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Oregon State Ranking Assessment for Harney Basin Duskysnail (*Colligyrus depressus*)

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Natural Heritage Ranking Form - Oregon State Rank

Oregon Ranking Form Harney Basin duskysnail (*Colligyrus depressus*)

Oregon Biodiversity Information Center

SPECIES ASSESSED

Scientific Name	<i>Colligyrus depressus</i>	ELCODE	IMGASF8010
Common Name	Harney Basin duskysnail	Element ID	7936

Hershler, R. 1999. A systematic review of the Hydrobiid snails (Gastropoda: Rissooidea) of the Great Basin, Western United States. Part II. Genera *Colligyrus*, *Eremopyrgus*, *Fluminicola*, *Pristinicola*, and *Tryonia*. *The Veliger*, 42(4): 306-337.

CONSERVATION STATUS RANK

Assigned Rank	S2		
Rank Assignment Author	Nelson, Misty	Rank Review Date	11/16/2023
Rank Factors Author	Nelson, Misty	Rank Factors Date	11/16/2023
Calculated Rank	S2	Rank Change Date	01/08/2024
Rank Methodology Used	Rank calculation - Biotics v2		

Assigned Rank Reasons

Surveys have continued to expand the known range of this species, but it is still known from only a small number of locations, and spring habitat is susceptible to degradation from a variety of sources.

RANGE/DISTRIBUTION

Range Extent

Rating	1000-5000 square km (about 400-2000 square miles)		
Estimate	3761	Unit Used for Estimate	Square Kilometers
Comments	3,761 sq km calculated using NatureServe RARECAT tool and 6 EOs. Originally known exclusively from type locality in Harney County, but additional observations have expanded known range into Lake County and Grant County as well.		

Area of Occupancy

Grid Cell Size	4 km ² Grid Cells		
Rating (as Number of 4 km² Grid Cells)	D = 6-25		
Comments	6 4-sq-km grid cells calculated using NatureServe RARECAT tool and 6 EOs.		

ABUNDANCE AND CONDITION

Rating	6 - 20
Estimate	6
Comments	6 EOs in Biotics.

Rating	Unknown
Comments	

Population size is unknown, but collections range from 1 to 151 specimens, and Richard Vetter (2012, pers. comm.) report very high abundance at one site, with potentially thousands of individuals present.

Number of Occurrences with Good Viability/Ecological Integrity

Rating Few (4-12)

Estimate 6

Comments

All 6 EOs are post-2000.

THREATS

<u>Threat Category</u>		<u>Calculated Impact</u>	<u>Scope</u>	<u>Severity</u>	<u>Timing</u>	<u>Comments</u>
<u>Code</u>	<u>Threat Category</u>					
2.3.2	Small-holder grazing, ranching or farming	C = Medium	Restricted: Affects some (11-30%) of the total population or occurrences or extent	Serious: Likely to seriously degrade/reduce affected occurrences or habitat, or reduce population 31-70%	High: Continuing	Grazing and spring development for livestock could degrade habitat for this species.
7.1.1	Increase in fire frequency/intensity	C = Medium	Restricted: Affects some (11-30%) of the total population or occurrences or extent	Serious: Likely to seriously degrade/reduce affected occurrences or habitat, or reduce population 31-70%	High: Continuing	Catastrophic wildfires are likely to become more prevalent in areas where this species occurs.
2	Agriculture & aquaculture	C = Medium	Restricted: Affects some (11-30%) of the total population or occurrences or extent	Serious: Likely to seriously degrade/reduce affected occurrences or habitat, or reduce population 31-70%	High: Continuing	
2.3	Livestock farming & ranching	C = Medium	Restricted: Affects some (11-30%) of the total population or occurrences or extent	Serious: Likely to seriously degrade/reduce affected occurrences or habitat, or reduce population 31-70%	High: Continuing	
6	Human intrusions & disturbance	D = Low	Large: Affects most (31-70%) of the total population or occurrences or extent	Slight: Likely to only slightly degrade/reduce affected occurrences or habitat, or reduce population 1-10%	High: Continuing	
6.1	Recreational activities	D = Low	Large: Affects most (31-70%) of the total population or occurrences or extent	Slight: Likely to only slightly degrade/reduce affected occurrences or habitat, or reduce population 1-10%	High: Continuing	One spring where this species occurs is located near a road access point for a heavily used dispersed camping area.
7	Natural system modifications	C = Medium	Restricted: Affects some (11-30%) of the total population or occurrences or extent	Serious: Likely to seriously degrade/reduce affected occurrences or habitat, or reduce population 31-70%	High: Continuing	

7.1	Fire & fire suppression	C = Medium	Restricted: Affects some (11-30%) of the total population or occurrences or extent	Serious: Likely to seriously degrade/reduce affected occurrences or habitat, or reduce population 31-70%	High: Continuing	
9	Pollution	C = Medium	Restricted: Affects some (11-30%) of the total population or occurrences or extent	Serious: Likely to seriously degrade/reduce affected occurrences or habitat, or reduce population 31-70%	High: Continuing	Salt from hunters to attract game may degrade water quality at small springs where flow may be insufficient to dilute the salt.

Calculated Overall Threat Impact B = High

Assigned Overall Threat Impact B = High

Overall Threat Impact Comments

Habitat degradation of small springs is the primary threat to this species, and results from a variety of factors, including livestock grazing, recreational activities, wildfires, and salting by big game hunters.

TRENDS

Short-Term Trend

Rating U = Unknown

Long-Term Trend

Rating U = Unknown

ADDITIONAL SPECIES INFORMATION

Oregon Habitat Comments

This species is known only from the type locality at unnamed springs, Cricket Creek, Silvies River drainage. The type locality is composed of a series of small, cold rheocrenes. (Hershler, 1999).

RESOURCES

Oregon Biodiversity Information Center, Institute for Natural Resources
 Portland State University, Mail Stop: INR, PO Box 751, Portland, OR 97207-0751 Phone: 503-725-9950

Additional ORBIC species ranking forms posted at
<https://inr.oregonstate.edu/orbic/rare-species/ranking-documentation>

Information on Natural Heritage ranking methodology is available at
<http://www.natureserve.org/biodiversity-science/publications/natureserve-conservation-status-assessments-methodology-assigning>

The Conservation Rank Calculator is developed and maintained by NatureServe and is available from
<http://www.natureserve.org/conservation-tools/conservation-rank-calculator>

ASSESSMENT CITATION

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