

Natural Heritage Ranking Form - Oregon State Rank

Oregon Ranking Form Red tree vole North Oregon Coast DPS (*Arborimus longicaudus*) Oregon Biodiversity Information Center

SPECIES ASSESSED

Scientific Name	<i>Arborimus longicaudus pop. 1</i>	ELCODE	AMAFF23023
Common Name	Red tree vole North Oregon Coast DPS	Element ID	420154

Species Concept Reference Citation

U.S. Fish and Wildlife Service (USFWS). 2022. Endangered and Threatened Wildlife and Plants; Withdrawal of the Not-Warranted Finding for Endangered or Threatened Status for the North Oregon Coast Distinct Population Segment of Red Tree Vole. Federal Register 87(201):63472-63473.

CONSERVATION STATUS RANK

Assigned Rank	S1S2		
Rank Assignment Author	Eleanor Gaines	Rank Review Date	
Rank Factors Author		Rank Factors Date	
Calculated Rank	S1S2	Rank Change Date	11/04/2022
Rank Methodology Used	Rank calculation - Biotics v2		

Assigned Rank Reasons

The DPS has a limited range, strong preference for older coniferous forests, declining populations. Despite many extant records, distribution is increasingly patchy, with fragmentation and loss of forest habitats. Localized extirpations are known. Species disperses slowly and with limited capabilities; low reproductive rate.

RANGE/DISTRIBUTION

Range Extent

Rating	5000-20,000 square km (about 2000-8000 square miles)		
Estimate	13,400	Unit Used for Estimate	Square Kilometers
Comments	Oregon Coast Range north of the Siuslaw River		

Area of Occupancy

Grid Cell Size	4 km ² Grid Cells		
Rating (as Number of 4 km² Grid Cells)	F = 126-500		
Comments	Based on element occurrences and additional BLM records that have not yet been added.		

ABUNDANCE AND CONDITION

Number of Occurrences

Rating	21 - 300		
Comments	45 current element occurrences, plus BLM records to be entered. Because of low dispersal ability there may be close to 100 occurrences once BLM data have been entered.		

Population Size

Rating	Unknown		
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Good Viability/Ecological Integrity

Number of Occurrences with Good Viability/Ecological Integrity

Rating	Very few to few (1-12)		
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Comments

In the North Oregon Coast DPS, populations are small and fragmented, and red tree voles are absent from areas of suitable habitat. Of the 11 habitat clusters identified by USFWS (2019) within the range of the North Oregon Coast DPS, only two scored as highly resilient and likely to persist (USFWS 2019).

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>
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%	High: Continuing	
5.3	Logging & wood harvesting	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%	High: Continuing	
6	Human intrusions & disturbance	Negligible	Negligible (<1%)	Negligible or <1% pop. decline		
7	Natural system modifications	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%	High: Continuing	
7.1	Fire & fire suppression	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%	High: Continuing	
8	Invasive & other problematic species, genes & diseases	Not in timeframe	Restricted: Affects some (11-30%) of the total population or occurrences or extent	Slight: Likely to only slightly degrade/reduce affected occurrences or habitat, or reduce population 1-10%	Low: In the long-term future, or now suspended but could return in long term	
8.2	Problematic native species/diseases	Not in timeframe	Restricted: Affects some (11-30%) of the total population or occurrences or extent	Slight: Likely to only slightly degrade/reduce affected occurrences or habitat, or reduce population 1-10%	Low: In the long-term future, or now suspended but could return in long term	
11	Climate change & severe weather	C = Medium	Pervasive: Affects all or most (71-100%) of the total population or occurrences or extent	Moderate: Likely to moderately degrade/reduce affected occurrences or habitat, or reduce population 11-30%	Moderate: In the short-term future, or now suspended but could return in short term	

11.1	Habitat shifting & alteration	C = Medium	Pervasive: Affects all or most (71-100%) of the total population or occurrences or extent	Moderate: Likely to moderately degrade/reduce affected occurrences or habitat, or reduce population 11-30%	Moderate: In the short-term future, or now suspended but could return in short term
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Calculated Overall Threat Impact A = Very high

Assigned Overall Threat Impact A = Very high

Overall Threat Impact Comments

The primary threats to red tree vole populations include habitat loss and fragmentation due to forest management activities that reduce stand age, canopy interconnectedness, availability of nest structure, and increase stand fragmentation; wildfires; and

TRENDS

Short-Term Trend

Rating CF = Decline of 10-80%

Comments

Populations in NW OR have declined due to habitat loss.

Long-Term Trend

Rating BC = Decline of 70-90%

Comments

Within the range of the North Oregon Coast DPS, old forests have been greatly reduced over the previous century (>80%), resulting in elimination and isolation of red tree voles in many areas (Linnell et al. 2017, Linnell and Lesmeister 2019, USFWS 2019). Red tree voles were once common in northwest Oregon. They are now virtually absent from large portions of the region, and where they remain, populations are small and isolated (Forsman and Swingle 2010, Price et al. 2015).

OTHER FACTORS

Intrinsic Vulnerability Rating Moderately vulnerable

Comments

Limited dispersal ability, strongly prefers older forests.

Environmental Specificity Rating Very narrow to narrow.

Comments

Red tree voles are arboreal conifer obligates most often associated with older forests, although they will utilize younger forests (USFWS 2019). Older forested habitat has declined, is fragmented, and is not being replaced in the range of the North Coast DPS (Huff 2016, USFWS 2019).

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
