

Washington Status Factors

Elcode IMGAS20460
Gname VERTIGO SP 1
Gcomname HOKO VERTIGO

Number of Occurrences

A = 1 - 5

Comments The known range of the Hoko Vertigo consists of only two sites, which are located along the east side of the Hoko River in Clallam County in the northwestern part of the Olympic Peninsula of Washington State (Burke et al., 1999).

Number of Occurrences with Good Viability

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

Comments Only two sites exist in total (Burke et al., 1999).

Population Size

U = Unknown

Comments The tendency of pupillid snails to have a patchy distribution may make it difficult to make estimates of population size and population trends for the Hoko Vertigo (Burke et al., 1999).

Range Extent

A = <100 km² (less than about 40 square miles)

Comments Known only from the Hoko River drainage on the Olympic Peninsula, Clallam County, Washington. It is expected to be found on federal lands in the Olympic National Forest and Olympic National Park (Kelley et al., 1999).

Area of Occupancy

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

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

Comments The known range of the Hoko Vertigo consists of only two sites, which are located along the east side of the Hoko River in Clallam County in the northwestern part of the Olympic Peninsula of Washington State (Burke et al., 1999).

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

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 The tendency of pupillid snails to have a patchy distribution may make it difficult to make estimates of population size and population trends for the Hoko Vertigo (Burke et al., 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 Because the Hoko Vertigo seems to have a very limited distribution, any environmental alteration should be viewed as a possible threat. Most of the area surrounding the known sites has been recently logged (Terrance J. Frest, personal communication), so the most serious threat seems to be the possibility that the inhabited patches of older trees could be lost to timber harvest. Adjacent areas have young alders, but they are not inhabited by this species (Terrance J. Frest, personal communication). The present populations may be stressed by being more exposed to wind and relatively dry air than would have been the case before the adjacent areas were logged. In addition to logging, presumably these islands of older riparian forest are also vulnerable to fire and damaging floods. Chemicals spilled or applied near inhabited areas could also contribute to extirpation. Other possible threats could come from the disruption of the local ecosystem by nonnative species, such as predation by exotic birds, competition and disease from exotic mollusks, and degradation of arboreal substrates by exotic plants that will climb hardwood tree trunks. Special forest products activities such as collection of mosses and/or lichens from hardwood branches within occupied habitats also have the potential to adversely impact this species (all from Burke et al., 1999).

Number of Appropriately Protected and Managed Occurrences

A = None. No occurrences appropriately protected and managed

Comments There are no known sites for the Hoko Vertigo on Federal forest lands. The two known sites are probably on State lands. The nearest part of the Olympic National Forest is the Soleduck Ranger District, which is about 10 airline kilometers (6 miles) to the southeast, and all of which is within Clallam County and the suspected range of this species. The Clallam County part of the Quilcene Ranger District is also within the suspected range of this species. There are small parcels of Bureau of Land Management land along the Soleduck River, roughly 20 airline kilometers (12 miles) to the south. If any sites are found on Federal forest lands, they will probably be within Riparian Reserves.(Burke et al., 1999).

Intrinsic Vulnerability

A = Highly Vulnerable. Species is slow to mature, reproduces infrequently, and/or has low fecundity such that populations are very slow (> 20 years or 5 generations) to recover from decreases in abundance; or species has low dispersal capability such that extirpated populations are unlikely to become reestablished through natural recolonization (unaided by humans). Ecological community occurrences are highly susceptible to changes in composition and structure that rarely if ever are reversed through natural processes even over substantial time periods (> 100 years).

Comments The Hoko Vertigo is thought to be a short-lived species, with a potential life span of less than 2 years. At any given time of year, the individuals in a colony of pupillid snails all seem to be at about the same stage of development (Terrence J. Frest, personal communication). This mollusk seems to have a very limited distribution, so activities that alter habitat features or microclimate at occupied sites should be viewed as threats to its survival (Burke et al., 1999).

Environmental Specificity

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

Comments Arboreal, and considered an old-growth forest and riparian species. It may be found on the smooth trunks and lower limbs of deciduous trees and shrubs, or in leaf litter under such vegetation within 200 meters of streams, seeps, or springs. This snail typically hangs upside down from limbs and trunks of trees and shrubs with smooth bark, where it may appear to be a small bud (Kelley et al., 1999). Little is known about the ecology of the Hoko Vertigo, other than the available habitat descriptions and the observation that virtually all of the individuals are arboreal. Very few have been found within leaf litter samples that were collected from under occupied trees, and those that were in the litter samples may have been there by accident (Terrence J. Frest, personal communication in Burke et al., 1999). The two available records are from relatively low elevations, roughly 12 and 90 meters (40 and 300 feet). Although this snail is apparently dependent on riparian hardwoods, there is no reason to anticipate that this species does not occur in otherwise suitable situations that are at considerably higher elevations (Burke et al., 1999).

Other Considerations

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Greasons

The known range of the Hoko Vertigo consists of only two sites on State lands, which are apparently not protected. Because the Hoko Vertigo seems to have a very limited distribution, any environmental alteration should be viewed as a possible threat.

BCD Sources

New Sources

Burke, T.E., J.S. Applegarth, and T.R. Weasma. 1999. Management recommendations of survey and manage terrestrial mollusks. Ver. 2.0. Report submitted to USDI Bureau of Land Management, Salem, Oregon, October 1999. Unpaginated.

Kelley, R., S. Dowlan, N. Duncan, and T. Burks. 1999. Field Guide to Survey and Manage Terrestrial Mollusk Species from the Northwest Forest Plan. Bureau of Land Management, Oregon State Office, Portland, Oregon. 114 pp.