

WILDERNESS EVALUATION

BALD-SNOW - 621007

20,432 acres

OVERVIEW

History

The first Roadless Area Review and Evaluation (RARE I) was completed in 1973 and the Bald-Snow Roadless Area was identified but not chosen for future wilderness study. The Kettle Range Land Management Plan was approved in 1978 and provided the direction for managing the area. In 1979, the second Roadless Area Review and Evaluation (RARE II) was completed and the Bald-Snow Roadless Area was identified as non-wilderness.

The 2006 inventory removed approximately 3,726 acres from the previous inventory due to nonconforming uses such as road construction and logging; 917 acres were added to the previous inventory as they met the criteria for a potential wilderness area as described in Forest Service Handbook (FSH) 1909.12, Chapter 70. The following chart depicts the current 1988 Colville National Forest Land and Resource Management Plan direction for the 2006 Potential Wilderness Area (PWA).

Table 1--Management area percentages (rounded)

MA11 Semi-primitive, Non-motorized Recreation	MA3A Recreation	MA4 Research Natural Area	MA5 Scenic Timber	MA7 Wood/ Forage
66%	3%	5%	21%	5%

Location and Access

The area is located 30 miles west of Colville, Washington. The nearest large population center is Spokane, Washington, which is two and one-half hours driving time from the area. The north boundary of the PWA is in close proximity to and approximately parallels State Highway 20. Other access is the South Sherman Creek Road (Forest Road #2020) and the Barnaby Creek Road (Forest Road #2014) along the east boundary. The south fork of O'Brien Creek Road, (Ferry County road #99) and tributary routes provide access along the west boundary of the area. The Hall Creek Road (Forest Road #2050-600) accesses the area from the Colville Indian Reservation on the south.

Geography and Topography

The Bald-Snow Proposed Wilderness Area (PWA) is located in the Kettle Mountain Range, which is the divide between the Columbia River and the Curlew and Sanpoil valleys. The Bald-Snow PWA is in the south central portion of this area and lies on both sides of the hydrologic divide between the Columbia River and the Sanpoil River. Generally, the area is part of the Okanogan Highlands landform province, which is characterized by moderate slopes with broad rounded summits as a result of repeated continental glaciation. The area is generally heavily dissected by steep drainages. The broader valley bottoms are characterized by outwashed terraces. The Kettle Range is an extension of the Monashee Mountains to the north. The highest elevation within the area, 7,103 feet, occurs on Snow Peak. The lowest elevation occurs at 3,800 feet in Hall Creek where the PWA boundary joins the Colville Indian Reservation boundary.

Current Uses

Uses of the area include occasional mineral prospecting, the most recent being extensive uranium surveys by the Department of Energy. It is likely that some prospecting for uranium and tungsten will continue in the northeast corner of the area. Portions of the area are within four different cattle grazing allotments, which are grazed during the summer months. Recreation use within the area centers around use by hikers on the Kettle Crest and tributary trails and fall deer hunting.

Appearance and Surroundings

Appearance of the area is one of rolling to moderately steep wooded mountains, with some vistas available from the open areas on the higher peaks and rocky outcrops. Much of the area was burned in 1988 in the White Mountain Fire. The rest of the area is covered by dense stands of lodgepole pine trees.

Surroundings viewed from the area are the distant major drainages and rolling foothills and mountains; the Colville Indian Reservation on the south; the Thirteenmile PWA on the southwest boundary; and the Profanity PWA on the north.

Much of the surrounding area is national forest land, which is currently being managed for various forest users and is in a roaded condition.

Key Attractions

Attractions within the area are the native plants and wildlife common to the Colville National Forest. Wildlife that is less common in the area and represent important components of the ecosystem include Canada lynx, American marten, and an occasional wolverine. The Kettle Range area is one of the prime cougar hunting areas in the state. There are also scenic views of Lake Roosevelt and the Curlew and Kettle River valleys and viewing of the surrounding peaks within the Kettle Range from the higher ridges. The area provides a backdrop for the Colville, Curlew, Sanpoil, and Columbia River basins. The Kettle Crest National Recreation Trail traverses the crest of the range and various side trails provide access. The Snow Peak shelter is rented for both summer and winter use.

CAPABILITY FOR WILDERNESS

Level of Natural and Undeveloped Environment

The area has not been significantly modified by humans, and in general is natural appearing and supports a feeling of isolation and vastness.

Livestock grazing is obvious around White Mountain in the south half of the area during a portion of the months of June through October. There are three permanent water developments and the Snow Peak shelter with corrals and water development within the area.

Some portions of the area overlook logging roads and old units. Highway noise from Highway 20 can be heard on the north end of the PWA.

Water quality data is not available for most of the PWA; however, due to the relatively low level disturbance water quality is assumed to be high. There may be localized disturbances due to grazing activities. Hall Creek has 1.8 miles classified as Category 1, which means the water meets tested standards.

Brook trout have been introduced into some streams. Noxious weed inventory data is not available for this PWA; however, Canada thistle is established in some locations.

The Bald Snow PWA is partially impaired by light pollution from the Republic area. The southern portion of the PWA (87 percent of the PWA) rates a Class 2 on the Bortle Scale, whereas the northern portion (13 percent of the PWA) rates as a Class 3. A Class 2 Typical Truly Dark Sky represents the darkest skies viewed in the continental United States. The summer Milky Way is highly structured to the unaided eye. Any clouds in the sky are visible only as dark holes or voids in the starry background. No light domes from population centers are visible. 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.

Level of Outstanding Opportunities for Solitude or Primitive and Unconfined Recreation

The area lends itself well in providing a sense of solitude and primitive, unconfined recreation experiences. The area supports a sense of isolation and is moderately vast in scale.

The principle attraction is the open ridge tops, which afford views of the Cascade Range, Okanogan Highlands, and Colville Valley. Absence of water on ridge tops or along the trail requires a certain degree of self-reliance on the part of hikers and horseman.

Snow Peak Shelter is a popular campsite. The site is by reservation only. Cross-country skiing is the main attraction to the area and to the shelter. Camping tends to be concentrated at areas, which are used year after year.

Special Features

Hall Ponds proposed Research Natural Area (RNA) is located in both the Bald Snow PWA and Thirteenmile PWA. This 629-acre RNA protects mid-elevation fresh water wetland habitat.

The peaks of the Kettle Crest typify the Okanogan Highlands ecoregion. The area is widely known for high quality backcountry skiing opportunities.

There are two state listed sensitive plant species present in the Bald Snow PWA, beaked sedge (*Carex rostrata*) and green-keeled cottongrass (*Eriophorum viridicarinatum*).

The Bald Snow PWA has over 12,000 acres of lynx habitat, and about 1,200 acres of wolverine habitat.

There are seven known cultural resources within the Bald Snow area. Among these resources are known rock features of particular spiritual significance to American Indian tribes. The foundations of Barnaby Buttes and White Mountain lookouts are also located in the area. The rock features have the potential to be candidates as a national register historic district.

Manageability of Boundaries

Because the area covers both sides of a mountain range, most of the boundaries are points on the mid-slope where past management activities cease to be noticeable. The northern boundary follows Highway 20, which affects solitude into the Bald Snow PWA due to sights and sounds associated with the highway. The south boundary, which is against the Colville Reservation, does not receive a great deal of pressure or activity. Hall Creek Road, which forms the boundary on the southwest side of the area, is a narrow corridor separating the Bald Snow PWA from the Thirteenmile PWA.

AVAILABILITY FOR WILDERNESS

Recreation

Recreation opportunities are present in the form of hunting, day hiking, mountain biking, trail riding, backpacking (extended day), snowshoeing, snowboarding, and cross-country skiing. The most outstanding primitive recreational feature of the area is the Kettle Crest National Recreation Trail, which follows the Kettle Mountain Range for approximately 13 miles. The area is closed to snowmobile use.

The area contains Kettle Crest Trail #13, Sherman Loop, Snow Peak, Edds Mountain, and Barnaby Butte Trails. All trails are open to hikers, stock use, and mountain bikes. They are all closed to motorized vehicles. Trails within the area receive moderate use from late spring to late fall. Much of the use is from northeastern Washington residents.

Public occupancy of the Snow Peak shelter would no longer be permissible, and the shelter would potentially need to be removed to comply with provisions of the Wilderness Act of 1964.

The Bald Snow PWA is most closely associated with the communities of Kettle Falls, Colville, and Republic and is accessed off Highway 20, a National Scenic Byway that

invites tourist traffic. Tourism marketing promotes walking, hiking, fishing, and hunting, but does not specifically promote this PWA. The ease of access and availability of nearby campgrounds, the scenic beauty of the area, the extensive trail system, and the historical interest in making this area wilderness would likely draw substantial media publicity if the area were to be designated as wilderness. There is likely to be a significant increase in tourism-based hiking and stock-oriented use of the area. However, use of this area has been gaining in popularity by mountain bikers who are attracted to the extensive trail system, with much of the use originating from British Columbia. These users would be displaced. Use of the Snow Peak cabin also draws visitors from outside the area; this use would be displaced as well.

The Bald Snow and nearby Profanity PWAs provide one of the best opportunities for wilderness-oriented recreation on the Colville National Forest, but at the expense of displacing other well-established and emerging uses.

Table 2--Miles of recreation trails

Motorized Trails	Non-motorized Trails	Snowmobile Trails
0	24	0

Wildlife

The Bald-Snow area contains higher-elevation habitats and the wildlife species present reflect this: nearly all mammal and bird species that occupy this elevation band on the forest probably inhabit the area during some part of the year. None of the species that require secluded habitat currently reproduce in the area. Woodland caribou probably did not occupy the area within the past century. It is unclear whether grizzly bears occupied the area, but they roamed much of the lower and mid elevations prior to the loss of the salmon fishery in Lake Roosevelt due to Grand Coulee Dam. The last record of a grizzly bear on the Kettle Crest (1950s) came from near this area. Gray wolves inhabited Ferry County and probably at least moved through the area. Wolverines have been trapped in the area but not for three decades, though a few unconfirmed sightings of tracks have been reported within the past five years. A north-facing talus slope in a cirque basin on the north end of the area fits the description of wolverine denning habitat. This portion of the area burned in 1988 (White Mountain fire) and is currently popular with back-country skiers. It receives too much human use during early spring to be used by denning wolverines, and designating the area as wilderness would not change back-country skiing use. With an extensive road system from timber harvest activities surrounding this area, the greatest benefits from designating the area as wilderness would come as a result of no new roads. This would benefit those species that depend on secluded habitat and reduced loss of forage due to noxious weeds (which often spread along new roads).

The only white-tailed ptarmigan ever recorded in Ferry County was photographed on Snow Peak in 2006. The small pond on Sherman Peak contains large numbers of breeding Columbia spotted frogs, once thought to be uncommon. Hall Ponds support a unique habitat type for the area (high-elevation wetland), and in 2006 several species of higher-elevation dragonflies that had not been documented in Ferry County were recorded. The Hall Ponds have also been proposed as a research natural area (RNA). The higher-elevation, north-south spine serves as a minor corridor for southward-moving raptors and

smaller neotropical migrants but does not connect to mountainous habitats further south to continue the higher-elevation corridor. Designating the area as wilderness would not affect management for any of the species mentioned above.

The area was known for producing large mule deer and was heavily hunted by people from across the state. In recent years the success rate and number of hunters has declined. The entire area contains summer range for big game and consists of large patches of cover and large patches of open grassland or rocks. Some of the large patches of cover have grown too dense to provide good habitat. Introducing fire in most of these dense stands would probably result in a stand-replacement fire, similar to what occurred during the White Mountain fire in 1988. This fire created large blocks of big game forage habitat. Were the area designated as wilderness, timber harvest to improve forage would not be an option and the forage base would decline as the forest canopy continued to grow closed. However, management in most of the area currently does not allow timber harvest, so management conditions would change only slightly. The area does not contain low-elevation winter range though might contain some small pockets of higher elevation winter range on the southern end. Projects to improve big game winter cover and forage would be feasible only in those small pockets, but designating the area as wilderness would have only a minor negative effect because most of these pockets lie in management areas that currently do not allow timber harvest. Though mule deer do not require secluded habitat, they tend to live longer and thus the males achieve larger antlers in areas away from roads with vehicle traffic. These larger-antlered males are more prized by hunters.

Many of the higher ridges and saddles and the subalpine areas support open stands of Douglas-fir, subalpine fir, and other species that support blue grouse. Using prescribed fire as the primary management tool in these areas would become more difficult with wilderness designation.

The entire area lies with a lynx analysis unit, and within the past few years several unverified sightings have come from the area of the 1988 fire. Areas in and adjacent to the Bald-Snow PWA affected by the 1988 fire contain some of the best foraging habitat on the forest. Designation of the area as wilderness would not change management for lynx over most of the area because most is currently in management areas that do not allow timber harvest: we would continue to rely on natural processes to create the boom/bust of young stands that supply good foraging habitat.

Few or no late-successional stands exist.

The PWAs provide varying levels of habitat for focal wildlife species. To help evaluate the habitat that these areas provide, the following information was provided: the focal species emphasized in the area, the 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 of Habitat	Habitat Priority Ranking (1=high, 2=mod., 3=low)	Percent Total Forest Habitat in Evaluation Area
Grizzly bear	NA	NA	NA
Canada lynx	1,200	1	6.8
Wolverine	12,035	1	1.5
American marten	0	NA	0

Water and Fish

The Bald Snow PWA is located in both the Lake Roosevelt and San Poil subbasins (4th HUC). The area is drained by O'Brien Creek and Ninemile Creek (6th HUCs), which are tributaries of the Sanpoil River and South Fork Sherman Creek and North Fork Hall Creek (6th HUCs), all of which drain into the Columbia River.

Stream surveys were conducted in Ninemile Creek (1993), South Fork Sherman Creek (2004), South Fork O'Brien Creek (1998), and North Fork of Hall Creek (1995). Habitat conditions were good for trout. There was an abundance of large woody debris. The number of pools per mile was low. The North Fork Hall Creek contains interior redband trout and eastern brook trout. Ninemile Creek and the South Fork of O'Brien Creek contain eastern brook trout. The South Fork of Sherman Creek contains a hybrid swarm of coastal rainbow/interior redband trout and eastern brook trout.

All 6th field watersheds have been analyzed for vegetation and road conditions. When vegetation conditions and road related effects are considered cumulatively, subwatersheds were rated poor. This is due to past harvest activities, livestock grazing and high road densities especially riparian roads.

The South Fork flows into main Sherman Creek. This watershed contains eastern brook trout and a hybrid swarm of interior redband trout /coastal rainbow trout. Sherman Creek flows into the Lake Roosevelt subbasin. Approximately 95 percent of Sherman Creek watershed is above a natural falls, located approximately 3.5 miles upstream from its mouth. This prevents upstream fish passage to focal species that may reside or travel through the upper Columbia River (Lake Roosevelt).

The habitat in the O'Brien, Upper Hall and Ninemile Creek watersheds are all located above natural falls that prevents access to bull trout from all habitat on National Forest System lands.

This habitat is not considered essential to the recovery of the bull trout, which has been observed within the Lake Roosevelt occasionally in the past. This is due to the natural blockage to a majority of this habitat to utilization by bull trout. Hybridization of the interior redband trout has already occurred within the PWA and there are no populations of westslope cutthroat trout or pygmy whitefish in these watersheds.

Wilderness designation would protect the basic ecological functions of these tributaries. This objective could also be accomplished without wilderness designation if the proposed PWA remained in an unroaded condition. A degradation of riparian and aquatic processes

is expected if management actions, such as road building and timber harvest, are approved by the Regional Forester or Chief in the future within this PWA. The adverse effects of such actions could extend beyond the boundaries of the PWA and continue throughout the 6th field HUCs.

There are no existing power withdrawals, proposed impoundments or known Federal Energy Regulatory Commission permits or licenses outstanding.

The PWA has a water source protection area totaling 2,825 acres of stream that contributes to a non- community, non- transient water system for Grand Coulee Dam.

Range

The area is part of three domestic livestock grazing allotments. These allotments are grazed under a deferred rest rotation management system and include two water developments. There are three permanent water developments within the area. The permittee is not allowed to use motorized vehicles within the PWA since it is managed as non-motorized.

Table 4--Grazing suitability 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
23	62	51	0

Vegetation and Ecology

Vegetation in the area is dominated by climax forests of Douglas-fir, subalpine fir and western red cedar. Forest species, which occupied the areas after fire have resulted in extensive stands of pole sized western larch, lodgepole pine and ponderosa pine trees. Other vegetation present is bunchgrass and forbs on the drier southern exposures and hardwood brush and forbs on the northern exposures. Stream courses and other wet areas contain western red cedar, Engelmann spruce, quaking aspen, cottonwood and birch trees. Numerous forb species are present in these wet areas. The forested ridge top vegetation is of the same general composition as described for north and south slopes.

The vegetation on the ridges is more scattered due to the thin soil found on the exposed rock outcrops. There are areas occupied by grasses and shrubs on the higher elevation southern exposures, which may predate the continental glaciation and therefore be of prairie origin. A unique characteristic within the Kettle Range is the common occurrence of black twinberry (*Lonicera involucrata*) in the subalpine fir/white rhododendron plant community association and the absence of fool's huckleberry (*Menziesia ferruginea*). Labrador tea is also unique in this area as it has not been found elsewhere on the forest.

Plant communities present are primarily ponderosa pine-Douglas-fir/bluebunch wheatgrass, Douglas-fir/pinegrass, Douglas-fir/ninebark, Douglas-fir/huckleberry, subalpine fir/pinegrass, subalpine fir/huckleberry, subalpine fir/cascade azalea, and parklands.

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 (less than 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.

Generally, the priority for restoration treatments occurs within the wildland urban interface (WUI) or within the dry and mesic forest groups. The dry forest group occurs on approximately one third of the PWA. Because WUI is approximately one percent of the PWA, the prohibition on restorative treatments if designated wilderness is less of a concern.

Table 5--Stand data percentages

Suitable for Timber Harvest	Forest Groups		WUI	
	0%	Parkland	8%	Total WUI
Cold Dry		13%	WUI in Dry and Mesic Forest	41%
Cold Moist		46%		
Mesic		3%		
Dry		28%		
Non-forest		1%		

Fire

Management considerations for the area include a history of wildfire, with much of the area being burned in 1929. Since 1988, there have been two large fires, White Mountain Fire, 1988, and the Sleepy Fire, 2001, totaling over 21,000 acres. Over 68 percent of the PWA was burned over during this time. Although the area has been severely burned it is not in a high fire occurrence area. The presence of large amounts of insect-killed trees would make the chance of large fires more probable however.

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. Mountain pine beetles have been active in lodgepole pine stands since about 2003. Mountain pine beetles can attack and kill many species of pines, but are most closely associated with lodgepole pine. Lodgepole pine stands that are older than 80 years, with an average dbh of eight inches or greater are highly likely to experience outbreaks. When a mountain pine beetle outbreak occurs in a lodgepole pine stand, the beetles preferentially attack the largest diameter pines. Over the course of an outbreak, 85 percent or more of the large diameter trees will be killed and progressively smaller proportions of the smaller diameter pines. Fire that burns in lodgepole pine stands causes serotinous cones to open, regenerating a new lodgepole pine stand. About one-third of the lodgepole pine stands in the vicinity initiated following fire in 1929, and are reaching a susceptible age and size. About two-thirds of the lodgepole pine in the vicinity regenerated following wildfires in 1988 and 2001. These stands are dominated by lodgepole pine, and will be susceptible to mountain pine beetles in about 2070.

Douglas-fir dwarf mistletoe and western larch dwarf mistletoe probably occur in approximately 50 percent of the Douglas-fir and larch stands in the Republic planning areas. *Armillaria* root disease caused by *Armillaria ostoyae* is currently not a major cause of tree mortality in this PWA. The fungus is undoubtedly present in most of the stands especially those with Douglas-firs and/or grand firs but it is in equilibrium with the hosts. If stands in the PWA were to be logged or if other mortality agents were to kill large numbers of firs *armillaria* root disease would become a serious tree killer. The fungus gains energy from colonized roots and stumps and spreads to infect and kill adjacent trees, especially Douglas-firs.

Eight percent of this PWA is comprised of a Parkland forest group and is known to support stands of whitebark pine. Due to a combination of anthropogenic causes (introduced white pine blister rust, climate change, and fire suppression leading to high severity wildfires) coupled with predation from native mountain pine beetles, whitebark pine stands are at risk across their range. These whitebark pine stands are of inherent value as a plant community, for providing important habitat for wildlife including the federally listed grizzly bear, and

for their aesthetics in contributing to the social setting. Wilderness designation would limit restoration options for these stands. Manipulations would only be considered in order to protect the composite wilderness resource, and only as a last resort to preserve naturalness at the expense of trammeling. Vegetation cover manipulation and reforestation in wilderness require approval of the Chief of the Forest Service. The Regional Forester can approve pesticide use.

Threatened, Endangered, and Sensitive Plant Species

A survey of the flora of the Kettle Range proposed wilderness areas was contracted by the Washington Native Plant Society in 1985. Two sensitive plants found in that study are Franklin's phacelia (*Phacelia franklinii*), which was found on open grassy slopes, and northern twayblade (*Listera borealis*), found growing in humus beneath dense forests. Both of these plants were found in the Profanity PWA, however, this area has the same habitat and should be suspected of supporting them also.

Sensitive plants found in the area also include beaked sedge (*Carex rostrata*) and green-keeled cottongrass (*Eriophorum viridicarinatum*).

Noxious Weeds

Noxious weed inventory data is not available for this PWA. Canada thistle is established in some locations.

Minerals and Soils

Soils within the area are derived from glacial till with volcanic ash and loess deposits. They are generally coarse-textured with rapid drainage. Steeper south and west aspects have less evidence of ash deposition due to past erosion. The ash material overlies rocky granitic glacial till which appears on the ridges as rocky outcrops. Outwash and lakebed deposits occur adjacent to streams. On forested sites the more recent glaciation and ash falls have resulted in relatively undeveloped soils. More developed soils with a dark surface layer occur on south and west aspects and alpine and subalpine areas dominated by grass understory. Annual precipitation for this area is 35 inches.

The Bald Snow PWA is located in the western part of the Kettle Metamorphic Core Complex, a significant structural feature where relatively deep crustal rocks have been exhumed as a result of major extensional tectonics. The eastern half of the area is largely underlain by pre-Tertiary gneiss with isolated outcrops of layered metamorphic rocks, namely quartzite and marble. These pre-Tertiary rocks have been intruded by igneous rocks, namely quartz monzodiorite, associated with the Tertiary Kettle Crest pluton. The western half of the study area is almost entirely underlain by igneous intrusive rocks associated with the Kettle Crest pluton.

Based on historic mining claim records, a limited amount of prospecting and exploration has occurred within the PWA. The only significant historic mine or prospect in the area is in the vicinity of Edds Mountain where the Nine Mile Mining Co. recorded a limited amount of tungsten ore production. At present (4/2008), there are no active claims within the boundaries of the area.

The majority of the Bald Snow PWA has a low, or unknown potential for locatable minerals; however, there are the following exceptions. The northeast part of the PWA, in the vicinity of Edds Mountain, has a low to moderate potential for the occurrence of tungsten. The area generally northeast of Snow Mountain has a low to moderate potential for gold and zinc; and the western edge of the PWA has a low to moderate potential for the occurrence of uranium (Grant, 1982; Bernardi and others, 1982).

The area has not been the subject of expressions of interest, lease applications, or leases for coal, oil and gas, or geothermal resources. The area has no potential for the occurrence of coal and oil and gas resources and a low or unknown potential for geothermal resources.

Cultural and Heritage Resources

There are seven known cultural resources within the Bald Snow area. Among these resources are known rock features of particular spiritual significance to American Indian tribes. The foundations of Barnaby Buttes and White Mountain lookouts are also located in the area. The rock features have the potential to be candidates as a national register historic district. 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.

Land Uses and Special Uses

Grazing allotments are managed through term grazing permits.

Private Lands

The Colville Indian Reservation adjoins a small portion of the PWA, and has been accessed for timber harvest. The tribe has expressed concern that areas along the shared border could benefit from fuel reduction. Mechanical treatments would be precluded with designation as wilderness. The surrounding terrain would buffer activities occurring on private land from users who are located in more remote sections of the area.

NEED FOR WILDERNESS

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

The Bald-Snow area is approximately 70 air miles west of the 40,335 acre Salmo-Priest Wilderness on the Colville National Forest, 95 air miles east of the 529,477 acre Pasayten Wilderness, and 90 air miles northeast of the 151,435 acre Lake Chelan-Sawtooth Wilderness. The drive time from Spokane to the Salmo-Priest Wilderness is approximately 2.5 hours. The drive time from Spokane to the Bald-Snow PWA is approximately 2.5 hours.

There are only two relatively small congressionally designated wilderness areas within a three-hour drive of the Spokane area, including the adjacent Salmo-Priest Wilderness. In ranking this PWA for its potential to provide a high quality wilderness recreation setting it ranked as high. The area is relatively accessible, the area offers high quality destinations that would attract wilderness users, and there are interconnected trail systems that facilitate both day trips and overnight use.

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

Use of the Salmo-Priest Wilderness is fairly light. Wilderness use was monitored during the summer of 2004 through the national visitor use monitoring program (NVUM). Only 18 visitors to the wilderness were encountered during 21 days of sampling. However, the projected population for 2000 through 2030 in Ferry, Pend Oreille, Stevens, and Spokane Counties ranges from an increase of 40 to 67 percent. With this increase in population comes the potential for overuse and crowding in the Salmo-Priest Wilderness.

Seattle, an eight-hour driving distance from this area, is the closest major metropolitan area. The abundance of prime backcountry recreation (including wilderness) close to Seattle precludes heavy use from that area.

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

There are seven other PWAs within 15 miles of the Bald-Snow PWA (Cougar Mountain, Hoodoo, Jackknife, Profanity, South Huckleberry, Thirteenmile, and Twin Sisters), which encompass an additional 101,400 acres. This acreage, in combination with other PWAs and designated wilderness, totals approximately 226,000 acres. The only designated wilderness within the Colville National Forest is the Salmo-Priest. Most of these areas provide for non-motorized recreation, and a few are open to motorized use.

Mountain Biking, riding off-highway vehicles (OHVs) and snowmobiles has increased in popularity and demand on the national forests. Demand for primitive and semi-primitive recreation opportunities outside of designated wilderness is growing for these users, as these opportunities are restricted in designated wilderness areas. With declining trail maintenance, horse riders have become more dependent on trails outside of wilderness that can be maintained more easily with chainsaws, and there is no party size limitation.

Another consideration is off-highway vehicle recreation, which has increased tenfold in the last 30 years and is projected to continue increasing in the future. This use often conflicts with non-motorized recreation in the forest, creating need for areas where motorized recreation is prohibited.

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

Bald-Snow PWA has habitat for Canada lynx and wolverine. The wildlife sustainability index is 17.2 (a high relative ranking) and the habitat connectivity index is 16.6 (also a high relative ranking).

Fish

Fish habitat in this PWA is not considered essential to the recovery of the bull trout. Bull trout and aquatic focal species naturally can not access most of the habitat in this PWA. As

a result of this analysis, the lack of natural access to this PWA for focal species and the existing hybridization of interior redband trout and poor habitat conditions indicate that this PWA should be considered a low priority for wilderness classification.

Table 6--South Fork Sherman Creek watershed

Focal Species	Miles of Habitat	Percent Total Forest Habitat in Evaluation Area	Vegetation Score	Overall Road Density Score	Habitat Priority Ranking (1=high, 2=mod., 3=low)
Bull trout	0	0	-1.00	-1.00	3
Westslope cutthroat trout	0	0	-1.00	-1.00	3
Interior redband trout	0	0	-1.00	-1.00	3
Pygmy whitefish	0	0	-1.00	-1.00	3

Table 7--Ninemile Creek Watershed

Focal Species	Miles of Habitat	Percent Total Forest Habitat in Evaluation Area	Vegetation Score	Overall Road Density Score	Habitat Priority Ranking (1=high, 2=mod., 3=low)
Bull trout	0	0	-1.00	-1.00	3
Westslope cutthroat trout	0	0	-1.00	-1.00	3
Interior redband trout	0	0	-1.00	-1.00	3
Pygmy whitefish	0	0	-1.00	-1.00	3

Table 8--O'Brien Creek Watershed

Focal Species	Miles of Habitat	Percent Total Forest Habitat in Evaluation Area	Vegetation Score	Overall Road Density Score	Habitat Priority Ranking (1=high, 2=mod., 3=low)
Bull trout	0	0	-1.00	-1.00	3
Westslope cutthroat trout	0	0	-1.00	-1.00	3
Interior redband trout	0	0	-1.00	-1.00	3
Pygmy whitefish	0	0	-1.00	-1.00	3

Table 9--Upper Hall Creek Watershed

Focal Species	Miles of Habitat	Percent Total Forest Habitat in Evaluation Area	Vegetation Score	Overall Road Density Score	Habitat Priority Ranking (1=high, 2=mod., 3=low)
Bull trout	0	0	-1.00	-0.10	3
Westslope cutthroat trout	0	0	-1.00	-0.10	3
Interior redband trout	0	0	-1.00	-0.10	3
Pygmy whitefish	0	0	-1.00	-0.10	3

Threatened, Endangered, and Sensitive 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.

The Hall Ponds proposed Research Natural Area preserves a mid-elevation freshwater wetland.

Ability to provide for preservation of identifiable landform types and ecosystems

Designated wilderness is under-represented in the Okanogan Highlands ecoregion.

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 24 percent (approximately 4,840 acres) of the vegetative cover if this PWA. These types include alpine meadows, forb lands, non-alpine meadows, and ponderosa pine. Taken as a whole, the contribution of underrepresented vegetation types ranks as high for

the portion of this area with underrepresented cover types, and also as high 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, common in this area, and abundant stands of quaking aspen.

In particular, the forb lands, which comprise approximately 2,200 acres in this PWA, and the cottonwood and quaking aspen stands would make a significant contribution within the eastern Washington planning area.

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