

WILDERNESS EVALUATION

Stormy Mountain - 617046

28,930 acres

OVERVIEW

History

The area was inventoried under RARE I but was not selected for further study for wilderness potential. In 1974 the area was allocated to sustained resource production under the Chelan Unit Plan. It was not identified during RARE II most likely due to some limited resource extraction that had occurred. It was re-inventoried in 1983 but none of the area was allocated for wilderness under the Washington State Wilderness Act of 1984. The area was identified as an inventoried roadless area in the 1990 Wenatchee National Forest Land and Resource Management Plan.

The 2006 inventory removed approximately 4,339 acres from the previous inventory due to nonconforming uses such as road construction and logging; 653 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 1990 Wenatchee National Forest Land and Resource Management Plan direction for the 2006 potential wilderness area.

Table 1--Management area percentages (rounded)

Wenatchee National Forest				
EF1	GF	RE2A	SI2	ST2
2%	42%	33%	1%	22%

In 1970, under his authority, the Chief of the Forest Service established the Entiat Experimental Forest. Of this area, 1,632 acres lie within the boundaries of the Stormy PWA. The experimental forest is dedicated to a variety of forest resource management activity-oriented research projects.

Location and Access

The Stormy Mountain potential wilderness area is located along the divide between Lake Chelan and the Entiat River Basin in Chelan County, Washington. The area lies 100 air miles northeast of Seattle and 30 miles north of Wenatchee primarily in T. 28 N., R 20 E. and R.19 E. Access is by the Shady Pass and Baldy Mountain roads from the Entiat District and Slide Ridge Road on the Chelan side. Trail access is via Pot Peak, Devils Backbone, North Fork Twenty-five Mile Creek, Entiat, Lake Creek, and Four Mile Ridge Trails.

Geography and Topography

This area is characterized by the rugged Devils Backbone ridge separating the Entiat River drainage from the Chelan drainage. The drainage basins on both sides of the ridge are forested ecosystem but they have experienced extensive stand replacing fires over the last 30 years. The topography suggests these areas were formerly cirque basins that were formed by small alpine glaciers. Lake Creek basin is characterized by extensive wet, marshy areas along the bottom of the upper basin. Elevations range from 2,500 to 7,200 feet. About 8 percent of the soils have formed in deposits (depths vary from as little as 6 inches to more than 30 feet) of volcanic ash and pumice, and the rest have formed in granitic materials. Trails through ash soil areas are dusty, and the material is easily displaced. Once the protective vegetation has been removed, ash soils tend to be very erosive in trails and in campgrounds. The granitic materials have good bearing strength, are not very dusty, and tend to stay in place.

Appearance and Surroundings

The area has moderate to high visual variety in landforms, water forms (lakes and streams), and moderate variety in rock forms and vegetation. Parts of Lake Creek basin, Pot Peak, Stormy Mountain, and Devils Backbone ridge top have high visual variety.

The Twenty-Five Mile and Stormy Creek drainages are evenly textured and have less visual variety. Evidence of severe fire activity over the past 100 years is evident in the existing vegetation. The Twenty-Five Mile Creek watershed has been highly impacted by fires that occurred in 1970, 1998 and 2004. These fires created large areas of complete stand mortality as well as mixed severity mosaics of high intensity, moderate, and unburned areas. The area is steep and has pronounced ridge tops such as the Devils Backbone. Dense vegetative patterns occur in the creek bottoms. The area is primarily viewed as foreground and middle-ground from the Devils Backbone Trail, Shady Pass Road, Pot Peak Trail area, and as background from portions of the Lake Chelan high country. The Stormy Mountain area is surrounded by the Shady Pass Road, the upper end of the Entiat drainage, the Slide Ridge Road, and the North Fork of Twenty-Five Mile Creek.

All of Preston, Brennigan, Fox, and Dill Creek drainages were burned during the 1970 fires and the road system is very extensive. The upper portions of Preston, Brennigan, and Dill Creeks are outside of this existing road system and remain in the 2006 potential wilderness area. Fox Creek remains unroaded and is part of the 2006 potential wilderness area. These upper reaches are very steep rocky chutes and outcrops.

Current Uses

The current use is for dispersed recreation. Multiple-use trail use accounts for the majority of dispersed recreation activity in addition to seasonal activities like hunting. There is a proposed all terrain vehicle (ATV) project on the existing road system adjacent to the 2006 potential wilderness area. Various research activities occur within the Fox Creek watershed including maintenance of a stream weir.

Key Attractions

Devils Backbone and Stormy Mountain are popular destinations for multiple-use trail users. Lake Creek Botanical area contains unique wetland habitats.

CAPABILITY FOR WILDERNESS

Level of Natural and Undeveloped Environment

All of the trail systems in this area are open to motorbikes as well as hikers, mountain bike riders, and equestrians. The trail access and perimeter roads make for relatively easy access.

As with most of the Stormy Mountain potential wilderness area, views from peaks and ridge tops include numerous roads, past timber harvest, and other human improvements.

The core areas, Upper Lake Creek basin and the head of Stormy Creek, are natural appearing. Some adjacent roads are visible from most areas of this unit. From Four Mile Ridge and the summit of the Chelan Mountains, evidence of timber harvest activities and roads are very evident.

Due to its location between the highly developed lower Lake Chelan area and the heavily roaded Preston Creek drainage, many adjacent roads and past timber management activities are visible. Within the potential wilderness area, firebreaks on ridges and helispots are evidence of numerous fire suppression actions. The concrete foundation of one old lookout structure is located on Stormy Mountain.

The adjacent land in Twenty-Five Mile Creek is heavily roaded and has had a large amount of timber cutting activity. Evidence of human activity, including a seed orchard, rock quarry, and recreational developments around the mouth of Twenty-Five Mile Creek, are easily viewed from the high points of the potential wilderness area. The city of Chelan is visible from Stormy Mountain.

The area has one, two-mile long, old jeep road along Devils Backbone ridge south of Handy Spring that is managed as a single track trail. Past tree thinning and planting have occurred in portions allocated to general forest under the Forest Plan, but the visual effects of these activities have blurred due to fire.

The area was a very heavily grazed sheep allotment in the early 1900s, and was also grazed by horses and cattle to some degree. The resulting overgrazing likely caused a decline in grazing in the 1930s. Evidence of past use is still encountered.

Several noxious weed species have been introduced into the PWA. Diffuse knapweed is established on 58 acres of the PWA. Bull thistle and St. Johnswort are established on 35 acres of the PWA. Some weeds may be present in areas that were heli-mulched after the 2004 fire. The visual effects of heli-mulching are gradually disappearing.

The Stormy Mountain PWA is partially impaired by light pollution from the Twenty-five Mile Creek and Chelan area. The northwestern portion of the PWA (15 percent of the PWA) rates a Class 2 on the Bortle Scale, whereas the southeastern portion (84 percent of the PWA) rates as a Class 3. A small portion in the northeastern tip of the PWA (1 percent

of the PWA) rates as a Class 4. 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. 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.

Water quality data is not available for most of the PWA, however due to the relatively low level of disturbance water quality is assumed to be high. There may be localized disturbances due to grazing activities.

Brook and rainbow trout are non-native species that have been introduced into the PWA.

Level of Outstanding Opportunities for Solitude or Primitive and Unconfined Recreation

Due to the level of surrounding development and human recreation activities, the Stormy Mountain PWA has limited opportunities to experience isolation from the evidence of humans.

Entiat Portion

Opportunities for primitive recreation experiences are available in the form of dispersed camping, hiking, and horse-back riding. There is a small lake with no trail access called Bear Lake located near Angle Peak.

Devils Backbone and Four Mile Ridge offer some opportunities for adventure and self-reliance including rock scrambling for individuals willing to travel on foot off of established trails.

Chelan Portion

Opportunities exist for backpack camping, big game hunting, horseback riding, and hiking. A limited fishery exists in Twenty-Five Mile Creek; however, recreational activities are affected by sights, lights, and sounds in Twenty-Five Mile Creek. The road system that borders three sides of the PWA, and the motorized trail system offer relatively easy access; therefore, off-site visual and evidence of human presence are common. Though much of the south fork of Twenty-five Mile Creek provides untrailed areas, very limited opportunities exist for solitude or outstanding opportunities for primitive and unconfined recreation. Some backcountry skiing occurs in the south fork – an opportunity that is made available by the groomed snowmobile system in the adjacent area.

Special Features

Special features include Devils Backbone, Stormy Mountain, and Windy Camp's boggy area. The Lake Creek Special Interest Botanical Area is a unique riparian zone in the vicinity of Fawn Lakes Meadows within the Entiat Ranger District portion (Lake Basin). These meadows are ancient lakes that have silted in but are still marshy. There are plant communities and fauna that are unique to this type of setting. The Pot Peak portion of Twenty-Five Mile Creek also supports a small remnant population of Chelan mountain snails, a local endemic species. Part of the Chelan side is also occupied northern spotted owl habitat within designated critical habitat. The area is within the North Cascades Grizzly Bear Recovery Zone, in the lynx secondary recovery area, and provides source habitat for wolverine. All of these species have very limited distribution within the region.

Manageability of Boundaries

The boundaries primarily follow existing roads or streams which are easy to locate on the ground. All of the roads are active travel routes in summer and winter (groomed snowmobile route) and therefore offer little in terms of shielding the area from sight and sound of adjacent activities. The existing PWA boundary in Preston, Brennigan and Dill creeks on the southwest side of the area are currently drawn along a contour line which is not distinct on the ground. All boundaries could be adjusted to a specified distance from readily identifiable features.

AVAILABILITY FOR WILDERNESS

Recreation

The old jeep road along Devils Backbone ridge is closed to four-wheeled traffic but does allow all other trail use and winter snowmobile access. The area has an extensive multiple-use trail system including approximately 30 miles of trails reconstructed with Washington State Interagency Committee for Outdoor Recreation (IAC) funds. It used primarily by single track motorized users and is accessed primarily from the Lake Creek Campground on the Entiat Ranger District. Mountain bikers also use the area, and the Chelan side receives hiking use especially in the spring. The trail system is part of a much larger system that includes trails in the Entiat -Chelan PWA.

If this PWA was designated into the wilderness system, lost recreation opportunities would include 52 miles of motorized trail system, which is also enjoyed by mountain bikers. There has also been some interest over the years in developing either a downhill ski area in this PWA or a snowcat ski operation.

The Stormy Mountain PWA is situated between the towns of Entiat and Chelan. Chelan in particular has a tourism-based economy. Neither community actively promotes the Stormy Mountain area in its promotional materials. Stormy Mountain is part of the scenic backdrop from Lake Chelan and the Entiat Valleys.

If the area is designated as wilderness, it is difficult to predict the effect on tourism-based revenue. The high levels of motorized use from the Entiat Valley side would not likely be replaced by hikers and equestrians due to the long dusty approach to get from the Entiat

Valley to the high country. However, from the Lake Chelan side the area would likely have a marked increase in use from hikers and pedestrians due to the fact that the Chelan area lacks non-motorized trails accessible from the community. The area is not likely to support much overnight use due to a relative lack of water.

Table 2--Miles of recreation trails

Motorized Trails	Non-motorized Trails	Snowmobile Trails
52	0	0

Wildlife

The habitat in this area is frequently disturbed by fire. Species present are those species adapted to a frequent lower severity fire regime at the lower elevations, and a less frequent and more severe fire regime at higher elevations. The habitat currently reflects the effects of fire exclusion and subsequent severe fire events. Much of the area is in an early successional condition, with patches of mature trees where the fires burned less intensely, particularly in valley bottoms.

Early successional species such as mule deer and black bears are relatively common, but patchy habitat remains for species dependent on old growth ponderosa pine habitat (white-headed woodpeckers); some boreal forest habitat in Windy Creek and other higher elevation headwater areas (lynx); medium-large tree, cool moist habitats in the valley bottoms (pileated woodpeckers, American marten); medium-large tree habitats in general (northern goshawk); open forest habitat (western bluebirds, western gray squirrels); open forest – post fire habitats (black-backed woodpeckers, Lewis’ woodpeckers); woodland/grass/shrub habitats (golden eagles); and riparian/large tree (bald eagle and harlequin duck) and riparian shrubby/deciduous (red-naped sapsucker) habitats.

Habitat for unique endemic species such as the Chelan mountain snail is present on Pot Peak, and potentially in other portions of the PWA. Although there are some motorized trails within the PWA, there are also still large areas of “core” or “security” habitat, particularly in the south fork of Twenty-Five Mile Creek. These habitats may provide remote habitat for species that are sensitive to human disturbance (e.g. grizzly bear, gray wolf, perhaps wolverine). Mountain goats also appear to be much more common in unroaded areas of the Chelan Ranger District.

Residual/recovering old growth dry forest habitats, medium/large tree habitats, and their associated species would be less available over time if the area were designated as wilderness, due to the inability to engage in mechanical vegetation treatment in wilderness, and also to the inability to allow natural fire to play its ecological role in an area so close to the Wildland Urban Interface. Such management would make habitat for species dependent on open and/or grassy/shrubby habitats more available.

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 Habitat	Habitat Priority Ranking (1=high, 2=mod, 3=low)	%Total Forest Habitat In Evaluation Area
Grizzly bear	19,100	2	2
Canada lynx	3,951	2	5
Wolverine	19,155	2	2
American marten	1,400	2	<1

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

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

Late Successional Habitat Area	Acres of Dry Forest
Shady Pass	10,700

Water and Fish

Of the 28,927 acres in the proposed Stormy Mountain IRA, all but 9 acres occur in five different subwatersheds. The five different areas of sizable acreage analyzed in detail are located in the following subwatersheds (6th field Hydrologic Unit Code): 15,703 acres in or 58 percent of the 27,016 acre Twentyfive Mile Creek subwatershed; 78 acres or less than 1 percent of the 23,464 acre First Creek subwatershed; 6,335 acres or 31 percent of the 20,487 acre Lake Creek subwatershed; 2782 acres or 8 percent of the 33,553 acre Middle Entiat River subwatershed; 4,020 acres or 10 percent of the 41,020 acre Mud Creek subwatershed. In these five subwatersheds, the U.S. Forest Service manages the following percentages of the subwatersheds: Twentyfive Mile Creek (95 percent); First Creek (52 percent); Lake Creek (100 percent); Middle Entiat River (97 percent); and Mud Creek (81 percent). A portion of the proposed Stormy Mountain PWA drains into the Lake Chelan subbasin (4th HUC) on the southeast shoreline, which is barriered to migratory ocean fish. The Middle Entiat and Mud Creek subwatersheds drain into the Entiat subbasin, which contains listed spring Chinook, steelhead, and bull trout. Habitat supporting listed spring Chinook and steelhead in the Entiat subbasin downstream of the proposed Stormy Mountain PWA was designated as Critical Habitat by the National Marine Fisheries Service in January 2006.

Stream reach conditions in the Twentyfive Mile Creek subwatershed that respond to natural and human caused disturbances were evaluated as good because collected stream data values were similar to expected values measured in high functioning stream habitat elsewhere on the Okanogan and Wenatchee National Forest. Subwatershed vegetation conditions were somewhat altered from expected natural forest conditions; analyzed road effects were moderate. Vegetation condition and road effects considered cumulatively

were rated fair. When vegetation condition and road effects were combined with measured stream responses to summarize overall subwatershed condition, this subwatershed was rated fair.

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

When compared against unmanaged subwatersheds in good condition on the Okanogan and Wenatchee National Forest, some vegetation condition has changed from expected condition and road density is moderate for Lake Creek subwatershed. Considering changes in vegetation and road density in combination, this subwatershed was rated fair. Stream reach data has not been collected in sufficient quantity for analysis; therefore watershed condition has not been evaluated.

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

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

Lake Creek, the Entiat portion of this PWA, contains the most significant and accessible fishery. The mid-to-upper reaches of Lake Creek support a population of introduced rainbow trout.

Stormy Creek supports a modest population (10 fish per 100 square feet) of introduced rainbow trout in its upper perennial reaches.

In the Chelan portion of this PWA, Twenty-five Mile Creek supports a mixed fishery for introduced eastern brook trout, rainbow trout, and a declining number of native cutthroat trout. Recent wildfires (North 25 in 1998 and Pot Peak in 2004) have degraded aquatic habitat somewhat due to sediment. The main stem is under-fished and the forks do not

have high enough (fish) levels to attract a recreational fishery given remoteness and access problems.

The Kokanee spawning channel near the mouth of the creek is nonfunctional after a debris torrent that originated from the Pot Peak Fire in July 2004 inundated the entire length of the channel with muddy silt. It will likely be several years before the spawning channel is rehabilitated.

Miscellaneous stream discharge measurements are taken periodically on the principal streams within the Stormy Mountain potential wilderness area. A summary of these measurements shows that discharge in Stormy Creek ranges from a base flow of one cubic foot per second (cfs) to a peak flow of 20 cfs; and Twenty-five Mile Creek ranges from five cfs to 100 cfs. A continuous-recording telemetered stream gauge in Lake Creek (near mouth) began operation in September 2002. Data from this gauge show a base flow of five cfs and a peak flow of 50 cfs.

The Stormy Mountain PWA has a water source protection area totaling 5,209 acres that contributes to a community water system for the Chelan County Public Utility District.

Range

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

Percent Area Suitable for Cattle Grazing	Percent Area Currently in Cattle Allotments	Percent Area Suitable for Sheep Grazing	Percent Area Currently in Sheep Allotments
5	0	25	0

A combination of steep topography and lack of natural forage vegetative types severely limits the potential of this area for domestic stock. Access and the creation of transitory range could enhance the potential along the edge of the area near Baldy Mountain and Slide Ridge. There is some limited recreation stock use during the hunting season, particularly in the Lake Creek basin and in the Twenty-five Mile Creek drainage.

Vegetation and Ecology

Generally, the priority for restoration treatments occurs within the WUI or within the dry or mesic forest groups. Because WUI is over one third of the PWA, the prohibition on restorative treatments if designated wilderness is a concern. The concern is increased, however, by recognizing that dry or mesic forest occurs on nearly one third of the WUI.

The Healthy Forest Restoration Act authorizes direction to implement fuel reduction projects in the WUI. The HFRA prohibits authorized projects in wilderness areas.

Timber Harvest Suitability

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

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

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

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

Table 6--Stand data percentages

Suitable for Timber Harvest	Forest Groups		WUI	
	0%	Parkland	4%	Total WUI
Cold Dry		18%	WUI in Dry and Mesic Forest	28%
Cold Moist		38%		
Mesic		0%		
Dry		37%		
Non-forest		3%		

Fire

Annual fire occurrence is low to moderate with most of the fires started by lightning. Fuel loadings range from heavy accumulations of down fuels at lower elevations to clumps of trees and meadows at higher elevations. There is a frequent history of large fires in this area with the most recent fires being the Tye Fire in 1994, North Twenty-Five Mile Fire in 1998 (approx. 8,000 acres) and the Pot Peak Fire in 2004 (approx. 17,000 acres)

Past fires have created large areas of even-aged lodgepole that will soon be very susceptible to mountain pine beetle damage. Portions of these stands burned in Stormy Creek in the 1994 Tye Fire and South Fork of Twenty-five Mile Creek due to the 2004 Pot Peak Fire creating new stand initiation conditions. Many of the lodgepole pine stands in north fork of Twenty-five Mile Creek were burned in the large fires of 1998 and 2004.

Much of the forested land burned during the Tyee Fire in 1994, the North Twenty-five Mile Fire in 1998, and the Pot Peak Fire in 2004; however, the mixed severity of the burns produced a mosaic of stocking levels and vegetation. Areas planted on the Twenty-five Mile Creek side after the 1970 and 1998 fires largely re-burned in the 2004 Pot Peak Fire. There are still a few areas in the Twenty-five Mile Creek basin that are densely stocked with trees that grew from aerial seeding, planting, and natural seed sources after the Slide Ridge Fire of 1970. Areas in Stormy Creek were planted after 1994. Most of the trees that survived the fires are the larger Douglas-fir and ponderosa pine. They are generally present in patches across the landscape.

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.”

Portions of this PWA are comprised of a parkland forest group and are known to support stands of whitebark pine. Due to a combination of anthropogenic causes (introduced white pine blister rust, global warming, 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.

The Wenatchee Service Center has analyzed data produced by the 2008 aerial survey in order to provide land managers with a summary of forest insect activity in particular areas. Most of the Pot Peak analysis area is included in the 2001 Stormy Mountain Inventoried Roadless Area (Forest Plan Appendix C), and 2007 Potential Wilderness Area for forest plan revision.

The most extensive damaging agent reported in the Pot Peak area was mountain pine beetle. The most common species attacked was lodgepole pine, which was mapped on 631 acres with an estimated 27 trees per acre killed. Mountain pine beetles have been active in the Pot Peak area for several years (Figure 1). Since 2004, an estimated 79,000 lodgepole pines have been killed. 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. Additional risk factors are basal area over 120 square feet per acre, and low elevation.

When a mountain pine beetle outbreak occurs in a lodgepole pine stand, the beetles preferentially attack the largest diameter trees. Over the course of an outbreak, 85 percent or more of the large diameter trees will be killed, and progressively smaller proportions of

the small diameter trees are affected. Thinning can reduce the proportion of a stand that will be killed by beetles, but stocking must be reduced to less than 80 square feet of basal area to be effective. A light thinning in small diameter stands may just hasten the development of 8-inch diameter trees without keeping densities below a beetle susceptibility threshold.

Three pockets of whitebark pines killed by mountain pine beetles were reported on Devil’s Backbone. Nearly 100 acres of damage was mapped, and an estimated 636 whitebark pines killed. Damage to whitebark pines on Devil’s Backbone was also reported in 2007.

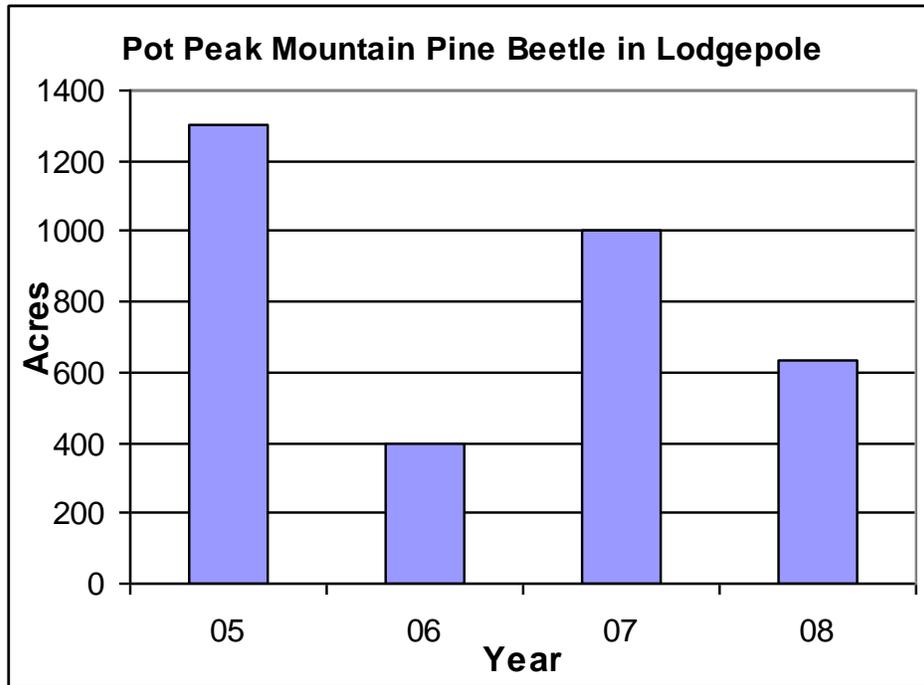
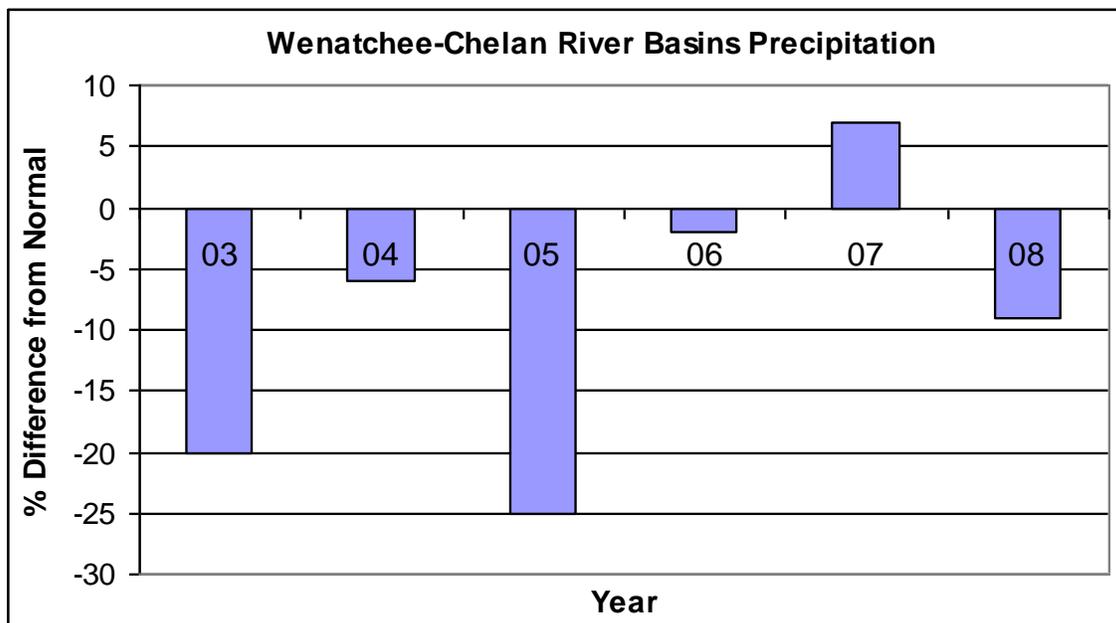


Figure 1

Since the 2004 Pot Peak Fire a few large ponderosa pines have been killed by bark beetles every year. Both mountain pine beetles and western pine beetles can kill large ponderosa pines. Typically trees that are under stress from drought, competition, fire or other damage will be attacked. Ponderosa pines in the Pot Peak area have been affected by both fire and drought. The Wenatchee-Chelan River Basins have experienced below normal precipitation for five of the last six years, with particularly severe droughts in 2003 and 2005 (Figure 2). An estimated 87 large ponderosa pines died in 2008. One pocket of 64 large dead pines was mapped in the North Fork of Twentyfive Mile Creek along Trail 1264. An estimated total of 177 large ponderosa pines have been killed by bark beetles since 2005.



Data from USDA Natural Resources Conservation Service, <http://www.wcc.nrcs.usda.gov/>

Figure 2

Three small (2 acres) pockets of Douglas-fir beetle activity were reported. 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. Following the 2004 Pot Peak Fire, the District treated about 800 acres with the anti-aggregant MCH in 2005, to prevent buildup of Douglas-fir beetles in damaged Douglas-firs. The effort was very successful. In 2006 only 50 acres could be treated, and several pockets of new Douglas-fir beetle activity were observed on the ground. As expected, fire-damaged Douglas-firs were attacked in 2006, and were detected by aerial survey in 2007. The most susceptible trees are now dead, and Douglas-fir beetle activity is returning to its endemic level.

No fir engraver damage was reported.

Threatened, Endangered, and Sensitive Plant Species

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

Noxious Weeds

Several noxious weed species have been introduced into the PWA. Diffuse knapweed is established on 58 acres of the PWA. Bull thistle and St. Johnswort are established on 35 acres of the PWA.

Minerals and Soils

This area is reported to be primarily underlain by Mesozoic granitic rocks. The area has not been studied in detail by the U.S.G.S. or U.S. Bureau of Mines, but it is reported to have occurrences of pumice and kyanite. There is no data that would indicate that the pumicite deposits have commercial value. Kyanite is likely found only sparsely and would therefore have no commercial value. According to Bureau of Land Management records (12/02/04), the area has no mining claims within or adjacent to it. It is not classified “prospectively valuable” for any of the leasable commodities and it has no existing leases or pending lease applications.

Cultural and Heritage Resources

This area encompasses a number of historic sheep allotments dating back to the turn of the century, as well as the former site of the Stormy Mountain Lookout (1919 - circa 1955). There are various indications of historic sheepherder use still present in the area, e.g. driveway signs, camps, culturally modified trees, though few of these have been inventoried and most have burned to one degree or another. There are also abandoned historic Forest Service trails in the area. There are no known or reported archaeological sites or prehistoric use areas. 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

Existing uses involve water developments and spring boxes under special use permit. Currently, access to maintain the permit does allow motorized transport. Wilderness designation would make maintenance access more difficult.

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

Designation as a wilderness may increase the difficulty of developing research projects in the 611 acres of Experimental Forest.

Private Lands

There are no acres of private land within the PWA. Private land is adjacent to the boundary in Stormy Creek, SW ¼. Section 18, T. 27 N., R. 20 W. Current access would not be affected by wilderness designation.

NEED FOR WILDERNESS

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

The Glacier Peak Wilderness (570,573 acres) is located approximately 15 mile northwest of the Stormy Mountain PWA and encompasses 576,900 acres designated in the 1984 Washington State Wilderness Act. The Glacier Peak Wilderness (GPW) is contiguous with other wilderness areas that stretch from the I-90 corridor to the Canadian border, providing more than two million acres of wilderness to within 100 to 200 miles of the populated cities of the Puget Sound metropolitan area.

If the Stormy PWA were to be designated as wilderness it would be likely to get a moderate to high amount of day use from hikers and equestrians out of the Lake Chelan area due to the fact that there are no hiking trails currently available to that community. For this reason the area is ranked as moderate for its potential to provide a high quality wilderness recreation. It is not contiguous with existing wilderness, nor would it contribute an altogether new setting to the National Wilderness Preservation System.

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

The west side of the GPW is a short drive from the Puget Sound metropolitan area and receives high use. The upper Entiat River portion of the GPW is relatively isolated with only trail access from the Entiat Valley or Lucerne area of Lake Chelan. The east side of the GPW is also accessible from the Lucerne area of Lake Chelan. Access to the GPW from the north is primarily via the Pacific Crest Trail or the untrailed "Ptarmigan Traverse" route from North Cascades National Park. Use is moderate throughout the summer with higher use levels during fall big game hunting season. Regional trends indicate a flattening of demand for backpacking activities associated with wilderness use. GPW use from the east side on either the Chelan or Entiat Districts is at a slightly lower rate due to more difficult access.

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

The extensive single track trail system between the Entiat Valley at the Lake Creek trailhead and Pot Peak trailhead in the Twenty-five Mile Creek near Lake Chelan traverses the center of the Stormy Mountain potential wilderness area. This system provides excellent recreation opportunities for multiple-use trail activities based in either valley. Cross country foot travel and rock scrambling opportunities are also present along Devils Backbone.

This area does provide for motorized recreation from a system of motorbike trails, this segment of use has continued to grow at a faster rate with more requests for this and other types of ATV uses in both a semi-primitive motorized and roaded-natural setting.

At this time, the eastern approaches to the Glacier Peak Wilderness offer numerous opportunities for unconfined recreation and remain less congested relative to areas close to Puget Sound population centers.

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

Grizzly bear, gray wolf, Canada lynx and wolverine are wide-ranging carnivores that use a variety of habitat types. Increasing human use has the potential to decrease habitat availability, increase mortality through hunting/poaching and, in general, increase opportunities for negative interactions with humans that could result in loss of individual animals in these classified threatened, endangered and sensitive populations. Undisturbed habitats are important for maintenance of these species, particularly during critical time periods such as reproductive and hibernation periods.

Due to roads and trails accessing the area and its position between managed areas of the Entiat and Chelan Ranger Districts this PWA does not offer the undisturbed character afforded by other PWAs. The small size of the area also makes this less valuable habitat for the wide-ranging carnivores in terms of disturbance.

Some level of protection for species is provided by management allocations overlying the PWA. The PWA is part of the North Cascades Grizzly Bear Recovery Zone, and plays a role in providing less-disturbed “core” habitat more than 500 meters from open roads for grizzly bears and other species. The Lake Basin LAU (lynx analysis area) includes most of the Entiat as well as the upper Twenty-five Mile Creek portions of the Stormy Mountain PWA. Most of the PWA is within the range for Chelan mountain snails however they have only been found on Pot Peak during surveys to date.

There is a unique riparian zone in the area of the Fawn Lakes Meadows within the Entiat Ranger District portion (Lake Basin). These meadows are ancient lakes that have silted in but are still marshy. There are plant communities and fauna that are unique to this type of setting. This is currently designated as a Special Interest Area in the Wenatchee LRMP (SI2). The existing single track trail system and Lake Basin Road #5904 are approximately 1/3 of a mile from these meadows.

A pair of northern spotted owls was present, and reproducing, as of the spring of 2006 in the Pot Peak area (a LSR area).

Increases in public use are primarily confined to the existing road and single track trail systems. Spotted owls are known to exist in a location impacted by these existing transportation routes. Maintenance of LSRs and specific species strategy plans should continue to provide for biotic protection, while allowing for fuels management to reduce the potential for catastrophic loss of habitats. The wildlife sustainability index is 21.8 (a high relative ranking) and the habitat connectivity index is 23.1 (also high relative ranking).

Fish

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

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

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

Rare Plant Species

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

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

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 represents the East Cascades Ecoregion according to Bailey's Ecoregional Classification System. This ecoregion is well represented in existing wilderness in the Cascade Range.

The relative uniqueness of the Fawn Lake area has not been determined.

An analysis compared vegetative cover types that are under-represented in wilderness on the National Forest System in Region 6 with those same cover types present in the PWA. Large-scale cover types were available through existing data layers and represent approximately 14 percent of the vegetative cover of this PWA (approximately 4,420 acres).

These types include forb lands, alpine meadows, non-alpine meadows, and ponderosa pine. Taken as a whole, the contribution of underrepresented vegetation types ranks as moderate for the portion of this area with underrepresented cover types; however, the area ranks 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 sparse amounts of cottonwood and quaking aspen.

In particular, forblands and non-alpine meadow cover types would make a significant contribution within the eastern Washington planning area.

DRAFT