

WILDERNESS EVALUATION

Norse Peak Adjacent - 617034

7,554 acres

OVERVIEW

History

The area was inventoried and analyzed under RARE II and was recommended as non-wilderness. It was reexamined under the analysis for the Washington State Wilderness Act of 1984 and 35,892 acres were included into the Norse Peak Wilderness. Since 1990, roading and timber harvest reduced the total roadless acreage and has fragmented the original adjacent parcels. There are now 8 adjacent roadless parcels around the fringes of the Norse Peak Wilderness.

The 2006 inventory removed approximately 3,180 acres from previous inventory due nonconforming uses such as road construction and logging; 397 acres were added to the previous inventory as they met the criteria for a potential wilderness area (PWA) as described in Forest Service Handbook (FSH) 1909.12, Chapter 70. The following chart depicts the 1990 Wenatchee National Forest Land and Resource Management Plan direction for the 2006 potential wilderness area.

Table 1--Management area percentages (rounded)

Wenatchee National Forest					
EW1	GF	MP1	RE3	ST1	ST2
2%	17%	20%	21%	26%	14%

Location and Access

These PWAs are all immediately adjacent to the Norse Peak Wilderness in several distinct pieces. The parcels to the south and east of the wilderness are within Yakima County. The northern-most piece includes acreage in both Yakima County and Kittitas County. Access is via Highway 410 and the Little Naches and Raven's Roost roads. The area is approximately a two hour drive from the Puget Sound basin on Highway 410 and about an hour and a half from Yakima.

Geography and Topography

Each of the adjacent parcels of this unit has distinct physiographic character. The portion near Chinook Pass has an open, semi-rounded character with lots of convex slopes. The timber grows in a rather open, scattered pattern. The part by Naches Pass/Raven's Roost has a large open meadow area near the crest, with the rest of the unit composed of rather uniform slopes covered by dense stands of conifers. The easternmost parcels are characterized by uniform slopes covered by dense stands of conifers.

Elevations range from 3,300 to 5,100 feet.

Current Uses

The current use is primarily for dispersed recreation. There are established popular motorcycle trails within PWAs in both the Raven Roost and Fifes Ridge areas – both of which are in the Little Naches drainage. The trails within these two areas are part of a larger motorized trail system. Hikers and stock users have trail access to the adjacent wilderness through both of these areas. The Morse Creek/Chinook Pass parcel includes a portion of the Pacific Crest National Scenic Trail. This parcel is also adjacent to Mount Rainier National Park. The Chinook Pass area is an extremely popular area for day hikers, backpackers, and stock users. In addition to an access point for the Pacific Crest National Scenic Trail (PCNST), it also provides access to the National Park, the William O. Douglas Wilderness to the south (across Highway 410), as well as access to Norse Peak Wilderness through the Morse Creek/Chinook Pass PWA. There are also private land parcels within the Morse Creek/Chinook Pass PWA which may require reasonable access unless these private parcels are acquired. Big game hunting is popular in all of the adjacent PWAs.

Appearance and Surroundings

There is visual variety in landforms, rock forms, vegetation, and water features. The area has a broken, open vegetative pattern on the ridgelines. The PWA has heavily textured vegetation patterns throughout, undulating slopes with moderate to steep hillsides. Steep cliff edges define most basins.

The area is primarily viewed as foreground from trails that lead into the wilderness, and from the Mather Memorial Highway (Highway 410). Middle-ground views are from the Raven's Roost area and other Forest roads.

The Norse Peak Adjacent Areas are bounded by the Norse Peak Wilderness, Mather Memorial Parkway, and the Quartz Creek, Crow Creek, North Fork, and Middle Fork of the Little Naches drainages.

Key Attractions

Main features are basalt cliffs and talus slopes and bare ridges separating wide basins. The Crow Creek, South Fork, and Naches Rivers are within the area. The Cascade crest and Pacific Crest National Scenic Trail are key features in the Chinook Pass area.

CAPABILITY FOR WILDERNESS

Level of Natural and Undeveloped Environment

While the adjacent PWAs have retained much of their natural appearance and function, recent roading and timber harvest have had the effect of fragmenting portions of the parcels in the Raven's Roost and Fife's Ridge areas. Overall, in conjunction with the currently established Norse Peak Wilderness, there are opportunities for solitude and a sense of experiencing a remote and natural environment. The relatively small parcel in the Morse Creek area has been affected by the presence of the Morse Creek Road and patented

mining claims in the northeast portion of the parcel; however the remainder of this parcel provides a relatively unmodified connection between the Norse Peak Wilderness and Mount Rainier National Park. Mining claims have been concentrated along the riparian zone with little interest in the slopes since 1920. There are no known water-related encumbrances or planned projects within the area.

The Norse Peak PWA is impaired by light pollution from Yakima and the greater Puget Sound metropolitan area. Vehicle traffic along HWY 12 may also contribute to direct light pollution, in the southern most section of the PWA which runs parallel with HWY 12. In the winter season lighted ski runs may also be visible from this section which is near Crystal Mountain Ski Area; however, they do not have night skiing operations at this time. The entire PWA rates a Class 3 on the Bortle Scale. A Class 3 Rural Sky has some indication of light pollution on the horizon. Clouds may appear faintly illuminated in the brightest parts of the sky near the horizon, but are dark overhead. The Milky Way still appears complex. Light domes from population centers may appear on the horizon (10-15 degrees above horizon). Visual observing is still relatively unimpaired. Time lapse photography could be impaired by light pollution.

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.

There are no surveyed noxious weed species within this PWA.

Level of Outstanding Opportunities for Solitude or Primitive and Unconfined Recreation

The Norse Peak PWA segments provide some opportunity for challenge. The Hall Creek drainage (Fife's Ridge area) is particularly rugged with cliffs and steep terrain. While all the separate pieces of this potential wilderness area are relatively small, they are adjacent to the Norse Peak Wilderness and Mount Rainier National Park, which are large enough to provide opportunities for extended overnight trips either on foot or horseback.

Special Features

There have been sightings of peregrine falcon reported but no nesting sites have been located. There is suitable habitat for the northern spotted owl and there are known nest sites in the area. No other threatened or endangered species have been located in this area. The area provides source habitat for wolverine and marten.

Though survey work is limited, seventeen archaeological properties already have been documented in the Norse Peak adjacent unit lands. Roughly half the properties, including lithic scatters, talus pits and peeled cedars, indicate prehistoric to ethnographic period use by local Indians for resource procurement (such as berry collection and hunting). In addition, areas in the vicinity of Raven's Roost are ethnographically known to have been important huckleberry collection grounds for the Yakama Indians. The remaining documented sites include a large number of adits, cabins and mining camps associated with historic activities in the Summit Mining District and hint at historic trapping activities (marten sets).

The PWA includes one sensitive plant species: Mt. Rainier lousewort (*Pedicularis rainierensis*), which is an endemic species.

Manageability of Boundaries

The Morse Creek segment borders Mount Rainier National Park to the west, Norse Peak Wilderness to the north and northeast and parallels Highway 410 to the south. The intrusion of the Morse Creek road in the eastern portion of this parcel, along with several private patented mining claims, does create some potential management difficulties however these are largely confined to the northeast portion of the parcel. The area west of the road end and south of Morse Creek could more easily be managed as wilderness.

The Fife's Ridge segments are bordered by wilderness to the west, State Highway 410 to the south, and numerous forest roads and harvest units to the northeast. This parcel could be managed as wilderness. A logical northern boundary would be Fife's Ridge.

The parcel north of Raven's Roost is bordered on the west by wilderness and forest roads and timber harvest units on the remaining sides. This area has been roaded quite extensively since RARE II. There are few natural features that would aid in establishing a manageable PWA boundary. The road and/or trail system could be used to establish the boundary of the wilderness should portions of this parcel be included. Complete inclusion of this parcel would eliminate motorized use of the existing motorized trail.

AVAILABILITY FOR WILDERNESS

Recreation

The parcels north of Raven's Roost have established motorized trail routes that are interconnected to a larger motorized trail system. Motorized trail use has been increasing. Wilderness designation would preclude this use and would affect a larger area due to the connections to other motorized trails. The area south of Fife's Ridge remains relatively pristine although the established motorized use of the trail along the ridge could have some impact on the experience of users in that area. The parcel in the Morse Creek/Chinook Pass area provides recreational opportunities that generally support the adjacent uses in both Norse Peak Wilderness and Mount Rainier National Park (most of which is also designated wilderness). Wilderness designation would preserve the primitive recreation setting. The private parcels would complicate management in some portions of this parcel.

Tourism marketing in the Yakima and Naches area emphasizes agrotourism and visiting wineries. The Naches Valley Chamber of Commerce website portrays the area as offering scenic drives on Highways 410 and 12, snow skiing, river rafting, hiking, hunting, snowmobiling, and bird watching. Links are provided to Forest Service web-based information. The Blue Slide PWA is not directly promoted.

Due to its proximity to Mt. Rainier National Park and the adjacent Norse Peak Wilderness, wilderness designation would likely receive favorable media publicity and could potentially draw more use to the area. However, since the area would offer few new trailed opportunities, such use is not likely to be substantial.

Table 2--Miles of Recreation Trails

Motorized Trails	Non-motorized Trails	Snowmobile Trails
4	9	0

Wildlife

The area includes elk summer range and provides habitat for a variety of animals and birds including northern spotted owl, black bear, gray wolf, deer, cougar, mountain goats and grouse.

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
Wolverine	3,993	2	<1
American Marten	1,760	2	<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
Not in an LSHA	

Water and Fish

The Norse Peak PWA is divided between three sub-watersheds: Upper Little Naches River, lower Little Naches River, and the American River subwatersheds (6th HUCs). The upper Little Naches subwatershed covers 41,010 acres, with 77 percent of that acreage managed by the U.S. Forest Service. The 1,017 acres of the proposed PWA in the upper Little Naches equals 2 percent of the subwatershed.

The area in the lower Little Naches River equals 2 percent of the 54,541 acre subwatershed. The subwatershed is managed by the U.S. Forest Service. The 5,148 acres

of proposed PWA in the 50,946 acre American River is 10 percent of that subwatershed. In the American, 78 percent of the subwatershed is managed by the U.S Forest Service.

Stream reach conditions in the upper Little Naches River, lower Little Naches River, and the American River subwatersheds 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 and Wenatchee National Forest. Subwatershed vegetation conditions were somewhat altered from expected natural forest conditions; analyzed road effects were moderate. Vegetation condition and road effects considered cumulatively were rated fair. When vegetation condition and road effects were combined with measured stream responses to summarize overall subwatershed conditions, these subwatersheds were rated fair.

Many reaches in the Naches and American Rivers, downstream of this proposed PWA, were designated as critical habitat for steelhead by the National Marine Fisheries Service in January 2006. Crow Creek supports the only known spawning population of bull trout in the upper and lower Little Naches subwatersheds. The Crow Creek adult spawning population has been chronically low compared to bull trout populations in the American River and Rattlesnake Creek. Bull trout in the Little Naches are isolated from other subpopulations of bull trout in the Yakima subbasin.

Crow Creek and County Creek in the Little Naches contain populations of westslope cutthroat trout. Steelhead utilize the lower portion of Middle and South Forks Little Naches for spawning and rearing.

In the Bumping River subwatershed, Morse Creek has native westslope cutthroat and introduced brook trout. Bull trout presence in Morse Creek is unknown. Sheep and Placer Lakes likely have been stocked with rainbow or cutthroat trout.

The Norse Peak Adjacent PWA has a water source protection area totaling 2,004 acres that contributes to a community water system for the City of Yakima Water Division.

Range

The three PWAs in combination with the adjacent wilderness make up portions of the Little Naches and Crow Creek recreation stock allotments (recreation stock allotments are not depicted in Table 3, as they are an annual approvals for recreation purposes and do not fall under the commercial cattle and sheep grazing permits). The Little Naches is an active allotment, the Crow Creek is an inactive allotment. In combination with adjacent areas both inside and outside of wilderness, there is potential for a domestic stock allotment.

Table 5--Percentage of grazing suitability areas and current allotments

Percent Area Suitable for Cattle Grazing	Percent Area Currently in Cattle Allotments	Percent Area Suitable for Sheep Grazing	Percent Area Currently in Sheep Allotments
2	0	8	5

Vegetation and Ecology

While this proposed wilderness area is contained within a relatively narrow band, there is a wide range in precipitation, from 45 to 100 inches annually. High country snow depths probably exceed 200 inches with yearly averages of approximately 120 inches in the area.

Most of the vegetation is in mature, wet timber types. Heavy volume Douglas-fir, spruce, hemlock, and western red cedar stands occur along the Chinook Pass Highway. A small area of dry-type vegetation occurs on the south slope east of Hall Creek. Here, clumpy ponderosa pine, Douglas-fir and open rock areas are typical. The primary tree species are Pacific silver fir, mountain hemlock, subalpine fir, Douglas-fir, western hemlock, western larch, and grand fir. Parklands, avalanche chutes, and open rocky areas are mostly in the southernmost parcel and on south-facing aspects. Successional stages are generally late-to-mid depending on parcel.

Much of the area was heavily roaded and managed during the late 1960s to early 1990s, especially along the north and west boundaries of the Norse Peak Wilderness.

With wilderness recommendation, options to utilize mechanical treatments to manage vegetation would be precluded. Generally, the priority for restoration treatments occurs within the wildland urban interface (WUI) or within the dry and mesic forest groups. Because WUI represents nearly two thirds of the PWA, the prohibition on restorative treatments is a concern. The concern is decreased by recognizing that dry and mesic forest occupies only 20 percent of the area. However, there may be a need to respond to needs in small portions of the WUI. The Healthy Forest Restoration Act (HFRA) authorizes direction to implement fuel reduction projects in the WUI. The HFRA prohibits authorized projects in wilderness areas.

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 6--Stand data percentages

Suitable for Timber Harvest	Forest Groups		WUI	
0%	Parkland	17%	Total WUI	65%
	Cold Dry	1%	WUI in Dry and Mesic Forest	27%
	Cold Moist	61%		
	Mesic	9%		
	Dry	11%		
	Non-forest	1%		

Fire

Fire occurrence within the Norse Peak Adjacent areas is low to moderate for the twenty-five years of suppression records on file. All fires within the PWAs were human-caused and were 0 to ½ acre in size. The northern and eastern areas would mostly be described as Fire Regime 4, Condition Class 2. Fire Regime 4 describes a fire return interval of 35-100 or more years with stand replacement severity. Landscapes were a mosaic of large landscape patches of even-aged stands. High density stands over large areas is a departure from normal. In Condition Class 2, the vegetation composition, structure and fuels have a moderate departure from the natural regime, and predispose the system to high risk of loss of key ecosystem components due to fire.

The southern area is best described as Fire Regime 5, Condition Class 1. Fire Regime 5 experiences a fire return interval of 200 or more years, with fires burning at stand replacement or mixed severity. In Condition Class 1, the vegetation composition, structure, and fuels are similar to those of the natural regime and do not predispose the system to fire loss.

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 the vicinity of this PWA in 2007. There is spotty, light to heavy western spruce budworm defoliation with the heaviest defoliation in the southernmost parcel. There are some pockets of fir engraver mortality. In some areas there are high levels of stem decay, pockets of root disease, and heavy fuel loadings.

The most extensive damaging agent reported was western spruce budworm. An estimated 3,500 acres were mapped. This is about 1,200 acres less than reported in 2005 or 2006.

Mountain pine beetles damage to lodgepole pines was reported throughout the southern half of Crow Creek for the third year. An estimated 1,000 acres were affected, and about 7,000 lodgepole pines killed. About 500 immature ponderosa pines were also reported killed.

As western spruce budworm defoliation has declines, damage by fir engravers has become more visible. About 1,000 acres were mapped. This was the only insect damage reported in the potential wilderness area.

No spruce beetle activity was reported.

Threatened, Endangered, and Sensitive Plant Species

One rare plant species is known to occur within the PWA; Mt. Rainier lousewort (*Pedicularis rainierensis*) which is an endemic species.

Noxious Weeds

There are no surveyed noxious weed species within this PWA.

Minerals and Soils

The area is primarily underlain by Miocene to Oligocene volcanic rocks. Adjacent lands have been studied by the U.S.G.S. and U.S. Bureau of Mines as part of the Cougar Lakes-Mount Aix wilderness investigation. As a result of that investigation, no lands immediately adjacent to the subject area were identified as having a “probable” mineral resource potential. The southwestern most portion of the area near Placer Lake, Morse Creek, and Gold Hill does, however, have reported occurrences of arsenic, copper, lode gold, placer gold, lead, molybdenum, silver, zinc, chromium, and iron. This area lies adjacent to the Silver Creek mining district, and geologically it appears to have a “moderate” potential for the occurrence of low-grade copper, molybdenum, gold, and tungsten deposits. The northern two parcels do not appear to share this potential. While numerous mining claims have historically been located in the general vicinity of the PWA – primarily near the southwestern portion, current BLM mining claim recordation data (2/11/2005) identifies 6 placer mining claims, all in the Morse Creek area. The claims primarily cover Morse Creek, which, in the area claimed, is outside the PWA. The only other claim in the vicinity is a single placer claim just south of the southwestern portion of the PWA.

Except for geothermal resources, the area is not classified as prospectively valuable for leasable minerals. Even though it is not classified prospectively valuable for oil and gas resources, there were several oil and gas leases issued during the 1980s. No significant exploration occurred on these leases and all have since been terminated. There have been no recent expressions of interest for any leasable minerals.

Most of the soils have developed in two kinds of parent materials, which are basaltic materials and pyroclastic materials – both of which have a volcanic origin. There are some soils that have formed in glacial till materials; however, they make up only about four percent of the area. The basaltic soils normally range from 20 to about 40 inches deep. Both kinds of soil materials tend to be slippery or sticky when wet and both are easily

compacted when moist. The till soils, on the other hand, tend to be coarser textured and contain 15 to 55 percent coarse fragments (rocks). Although the glacial till may be many feet thick, the soils are generally only about two to three feet thick.

Cultural and Heritage Resources

Though survey work is limited, seventeen archaeological properties already have been documented in the Norse Peak adjacent unit lands. Roughly half the properties, including lithic scatters, talus pits and peeled cedars, indicate prehistoric to ethnographic period use by local Indians for resource procurement (such as berry collection and hunting). In addition, areas in the vicinity of Raven's Roost are ethnographically known to have been important huckleberry collection grounds for the Yakama Indians. The remaining documented sites include a large number of adits, cabins and mining camps associated with historic activities in the Summit Mining District and hint at historic trapping activities (marten sets). Future research and reconnaissance will augment our knowledge of the area's history. 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

There is a cabin at Gold Hill under permit as well as a Department of Transportation radio communication site on the ridge east of Hall Creek. The Department of Transportation also has snow monitoring sites near Chinook Pass and the National Weather Service has a weather site at Placer Lake.

The Norse Peak adjacent unit lands fall entirely 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 include 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.

Private Lands

There are 170 acres of private land within the area. Acquisition possibilities are considered to be fair but have not been assessed since 1980. Wilderness designation would likely affect management of the private inholdings although there has been little to no activity on these lands in recent years. Reasonable access to private lands would still be required even with wilderness designation of the surrounding area. This would complicate wilderness management.

NEED FOR WILDERNESS

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

These PWAs are adjacent to the Norse Peak Wilderness (52,180 acres). The Morse Creek/Chinook Pass parcel is also adjacent to Mount Rainier National Park (228,480 acres) most of which is also designated wilderness. The William O. Douglas Wilderness, 168,232 acres, is within one mile to the south. Highway 410 runs east/west between the Norse Peak and William O. Douglas Wildernesses and passes through Mount Rainier National Park to the west.

In ranking this PWA for its potential to provide a high quality wilderness recreation setting it ranked as high due to adjoining the Norse Peak Wilderness. Many trails entering the wilderness pass through this PWA enroute. Much of the area is very accessible off of highways. The PWA combined with the Norse Peak Wilderness provides high quality scenic destinations that attract wilderness users. In addition, interconnected trail systems would facilitate both day trips and overnight use. The Pacific Crest National Scenic Trail passes through this PWA.

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

Overall use pressure in the nearby wildernesses is moderate with some very popular high use areas in the Chinook Pass area where there is access to the Norse Peak and William O. Douglas Wildernesses as well as Mount Rainier National Park. There is also access to the Pacific Crest National Scenic Trail. While there is very high day use in the Chinook Pass area, the general trend is for moderate use increases over time. The majority of use is by day hikers and backpackers but stock use is also popular in the both Norse Peak Wilderness and the William O. Douglas Wilderness.

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

These adjacent areas provide considerable opportunities for primitive forms of recreation in conjunction with the adjacent Norse Peak Wilderness and Mount Rainier National Park. Wilderness designation would preserve these opportunities. Opportunities include hiking, horseback riding, hunting (prohibited in the Park), fishing, and mushroom/berry picking. Big game hunting is popular.

Motorized trail opportunities are focused in the northern and eastern parcels and the existing motorized trail system connects to a larger complex of motorized trails. Wilderness designation would preclude this use.

The Okanogan-Wenatchee National Forest provides a variety of potential wilderness areas that are not designated wilderness. Some portions of these areas allow motorized use, whereas other areas are non-motorized. Other potential wilderness areas in the vicinity that provide opportunities for unconfined recreation include Bethel Ridge and Manastash.

The need to provide a 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**

This area provides habitat for a number of species that require primitive surroundings including westslope cutthroat trout, bull trout, peregrine falcon, northern spotted owl, American marten, gray wolves and wolverines. Preservation of the area as wilderness would contribute to providing sanctuary for these species. The wildlife sustainability index is 2.9 (a low relative ranking) and the habitat connectivity index is 5.7 (also low relative ranking).

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 high 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 ranked as high 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 high.

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

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

This area represents the East Cascades and West Cascades Ecoregions 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 14 percent of the vegetative cover of this PWA (approximately 1,070 acres). These types include forb lands, non-alpine meadows, alpine meadows, and ponderosa pine. Taken as a whole, the contribution of underrepresented vegetation types ranks as moderate for the portion of this area with underrepresented cover types, and also as moderate 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 sparse amounts of cottonwood and quaking aspen.

In particular, the non-alpine meadow cover type, which comprises approximately 750 acres in this PWA, would make a significant contribution within the eastern Washington planning area.