11-3-2023

Oregon State Rank Assessment for Pit-Klamath Brook Lamprey (Entosphenus lethophagus)

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Natural Heritage Ranking Form - Oregon State Rank

Oregon Ranking Form **Pit-Klamath brook lamprey (Entosphenus lethophagus)** **Oregon Biodiversity Information Center**

SPECIES ASSESSED

Scientific Name ***Entosphenus lethophagus*** **ELCODE** AFBAA02060

Common Name **Pit-Klamath brook lamprey** **Element ID** 6773

Species Concept Reference Citation

Hubbs, C.L. 1971. Lampetra (Entosphenus) lethophaga, new species, the nonparasitic derivative of the Pacific lamprey. San Diego Society Nat. History Transactions 16:125-164. https://www.biodiversitylibrary.org/page/4303247

CONSERVATION STATUS RANK

Assigned Rank **S3**

Rank Assignment Author	Nelson, Misty	**Rank Review Date**	11/03/2023
Rank Factors Author	Nelson, Misty	**Rank Factors Date**	11/03/2023
Calculated Rank	S3	**Rank Change Date**	07/11/2016
Rank Methodology Used	Rank calculation - Biotics v2		

Assigned Rank Reasons

Small distribution in OR, but widespread and locally abundant where it does occur. Significant habitat alteration/degradation has occurred throughout known range, but this species appears tolerant of some alterations. Some taxonomic uncertainty.

RANGE/DISTRIBUTION

Range Extent

Rating 5000-20,000 square km (about 2000-8000 square miles)

Estimate 8688 **Unit Used for Estimate** Square Kilometers

Comments 8,688 sq km calculated using NatureServe RARECAT tool and 35 GBIF records.

Area of Occupancy

Grid Cell Size 1 km² Grid Cells

Rating (as Number of 4 km2 Grid Cells)

Rating (as Number of 1 km2 Grid Cells) DE = 21-500

Estimate 31 **Unit Used for Estimate** 1 km² Gri

Comments 31 1-sq-km grid cells calculated using NatureServe RARECAT tool and 35 GBIF records (centroids). AOO calculated from EO and ODFW records (polygons) gives a higher number of 187 grid cells.

ABUNDANCE AND CONDITION

Number of Occurrences

Rating 6 - 20

Estimate 13

Comments

13 EOs in Biotics. By comparison, the NatureServe RARECAT tool (using 35 GBIF records and a 10km separation distance) returns 19 occurrences.

Population Size

Rating Unknown

Good Viability/Ecological Integrity

Number of Occurrences with Good Viability/Ecological Integrity

Rating Unknown

THREATS

Threat Category Code	Threat Category	Calculated Impact	Scope	Severity	Timing	Comments
2	Agriculture & aquaculture	CD = Medium - low	Pervasive: Affects all or most (71-100%) of the total population or occurrences or extent	Moderate - slight	High: Continuing	Agriculture throughout range likely contributes to water diversion and habitat degradation (Moyle et al. 2015)
2.3	Livestock farming & ranching	CD = Medium - low	Pervasive: Affects all or most (71-100%) of the total population or occurrences or extent	Moderate - slight	High: Continuing	Grazing likely contributes to aquatic and riparian habitat degradation and water quality impairment (Moyle et al. 2015)
4	Transportation & service corridors	CD = Medium - low	Pervasive: Affects all or most (71-100%) of the total population or occurrences or extent	Moderate - slight	High: Continuing	
4.1	Roads & railroads	CD = Medium - low	Pervasive: Affects all or most (71-100%) of the total population or occurrences or extent	Moderate - slight	High: Continuing	Unimproved roads contribute to sedimentation and habitat fragmentation (Moyle et al. 2015)

Calculated Overall Threat Impact

Assigned Overall Threat Impact CD = Medium - low

Overall Threat Impact Comments

Limited information available on Oregon-specific threats, but they are likely similar to those identified in Moyle et al. (2015) for California - agriculture, grazing, and sedimentation and habitat fragmentation resulting from roads. Although widespread aquatic habitat alteration has occurred throughout the known range, the species appears tolerant of some changes, and may even benefit from some stream alterations.

TRENDS

Short-Term Trend

Rating FG = Decline of <30% to relatively stable

Comments

2014 IUCN Red List Assessment (NatureServe, 2014) states "trend over the past 10 years or three generations is uncertain but probably relatively stable or slowly declining"

Long-Term Trend

Rating U = Unknown

RANKING REFERENCES

Short Citation Author	Year	Full Citation
Lorion	2000	Lorion, C.M., D.F. Markle, S.B. Reid, and M.F. Docker. 2000. Redescription of the presumed-extinct Miller Lake lamprey, LAMPETRA MINIMA. Copeia 2000:1019-1028.
Moyle et al.	2015	Moyle, P. B., R. M. Quiñones, J. V. Katz and J. Weaver. 2015. Fish Species of Special Concern in California. California Department of Fish and Wildlife, Sacramento. 842pp.
NatureServe	2014	NatureServe. 2014. Entosphenus lethophagus. The IUCN Red List of Threatened Species 2014: e.T202629A18235333. http://dx.doi.org/10.2305/IUCN.UK.2014-3.RLTS.T202629A18235333.en. Downloaded on 11 July 2016.
ORBIC	2019	Oregon Biodiversity Information Center. 2019. Oregon Biotics Rare Species Database. Maintained by ORBIC at Portland State University, Portland, OR.

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

Nelson, Misty. 2023. Oregon state rank assessment for Pit-Klamath brook lamprey (Entosphenus lethophagus). Oregon Biodiversity Information Center. Institute for Natural Resources, Portland State University, Portland, OR.