California Status Factors

Elcode    NBMUS6B020
Gname     RACOMITRIUM AQUATICUM
Gcomname  MOSS

Number of Occurrences
D = 81 - 300
Comments Most North American records for this species have been renamed Racomitrium ryszardii, but Bednarek-Ochyra has not yet annotated material from California and Oregon, and populations south of the Columbia River may belong to a different species and cannot be assumed to be the same as R. ryszardii. The ISMS database contains records for about 5 sites in California.

Number of Occurrences with Good Viability
B = Very few (1-3) occurrences with good viability
Comments Estimated 3 occurrences in California with good viability.

Population Size
C = 250-1,000 individuals
Comments Estimated 500 individuals in California.

Range Extent
F = 20,000-200,000 km² (about 8,000-80,000 square miles)
Comments Estimated range is 15,000-20,000 square miles in California. Known from Klamath and Siskiyou Mountains, Coast Range, and Shasta-Trinity.

Area of Occupancy
A = <0.4 km² (less than about 100 acres)
LA = <4 km (less than about 2.5 miles)
Comments Estimated area of occupancy is 10 acres in California.

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 Long-term trend in California unknown.

Short-term Trend in Population Size, Extent of Occurrence, Area of Occupancy, and/or Number or Condition of Occurrences
U = Unknown. Short-term trend in population, range, area occupied, and number and condition of occurrences unknown.
Comments Short-term trend in California unknown.

**Threats**

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<tr>
<th>Scope</th>
<th>Severity</th>
<th>Immediacy</th>
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<tr>
<td>Moderate</td>
<td>Moderate</td>
<td>Low</td>
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Comments Moderate, non-imminent threat. This species may just be rare instead of declining, but there is little information available. Presumably, its streamside habitat will become more and more degraded with ongoing development and population pressures worldwide. Upstream activities that cause excessive siltation could be detrimental to this species. Diversion or impoundment of water, recreational gold dredging, and recreational boating can damage mosses in splash zones by abrasion or removal of moss mats.

**Number of Appropriately Protected and Managed Occurrences**

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

Comments Three sites protected in California and managed appropriately.

**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 bryophytes in splash zone habitats are limited to vegetative reproduction, but tend to occur in large monotypic mats that produce many viable fragments for regeneration.

**Environmental Specificity**

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

Comments Narrow environmental specificity. Forms mats on shaded, moist rocks and cliffs along shady streams or in forests, often in the splash zone, but never aquatic.

**Other Considerations**

Most North American records for this species have been renamed Racomitrium ryszardii, and R. aquaticum has been restricted to the Old World (Benarek-Ochyra 2000). It has also been confused with R. pacificum, so its distribution in the Pacific Northwest is unclear. Furthermore, Bednarek-Ochyra has not yet annotated material from California and Oregon, and populations south of the Columbia River may belong to a different species and cannot be assumed to be the same as R. ryszardii. The identity of collections in smaller herbaria should be verified and annotated, to clarify the distribution. Whatever it is called, Lawton (1971) considered it rare in the Pacific Northwest.

**Edition** 2/20/2003  **Edauthor** John A. Christy and Judith Harpel

**Grank** S1  **Grank Date** 1/10/2003

**Greasons**

About 5 sites in California. Estimated 3 occurrences in California with good viability. Estimated 500 individuals in California. Estimated range 15,000-20,000 square miles in California. Estimated area of occupancy is 10

**BCD Sources**


**New Sources**


