold Dry		0%	WUI in Dry and Mesic Forest	0%
Cold Moist		85%		
Mesic		0%		
Dry		0%		
Non-forest		5%		

Fire

Due to a wet climate with over 100 inches of precipitation annually, the fire recurrence cycle is very long. As a result, past fire suppression activities have had minimal impact on the area and fuel build-up is not an issue. A study of the forest in the Cold Creek drainage showed an absence of lightning-caused fires for the past 400 years. Application and use of unplanned ignitions (i.e. lightning and human-caused) to accomplish other resource objectives are not permitted under the current management direction. Fuel reduction projects within this area are not anticipated at this time.

Insects and Disease

The Wilderness Act of 1964 allows for the control of insects and disease, but taking such actions in wilderness is rare. Forest Service wilderness policy (Forest Service Manual 2324.11) directs the agency “to allow indigenous insect and plant diseases to play, as nearly as possible their natural ecological role”. Policy also directs the agency to “protect the scientific value of observing the effect of insects and disease on ecosystems and identifying genetically resistant plant species”, and finally, “to control insect and plant disease epidemics that threaten adjacent lands or resources.”

An aerial survey of this PWA was completed in 2007. No insect and disease issues were identified.

Threatened, Endangered, and Sensitive Plant Species

There are no known records of sensitive plant species at this location.

Noxious Weeds

There are no surveyed noxious weeds within this PWA. Various noxious weed species have been documented along the I-90 corridor adjacent to this PWA, and along eastside Forest Roads 5480 and 9070. These noxious weed species include: diffuse knapweed,

orange hawkweed, bull thistle, Canada thistle, Scot's broom, St. Johnswort, and oxeye daisy. There is an infestation of Dalmatian toadflax along Trail #1091 to Annette Lake, roughly one-half mile from the trailhead.

Minerals and Soils

About two thirds of the rocks in the area are volcanic or, to a lesser extent, sedimentary in origin. In the Southeastern portion of the area rocks are mostly of the Oligocene Ohanapecosh Formation while in the northeast and central portion the rocks are of the Eocene Naches Formation. The western portion of the area is underlain by the southern phase of the Miocene Snoqualmie Batholith where the rocks are tonolite and granodiorite (or more generally, granitic). Soils are derived from erosion of these parent materials. Some extensive areas of talus have formed in the valley of Humpback Creek through mass wasting of the granitic rocks of Humpback Mountain.

The area is not encumbered by oil and gas or geothermal leases. There are no lease applications under review and there is no current industry interest in the area. The area east of the batholith has a low potential for the occurrence of oil and gas resources, while the batholith itself has no potential for such occurrences. The area has a low to moderate potential for the occurrence of geothermal resources.

There are two lode mining claims on the western slope of Humpback Mountain; the claimant actively mines quartz crystals under an approved and bonded plan of operations. There is a third lode claim just southwest of Mount Catherine; however, there is no indication that surface impacting activities in association with the claim are occurring (except for minor surface prospecting, for which the claimant is not required to inform the Forest Service). The area is generally assigned as having a low potential for the occurrence of hard rock (locatable) minerals.

Cultural Resources

There are no heritage resources recorded within the PWA. Trails can be eligible for the National Register of Historic Places if they meet the criteria of eligibility found in 36 CFR 60.4. The trails in the PWA, including the PCNST, have not been evaluated for historic significance. Unless a site has been determined to be ineligible for the National Register, it is managed as a significant site until such a determination is made. Cultural sites are protected by law, however a wilderness designation or a roadless designation would afford additional protection to cultural sites from ground disturbing activities.

Land Uses and Special Uses

The area has no authorized special land uses.

There are no power withdrawals, or known Federal Energy Regulatory Commission projects licensed or under consideration.

The Humpback Potential Wilderness Area falls within lands ceded to the U.S. Government under the Yakama Treaty. Indian tribes hold rights reserved under treaty and recognized in statutes, executive orders, and policies. Generally, these included rights to fish at usual and accustomed grounds and stations, the right to hunt and gather on open and unclaimed

lands, the right to erect temporary houses to cure fish, and the right to pasture horses and cattle on open and unclaimed lands.

The PWA is also within the lands ceded to the U.S. Government under the Treaty of Point Elliott and the Yakima Treaty. Indian tribes hold rights reserved under treaty and recognized in statutes, executive orders and policies. Generally, these include the rights to fish at usual and accustomed grounds and stations, the right to hunt and gather on open and unclaimed lands, and the right to erect temporary houses to cure fish. In addition, the Confederated Tribes and Bands of the Yakama Indian Nation have the right to pasture horses and cattle on open and unclaimed lands.

Private Lands

There are no private in-holdings within this PWA.

The area is located adjacent to a larger area of checkerboard ownership (industrial forest lands). Activities on those acres have significantly altered the character of the surrounding forest lands. Land acquisitions since passage of the Alpine Lakes Wilderness Act have helped to block up ownership and reduce the fragmentation. City of Seattle land located in the Cedar River Watershed (total 3,000 acres) lies immediately south of this area. Some of these lands have been previously harvested, but none of the acres in the Cedar River that are directly adjacent to this potential PWA has been harvested.

NEED FOR WILDERNESS

Location and size of other wildernesses in the general vicinity, and distance from proposed area and population centers:

The Humpback Creek area is located along the crest of the Cascade Mountains in King and Kittitas Counties, roughly five miles south of Snoqualmie Pass. It is about 45 miles from Seattle and 35 miles from Cle Elum.

The area lies at the southern edge of a mostly contiguous block of protected land that includes Alpine Lakes Wilderness (362,789 acres), Wild Sky Wilderness (106,577 acres), (Henry M. Jackson Wilderness (100,356 acres), Glacier Peak Wilderness (570,573 acres), Boulder River Wilderness (46,674 acres), Lake Chelan-Sawtooth Wilderness (151,435 acres), Mount Baker Wilderness (117,528 acres), Noisy-Diobsud Wilderness (14,133 acres), Pasayten Wilderness (529,477 acres), and Stephen Mather (North Cascades National Park) Wilderness (634,614 acres). Together these areas total about 2,700,000 acres. Several of these areas (Alpine Lakes, Henry M. Jackson, Glacier Peak, Mount Baker) are heavily used by recreationists. All of these areas are located within a one to four hour drive of the greater Puget Sound metropolitan area (and a population of over four million people).

In ranking this PWA for its potential to provide a high quality wilderness recreation setting it ranked as moderate. The area is very accessible off of Interstate 90 and is the fastest PWA to access from Seattle. The PWA provides high quality scenic destinations that would attract wilderness users. In addition, interconnected trail systems would facilitate

both day trips and overnight use. However, this PWA is not as high a priority for providing a wilderness recreation setting as those PWAs that would provide a altogether new setting to the National Wilderness Preservation System, or are contiguous with existing wilderness.

Present visitor pressure on other wildernesses, and trends and changing patterns of use:

These previously-mentioned wildernesses and others throughout the state serve a growing population from both sides of the Cascade Range. Most of the users are from the greater Puget Sound area. The portions of these wildernesses with easy access to spectacular destinations receive heavy use. The inclusion of this area into the National Wilderness Preservation System is not likely to alter use in the existing wildernesses.

Extent to which non-wilderness lands provide opportunities for unconfined outdoor recreation experiences:

Though this parcel is relatively small it does provide a reasonable opportunity for unconfined recreational opportunities such as backpacking, day hiking, cross-country skiing, and mountain scrambling. However, solitude is very limited due to high use and proximity to Seattle. The lake basin campsites do view mostly unimpaired and natural settings. Though once on the higher ridges or peaks, substantial human influences such as roads, timber harvests, power lines, and a draw down reservoir are readily visible. Other roadless area recreation opportunities on the Mount Baker-Snoqualmie and Okanogan-Wenatchee National Forests are varied and large enough to provide a high quality unconfined recreation experience with far greater buffer from the above human influences.

The need to provide sanctuary for those biotic species that have demonstrated an inability to survive in less than primitive surroundings or the need for a protected area for other unique scientific value or phenomena:

Wildlife

The Humpback Mountain area may provide a small amount of security habitat or sanctuary for animals that need expansive primitive surroundings including the northern spotted owl, marbled murrelet, peregrine falcon, northern goshawk, harlequin duck, mountain goats, grizzly bear, gray wolf, wolverine, Pacific fisher, and American marten. The majority of lands providing sanctuary lie just to the north. The nearly constant presence of people and its proximity to I-90 may significantly decrease the desirability of the area to such animals; however, the area provides habitat connectivity between the Alpine Lakes Wilderness and Norse Peak Wilderness. The area is part of the network of late-successional reserves, as well.

Fish

Several native species in the interior Columbia River Basin have demonstrated an inability to survive in less than primitive surroundings, especially the bull trout. In addition to

habitat changes on National Forest System lands, other factors off forest such as hydropower generation, hatchery programs, harvest, and changing ocean conditions further challenge the persistence of some far-ranging native species. Broad-scale assessments have demonstrated a positive correlation between unroaded areas and persisting native fish stocks. Often, assessments like these don't differentiate between wilderness and roadless areas; rather they combine the two into an "unroaded" category. These assessments show current strongholds (most secure and robust populations) are dependant on wilderness and roadless areas. Some of the more resilient native fish populations in the Interior Columbia Basin are located in unroaded areas on National Forest System lands.

For the Okanogan-Wenatchee National Forest PWAs were assigned an aquatic ranking based on federally listed and sensitive fish species that are sensitive to human disturbances. A high ranking was assigned when listed fish species occur in the PWA or when ecological process including high quality water help sustain listed fish species downstream of the PWA. All other PWAs are ranked low. This PWA is assigned a low ranking based on these factors.

Rare Plant Species

An analysis was completed to prioritize which PWAs would contribute the most to providing refugia for those plant species on the species of interest/species of concern (SOI/SOC) list. The analysis ranked three factors. The first factor, the total number of sites occurring within the PWA, ranked as low for this PWA. The second factor, which also ranked as low for this PWA, examined the degree of rarity of any SOI/SOC species present, and also recognized the importance of individual PWAs in supporting a high incidence of populations relative to Washington state as a whole.

PWAs are generally unsurveyed for rare plants due to a relative lack of projects occurring in these areas. Thus an additional factor examined the potential for the PWA to support SOI/SOC species. Based on databases, first the SOI/SOC plant species were identified that are present within a five-mile radius of the PWA, but are not known to occur within the PWA. Then the PWA was analyzed to see if the potential habitat for these species occurs within the PWA. Based on this analysis, this PWA ranks as low.

Finally, a composite score was assigned to each PWA based on combining each of the rankings described above. This PWA ranks overall as low priority for preserving rare plant refugia with a wilderness designation.

Ability to provide for preservation of identifiable landform types and ecosystems:

This area represents both the west Cascades ecoregion and the East Cascades Ecoregion using Bailey's Ecoregional Classification System. These ecoregion types are well-represented in existing wilderness lands in the Cascade Range.

An analysis compared vegetative cover types that are under-represented in wilderness on the National Forest System in Region 6 with those same cover types present in the PWA. Large-scale cover types were available through existing data layers and represent approximately three percent of the vegetative cover of this PWA (approximately 160

acres). These types include alpine meadows and non-alpine meadows. Taken as a whole, the contribution of underrepresented vegetation types ranks as low for the portion of this area with underrepresented cover types, and also as low for the number of acres that are represented within this PWA relative to the other PWAs in the planning area.

Some under-represented cover types fill microhabitats such as riparian areas or perched water tables. Such finer scale cover types represented in this PWA include cottonwood which is common at some of the lakes.

In particular, the cottonwood stands would make a significant contribution within the northeastern Washington planning area.