

Taiga vole (yellow-cheeked vole)

Microtus xanthognathus

Class: Mammalia

Order: Rodentia

Conservation Status

NatureServe:

G Rank: G5

S Rank: S4S5

Agency:

USFWS:

ADF&G: Species of Greatest Conservation Need

IUCN: Least Concern

Final Rank		
Conservation category: V. Orange		
V = unknown status and either high biological vulnerability or high action need		
<u>Category</u>	<u>Range</u>	<u>Score</u>
Status:	-20 to 20	0
Biological:	-50 to 50	-38
Action:	-40 to 40	32
Higher numerical scores denote greater concern		

Status - variables measure the trend in a taxon's population status or distribution. Higher status scores denote taxa with known declining trends. Status scores range from -20 (increasing) to 20 (decreasing).

	Score
<i>Population Trend (-10 to 10)</i>	0
Unknown.	
<i>Distribution Trend (-10 to 10)</i>	0
Trends over the last 50 years are unknown. Models predict a contraction at the western edge of this species' range by the end of this century (Baltensperger and Huettmann 2015a; Marcot et al. 2015).	
Status Total:	0

Biological - variables measure aspects of a taxon's distribution, abundance and life history. Higher biological scores suggest greater vulnerability to extirpation. Biological scores range from -50 (least vulnerable) to 50 (most vulnerable).

	Score
<i>Population Size (-10 to 10)</i>	-6
Unknown, but suspected large.	
<i>Range Size (-10 to 10)</i>	-10
Found throughout interior Alaska between the Alaska Range and the Brooks Range and from the Canadian border west to Russian Mission (Baltensperger and Huettmann 2015b). Estimated range size is >400,000 sq. km., based on range map from ACCS (2017a).	
<i>Population Concentration (-10 to 10)</i>	-10
Does not concentrate. Colonial and semi-colonial behaviors have been documented (Wolff and Lidicker 1981; Cook and MacDonald 2006; A. Baltensperger, pers. comm.).	
<i>Reproductive Potential</i>	
<u>Age of First Reproduction (-5 to 5)</u>	-5
Reach sexual maturity at the end of their first year (Wolff and Lidicker 1980).	
<u>Number of Young (-5 to 5)</u>	-3

In interior Alaska, litter size ranged from 6 to 13 young, with an average between 8.0 and 9.2 (Wolff and Lidicker 1980). Females can have up to two litters per year (Wolff and Lidicker 1980).

Ecological Specialization

Dietary (-5 to 5) -5

Opportunistic herbivore whose diet changes with availability (Wolff and Lidicker 1980). Eats leaves and rhizomes of grasses, sedges, horsetails, and forbs; also eats lichens, mosses, berries and fungal spores (Wolff and Lidicker 1980; Lehmkuhl 2000). In the winter, feeds predominantly on stored rhizomes (Wolff and Lidicker 1980).

Habitat (-5 to 5) 1

Reported from several habitats including grasslands, edge habitats, shrub thickets, wetlands, and a variety of forest types (Dice 1921; Wolff and Lidicker 1980; Lehmkuhl 2000; Cook and MacDonald 2006). Despite this apparent generality, this species is patchily distributed across interior Alaska, which has led researchers to hypothesize that this species may require certain key habitat characteristics, notably good burrowing conditions, abundant food, and cover from predators (Wolff and Lidicker 1980; Lehmkuhl 2000). These habitat requirements are often associated with early successional forests and recently burned habitats with non-frozen soil, dense, vegetative ground cover, snags and fallen logs, and an abundance of Equisetum sp., Vaccinium sp., or Epilobium sp. (Wolff and Lidicker 1980; Lehmkuhl 2000).

Biological Total: -38

Action - variables measure current state of knowledge or extent of conservation efforts directed toward a given taxon. Higher action scores denote greater information needs due of lack of knowledge or conservation action. Action scores range from -40 (lower needs) to 40 (greater needs).

Score

Management Plans and Regulations (-10 to 10) 10

Voles are listed as unclassified game in Alaska with no closed season or bag limits (ADFG 2018c).

Knowledge of Distribution and Habitat (-10 to 10) 2

Distribution is somewhat understood, though range limits are still uncertain. Surveys in central Alaska have expanded the known western and northern limits of this species' range (Cook and MacDonald 2006; Baltensperger and Huettmann 2015b). Habitat associations have been described (Wolff and Lidicker 1980; Lehmkuhl 2000; Cook and MacDonald 2006).

Knowledge of Population Trends (-10 to 10) 10

Not currently monitored in Alaska.

Knowledge of Factors Limiting Populations (-10 to 10) 10

Little is known about the ecology of this species in Alaska or elsewhere. Like other microtines, some populations experience dramatic inter-annual fluctuations in density (Wolff and Lidicker 1980). Specialized habitat requirements or food availability may restrict densities or distribution, but it is unknown which of these two factors are most important to population dynamics (Lehmkuhl 2000). Distribution models predict a decrease in suitable habitat in Alaska by the end of this century (Baltensperger and Huettmann 2015a; Marcot et al. 2015). Parasites have been collected from this species (Duszynski et al. 2007; Haas et al. 2012), but their role in regulating population dynamics has not been investigated.

Action Total: 32

Supplemental Information - variables do not receive numerical scores. Instead, they that are used to sort taxa to answer specific biological or managerial questions.

Harvest:	Not substantial
Seasonal Occurrence:	Year-round
Taxonomic Significance:	Monotypic species
% Global Range in Alaska:	>10%
% Global Population in Alaska:	Unknown
Peripheral:	No

References

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