

## Heritage Rank Status Factors

**Elcode** NLEEC1C050  
**Gname** NEPHROMA OCCULTUM

**Gcomname**

### Number of Occurrences

D = 81 - 300

**Comments** Reported from twenty-one localities in British Columbia, one of which was extirpated by logging (Goward 1994). ISMS shows 195 records in the Pacific Northwest, representing about 88 sites. The buffered table shows in OR: 30 unprotected, 21 protected, 32 matrix. In WA: 1 unprotected, 3 protected, 1 matrix.

### Number of Occurrences with Good Viability

E = Many (41-125) occurrences with good viability

**Comments** About 68 viable sites.

### Population Size

D = 1,000-2,500 individuals

**Comments** In more than half of the twenty Canadian localities, only one or two thalli were found; virtually all, however, displayed good vigour. *Nephroma occultum* is rather rare in most localities, and is nowhere very abundant (Goward 1994). 20 in poor sites in BC, 100 in good sites in BC, 50 in WA, 830 in OR, for a total of about 1000 individuals.

### Range Extent

F = 20,000-200,000 km<sup>2</sup> (about 8,000-80,000 square miles)

**Comments** Endemic to the Pacific Northwest, from British Columbia to Oregon. Occurs west of the Cascades, except for inland disjuncts in British Columbia (Goward 1994, McCune and Geiser 1997). The species' range is centered in Oregon; it occurs sparsely elsewhere.

### Area of Occupancy

G = 2,000-20,000 km<sup>2</sup> (500,000-5,000,000 acres)

LG = 20,000-200,000 km (about 12,500-125,000 miles)

**Comments** Total U.S. occupancy is about 6757 square miles. In British Columbia, approximately 20 square miles.

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

U = Unknown. Long-term trend in population, range, area occupied, or number or condition of occurrences unknown

**Comments** First described in 1980; full range still not known.

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

D = Declining. Decline of 10-30% in population, range, area occupied, and/or number or condition of occurrences

**Comments** The continued logging of old-growth forests in British Columbia is leading to a steady decline of *N. occultum* throughout most of its range; it has apparently already been extirpated from some localities of inland British Columbia (Goward 1994).

## Threats

G = Slightly threatened. Threats, while recognizable, are of low severity, or affecting only a small portion of the population, occurrences, or area. Ecological community occurrences may be altered in minor parts of range or degree of alteration falls within the natural variation of the type.

Scope Low Severity Low Immediacy Moderate

**Comments** Logging of old-growth forests is a very major threat (Goward 1994). Management should focus on populations and habitat needs rather than on individuals. Calculations in a study area in southwestern Oregon show that cutting with retention of individual trees surrounded by small buffers could result in the eventual loss of *N. occultum* (Rosso et al. 2000). This species will not survive in edge habitats, so riparian zones left uncut offer little protection.

## Number of Appropriately Protected and Managed Occurrences

D = Many (13-40) occurrences appropriately protected and managed

**Comments** Estimated at least 75 protected occurrences worldwide. OR protected = 21. WA protected = 3. Number of protected occurrences in BC is unknown. OR matrix = 32. WA matrix = 1. However, this species does not succeed on edges, so matrix is not much protection.

## 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** Occurs mainly in old-growth trees, which are in the highest demand. Reproductive capacity and speed of colonization unknown. Riparian zones are not adequate protection for this species: it does not survive on edges.

## Environmental Specificity

A = Very Narrow. Specialist or community with key requirements scarce.

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

**Comments** Although the requirement appears to be stable, fairly old forest, apparently appropriate microenvironments occur only in a subset of these forests in the Pacific Northwest.

## Other Considerations

NRANK - N3.

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## Greasons

Endemic to the Pacific Northwest, *Nephroma occultum* seems to have its center of distribution in Oregon. Since it is primarily restricted to old-growth forests in very humid intermontane districts at lower elevations, it is extremely threatened by logging.

## BCD Sources

### New Sources

McCune, B. and L. Geiser. 1997. *Macrolichens of the Pacific Northwest*. Oregon State University Press, Corvallis, Oregon. A co-publication with the U.S. Department of Agriculture Forest Service. 386 pp.

Goward, T. 1994. Status report on the cryptic paw lichen, *NEPHROMA OCCULTUM*. Committee on the status of endangered wildlife in Canada, Ottawa. 32 pp.

Rosso A, McCune B, Rambo T, 2000. Ecology and conservation of a rare, old-growth-associated canopy lichen in a silvicultural landscape. *Bryologist* 103(1): 117-127.

Wetmore, CM. 1980. *Nephroma occultum*, new species from North America. *Bryologist* 83(2): 243-247.