

Goat Rocks Wilderness Air Quality Report

National Forest: Gifford Pinchot National Forest, Snoqualmie National Forest

State: WA

Counties: Lewis, Yakima

General Location: Southern Washington Cascade Range

Acres: 108,096



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Wilderness ID: 076

Wilderness Name: Goat Rocks Wilderness

Wilderness Categories	Information Specific to this Wilderness
Year Established	1964
Establishment Notes	The Wilderness Act of September 3, 1964, Washington State Wilderness Act of 1984
Designation	Clean Air Act Class 1
Administrative	Cowlitz Valley Ranger District, Gifford Pinchot National Forest; Naches Ranger District, Okanogan-Wenatchee National Forests
Unique Landscape Features	<p>The Goat Rocks Wilderness is a portion of the volcanic Cascade Mountain Range in southwestern Washington located between Mt. Rainier and Mt. Adams. The Goat Rocks are remnants of a large volcano, extinct for some two million years.</p> <p>Glaciation and erosion have worn away at the terrain here, leaving moderate summits on both sides of the crest of the Cascades. The elevation in the Goat Rocks ranges from 3,000 feet to 8,201 feet at Gilbert Peak. The deep east-west drainages below the ridges often open into park-like alpine meadows dotted with small lakes and even smaller ponds.</p> <p>Annual snowfall typically equals more than 25 feet, not melting entirely until late July or early August and keeping the ponds and lakes full when it does give in to the sun. Pikas and marmots scurry about above timberline, while the more reserved deer and elk have been spotted lower down. Mountain goats frequently show up in the higher country.</p>
Lakebed Geology Sensitivity	Medium
Lakebed Geology Composition	gneiss quartzite schist granite (1%), andesite dacite diorite phyllite (55%), basalt gabbro wacke argillite undifferentiated volcanic rocks (34%), amphibolite hornfels paragneiss undifferentiated metamorphic roc (10%), GC 1+2 (55%), GC 1+2+3 (90%), GC 4+5+6 (5%)
Visitor Use	Not Reported
Mean Annual Precipitation	Not Reported
Elevation Range	689 - 2485 (meters)
Mean Max Aug Temp	Not Reported
Mean Min Dec Temp	Not Reported
Lake Acres	860
Pond Acres	178
Lake Count	3
Pond Count	131
TES Flora	Buxbaumia viridis, Cladonia norvegica, Entoloma nitidum, Galerina vittaeformis, Gomphus floccosus, Gyromitra infula, Lobaria linita, Lobaria pulmonaria, Mycocalicium subtile, Ptilidium californicum, Rhizomnium nudum, Thaxterogaster pingue
TES Wildlife	Bald Eagle, Gray Wolf, Northern Spotted Owl
TES Fish	Not Reported
Ozone Sensitive Plants	Thinleaf huckleberry

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Air Quality Sensitive Lichens	Alectoria sarmentosa, Bryoria capillaris, Bryoria fremontii, Bryoria fuscescens, Bryoria glabra, Bryoria trichodes, Cavernularia hultenii, Cladonia chlorophaea, Cladonia fimbriata, Cladonia ochrochlora, Hypogymnia apinnata, Hypogymnia occidentalis, Kaernefeltia merrillii, Nodobryoria oregana, Parmeliopsis ambigua, Parmeliopsis hyperopta, Platismatia norvegica
Cultural Resources	Not Reported
Status/Trends: Acid Deposition:	Not Reported
Status/Trends: Nutrient Enrichment:	Not Reported
Status/Trends: Ozone Impacts:	Not Reported

AQRV's

Fauna

Fauna Priority: Medium

Fauna Receptor: Fish

Fauna Indicator: Concentration of methyl mercury

Fauna Trends: Not Reported

Fauna Actions:

Collect fish in lakes downland from wetlands and analyze for mercury.

Flora

Flora Priority: High

Flora Receptor: Lichens

Flora Indicator: Changes in community composition

Flora Trends: Not Reported

Flora Priority 2: High

Flora Receptor 2: Lichens

Flora Indicator 2: Concentrations of N, S, P, Cd, Cr, Pb, Hg, Ni, Ti, V and Zn

Flora Trends 2: Not Reported

Flora Priority 3: Low

Flora Receptor 3: Ozone

Flora Indicator 3: Visible injury on ozone-sensitive plants

Flora Trends 3: Not Reported

Flora Actions:

Increase number of plots revisited to establish trends at a resolution of 1 plot/20,000 acres. Revisit plots once every 10 years.

Visibility

Visibility Priority: High

Visibility Receptor: Scenic Views

Visibility Indicator: Regional haze

Visibility Trends: Decrease

Visibility Actions

Visibility in Goat Rocks Wilderness is represented by the IMPROVE monitor at White Pass (WHPA1). See the Washington State Regional Haze Plan and the IMPROVE monitoring reports for more details.

Water

Water Priority: Medium

Water Receptor: Water Chemistry

Water Indicator: ANC

Water Trends: Not Reported

Water Priority 2: Not Reported

Water Receptor 2: Water Chemistry

Water Indicator 2: DIN: TP

Water Trends 2: Not Reported

Water Priority 3: Not Reported

Water Receptor 3: Diatoms

Water Indicator 3: Community Composition

Water Trends 3: Not Reported

Water Actions:

Repeat visits to Surprise, Gertrude and Cedar Pond for ANC and Nutrient Ratios.

Challenge Points

Fauna Challenge Points: Not Reported

Flora Challenge Points: 6

Total Plots: 9

Desired Plots: 5

Additional Plots Needed: -4

Data Type: Trends

Round 1 Visits: 8

Round 2 Visits: 3

Baseline %: 167

Trends %: 37

Visibility Challenge Points: Not Reported

Water Challenge Points: 6