

Portland State University

PDXScholar

---

Institute for Natural Resources Publications

Institute for Natural Resources - Portland

---

2022

# Oregon State Rank Assessment for Larch Mountain Salamander (*Plethodon larselli*)

Eleanor P. Gaines

Portland State University, egaines@pdx.edu

Follow this and additional works at: [https://pdxscholar.library.pdx.edu/naturalresources\\_pub](https://pdxscholar.library.pdx.edu/naturalresources_pub)



Part of the [Zoology Commons](#)

Let us know how access to this document benefits you.

---

## Citation Details

Gaines, Eleanor P., "Oregon State Rank Assessment for Larch Mountain Salamander (*Plethodon larselli*)" (2022). *Institute for Natural Resources Publications*. 65.

[https://pdxscholar.library.pdx.edu/naturalresources\\_pub/65](https://pdxscholar.library.pdx.edu/naturalresources_pub/65)

This Report is brought to you for free and open access. It has been accepted for inclusion in Institute for Natural Resources Publications by an authorized administrator of PDXScholar. Please contact us if we can make this document more accessible: [pdxscholar@pdx.edu](mailto:pdxscholar@pdx.edu).

# Natural Heritage Ranking Form - Oregon State Rank

Oregon Ranking Form Larch Mountain salamander (*Plethodon larselli*)

Oregon Biodiversity Information Center

## SPECIES ASSESSED

Scientific Name *Plethodon larselli* ELCODE AAAAD12100  
Common Name Larch Mountain salamander Element ID 6277

### Species Concept Reference Citation

Frost, D. R. 1985. Amphibian species of the world. A taxonomic and geographical reference. Allen Press, Inc., and The Association of Systematics Collections, Lawrence, Kansas. v + 732 pp.

## CONSERVATION STATUS RANK

Assigned Rank **S2?**

Rank Assignment Author	E Gaines	Rank Review Date	11/01/2022
Rank Factors Author	Eleanor Gaines	Rank Factors Date	11/01/2022
Calculated Rank	S2?	Rank Change Date	11/01/2022
Rank Methodology Used	Rank calculation - Biotics v2		

### Assigned Rank Reasons

While the majority of this species' habitat in Oregon is protected, its range is relatively small and populations are fragmented. In addition, the full Oregon range remains unknown and its status outside of the Columbia River Gorge remains largely unknown. The species may not be faring nearly as well outside of protected areas and is still of concern.

## RANGE/DISTRIBUTION

### Range Extent

Rating	1000-5000 square km (about 400-2000 square miles)		
Estimate	1581	Unit Used for Estimate	Square Kilometers
Comments	The Larch Mountain salamander occurs in the Columbia River Gorge in northern Oregon. The southern end of the range is roughly defined by the towns of Hood River and Troutdale, Oregon, although there are two disjunct records further south in the Mount Hood National Forest (ORBIC 2022). The species is documented in Multnomah, Hood River, and Clackamas counties in Oregon.		

### Area of Occupancy

Grid Cell Size	4 km <sup>2</sup> Grid Cells		
Rating (as Number of 4 km <sup>2</sup> Grid Cells)	E = 26-125		
Comments	Known Oregon records intersect with 30 4km <sup>2</sup> grid cells (ORBIC 2022). There may be additional records, but the area of occupancy should still fall within this range.		

## ABUNDANCE AND CONDITION

### Number of Occurrences

Rating	6 - 20		
Estimate	16		
Comments	16 EOs, 8 of these extant. The others are historical or possibly historical.		

### Population Size

Rating	Unknown		
Comments	Total adult population size is unknown		

**Good Viability/Ecological Integrity**

**Number of Occurrences with Good Viability/Ecological Integrity**

**Rating** Few (4-12)

**Comments**

Many sites are on federal lands, but the degree of protection is unclear.

**Number of Protected and Managed Occurrences** BC = Few to several (1-12) occurrences appropriately protected and managed

**Number of Protected and Managed Occurrences Comments**

Most habitat is protected within the Columbia River National Scenic Area (Leonard et al. 1993). Habitat on national forest land may not be adequately protected (Crisafulli et al. 2008).

---

**THREATS**

---

<u>Threat Category Code</u>	<u>Threat Category</u>	<u>Calculated Impact</u>	<u>Scope</u>	<u>Severity</u>	<u>Timing</u>	<u>Comments</u>
9.3.3	Herbicides and pesticides	D = Low	Small: Affects a small proportion (1-10%) of the total population or occurrences or extent	Moderate - slight	Moderate: In the short-term future, or now suspended but could return in short term	
3	Energy production & mining	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%	Moderate: In the short-term future, or now suspended but could return in short term	
3.2	Mining & quarrying	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%	Moderate: In the short-term future, or now suspended but could return in short term	
4	Transportation & service corridors	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%	Moderate: In the short-term future, or now suspended but could return in short term	
4.1	Roads & railroads	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%	Moderate: In the short-term future, or now suspended but could return in short term	
5	Biological resource use	BC = High - medium	Large - restricted	Serious: Likely to seriously degrade/reduce affected occurrences or habitat, or reduce population 31-70%	High: Continuing	
5.3	Logging & wood harvesting	BC = High - medium	Large - restricted	Serious: Likely to seriously degrade/reduce affected occurrences or habitat, or reduce population 31-70%	High: Continuing	
9	Pollution	D = Low	Small: Affects a small proportion (1-10%) of the total population or occurrences or extent	Moderate - slight	Moderate: In the short-term future, or now suspended but could return in short term	

9.3	Agricultural & forestry effluents	D = Low	Small: Affects a small proportion (1-10%) of the total population or occurrences or extent	Moderate - slight	Moderate: In the short-term future, or now suspended but could return in short term
11	Climate change & severe weather	CD = Medium - low	Pervasive: Affects all or most (71-100%) of the total population or occurrences or extent	Moderate - slight	High: Continuing

**Calculated Overall Threat Impact** AB = Very high - high

**Assigned Overall Threat Impact** AB = Very high - high  
**Overall Threat Impact Comments**

Habitat loss, degradation, and disturbance are the primary threats to this species (Crisafulli et al. 2008). Any ground-disturbing activity or land use that changes the moisture regime and permeability of inhabited rocky substrates, such as logging or talus mining for road construction, may threaten populations.

#### TRENDS

##### Short-Term Trend

**Rating** G = Relatively Stable (<=10% change)

##### Long-Term Trend

**Rating** EF = Decline of 10-50%

##### Comments

The current patchy distribution of *P. larselli* is a recent development, and probably the occupied range in the 2010s was much smaller than its historical range (Pelletier et al. 2015).

#### OTHER FACTORS

**Intrinsic Vulnerability Rating** Moderately vulnerable

##### Comments

**Environmental Specificity Rating** Very narrow to narrow.

##### Comments

This species requires steep, mature, forested habitat with undisturbed talus, scree, caves, or other rocky substrate (Crisafulli et al 2008, Hallock and McAllister 2005, Washington Department of Fish and Wildlife 2022). Woody debris, leaf litter and rocks are important habitat components (Hallock and McAllister 2005).

#### ADDITIONAL SPECIES INFORMATION

##### Oregon Habitat Comments

Steep, forested slopes in talus or other rocky areas where spaces exist between the rock and soil. Usually found away from streams and sometimes occupy north-facing rocky areas that have a dominant groundcover of moss.<br>

<b>RANKING REFERENCES</b>
---------------------------

<u>Short Citation</u>	<u>Author</u>	<u>Year</u>	<u>Full Citation</u>
Crisafulli		2008	Crisafulli, C.M.; Clayton, D.R.; Olson, D. H. 2008. Conservation assessment for the Larch Mountain salamander ( <i>Plethodon larselli</i> ). U.S.D.A. Forest Service Region 6 and U.S.D.I. Bureau of Land Management. Page 36.
Hallock & McAllister		2005	Hallock, L.A. and K.R. McAllister. 2005. Washington Herp Atlas. A cooperative effort of Washington Natural Heritage Program, Washington Department of Fish and Wildlife, U.S.D.I. Bureau of Land Management, and U.S. Forest Service.
Leonard et al.		1993	Leonard, W. P., H. A. Brown, L. L. C. Jones, K. R. McAllister, and R. M. Storm. 1993. Amphibians of Washington and Oregon. Seattle Audubon Society, Seattle, Washington. viii + 168 pp.
Pelletier		2015	Pelletier, Tara A.; Crisafulli, Charlie; Wagner, Steve; Zellmer, Amanda J.; Carstens, Bryan C. 2015. Historical species distribution models predict species limits in western <i>Plethodon</i> salamanders. <i>Systematic Biology</i> . 64(6):909-925.

<b>RESOURCES</b>
------------------

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>

<b>ASSESSMENT CITATION</b>
----------------------------

E Gaines. 2022. Oregon state rank assessment for Larch Mountain salamander (*Plethodon larselli*). Oregon Biodiversity Information Center. Institute for Natural Resources, Portland State University, Portland, OR.