

11-14-2023

# Oregon State Rank Assessment for Johnson's Hairstreak (*Callophrys johnsoni*)

Misty Nelson  
*Portland State University*

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

Nelson, Misty, "Oregon State Rank Assessment for Johnson's Hairstreak (*Callophrys johnsoni*)" (2023).  
*Institute for Natural Resources Publications*. 54.  
[https://pdxscholar.library.pdx.edu/naturalresources\\_pub/54](https://pdxscholar.library.pdx.edu/naturalresources_pub/54)

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     Johnson's hairstreak (butterfly) (*Callophrys johnsoni*)

Oregon Biodiversity Information Center

## SPECIES ASSESSED

<b>Scientific Name</b>	<i>Callophrys johnsoni</i>	<b>ELCODE</b>	IILEPE2100
<b>Common Name</b>	Johnson's hairstreak (butterfly)	<b>Element ID</b>	7447

Pelham, J. P. 2008. A catalogue of the butterflies of the United States and Canada with a complete bibliography of the descriptive and systematic literature. The Journal of Research on the Lepidoptera. Volume 40. 658 pp. Revised 14 February, 2012.

## CONSERVATION STATUS RANK

<b>Assigned Rank</b>	<b>S2S3</b>		
<b>Rank Assignment Author</b>	Nelson, Misty	<b>Rank Review Date</b>	11/14/2023
<b>Rank Factors Author</b>	Nelson, Misty	<b>Rank Factors Date</b>	11/14/2023
<b>Calculated Rank</b>	S2S3	<b>Rank Change Date</b>	01/08/2024
<b>Rank Methodology Used</b>	Rank calculation - Biotics v2		

### Assigned Rank Reasons

2023: Although range extent is fairly large, distribution is patchy within that range, although recent observations have been made sporadically throughout its known range. 2016: Patchy distribution and erratic abundance. May occur in other areas; comprehensive searches needed. Populations may be overlooked because they occur in the canopy. Suitable habitat may be limited.

## RANGE/DISTRIBUTION

### Range Extent

<b>Rating</b>	20,000-200,000 square km (about 8000-80,000 square miles)		
<b>Estimate</b>	105707	<b>Unit Used for Estimate</b>	Square Kilometers
<b>Comments</b>	2023: 105,707 sq km calculated using NatureServe RARECAT tool, 15 EOs and 27 Research Grade iNaturalist observations; 2016: 59,723 sq km range extent based on ORBIC existing EOs		

### Area of Occupancy

<b>Grid Cell Size</b>	4 km <sup>2</sup> Grid Cells		
<b>Rating (as Number of 4 km<sup>2</sup> Grid Cells)</b>	E = 26-125		
<b>Comments</b>	2023: 41 4-sq-km grid cells calculated using NatureServe RARECAT tool, 15 EOs and 27 Research Grade iNaturalist observations; 2016: 594 4-km <sup>2</sup> grid cells based on existing EOs buffered to 5 km.		

## ABUNDANCE AND CONDITION

<b>Rating</b>	6 - 80		
<b>Estimate</b>	15		
<b>Comments</b>	2023: 15 EOs mapped in Biotics; 32 occurrences calculated using NatureServe RARECAT tool, 15 EOs + 27 Research Grade iNaturalist observations, and 10km separation distance; 2016: 11 known EOs		

**Rating**            Unknown

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

Rating Few to some (4-40)

**Comments**

2023: 12 EOs have Last\_Obs\_Date between 2000-2016, and 27 Research Grade iNaturalist records (search date 11/14/2023) were observed post-2005; 2016: 10 EOs are post-2000, 1 is historic (1950s). No information on viability of these populations. Abundance is erratic from year to year (Andrews 2011).

**THREATS**

<u>Threat Category</u>	<u>Calculated Impact</u>	<u>Scope</u>	<u>Severity</u>	<u>Timing</u>	<u>Comments</u>
5 Biological resource use	B = High	Large: Affects most (31-70%) of the total population or occurrences or extent	Serious: Likely to seriously degrade/reduce affected occurrences or habitat, or reduce population 31-70%		Logging has resulted in habitat loss.
9 Pollution	D = Low	Restricted: Affects some (11-30%) of the total population or occurrences or extent	Moderate: Likely to moderately degrade/reduce affected occurrences or habitat, or reduce population 11-30%		Spraying Bt to control moths and budworms kills <i>C. johnsoni</i> also.
<b>Calculated Overall Threat Impact</b>		B = High			
<b>Assigned Overall Threat Impact</b>		B = High			
<b>Overall Threat Impact Comments</b>					

2023: No new information on threats available. 2016: Loss of old growth habitat. Logging and other habitat destruction, spraying B.t. and pesticides to control pests, hybridization with the Thicket hairstreak

**TRENDS****Short-Term Trend**

Rating U = Unknown

**Long-Term Trend**

Rating U = Unknown

**OTHER FACTORS****Intrinsic Vulnerability Rating****Comments**

**Environmental Specificity Rating** Narrow. Specialist or community with key requirements common.

**Comments**

Restricted to older forests (Pyle 2010).

**ADDITIONAL SPECIES INFORMATION****Oregon Habitat Comments**

Require mid to low-elevation old growth forests, requirements quite similar to the spotted owl. Adult spends much of its time in the canopy, making this species difficult to study.

#### RANKING REFERENCES

<u>Short Citation</u>	<u>Author</u>	<u>Year</u>	<u>Full Citation</u>
Andrews		2011	Andrews, H. 2011. Species Fact Sheet: <i>Callophrys johnsoni</i> prepared for USFS ISSSSP. Available at: <a href="http://www.fs.fed.us/r6/sfprnw/issssp/species-index/fauna-invertebrates.shtml">http://www.fs.fed.us/r6/sfprnw/issssp/species-index/fauna-invertebrates.shtml</a>
ORBIC		2019	Oregon Biodiversity Information Center. 2019. Oregon Biotics Rare Species Database. Maintained by ORBIC at Portland State University, Portland, OR.
Pyle		2002	Pyle, R. M. 2002. The Butterflies of Cascadia. A Field Guide to all the Species of Washington, Oregon, and Surrounding Territories. Seattle Audubon Society. 420 pp
Spiegel		2014	Spiegel, L. H. 2014. Johnson's Hairstreak Butterfly ( <i>Callophrys johnsoni</i> ) in the Blue Mountains. Wallowa-Whitman National Forest Blue Mountains Forest Insects and Disease Service Center. BMPMSC-14-01. Available at <a href="http://www.fs.fed.us/r6/sfprnw/issssp/species-index/fauna-invertebrates.shtml">http://www.fs.fed.us/r6/sfprnw/issssp/species-index/fauna-invertebrates.shtml</a>
Warren		2005	Warren, A.D. 2005. Lepidoptera of North America 6. Butterflies of Oregon: Their Taxonomy, Distribution, and Biology. C.P Gillette Museum of Arthropod Diversity, Department of Bioagricultural Sciences and Pest Management, Colorado State University, Fort Collins, Colorado. 408 pp.

#### 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 Johnson's hairstreak (butterfly) (*Callophrys johnsoni*). Oregon Biodiversity Information Center. Institute for Natural Resources, Portland State University, Portland, OR.