

Heritage Rank Status Factors

Elcode NBMUS99010
Gname IWATSUKIELLA LEUCOTRICHA
Gcomname MOSS

Number of Occurrences

C = 21- 80

Comments Estimated 45 occurrences worldwide. The University of Alberta database has the most complete listing with 26 records, mostly from Alaska and British Columbia. The ISMS database has 7 records representing 1 of 2 known sites in Oregon. Washington has 7 occurrences. Russia, Japan, and Korea each have about 5 occurrences. Canada has an estimated 20 occurrences.

Number of Occurrences with Good Viability

D = Some (13-40) occurrences with good viability

Comments Estimated 13-40 occurrences worldwide with good viability.

Population Size

D = 1,000-2,500 individuals

Comments Estimated 1000-2500 individuals worldwide.

Range Extent

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

Comments Estimated range 10,000 square miles worldwide. Mostly amphiberian distribution. Ural Mountains, Siberia, Russian far east, China, Japan, Korea, Alaska, British Columbia, Washington, and Oregon. Most occurrences restricted to maritime zone. North American distribution mapped by Schofield (2002).

Area of Occupancy

B = 0.4-4 km² (about 100-1,000 acres)

LB = 4-40 km (about 2.5-25 miles)

Comments Estimated area of occupancy 1000 acres worldwide.

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

C = Substantial Decline (decline of 50-75%)

Comments Long-term substantial decline is 50-75%. Extensive logging of coastal forests in Russia, Alaska, British Columbia, and Washington has presumably decimated populations.

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

C = Rapidly Declining. Decline of 30-50% in population, range, area occupied, and/or number or condition of

occurrences

Comments Rapid short-term decline of 30-50% caused by factors cited above.

Threats

B = Moderate and imminent threat. Threat is moderate to severe and imminent for a significant proportion (20-60%) of the population, occurrences, or area. Ecological community occurrences are directly impacted over a moderate area, either causing irreversible damage or requiring a long-term recovery.

Scope Moderate **Severity** Moderate **Immediacy** Moderate

Comments Moderate and imminent threat. Roading and logging in Alaska, British Columbia, and Washington has presumably decimated populations in some areas. Air pollution from pulp mills and urban areas is a potential threat. Overcollecting in Oregon and Washington is a threat because known populations there are highly restricted, and the species is a sought-after rarity.

Number of Appropriately Protected and Managed Occurrences

C = Several (4-12) occurrences appropriately protected and managed

Comments At least 10 occurrences are thought to be protected and managed appropriately in Oregon, British Columbia, and Alaska.

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 fragmentation of gametophytes. Their epiphytic habit makes them vulnerable to logging. Sporophytes are unknown for most North American populations.

Environmental Specificity

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

Comments Narrow environmental specificity. Forms thin mats on twigs and bark of conifers, alders, and cottonwood, often along ridges subject to fog penetration, mostly along the immediate coast. At the southern end of its range in Washington and Oregon, it is restricted to silver fir forests at or above 3000 feet elevation.

Other Considerations

NRANK - N2. Ranked S1 in Oregon, S2 in Washington and S3S4 in British Columbia.

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Grank G2G3 **Grank Date** 1/13/2003

Reasons

Estimated 45 occurrences worldwide. Estimated 13-40 occurrences with good viability. Estimated 1000-2500 individuals worldwide. Estimated range 10,000 square miles worldwide. Estimated area of occupancy 1000 acres worldwide. Long-term substantial decline is 0-75%. Rapid short-term decline of 30-50%. Moderate and imminent threat. At least 10 occurrences are thought to be protected. Moderately vulnerable. Narrow environmental specificity.

BCD Sources

New 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.

University of Alberta. 2002. Devonian Botanic Garden bryophyte database. Edmonton, Alberta.

<<http://www.devonian.ualberta.ca/devonian/bryosearch.cfm>>.

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

Schofield, W.B., S.S. Talbot & S.L. Talbot. 2002. Bryophytes from Tuxedni Wilderness Area, Alaska. *Journal of the Hattori Botanical Laboratory* 92: 91-123.