

Heritage Rank Status Factors

Elcode NBMUS2M031
Gname ENCALYPTA BREVICOLLA VAR CRUMIANA
Gcomname MOSS

Number of Occurrences

A = 1 - 5

Comments Known from only 2 localities in Oregon and Washington. Recent searches (Christy 2002) in Oregon failed to find new populations. The Washington site has not been relocated since 1931. The ISMS database contains 12 records, 2 representing the single Washington site and 10 representing the single Oregon site.

Number of Occurrences with Good Viability

B = Very few (1-3) occurrences with good viability

Comments The single locality in Oregon is the only known viable occurrence. The Washington site has not been relocated since 1931.

Population Size

B = 50-250 individuals

Comments Estimated 50-75 individuals known from single extant site.

Range Extent

F = 20,000-200,000 km² (about 8,000-80,000 square miles)

Comments Estimated range is 10,000 square miles worldwide, based on geographic spread of two known points between Mount Rainier, Washington, and southwestern Oregon. Endemic to the Pacific Northwest.

Area of Occupancy

A = <0.4 km² (less than about 100 acres)

LA = <4 km (less than about 2.5 miles)

Comments Area of occupancy at single known site is about 1 acre. Extent of 1931 occurrence in Washington is unknown.

Long-term Trend in Population Size, Extent of Occurrence, Area of Occupancy, and/or Number or Condition of Occurrences

D = Moderate Decline (decline of 25-50%)

Comments Moderate long-term decline of 50% estimated for Oregon population 1978-2002 (Christy 2002), probably due to overcollecting.

Short-term Trend in Population Size, Extent of Occurrence, Area of Occupancy, and/or Number or Condition of Occurrences

E = Stable. Population, range, area occupied, and/or number or condition of occurrences unchanged or remaining within $\pm 10\%$ fluctuation

Comments Short-term trend stable, based on observations made in 1994 and 2002, barring losses to new collecting, competing vegetation, or catastrophic disturbance such as fire or quarrying.

Threats

A = Substantial, imminent threat. Threat is moderate to severe and imminent for most (> 60%) of the population, occurrences, or area. Ecological community occurrences are directly impacted over a widespread area, either causing irreversible damage or requiring long term recovery

Scope High **Severity** High **Immediacy** High

Comments Substantial, imminent threat from fire, road construction, quarrying, air pollution, and overcollecting. Overcollecting may have caused the estimated decline of 50% in the Oregon population between 1978-2002 (Christy 2002).

Number of Appropriately Protected and Managed Occurrences

B = Few (1-3) occurrences appropriately protected and managed

Comments The historic population in Mount Rainier National Park, if still extant, is presumably protected and appropriately managed.

Intrinsic Vulnerability

B = Moderately Vulnerable. Species exhibits moderate age of maturity, frequency of reproduction, and/or fecundity such that populations generally tend to recover from decreases in abundance over a period of several years (on the order of 5-20 years or 2-5 generations); or species has moderate dispersal capability such that extirpated populations generally become reestablished through natural recolonization (unaided by humans). Ecological community occurrences may be susceptible to changes in composition and structure but tend to recover through natural processes given reasonable time (10-100 years).

Comments Moderately vulnerable. Plants are small and fragile, but reproduce readily by spores and fragmentation of gametophytes. Most species of Encalypta have spotty distributions and populations are scanty when they occur. Plants will recolonize sites when suitable habitat and substrate are present, but this depends on the availability of inoculum from nearby populations.

Environmental Specificity

B = Narrow. Specialist or community with key requirements common.

Comments Narrow environmental specificity. Habitat at the Oregon site is a dry, north-facing igneous outcrop, where the species grows in crevices, horizontal shelves, vertical faces, and overhanging ledges, many with partial shade. The outcrop is situated at the top of an open, exposed saddle at the head of a valley that may funnel moist marine air into the saddle.

Other Considerations

NRANK - N1. Ranked S1 in Oregon and Washington.

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Grank G4T1 **Grank Date** 4/2/1992

Reasons

Known from only 2 localities, one of which has not been relocated since 1931. Estimated 50-75 individuals known from single extant site. Potential range extent estimated 10,000 square miles, but area of occupancy of single known site is 1 acre. Moderate long-term decline of 50%, but short-term trend apparently stable.

Substantial and imminent threat from fire, road construction, quarrying, air pollution, and overcollecting. One population, if still extant, presumably protected in a national park. Moderately vulnerable, fragile, with spotty distribution and scanty populations. Narrow environmental specificity.

BCD Sources

Christy, J.A. & D.H. Wagner. 1996. Guide for the identification of rare, threatened or sensitive bryophytes in the range of the northern spotted owl, western Washington, western Oregon, and northwestern California. USDI Bureau of Land Management. 200 pp.

New Sources

USDA Forest Service, USDI Bureau of Land Management, USDI Fish and Wildlife Service. 2002. Interagency Species Management System [ISMS] database. Portland, Oregon.

Horton, D.G. 1983. A revision of the Encalyptaceae (Musci), with particular reference to the North American taxa. Part II. *Journal of the Hattori Botanical Laboratory* 54: 353-532.

Christy, J.A. 2002. Survey for *Encalypta brevicolla* var. *crumiana*, Siskiyou National Forest, Oregon. Report to USDA Forest Service, Gifford Pinchot National Forest. Oregon Natural Heritage Information Center, Oregon State University. 12 pp. + appendices.