

Natural Heritage Ranking Form - Oregon State Rank

Oregon Ranking Form White-footed vole (*Arborimus albipes*)

Oregon Biodiversity Information Center

SPECIES ASSESSED

Scientific Name	<i>Arborimus albipes</i>	ELCODE	AMAFF23010
Common Name	White-footed vole	Element ID	7068

Species Concept Reference Citation

Jones, C., R. S. Hoffman, D. W. Rice, M. D. Engstrom, R. D. Bradley, D. J. Schmidly, C. A. Jones, and R. J. Baker. 1997. Revised checklist of North American mammals north of Mexico, 1997. Occasional Papers, Museum of Texas Tech University 173:1-20.

CONSERVATION STATUS RANK

Assigned Rank	S3S4		
Rank Assignment Author	Eleanor Gaines	Rank Review Date	10/19/2022
Rank Factors Author	Eleanor Gaines	Rank Factors Date	10/19/2022
Calculated Rank	S3S4	Rank Change Date	04/15/2004
Rank Methodology Used	Rank calculation - Biotics v2		

RANGE/DISTRIBUTION

Range Extent

Rating	20,000-200,000 square km (about 8000-80,000 square miles)
Comments	The known range of the white-footed vole extends from the Columbia River south through the Coast Range of Oregon into California, and includes areas on the west slope of the Cascade Range in Lane and Douglas counties, Oregon (Manning et al. 2003, Bean and

Area of Occupancy

Grid Cell Size	4 km ² Grid Cells
Rating (as Number of 4 km ² Grid Cells)	F = 126-500
Comments	Known observations/collections intersect with about 150 4km ² grid cells (ORBIC 2022, Bean and Tange 2016). This likely underestimates the true area of occupancy.

ABUNDANCE AND CONDITION

Number of Occurrences

Rating	21 - 80
Estimate	43
Comments	Manning et al. (2003) mapped 46 collection sites across the range (3 in California, the remainder in Oregon). Some of these represented newly discovered populations in the Cascade Range. This vole likely occurs in additional areas not yet documented. There are 27 documented element occurrences in Oregon, but all are from prior to 2000, and the species has not been actively tracked (ORBIC 2022).

Population Size

Rating	2500 - 1,000,000 individuals
Comments	Total population size is unknown but surely is at least several thousand. This species, sometimes reported as the rarest of North American voles, likely is more common than it appears to be, but it is rarely trapped (Maser et al. 1981, Manning et al. 2003, Price et al. 2015, Swingle and Forsman 2016). Verts and Carraway (1998) noted an accelerating rate of specimen acquisition in the late 1990s. Manning et al. (2003) captured nine individuals in pitfall traps in October-November over three years in the Cascade Range of Oregon. They also reported 4 additional specimens from the Cascade Range in the early 2000s. A habitat suitability model identified additional potential habitat, but additional records have not been reported (Bean and Tange 2016).

Good Viability/Ecological Integrity**Number of Occurrences with Good Viability/Ecological Integrity****Rating****Number of Protected and Managed Occurrences**

U = Unknown whether any occurrences appropriately protected and managed

Number of Protected and Managed Occurrences Comments

Management and specific habitat needs are not known, but management for Northern Spotted Owl may benefit the species (Forsman et al. 2004).

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	C = Medium	Large: Affects most (31-70%) of the total population or occurrences or extent	Moderate: Likely to moderately degrade/reduce affected occurrences or habitat, or reduce population 11-30%	High: Continuing	
5.3	Logging & wood harvesting	C = Medium	Large: Affects most (31-70%) of the total population or occurrences or extent	Moderate: Likely to moderately degrade/reduce affected occurrences or habitat, or reduce population 11-30%	High: Continuing	
7	Natural system modifications	CD = Medium - low	Large: Affects most (31-70%) of the total population or occurrences or extent	Moderate - slight	High: Continuing	
7.1	Fire & fire suppression	CD = Medium - low	Large: Affects most (31-70%) of the total population or occurrences or extent	Moderate - slight	High: Continuing	
7.1.1	Increase in fire frequency/intensity	CD = Medium - low	Large: Affects most (31-70%) of the total population or occurrences or extent	Moderate - slight	High: Continuing	
4	Transportation & service corridors	D = Low	Restricted: Affects some (11-30%) 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	
4.1	Roads & railroads	D = Low	Restricted: Affects some (11-30%) 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	
Calculated Overall Threat Impact		C = Medium				
Assigned Overall Threat Impact		C = Medium				

Overall Threat Impact Comments

Little is known about habitat requirements for this species, making it difficult to identify the severity of potential threats. White-footed voles are associated with dense stands of alder and hazel, often along streams (Manning et al. 2003). These habitats

TRENDS**Short-Term Trend**

Rating U = Unknown

Long-Term Trend

Rating U = Unknown

OTHER FACTORS

Intrinsic Vulnerability Rating Not intrinsically vulnerable

Comments

There is no information available to suggest this species is particularly vulnerable.

Environmental Specificity Rating Broad. Generalist or community with all key requirements common.

Comments

This species is associated with dense stands of alder or hazel, but beyond that, habitat requirements are unknown. Based on available information, the species has broad environmental specificity.

ADDITIONAL SPECIES INFORMATION**Oregon Habitat Comments**

They are early successional animals, associated with alder, for whom logging may be creating habitat (Maser, ONHDB files).

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

Oregon Biodiversity Information Center. 2022. Oregon state rank assessment for White-footed vole (*Arborimus albipes*). Institute for Natural Resources, Portland State University, Portland, OR.