

WILDERNESS EVALUATION
CLACKAMAS MOUNTAIN - 608003
13,212 acres

12,775 Acres (Okanogan - Wenatchee National Forest)
 437 Acres (Colville National Forest)

OVERVIEW

History

The Clackamas Mountain portion of the area was originally inventoried as roadless during RARE I. The Granite Creek portion was identified following RARE I. During the 1979 RARE II process, the two areas were combined to form the Clackamas Mountain Potential Wilderness Area (PWA). The RARE II process allocated the area to non-wilderness management. The 1979 Tonasket Unit Land Management Plan allocated approximately 8,500 acres to wildlife management and approximately 6,500 acres to timber/forage management.

The 2006 inventory removed approximately four acres from previous inventory due to road construction and logging; 286 acres were added to the previous inventory as they meet the criteria for a potential wilderness area as described in Forest Service Handbook (FSH) 1909.12, Chapter 70. The following chart depicts the land and resource management plan direction for the 2006 potential wilderness area.

Table 1--Management area percentages (rounded)

Okanogan					Colville
MA05 Recreation/ Scenery	MA08 Research Natural Area	MA14 Wildlife Diversity Habitat	MA25 Timber/ Range	MA26 Deer Winter Range	MA1 Old Growth Dependent Species Habitat
2%	11%	11%	65%	8%	2%

Location and Access

The Clackamas PWA lies within T. 37 and T. 38, R. 31, Okanogan County, Washington. It is located in the northeast portion of the Okanogan-Wenatchee National Forest, and the northwest portion of the Colville National Forest. State Highway 20, County Road #9495, and Cougar Creek Road #100 provide access to the general area. The area is adjoined on the west and north sides by private lands. Both system and non-system trails enter the area.

Geography and Topography

The landscape in the area is generally rugged. Ridge tops have gentle to moderate slopes, but drop off into the drainages with steep bluffs. Topography is broken, with few consistent, continuous slopes. One portion of the southeast corner of the area has very gentle topography. Elevations range from 3,000 feet in West Fork Granite Creek to approximately 5,500 feet on top of Clackamas Mountain.

Current Uses

The entire area is grazed under livestock permits. There are popular motorized non-system trails that loop out of Sweat Creek Picnic Area. The area is also popular with horseback riders and hunters. An outfitter-guide uses the area during the fall mule deer general rifle season.

Appearance and Surroundings

The north side of the PWA is heavily forested with mixed-conifer timber stands, while the south side is more open and dominated by ponderosa pine and pinegrass. The Maple Mountain area, to the southeast, is not part of the PWA and has been treated silviculturally. More fuels reduction projects are planned in that vicinity.

Key Attractions

The area is mostly used by hunters during the mule deer seasons. There are few motorized trails on the Tonasket Ranger District, so trails beginning at Sweat Creek Picnic Area are popular with trail bike and all-terrain vehicle (ATV) riders.

CAPABILITY FOR WILDERNESS

Level of Natural and Undeveloped Environment

The area provides rugged topography, bluffs, and forested stands that are primarily a natural setting with some scenic panoramas. Clackamas Mountain is surrounded by private lands and State Highway 20, so sights and sounds of farming activity and traffic are evident from many sites.

There has been no timber management on the Okanogan-Wenatchee portion of the potential wilderness area, so the area appears fairly natural and unmodified by humans. Livestock grazing activities are obvious during the months June through September, and the range permittees help maintain a number of stock driveways that also serve as non-system hiking, motorcycle and horseback riding trails. The most substantial impacts upon the natural integrity and appearance of the area are several drift fences, the livestock driveways, water improvements, and declining forest health due to fire exclusion resulting in overstocked stand conditions.

Eastern brook trout have been introduced.

Noxious weeds are found in multiple locations.

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 good. There may be localized disturbances due to grazing activities.

The Clackamas Mountain PWA is partially impaired by light pollution from the Republic area. The eastern portion of the area (37 percent of the PWA) rates a Class 3 on the Bortle Scale, and the remaining portion (63 percent of the PWA) rates as a Class 2. 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. Visual observing is still relatively unimpaired. 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.

Outstanding Opportunities for Solitude or Primitive and Unconfined Recreation

While the area is generally rugged, only moderate opportunities for challenge await the visitor. The area is not particularly isolated, and all sites could easily be reached in less than a day.

Some feeling of solitude and remoteness can be obtained because the broken topography of the area offsets its relatively small size. Activity outside the area soon becomes unnoticed from interior valleys. The area offers limited opportunity for primitive recreation, because no portion is over three miles from a road. The livestock driveways provide somewhat easy access for range permittees, hikers, hunters, horseback riders, motorcycle and ATV enthusiasts. There is a seasonal restriction on motorized uses in the northwest portion of the area during the months December through March.

There are approximately 10 miles of trails used by livestock permittees, hunters, outfitter-guides and recreation visitors. These trails are now maintained by the range permittees, outfitter-guides and motorized recreation enthusiasts.

Special Features

There is a proposed 1,400 acre research natural area located in the northeast portion of the potential wilderness area.

The PWA provides potential habitat for wolverine and Canada lynx, whose distribution is very limited within the region.

The *Cultural Resource Overview of the Tonasket Planning Unit* (Uebelacker, 1978) identified evidence of a couple of sheep camps in the area. In addition, evidence of a stock driveway and the Clackamas Indian Trail remain. The Clackamas Trail was used as access from Granite Creek to Cougar Creek in the early 1900s.

Manageability of Boundaries

The relatively small size of the area would make management as wilderness difficult. The most identifiable topographic feature is the ridge between Cougar Creek and Granite

Creek. However, placing boundaries there would reduce the size of the area by over fifty percent and even further reduce the capability of managing it for wilderness.

AVAILABILITY FOR WILDERNESS

Recreation

There are no special recreation features. The Sweat Creek Picnic Area on Highway 20 is the only developed site near the area. Use at this site has little impact on the interior of the area. Twelve miles of trails and the livestock driveways provide fairly easy access for visitors. The area is used mostly for hunting, horseback, motorcycle, and ATV riding currently. The area is also used for livestock grazing from June through September.

Table 2--Miles of non-system recreation trails

Motorized Trails	Non-motorized Trails	Snowmobile Trails
10	2	0

Wildlife

Great gray owls are reported to occur in the area (R6 Regional Forester’s Sensitive List). About 3,000 acres are in winter range where mule deer tend to concentrate. Approximately 2,800 acres of mixed-conifer old growth has been field verified, providing some of the most productive habitat types for wildlife. High snag numbers provide excellent habitat for many cavity dwelling animals. At least three ridges provide winter habitat for blue grouse. Numerous other wildlife species common to the national forest inhabit the area. Though Canada lynx habitat in this potential wilderness area is not optimum, the Maple Lynx Analysis Unit has been located there. Canada lynx is federally listed as threatened. Although this area does not provide expansive security habitat for wide ranging carnivores such as grizzly bears, gray wolves, or wolverines, it does provide connectivity between better suited habitats. This potential wilderness area lies approximately 30 miles to the east of the North Cascades Grizzly Bear Recovery Zone and approximately 65 miles to the west of the Selkirk Grizzly Bear Recovery Zone.

Potential wilderness areas 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 this particular 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)	%Total Forest Habitat in Evaluation Area
American marten	951	3	<1
Canada lynx	474	2	<1
Wolverine	10735	2	<1

Water/Fish

Cougar Creek (north) and West Fork Granite Creek (south) are the only Class 3 perennial stream within or adjacent to the area. They both support native trout and local fishermen occasionally use both streams for fishing. All other streams in the area are ‘Class 4’ intermittent streams (i.e. Sweat Creek and Maple Creek). The area is drained by Cougar Creek, Sweat Creek, and Maple Creek. Cougar Creek is one of the headwaters of Toroda Creek and a tributary of the Kettle River and thus eventually the Columbia River. Sweat Creek and Maple Creek drain into the West Fork of Granite Creek, which is a tributary of the Sanpoil River, which eventually drains into the Columbia River. Water yields from the area are low. It does not contribute significant amounts of stream flow to the major drainages in the area. Redband trout, a sensitive fish species, has been found in the lower reaches of some streams within the potential wilderness area. Rainbow trout and eastern brook trout have also been found in the area.

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

Range

The area includes all but 80 acres of the Wauconda Cattle and Horse Allotment on the Okanogan-Wenatchee National Forest. A small portion of the Trout Creek Cattle and Horse Allotment on the Colville National Forest is also in the area. The allotment is grazed under a two-unit deferred rotation management system with natural barriers separating the two units. There are about 1,300 animal unit months of grazing use. The entire portion of the Trout Creek Allotment is unsuited for grazing, due to its steepness and dense timber.

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
17	99	33	0

Vegetation and Ecology

The majority of lands support mature mixed-conifer stands. Trees cover approximately eighty percent of the area draining north. About fifty percent of that portion of the area draining south is tree covered. Scattered trees occur on southern slopes. Principal tree

species are Douglas-fir, western larch, and ponderosa pine. Lodgepole pine, subalpine fir, and Engelmann spruce are also found in smaller numbers. There is approximately 12 million cubic feet (60 million board feet) of standing merchantable volume. Approximately fifty percent of that portion of the area draining south is tree covered. Scattered trees occur on southern slopes.

Due to the proximity of the state highway, other roads and private properties on three sides, 76 percent of the area falls within mapped wildland urban interface (WUI). Generally, the priority for restoration treatments occurs within the wildland urban interface (WUI) or within the dry and mesic forest groups. Because WUI represents 76 percent of the potential wilderness area, the prohibition on restorative treatments is a concern.

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 $>20 \text{ ft}^3/\text{ac}/\text{yr}$).
- The area has not been withdrawn from timber harvest or production.
- Soil, slope, or other watershed conditions will not be irreversibly damaged (based on soil attributes for erosion, instability, or compaction potential, slopes >65 percent, and certain land types)
- Reforestation can be assured within five years (lack of shallow soils, low frost heave potential, low surface rock, plant community type, certain land types, and elevation $<5,500$ feet)
- Economic and technologic viability (<0.5 miles from existing transportation system, species value or condition, volume availability, logging systems)

In consideration of all the criteria for determining timber harvest or timber production suitability and not just the fact that harvestable species can grow at a specific location, it appears this PWA does not have conditions that pass all the criteria. The main criterion for failure is that unacceptable resource impacts would likely occur due to road construction activities. This does not preclude helicopter operations that could fly material over sensitive areas to adjacent road systems. However, in most if not all cases helicopter logging and the associated expenses (such as manual slash treatments) would not be an economically viable option.

Table 5--Stand data percentages

Suitable for Timber Harvest	Forest Groups		WUI	
	0%	Parkland	0%	Total WUI
Cold Dry		0%	WUI in Dry and Mesic Forest	59%
Cold Moist		43%		
Mesic		0%		
Dry		54%		
Non-forest		2%		

Fire

The area has experienced 24 lightning fire starts since 1945. This area is roughly divided into two different fire-created ecosystems. The western portion of the area is characterized as a grass fuel-type dominated by ponderosa pine, while the eastern portion is more representative of a Douglas-fir type. The fire carriers are most often needles and branch wood deposited on the forest floor. This area and adjacent private land is cooperatively protected under a reciprocal fire agreement by the Washington State Department of Natural Resources and the Forest Service. The greatest risk of a wildfire affecting this area is from the spread of fires that originate on private land. Application and use of unplanned ignitions (i.e. lightning and human-caused) to accomplish other resource objectives are not permitted under the current management direction.

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 area affected by Douglas-fir beetles expanded considerably in 2007. Twenty pockets were mapped, ranging in size from two to 30 acres.

Western balsam bark beetle was reported more widely in 2007 than in 2006. A large pocket was mapped north of Clackamas Mountain. Western balsam bark beetle attacks subalpine firs that are stressed by drought or other damage. They are thought to build up high populations in subalpine fir blowdown. When beetle populations are high, they can more easily attack and kill healthy trees. Removing blowdown may be a way of reducing tree-killing by these beetles.

Decline of subalpine fir has been noted in many places in eastern Washington. Some of the damage attributed to western balsam bark beetles or balsam woolly adelgids has been caused by other agents, including *Pityoktines minutus* beetles and *cytospora canker*. Firs that have been stressed by factors such as drought or root disease become susceptible to

secondary bark beetles and weak pathogens. Field verification may be necessary to determine the causes of subalpine fir decline and mortality.

A large amount of damage by fir engravers was detected. Large pockets were mapped between Clackamas Mountain and Maple Mountain. 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. The most effective management technique for reducing damage by fir engravers is to select against grand fir and white fir during intermediate treatments.

No defoliation by western spruce budworm was detected.

Threatened, Endangered, and Sensitive Species

Rare plants known to occur in this area include velvet-leaved blueberry (*Vaccinium myrtilloides*), Okanogan fame flower (*Talinum sedifforme*) and northern golden carpet (*Chrysosplenium tetrandum*).

Noxious Weeds

Noxious weeds were last inventoried in the Clackamas PWA during 2004. That inventory found one small, isolated patch of orange hawkweed. Numerous patches of Saint Johnswort were also found. The adjacent roaded portion of the Clackamas Block near Maple Mountain has patches of a half-dozen different weeds that are being treated and monitored. Yellow and orange hawkweed, dalmation toadflax, musk thistle, diffuse knapweed, common houndstongue and Saint Johnswort have all been found in the Maple area southeast of the Clackamas PWA. Weeds in that area have been actively treated since 2000.

Minerals and Soils

The Clackamas Mountain PWA is primarily underlain by Eocene volcanic rocks. The far southern and eastern parts of the area are underlain by older intrusive igneous rocks and/or metamorphic rocks. The area has received the attention of prospectors periodically since the late 1800s. The only mine or prospect of significance in the area is the Wauconda Mine which is located immediately west of the PWA. From 1898 to 1904, several thousand feet of underground workings were driven at the Wauconda mine but those efforts never resulted in any recorded production (Moen, 1980). Prospecting and exploration for uranium during the 1970s and 1980s occurred in the far south and east parts of the PWA. The southern part of the PWA has a moderate to high potential for the occurrence of gold, zinc, and uranium while the area east of Maple Mountain in the eastern part of the area has a low to moderate potential for the occurrence of uranium (Grant, 1982). At present (6/2008), there are no active claims within the Clackamas Mountain PWA.

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.

Soils are derived primarily from glacial till. Areas of coarse textured soils may be intermixed with areas of fine-textured lacustrine soils. These soils generally exhibit high

infiltration rates. Coarse textured soils have low to moderate erosion hazards and are considered generally stable for management activities. Fine textured soils have a high mass erosion hazard when undercut.

Cultural and Heritage Resources

The *Cultural Resource Overview of the Tonasket Planning Unit* (Uebelacker, 1978) identified evidence of a couple of sheep camps in the area. In addition, evidence of a stock driveway and the Clackamas Indian Trail remain. The Clackamas Trail was used as access from Granite Creek to Cougar Creek in the early 1900s.

Land Uses and Special Uses

One outfitter-guide, operating under permit, uses the area during hunting season. Range allotments are managed under a term grazing permit.

Private Lands

Private lands border the western half of the PWA, where management of wildland fire is a concern. There are no private inholdings within the PWA.

NEED FOR WILDERNESS

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

There are no other wilderness areas nearby; however, there are three in the general vicinity. Clackamas Mountain is about 80 air miles west of the 41,335 acre Salmo-Priest Wilderness on the Colville National Forest, 50 air miles east of the 529,477 acre Pasayten Wilderness, and 80 air miles northeast of the 151,435 acre Lake Chelan-Sawtooth Wilderness. The Clackamas PWA is about a two to three-hour drive from Spokane and a five to six-hour drive from the Puget Sound area.

A separate analysis identified where the PWAs could contribute to the recreation setting either by preserving the primitive recreation setting adjacent to existing wilderness, or by contributing assessable and attractive day use destinations (which are under heavy pressure in existing wilderness). The analysis also examined which PWAs would contribute either a unique landform to the wilderness system, or where trails access vegetation types that are underrepresented in wilderness at a regional scale.

In ranking this PWA for its potential to provide a high quality wilderness recreation setting it ranked as moderately high because this exhibits the Okanogan Highlands landform, which is underrepresented in wilderness and the trails in the area are readily accessible from Highway 20 and are close to the town of Republic. Other PWAs on the Colville National Forest received a higher ranking due to being closer to Spokane and having more to offer as a wilderness setting. Vegetation types would also provide a setting that is currently unrepresented in wilderness. Old system trails in this PWA have recently been added back to the system, and Congress recently established the Pacific Northwest National Scenic Trail, which traverses this area.

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

Overall, there is a continuous, slight increase in the number of people visiting wilderness areas. The user groups showing the most increase are day-hikers in the Pasayten and Lake Chelan-Sawtooth Wildernesses and day horse users in the Lake Chelan-Sawtooth Wilderness. There also appears to be a slight increase in off trail travel to specific destinations within these wilderness areas. There is also a trend to shorter multiple-day trips.

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

The Colville and Okanogan-Wenatchee National Forests provide large backcountry areas (that are not designated wilderness) within 125 miles of the Clackamas PWA that provide opportunities for unconfined outdoor recreation. These areas include the PWAs of the Kettle Mountain Range, the Long Swamp and Tiffany PWAs and the Abercrombie-Hooknose PWA. These areas afford both motorized and non-motorized opportunities.

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***

The area provides habitat for wolverine. For American marten (*Martes americana*), grizzly bear (*Ursus arctos*), wolverine (*Gulo gulo*), and Canada lynx (*Lynx canadensis*) the wildlife sustainability index is 5.9 (a low relative ranking) and the habitat connectivity index is 12.5 (a moderate 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 low ranking based on these factors.

Rare Plant Species

An analysis was completed to prioritize which PWAs would contribute the most to providing refugia for those plant species on the species of interest/species of concern (SOI/SOC) list. The analysis ranked three factors. The first factor, the total number of sites occurring within the PWA, ranked as low for this PWA. The second factor, which 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:

Wilderness lands are under-represented in the Okanogan Highlands Ecoregion as classified using the Bailey's Ecoregion Classification system.

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 11 percent of the vegetative cover of this PWA (approximately 1,420 acres). These types include forb lands, non-alpine meadows, and ponderosa pine. Taken as a whole, the contribution of underrepresented vegetation types ranks as moderate for the portion of the 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 fine scale cover types well represented in this PWA aspen. In addition there are sparse amounts of cottonwood.

In particular, the aspen cover type, which is common in this PWA, would make a significant contribution within the eastern Washington planning area.