

Hells Canyon Wilderness Air Quality Report

Wilderness ID: 092

Wilderness Name: Hells Canyon Wilderness

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National Forest: Nez Perce National Forest, Payette National Forest, Wallowa National Forest, Whitman National Forest

State: ID, OR

Counties: Adams, Idaho, Wallowa

General Location: North East Oregon

Acres: 216,981



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Wilderness Categories	Information Specific to this Wilderness
Year Established	1975
Establishment Notes	94-199, Oregon Wilderness Act of 1984
Designation	Clean Air Act Class 1
Administrative	Wallowa-Whitman National Forest
Unique Landscape Features	<p>Hells Canyon Wilderness is a subset of the Hells Canyon National Recreation Area (HCNRA), which straddles the border of northeastern Oregon and western Idaho. Split into two distinct halves by the Wild & Scenic Snake River, approximately one-third of HCNRA is designated Wilderness. A small portion of the Wilderness in Oregon is managed by the BLM.</p> <p>The Idaho side of the Wilderness is smaller than the Oregon side and encompasses the Seven Devils mountain range. The Wilderness stretches South from Pittsburg Landing for approximately 31 miles along the Snake River.</p> <p>On the Oregon side, the higher elevation areas are characteristic of rocky slopes and grasslands laced with 'stringer canyons' and groves composed of Douglas fir and ponderosa pine. The lower elevations are dominated by grassland benches with steep canyons and ravines dissecting the isolated Oregon-side. Two National trails are found at various elevations: Western Rim/Summit Ridge Recreation Trail at the upper elevation, and Nez Perce Historic Trail near the Snake River. Species of interest are Rocky Mountain Elk, bighorn sheep, mule deer, and chukar.</p>
Lakebed Geology Sensitivity	High
Lakebed Geology Composition	andesite dacite diorite phyllite (87%), basalt gabbro wacke argillite undifferentiated volcanic rocks (2%), amphibolite hornfels paragneiss undifferentiated metamorphic roc (11%), GC 1+2 (88%), GC 1+2+3 (89%), GC 4+5+6 (11%)
Visitor Use	Not Reported
Mean Annual Precipitation	Not Reported
Elevation Range	331 - 2858 (meters)
Mean Max Aug Temp	Not Reported
Mean Min Dec Temp	Not Reported
Lake Acres	Not Reported
Pond Acres	Not Reported
Lake Count	Not Reported
Pond Count	Not Reported
TES Flora	Arabis hastatula, Cheilanthes feei, Halimolobos perplexa var. perplexa, Linanthus pungens, Mirabilis macfarlanei, Rubus bartonianus
TES Wildlife	Not Reported
TES Fish	Not Reported
Ozone Sensitive Plants	Blue elderberry, Mugwort, Ninebark, Ponderosa pine, Quaking aspen, Red elderberry, Scoulers willow, Snowberry, Thinleaf huckleberry, Western wormwood
Air Quality Sensitive Lichens	Not Reported
Cultural Resources	Not Reported
Status/Trends: Acid Deposition:	Not Reported

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Status/Trends: Nutrient Enrichment:	Not Reported
Status/Trends: Ozone Impacts:	Not Reported

AQRV's

Fauna

Fauna Priority: High

Fauna Receptor: Fish

Fauna Indicator: Concentration of methyl mercury

Fauna Trends: Not Reported

Fauna Actions:

Repeat fish sampling in 2021 at same lakes monitored in 2011 to monitor trends in Hg in fish.

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: Medium

Flora Receptor 3: Ozone

Flora Indicator 3: Visible injury on ozone-sensitive plants

Flora Trends 3: Not Reported

Flora Actions:

Increase lichen plot density to achieve 1 plot/20,000 acres spatial density. Survey sensitive vegetation for ozone injury.

Visibility

Visibility Priority: High

Visibility Receptor: Scenic Views

Visibility Indicator: Regional haze

Visibility Trends: Decrease

Visibility Actions

Visibility is monitored by the IMPROVE monitor at Oxbow Dam (HECA1). See the Oregon Regional Haze Plan and the IMPROVE monitoring reports for more details.

Water

Water Priority: High

Water Receptor: Water Chemistry

Water Indicator: ANC

Water Trends: Not Reported

Water Priority 2: High

Water Receptor 2: Water Chemistry

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Water Indicator 2: DIN: TP

Water Trends 2: Not Reported

Water Priority 3: Low

Water Receptor 3: Diatoms

Water Indicator 3: Community Composition

Water Trends 3: Not Reported

Water Actions:

Repeat visits to Satan and Triangle Lake for ANC and nutrient ratios. Collect water chemistry at same lakes monitored for fish in 2011.

Challenge Points

Fauna Challenge Points: 6

Flora Challenge Points: 4

Total Plots: 4

Desired Plots: 11

Additional Plots Needed: 7

Data Type: Baseline

Round 1 Visits: 4

Round 2 Visits: 0

Baseline %: 37

Trends %: 0

Visibility Challenge Points: Not Reported

Water Challenge Points: 4