

# Long-legged Myotis (*Myotis volans*) Conservation Status Rank Summary

September 12, 2024

For details on assessment and ranking methodology, see: [Conservation Status Assessment Definitions, Process, Rank Factors, and Calculation of State Ranks for Montana Species](#)

## Rarity and Trends

Rank Factor	Date Assessed	Value	Score	Data Source	Comments
<b>Rarity</b>					
Range Extent	2024-09-12	Y: 380530.8 km <sup>2</sup>	4.710	MTNHP Range Maps	None
Area of Occupancy	2024-09-12	10447   4km <sup>2</sup> cells	4.810	MTNHP Modeling	None
Number of Occurrences	2024-09-12	274	4.130	MTNHP Databases	None
Population Size			-		Factor not used in ranking.
# of Occurrences in Good Condition	2024-09-12		4.400		None
% of Area Occupied in Good Condition			-		Factor not used in ranking.
Environmental Specificity			-		Factor not used in ranking.
Rarity is calculated by averaging weighted factor scores: $( (4.71 \times 1) + (4.81 \times 2) + (4.13 \times 1) + (4.40 \times 2) ) / 6 = 4.54$					
<b>Trends</b>					
Short-term Trend	2024-09-12		-	Expert Opinion	Factor not used in ranking. Species is not well suited to acoustic monitoring and infrequently captured. Data to assess trend are unavailable
Long-term Trend			-		Factor not used in ranking.
No trend data used in ranking this species					

## Threats

Rank Factor	Date Assessed	Value	Score	Data Source	Comments
<b>Threats</b>					
<b>Overall Threat Impact</b>		Very high	0.000		As this species does not occur in an area already impacted by White-Nose Syndrome, it is difficult to determine if it is biologically or behaviorally susceptible to the disease. However, it is within the same genus as other species that have suffered catastrophic
Intrinsic Vulnerability			-		Factor not used in ranking.
Threat score is calculated from Overall Threat Impact when available or Intrinsic Vulnerability if not: ( 0.00 ) = 0.00					

### Individual Threats Data

Threat Category	Date Assessed	Impact Score	Scope	Severity	Immediacy	Comments
<b>Invasive &amp; Other Problematic Species, Genes &amp; Diseases</b>	2024-09-12	Very high	Pervasive	Extreme	High	Species may face catastrophic declines due to White-Nose Syndrome
Threat Tally: 1 - Very High, 0 - High, 0 - Medium, 0 - Low Overall Threat Impact* = Very high						

\*See [Conservation Status Assessment Definitions, Process, Rank Factors, and Calculation of State Ranks for Montana Species](#) for calculation of Overall Threat Impact based on the number and impact of individual threats.

## Conservation Status Rank Calculation

### Raw score

Rarity:  $(4.54 \times 70\%)$  + Threats:  $(0.00 \times 30\%)$  + Trends:  $(0.00) = 3.18$

Calculated Rank: S3

<b>Accepted Rank</b>	S3
<b>Date Approved</b>	2021-02-19
<b>Approval Authority</b>	Montana Species of Concern Committee
<b>Rank Justification</b>	Species is widely distributed in forested habitats state-wide, but is facing the threat of catastrophic declines due to the invasion of White-Nose Syndrome

## Supplementary Information

Montana Natural Heritage Program. 2021. Conservation Status Assessment Definitions, Process, Rank Factors, and Calculation of State Ranks for Montana Species. 18 p.

[https://mtnhp.mt.gov/docs/Montana\\_State\\_Rank\\_Criteria\\_20211201.pdf](https://mtnhp.mt.gov/docs/Montana_State_Rank_Criteria_20211201.pdf)

Montana Field Guide Species Account:

<https://fieldguide.mt.gov/speciesDetail.aspx?elcode=AMACC01110>

Predicted Suitable Habitat Model:

<https://mtnhp.mt.gov/resources/models/?elcode=AMACC01110>

## Information Needs

Information needs are assessed by considering the availability of factors used to assess species status as well as the quality of these assessments. Current information availability and quality to inform Conservation Status Rank for this species are highlighted.

Rank Factor	Assessment Category	Value	Criteria
General Status	Status Quality	Adequate	Calculated rank has low uncertainty and is represented by a single rank (e.g. S3); accepted rank may be adjusted to a range rank (e.g. S2S3)
		Poor	Rank assessed as SU or calculated rank has notable uncertainty and corresponds to a range rank with 2 or more values (e.g. S2?, S1S3, or S4S5)
Rarity	Range Quality	Adequate	Range polygon adequately represents area of probable occupancy and does not include substantial unoccupied areas; range may be adequately defined and still include areas of unsuitable habitat (e.g. mountain ranges for plains species)
		Marginal	Range polygon defined, but may include or exclude notable areas where the species may or may not occur on the landscape
		Poor	Range polygon not defined
	Habitat Quality	Adequate	Species-habitat relationship is well-defined (e.g. relevant literature or robust habitat model available)
		Marginal	Understanding of species-habitat relationship is adequate among some but not all habitats (e.g. literature covers similar habitats outside of Montana or habitat model performance is only somewhat adequate)
		Poor	Species-habitat relationship is not well understood
Threats	Threat Quality	Adequate	Threat Impact is a single value (including "Unthreatened")
		Marginal	Threat Impact assessed at more than one value (e.g. "High - Medium")
		Poor	Threat Impact is Unknown but Intrinsic Vulnerability is assessed
		Unknown	Threat Impact is Unknown and Intrinsic Vulnerability is not assessed
Trends	Recency	Current	Short-term Trend assessment date less than 10 years old
		Out of Date but Adequate	Short-term Trend assessment date is more than 10 years old or Unknown, but species is Unthreatened
		Out of Date	Short-term Trend assessment date more than 10 years old
		Not Available	Short-term Trend data are not available
	Trend Quality	Sufficient	Short-term Trend assessed at a single value or multiple values with a minimum trend greater than -10% (stable or increasing)
		Unknown but Sufficient	Short-term Trend is Unknown, but species is Unthreatened
		Poor	Short-term Trend is less than -10% (in decline) with two or more values selected
		Unknown	Short-term Trend is Unknown

### Summary of Information Availability

Species is well documented across its range and threats are sufficiently characterized. Trend is largely unknown.

### Summary of Information Needs

Species is poorly suited to acoustic monitoring, and data are largely derived from mist net captures. Apparent declines in abundance were observed, but how widespread these are remains unknown. Resurvey at sites across Montana with historic records would provide insight into the severity of declines due to White-Nose Syndrome.

## Additional Threat Details

The table below contains the complete threats assessment for this species. While the Conservation Status Rank Calculation is based on cumulative, broadly categorized (Level 1) threats data, threats are assessed and tracked for more specifically categorized (Level 2) threats when available.

Threat Category	Date Assessed	Assessed By	Data Source	Scope	Severity	Immediacy	Comments
Invasive & Other Problematic Species, Genes & Diseases - 8.1 - Invasive Non-Native/Alien Species/Diseases	2024-09-12	Dan Bachen	Expert Opinion; National Wildlife Health Lab	Pervasive	Extreme	High	Species may face catastrophic declines due to White-Nose Syndrome