

# Washington Status Factors

**Elcode** IMGASF4270  
**Gname** LYOGYRUS SP 2  
**Gcomname** MASKED OR WASHINGTON DUSKYSNAIL

## Number of Occurrences

A = 1 - 5

**Comments** This species is rare and locally endemic to 2 kettle lakes (4 sites) on the periphery of the Columbia drainage in Washington State, in areas heavily affected by Late Pleistocene glaciation. Curlew Lake is in Ferry County and Fish Lake is partially within the Wenatchee National Forest, Chelan County, Washington (Furnish and Monthey, 1999).

## Number of Occurrences with Good Viability

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

**Comments** This species is rare and locally endemic to 2 kettle lakes on the periphery of the Columbia drainage in Washington State, in areas heavily affected by Late Pleistocene glaciation. Curlew Lake is in Ferry County and Fish Lake is partially within the Wenatchee National Forest, Chelan County, Washington (Furnish and Monthey, 1999).

## Population Size

U = Unknown

**Comments**

## Range Extent

D = 1,000-5,000 km<sup>2</sup> (about 400-2,000 square miles)

**Comments** Located in southcentral Washington. The type locality has not been designated until the formal description is published. This species is rare and locally endemic to 2 kettle lakes on the periphery of the Columbia drainage in Washington State, in areas heavily affected by Late Pleistocene glaciation. Curlew Lake is in Ferry County and Fish Lake is partially within the Wenatchee National Forest, Chelan County, Washington. The Fish Lake site is in close proximity to LSR RW 135 (Chiwawa LSR) (Furnish and Monthey, 1999). Frest and Johannes (1993a) also noted the 1970s surveys by Clarke, who examined a number of Washington kettle lakes while finding only one site with this species; and earlier surveys by Henderson in the 1920s and 1930s, who examined many more kettle lakes without finding this taxon. Frest and Johannes (1993a) reported they have recently begun surveying additional kettle lakes in Washington, Montana, and Idaho, with very limited success in finding this species to date. The original distribution of this undescribed species was likely northern and central Washington on the east side of the Cascades east to the Rockies, in heavily glaciated valleys, in Pend d'Oreille, Stevens, Ferry, Okanogan, and Chelan counties (Frest and Johannes, 1993a).

## Area of Occupancy

B = 0.4-4 km<sup>2</sup> (about 100-1,000 acres)

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

**Comments** Sporadic in springs in the central and eastern portions of the Columbia Gorge, and sites in Columbia Gorge National Scenic Area (Frest and Johannes, 1999).

## 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%)

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

**Comments** The original distribution of this undescribed species was likely northern and central Washington on the east side of the Cascades east to the Rockies, in heavily glaciated valleys, in Pend d'Oreille, Stevens, Ferry, Okanogan, and Chelan counties so the species is in decline (Furnish and Monthey, 1999).

## 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

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

**Comments** The original distribution of this undescribed species was likely northern and central Washington on the east side of the Cascades east to the Rockies, in heavily glaciated valleys, in Pend d'Oreille, Stevens, Ferry, Okanogan, and Chelan counties so the species is in decline (Furnish and Monthey, 1999).

## 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** The major concern for this species is loss of populations due to alteration of the ecological conditions that are apparently important for its survival (e.g., dissolved oxygen, water clarity, cool water temperatures, aquatic macrophyte and algal growth patterns). The major threats are urbanization, resulting in impacts such as water pollution from herbicides, pesticides and petroleum products, and eutrophication related to septic tank leakage and runoff of fertilizers and sediments. A potential threat is application of chemicals to control fish, insects, or aquatic plants. Another potential threat is water diversion for irrigation purposes, although this is unlikely due to the large size of the lakes. Alteration of water temperature regime is also unlikely due to the large size of these lakes (Furnish and Monthey, 1999).

## Number of Appropriately Protected and Managed Occurrences

A = None. No occurrences appropriately protected and managed

**Comments** No known protected occurrences, although the Fish Lake occurrence is near to a protected Riparian Reserve area. One site is on private land (Curlew Lake) and the other site (Fish Lake) is partially within the Wenatchee National Forest, Chelan County, Washington. The Fish Lake site is in close proximity to LSR RW 135 (Chiwawa LSR). Forest Service lands that directly border Fish Lake are within a Riparian Reserve as specified by the Northwest Forest Plan (Furnish and Monthey, 1999).

## Intrinsic Vulnerability

U = Unknown

**Comments** Little is known about this species (Furnish and Monthey, 1999).

## Environmental Specificity

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

**Comments** Found in kettle lakes on the periphery of the Columbia drainage in northern and central Washington, in areas heavily affected by Late Pleistocene glaciation. This limnophile species occurs on oxygenated mud substrates in areas with some aquatic macrophytes (*Potamogeton crispus*, *Elodea*, *Myriophyllum spicatum*, *Ceratophyllum densum*, *Chara*). Sizable numbers of waterlogged deciduous leaves (*Alnus*, *Populus*) are always present. Occurs with another rare endemic (partly outside the range of the Northern Spotted Owl), *Amnicola* sp 1 at one site (Furnish and Monthey, 1999). This pelophile species appears to graze periphyton from leaf and other plant fragment surfaces and from other hard objects; but may be a detritivore as well (Frest and Johannes, 1999).

## Other Considerations

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**Grank** S1      **Grank Date** 11/27/2002

## Reasons

Limited number of occurrences, with restricted range. No known protected occurrences, although the Fish Lake occurrences is near to a protected Riparian Reserve area.

## BCD Sources

## New Sources

Frest, T.J. and E.J. Johannes. 1993a. Mollusc species of special concern within the range of the northern spotted owl. Final report for the Forest Ecosystem Management Working Group. Deixis Consultants, Seattle, Washington. 39 pp.

Frest, T.J. and E.J. Johannes. 1999. Field Guide to Survey and Manage Freshwater Mollusk Species. Bureau of Land Management, Oregon State Office, Portland, Oregon. 117 pp.

Furnish, J.L. and R. Monthey. 1999. Management recommendations for aquatic mollusks. Ver. 2.0. Report submitted to USDI Bureau of Land Management, Salem, Oregon, December 1998. Unpaginated.