

WILDERNESS EVALUATION

Quartzite - 621019

5,311 acres

OVERVIEW

History

The 2006 inventory identified this area as meeting the criteria for a potential wilderness area (PWA) as described in Forest Service Handbook (FSH) 1909.12, Chapter 70. The area had not been identified in any previous inventory. The following chart depicts the current 1988 Colville National Forest Land and Resource Management Plan direction for the 2006 PWA.

Table 1--Management area percentages (rounded)

Colville National Forest				
MA3A Recreation	MA5 Scenic Timber	MA6 Scenic/ Winter range	MA7 Wood/ Forage	MA8 Winter Range
1%	38%	18%	28%	15%

Location and Access

The Quartzite potential wilderness area (PWA) is located approximately 5 miles east of Chewelah, Washington. It is entirely within Stevens County in T. 32 N., R. 41 E., Section 9 – 14, 22, 23, 24, 26, 27 and in T. 32 N., R. 42 E., Section 19 and 30. The area is accessible from Forest Road 4342-300 on the north side, Forest Road 4342 along the east side (Cottonwood Divide Road), and from County Road 2888 (Upper Cottonwood Road) along the west side.

Geography and Topography

Generally, the area is part of the Okanogan Highlands landform province that is characterized by moderate slopes with broad rounded summits as a result of repeated continental glaciation. The broader valley bottoms are characterized by out-washed terraces. The Quartzite PWA is generally west facing and punctuated by sharp ridges and rugged terrain..

The highest point in the Quartzite PWA is 5,123 feet near a radio tower site along Jay Gould Ridge. The lowest point in the area is at approximately 2,700 feet where the area meets the Colville National Forest boundary at T. 32 N., R. 41 E., Section 8.

Current Uses

The most common uses of the Quartzite PWA are hiking, berry picking, and hunting. The highest point of the 49 Degrees North Ski Area is less than ½ mile outside of the eastern boundary of the area. Roads on the periphery of this area receive use year round in the form of sightseers in cars and trucks in the summer and snowmobiles in the winter.

Appearance and Surroundings

The area is generally natural in appearance. However, because of its close proximity to private land, some of which has been recently harvested, the views from the area are altered. The Chewelah Valley and U.S. Highway 395 are visible from points inside the area. Sounds from the valley can be heard at various times. The area is moderately steep with rocky ridges. There are numerous large dead trees in the Quartzite PWA resulting from the 2000 Douglas-fir bark beetle epidemic.

Key Attractions

The principle attraction is hiking and hunting in the area.

CAPABILITY FOR WILDERNESS

Level of Natural and Undeveloped Environment

The area has not been significantly modified by humans, and in general is natural appearing from both outside and within the area. The primary alteration to the natural integrity of the area is from the roading surrounding the area along the divide and along the lower slopes. Past logging activity can be seen on adjoining private land. There is evidence of past logging activity within the area where remnant trees were removed after fires in the late 1920s. Remnants of these activities are completely grown over and do not detract from the natural integrity. Audible traffic noise can be heard from Highway 395 on the south-facing aspect. There is a radio tower installation on Jay Gould Ridge near but not in the PWA. One is seldom more than one mile from a road open to vehicles.

Eastern brook trout have been introduced into Cottonwood Creek. Noxious weed inventory data is not available for this area.

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.

The Quartzite PWA is impaired by light pollution from the Colville, Chewelah, and Spokane area. The entire PWA rates as a class 4 on the Bortle Scale. 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.

Level of Outstanding Opportunities for Solitude or Primitive and Unconfined Recreation

Primitive recreation opportunity is present in the form of hunting and hiking. Primitive and challenging recreational opportunities or features in the area are limited.

While visitors are likely to be alone when in the PWA, solitude is limited due to the area's shape and size, and proximity to roads and human activity.

Special Features

The area has habitat for wolverine, and a small amount of habitat for Canada lynx and American marten.

Manageability of Boundaries

Approximately ten miles of the perimeter of the Quartzite PWA is co-located on the Colville National Forest boundary. Other than a survey line on the ground, there is little to stop incompatible uses from occurring, nor are these surveyed boundaries any barrier to sounds coming up out of the Chewelah Valley.

The eastern border is the Cottonwood Divide Road, which receives traffic in all seasons. While discernable on the ground, it may offer unlawful entries into the area if designated as wilderness.

A ridgeline connects this road to the Colville National Forest boundary, forming the southern edge to the Quartzite PWA. This ridgeline would be an effective discernable boundary. The forest boundary and the upper Cottonwood Road form the western boundary for the area. Jay Gould Ridge forms most of the northern boundary, with the exception of a small area that runs to the Colville National Forest boundary north of Jay Gould Ridge.

AVAILABILITY FOR WILDERNESS

Recreation

The area is used for hiking, berry picking and hunting. There are no system trails in the area. There are no developed sites and just a couple of dispersed campsites along the road system.

Overall use of the area is low. There is some use during the summer months but most of the activity is during the fall season for hunting access. Snowmobile use is allowed through most of the area.

The Chewelah Chamber of Commerce portrays opportunities for outdoor recreation in the vicinity, but does not specifically promote use of this PWA. Due to the lack of trail infrastructure, this area is not likely to increase tourism-based use if the area is designated as wilderness. The nearby ski area, 49 Degrees North, is currently planning and promoting a resort development that would provide up to 2,700 hotel and housing units and feature year round recreational opportunities situated on the private ski area property and adjoining national forest.

The Washington State SCORP Report (2002) can be used to help predict the recreational desires of these future users. If linked to the Washington State population as a whole (IAC SCORP Report, 2002), recreation preferences favor hiking and nature-based activities (53 percent and 43 percent of the population respectively). Currently, Twenty-one percent of the population bicycles (primarily road biking), nine percent of the population recreates with off-road vehicles, and three percent participates in equestrian activities (lumping use of developed equestrian centers and backcountry). The National Study on Recreation and the Environment (Cordell, 2004) offers a similar data set for Washington State residents age 16 and older. Of the types of use that could occur in PWAs, 47 percent of the population participates in day hiking, 45 percent visits wilderness or primitive areas, 28 percent engages in mountain biking, 22 percent go backpacking, 21 percent drive off-road, 7 percent horseback ride on trails, and 6 percent go snowmobiling.

All of these activities are on a growth trend and recreational supply both on and off National Forest System lands in Washington State is limited. Continuing to provide a variety of settings for recreational experiences will continue to compliment the tourism marketing strategies of these communities.

The Quartzite PWA is the only PWA on the Colville National Forest within a two-hour drive of Spokane, which makes it important to consider its potential for providing recreational opportunities, despite the current low use levels. While wilderness designation would bring the area within reach of urban day users, wilderness designation would preclude any future expansion of the ski area amenities into this area. Managing the area to complement ski area recreational amenities would be more beneficial to the region as a whole than wilderness designation.

Table 2--Miles of recreation trails

Motorized Trails	Non-motorized Trails	Snowmobile Trails
0	0	0

Wildlife

The Quartzite PWA contains low-to-mid-elevation habitats and the wildlife species present reflect this: nearly all mammal and bird species that occupy low-to mid-elevation habitats 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; a radio-collared grizzly bear spent most of a recent summer in berry fields just south of the area but, grizzly bears do not regularly occupy the area; gray wolves have not been recorded for decades; and the area is too low in elevation to support wolverine denning habitat. A finger of a lynx analysis unit bisects the area. Most of the habitat consists of warm, dry biophysical environments so little of the area provides potential lynx habitat. Precluding timber harvest from creating foraging habitat would not result in a significant loss of lynx habitat. Northern goshawks have nested in the area. The road densities in the surrounding area vary from fairly low to rather high. The greatest benefits from designating the area as wilderness would be preventing road construction, thereby benefiting species that depend on secluded habitat and high quality forage. These species would be less affected by noxious weeds that often spread

along new roads. The downside to designating the area as wilderness would be to preclude timber harvest from reducing stocking density on the drier slopes that historically supported fewer but larger trees before prescribed fire is reintroduced to maintain these stands.

The entire area contains summer range for mule and white-tailed deer and opening up the area via harvest would improve the amount of forage. In these stands, because of tree mortality due to Douglas-fir bark beetle and the long-term lack of ground fire on the area's drier slopes, introducing fire without associated harvest to remove the dead wood and dense understory would probably result in a stand-replacement fire. About 1/3 of the area is winter range for mule and white-tailed deer and elk. Most of the winter range is clustered in the southern third and on other south-facing or west-facing slopes at lower elevations. Projects like timber harvest and prescribe fire to improve big game winter cover and forage would be feasible in those areas. Introducing fire in most of these stands would probably result in a stand-replacement fire for the reasons mentioned above. If the area were designated wilderness, harvest to improve big game forage would not be an option and the forage base would continue to decline as the forest grows more closed. Though neither mule deer nor elk 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. Secluded habitat is less of a concern with white-tailed deer.

The open stands of Douglas-fir on the higher-elevation, southwest-to-northeast-running ridge that bisects the area support blue grouse. Timber harvest to open the area and prescribed fire to maintain it could be used as management tools, so wilderness designation would remove the harvest option.

Stands of late-succession trees occur throughout the area. Wilderness designation would prevent any stands from being harvested. In some of the stands periodic ground fires have not frequented the drier sites and understories of shade-tolerant trees have growth thick. In order to maintain this late-succession habitat, the understory needs to be thinned or removed either via fire or harvest. Using fire without associated harvest probably would result in a stand-replacement fire.

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	36	3	<1
Wolverine	4,574	3	<1
American marten	222	2	1.1

Water and Fish

The Quartzite PWA is located entirely in the Kettle River Subbasin (4th HUC). The PWA contains tributaries to the Cottonwood Creek (6th HUC) and Thomason Creek (6th HUC). Cottonwood Creek is the only fish-bearing stream in the analysis area; westslope cutthroat trout and brook trout have been planted in the stream. Stream surveys have recorded good habitat and a stable system within Cottonwood watershed within the PWA.

When vegetation conditions and road related effects are considered cumulatively, these two subwatersheds were rated poor. This is due to past harvest activities and high road densities.

This habitat is not considered essential to the recovery of the bull trout due to lack of access to most of the Colville River subbasin. 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. The adverse effects of such actions could extend beyond the boundaries of the PWA and continue throughout the 6th field HUCs.

Range

The area contains no domestic livestock grazing allotment. There are no improvements within the area.

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
4	0	14	0

Vegetation and Ecology

Douglas-fir dominates the landscape, with other dry forest species such as western larch and ponderosa pine. Plant associations include Douglas-fir/ninebark, Douglas-fir/ninebark-twinflower, and Douglas-fir /snowberry among others.

A relatively small portion of the PWA has an important remnant old growth forest that escaped the large fire that occurred in the 1920. Western red cedar, and western hemlock which occurs infrequently in the area, are among the species that survived this fire.

The entire Quartzite PWA qualifies as wildland urban interface (WUI) with most of that being dry forest which increases the need for fuel reduction treatments. 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 (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.

Table 5--Stand data percentages

Suitable for Timber Harvest	Forest Groups		WUI	
	0%	Parkland	0%	Total WUI
Cold Dry		0%	WUI in Dry and Mesic Forest	63%
Cold Moist		37%		
Mesic		3%		
Dry		60%		
Non-forest		0%		

Fire

Fire occurrence is low to moderate with fires occurring in the area every one to two years, mostly started by natural ignitions. A large fire in 1931 burned through the southern portion of the PWA. Generally, the dry forest group that dominates the PWA's landscape, except for the area's northerly aspects characterized by a cold moist forest group, is representative of a historical low to moderate severity fire regime with a fire return interval averaging 10 to 30 years.

Fire across the landscape of the PWA has been absent since the 1931 fire, thus ladder fuel build-up along with surface fuel loading has steadily increased over the last 77 years. This situation increases the risk of an uncharacteristically high-severity fire occurring under critical fire weather conditions, which poses a threat to the remnant old growth forest within the PWA. Furthermore, the entire area is within WUI and several homes are present near portions of the PWAs western edge.

Landscape prescribed fire activities occurred in the early 1990s along the PWAs southwestern edge. Additional activities in the form of timber harvests have occurred the past ten years just outside of portions of the PWAs northern and eastern perimeters. Thus, just maintaining opportunities to conduct prescribed fire activities along the PWAs western edge would be a moderate priority. This would allow follow-up treatment to occur in areas burned with prescribed fire approximately 15 years ago and allow for possible fuel treatments to occur elsewhere on the western edge in WUI, where relevant.

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. The most extensive damaging agent reported in the Quartzite area was fir engraver. Six pockets were mapped, ranging in size from 30 to 300 acres. Fir engravers are bark beetles that attack true firs, most commonly grand fir and white fir. Fir engraver activity is often associated with root disease. They are also attracted to trees under stress from drought, defoliation or other damage. Trees that are attacked may be killed outright, or they may survive with topkill. True fir mortality from the combined effects of root disease and fir engravers is chronic in many places, resulting in areas of continuous downfall.

Two pockets of Douglas-fir beetle activity were reported. The larger pocket, over 200 acres, was mapped in upper Sherwood Creek. Douglas-fir beetles commonly breed in blowdown Douglas-fir or in Douglas-firs that have been severely stressed by root disease, fire, heavy or repeated defoliation, or other damage. If substantial quantities of this breeding material are available the beetle population may build up to damaging levels, attacking and killing large, healthy Douglas-firs. Usually trees are killed in groups of five to 20, but group kills can become much larger during outbreaks. Removing Douglas-fir blowdown where possible can reduce tree-killing by these beetles. In 1997, Douglas-fir beetles built up high populations in Douglas-firs that were damaged during a winter storm which affected the Idaho Panhandle, the Colville National Forest, and the northeastern portion of the Okanogan National Forest. Many Douglas-firs were killed by beetles in 1998 and in subsequent years. The Douglas-fir beetle population is still high in some parts of the affected area.

Threatened, Endangered, and Sensitive Plant Species

There are no known sensitive plant species within the area.

Noxious Weeds

Noxious weed spray projects along roads bordering the area have been instituted in association with the Quartzite Ecosystem Management Project and subsequent timber sale. Noxious weed inventory data is not available for this PWA.

Minerals and Soils

Soils within the area are derived from volcanic ash, loess deposits, and glacial till. Steeper south and west aspects have less evidence of ash deposition due to past erosion. The ash material overlies rocky granitic glacial till.

The Quartzite PWA lies immediately east of the Jumpoff Joe fault, a major structural feature that separates faulted and folded Middle and Late Proterozoic rocks of the Kootenay Arc on the west from coeval rocks of the Belt Supergroup and Paleozoic rocks on the east. The subject lands are almost entirely underlain by metasedimentary rocks of the Belt Supergroup, namely meta-argillite, metasilite, and quartzite. Igneous intrusive rocks associated with the Flowery Trail granodiorite are exposed in the far northwest part of the parcel on the north slopes of Jay Gould Ridge. Based on historical claim information and the locations of historic prospects/mines, most prospecting, exploration, development, and limited production has occurred in the far northwestern part of the parcel in Section 9 of T. 32 N., R. 41 E. Both the Jay Gould and Chewelah Silver mines produced limited amounts of copper, lead, zinc, gold, and silver ore (Derkey and others, 1990). At present (3/2008), there are no active claims within the Quartzite PWA.

The mineral potential for most of the parcel is generally low or unknown but the northwest part of the area along Jay Gould Ridge has a high potential for the occurrence of copper, lead, zinc, silver, and gold mineralization related to emplacement of the Flowery Trail granodiorite (Grant, 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 a low 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 three known cultural resources within the Quartzite PWA. Historic themes for these sites are associated with mining and logging. 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

A radio tower exists on the east edge of the area, along the Cottonwood Divide Road. This tower is in a highly visible position that would detract from a wilderness setting, even

though it does not lie within the boundaries of the PWA. There has been past mining activity within the Quartzite PWA, but no mining claims are currently active.

Private Lands

There are no private lands within the perimeter of the Quartzite PWA. Private land borders approximately six miles of the area. This constitutes about 33 percent of the boundary of the Quartzite PWA. The ownership of these adjacent private lands is mixed. Some of the owners are ranchers, while others are merely land owners and residents. Timber industry owns several parcels adjacent to the area. Washington State lands border approximately four miles of the Quartzite PWA.

NEED FOR WILDERNESS

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

The Quartzite PWA is approximately 45 air miles south of the 41,335 acre Salmo-Priest Wilderness on the Colville National Forest, and 120 air miles east-southeast of the 529,477 acre Pasayten Wilderness. These wilderness areas are close enough for the local population to access within three hours. The drive time from Spokane to the Quartzite area is approximately one and a half hours, while the drive time from Spokane to the Salmo-Priest Wilderness is two hours. This area is only a fraction of the size of the Pasayten Wilderness and about an eighth the size of the Salmo-Priest Wilderness.

There are only two small congressionally designated wilderness areas within a three-hour drive of the Spokane area. In ranking this PWA for its potential to provide a high quality wilderness recreation setting it ranked as moderate. The area is the accessible PWA from the Spokane area resulting in a moderate rating; however, the area does not provide high quality destinations and attractions, and lacks a trail system.

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

Much of the use is from northeastern Washington residents. Seattle, an eight-hour drive time 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.

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. Only 18 visitors to the wilderness were encountered during 21 days of sampling. However, the projected population increases for the period of 2000 through 2030 in Ferry, Pend Oreille, Stevens, and Spokane Counties ranges from 40 to 67 percent. With this increase in population comes the potential for overuse and crowding in the Salmo-Priest Wilderness.

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

There are no other PWAs within 15 miles of the Quartzite PWA. The number of acres of PWAs and designated wilderness areas in the Colville National Forest totals approximately 226,000 acres. The roadless areas identified in RARE II constitute about twenty percent of the Colville National Forest.

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 surrounding or the need for a protected area for other unique scientific value or phenomena

Wildlife

The area has habitat for wolverine, and a small amount of habitat for Canada lynx and American marten. There is one known goshawk nesting site. Wildlife sustainability index is 3.1 (a low relative ranking) and the habitat connectivity index is 4.5 (also low relative ranking).

Fish

This habitat is not considered essential to the recovery of the bull trout. Bull trout naturally can not access the habitat, above Meyers Falls, in the Colville River subbasin which includes Thomason and Cottonwood watersheds. However, protection of the portion of the Cottonwood HUC within the PWA is important to the sustainability of the isolated westslope cutthroat trout in Cottonwood Creek. As a result of this analysis, the lack of natural access to this PWA for focal species and the existing subpopulation of westslope cutthroat trout and poor habitat conditions indicate that this PWA should be considered a low priority for wilderness classification.

Table 6--Cottonwood 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	-0.20	3
Westslope cutthroat trout	2	2	-1.00	-0.20	2
Interior redband trout	0	0	-1.00	-0.20	3
Pygmy whitefish	0	0	-1.00	-0.20	3

Table 7--Thomason 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	-0.80	3
Westslope cutthroat trout	0	0	-1.00	-0.80	3
Interior redband trout	0	0	-1.00	-0.80	3
Pygmy whitefish	0	0	-1.00	-0.80	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 moderate 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 moderate priority for preserving rare plant refugia with a wilderness designation

Ability to provide for preservation of identifiable landform types and ecosystems

This area is classified as Okanogan Highlands using Bailey's Ecoregion classification, which is underrepresented in the wilderness system. The area is part of the Selkirk Mountain 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 23 percent (approximately 1,240 acres) of the vegetative cover if this PWA. These types include forb lands, non-alpine meadows, ponderosa pine, and western red cedar. 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 aspen.

In particular, the western red cedar cover type, which comprises approximately 1,000 acres in this PWA, would make a significant contribution within the eastern Washington planning area.

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