

## **Alpine Lakes Wilderness Air Quality Report**

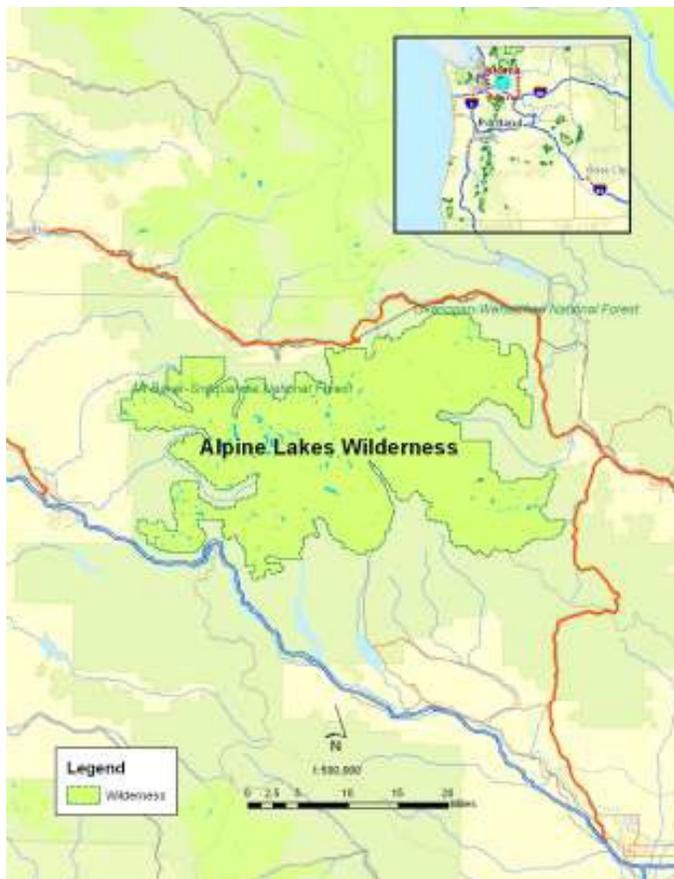
National Forest: Mount Baker-Snoqualmie National Forest, Okanogan-Wenatchee National Forests

State: WA

Counties: Chelan, King

General Location: Central Washington Cascade Range

Acres: 391,988



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Wilderness ID: 093

Wilderness Name: Alpine Lakes Wilderness

Wilderness Categories	Information Specific to this Wilderness
Year Established	1976
Establishment Notes	Alpine Lakes Area Management Act of 1976
Designation	Clean Air Act Class 1
Administrative	Mount Baker-Snoqualmie National Forest, Okanogan-Wenatchee National Forests
Unique Landscape Features	Not reported in the database.
Lakebed Geology Sensitivity	High
Lakebed Geology Composition	gneiss quartzite schist granite (61%), andesite dacite diorite phylite (15%), basalt gabbro wacke argillite undifferentiated volcanic rocks (1%), amphibolite hornfels paragneiss undifferentiated metamorphic roc (20%), Unknown buffering capacity (3%), GC 1+2 (77%),GC 1+2+3 (78%), GC 4+5+6 (22%)
Visitor Use	Not reported in the database.
Mean Annual Precipitation	Not reported in the database.
Elevation Range	482 - 2853 (meters)
Mean Max Aug Temp	Not reported in the database.
Mean Min Dec Temp	Not reported in the database.
Lake Acres	5,299
Pond Acres	1,419
Lake Count	107
Pond Count	417
TES Flora	Allotropa virgata, Bondarzewia mesenterica, Botrychium minganense, Botrychium montanum, Calicium adequatum, Calicium glaucellum, Calicium viride, Campanula lasiocarpa, Carex pauciflora, Carex praeceptorum, Carex proposita, Chaenactis thompsonii, Chaenotheca brunneola, Chaenotheca chrysocephala, Chaenotheca furfuracea, Cladonia norvegica, Craterellus tubaeformis, Dermatocarpon, Dermatocarpon luridum, Diplophyllum albicans, Erigeron salishii, Fritillaria camschatcensis, Fuscopannaria saubinetii, Galerina cerina, Galium kamtschaticum, Geum rossii var. depressum, Gomphus bonarii, Gyromitra californica, Gyromitra esculenta, Gyromitra melaleucoides, Hackelia venusta, Helvella elastica, Hypogymnia duplicata, Lobaria linita, Lobaria oregana, Lycopodium dendroideum, Nephroma bellum, Nephroma parile, Nephroma resupinatum, Pellaea breweri, Peltigera collina, Pithya vulgaris, Platanthera orbiculata, Platanthera orbiculata var. orbiculata, Platanthera sparsiflora, Platismatia lacunosa, Potentilla diversifolia var. perdissecta, Pseudocyphellaria rainierensis, Ptilidium californicum, Rhizomnium nudum, Salix vestita, Saxifragopsis fragarioides, Schistostega pennata, Silene seelyi, Stenocybe major, Tholurna dissimilis
TES Wildlife:	Gray Wolf, Northern Spotted Owl
TES Fish	chinook salmon, steelhead
Ozone Sensitive Plants	PlantsPonderosa pine, Quaking aspen, Red elderberry, Scoulers willow, Snowberry, Thinleaf huckleberry, Western wormwood

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Air Quality Sensitive Lichens	Alectoria sarmentosa, Bryoria capillaris, Bryoria fuscescens, Bryoria glabra, Cavernularia hultenii, Cladonia bellidiflora, Cladonia chlorophaea, Cladonia fimbriata, Cladonia ochrochlora, Cladonia umbricola, Hypogymnia apinnata, Hypogymnia occidentalis, Lobaria linita, Nodobryoria abbreviata, Nodobryoria oregana, Parmelia pseudosulcata, Parmeliopsis ambigua, Parmeliopsis hyperopta, Peltigera membranacea, Peltigera neopolydactyla, Platismatia norvegica
Cultural Resources	Not reported in the database.
Status/Trends: Acid Deposition:	Not reported in the database.
Status/Trends: Nutrient Enrichment:	Not reported in the database.
Status/Trends: Ozone Impacts:	Not reported in the database.

## AQRV's

### Fauna

Fauna Priority: Medium

Fauna Receptor: Fish

Fauna Indicator: Concentration of methyl mercury

Fauna Trends: Not reported in the database.

### *Fauna Actions:*

Identify lakes with high visitor use. Collect fish at these lakes to determine methyl mercury concentrations in fish.

### Flora

Flora Priority: High

Flora Receptor: Lichens

Flora Indicator: Changes in community composition

Flora Trends: Not reported in the database.

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 in the database.

Flora Priority 3: Medium

Flora Receptor 3: Ozone

Flora Indicator 3: Visible injury on ozone-sensitive plants

Flora Trends 3: Not reported in the database.

### *Flora Actions:*

Conduct surveys of ozone injury to vegetation concurrently with lichen biomonitoring plot visits to save labor and travel costs. Also continue to monitor ambient ozone concentrations at Snoqualmie Pass and compare results with nearby ozone monitors.

### Visibility

Visibility Priority: High

Visibility Receptor: Scenic Views

Visibility Indicator: Regional haze

Visibility Trends: Decrease

Thursday, May 17, 2012

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## **Visibility Actions**

Continue IMPROVE monitoring at Snoqualmie Pass and track progress as required as part of the Regional Haze Rule under the Clean Air Act. Evaluate monitoring data for Trends.

## **Water**

Water Priority: High

Water Receptor: Water Chemistry

Water Indicator: ANC

Water Trends: Not Reported

Water Priority 2: High

Water Receptor 2: Water Chemistry

Water Indicator 2: DIN: TP

Water Trends 2: Not Reported

Water Priority 3: Medium

Water Receptor 3: Diatoms

Water Indicator 3: Community Composition

Water Trends 3: Not reported in the database.

## **Water Actions:**

Repeat sample collection at Foehn Lake to increase/obtain full credit for monitoring trends. Also, repeat sample collection for nutrient ratios for lakes sampled as part of WLS.

## **Challenge Points**

***Fauna Challenge Points: 0***

***Flora Challenge Points: 5***

Total Plots: 11

Desired Plots: 20

Additional Plots Needed: 9

Data Type: Baseline

Round 1 Visits: 0

Round 2 Visits: 11

Baseline %: 56

Trends %: 0

***Visibility Challenge Points: Not Reported***

***Water Challenge Points: 8***