Spotted Bat (*Euderma maculatum*)
Conservation Status Rank Summary

Date Published: May 6, 2026

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 Factor Rating	Score	Data Source	Comments
Rarity					
Range Extent	2024-01-17	237576.0 km² G = 200,000-2,500,000 km²	4.710	MTNHP Range Maps	None
Area of Occupancy	2024-01-18	2971 | 4km² cells H = 2,501-12,500 4-km² grid cells	4.810	MTNHP Modeling	None
Number of Occurrences	2026-04-30	* C = 21 - 80	2.750		79 distinct Sos that were collapsed to 22 Eos
Population Size	2012-01-04	*	-	MTNHP Species Rank Data Table	**Factor not used in ranking.** Estimate of 1,000 to 10,000 individuals based on range area in the state and likely density of individuals within that range (i.e. 1 per square mile might be a fair estimate and only a portion of the total range is suitable habitat). | Methodology: NS (2003) | Original Score: D/E
# of Occurrences in Good Condition	2024-05-13	* D = Some (13-40) occurrences with excellent or good viability or ecological integrity	3.300	Expert Opinion	Cliff habitat is in good condition and not subject to degradation
% of Area Occupied in Good Condition			-		**Factor not used in ranking.**
Environmental Specificity	2018-09-25	Narrow B = Narrow; specialist or community with key requirements common	-	MTNHP Species Rank Data Table	**Factor not used in ranking.** Narrow Specialist. Species is dependent on large cliff habitats for roosting which are relatively rare on the landscape. | Methodology: NS (2003) | Original Score: B
Rarity is calculated by averaging weighted factor scores: **((4.71 × 1) + (4.81 × 2) + (2.75 × 1) + (3.30 × 2)) / 6 = 3.95**					
Trends					
Short-term Trend	2026-04-30	* G = Relatively Stable (=10% change)	0.000		None
Long-term Trend			-		**Factor not used in ranking.**

Trends score is calculated by summing weighted short and long-term trend scores:
((0.00 × 2)) = 0.00

*Values may be absent if not precisely estimated; factors may still be assessed for rank if a Factor Rating can be assigned.

Threats

Rank Factor	Date Assessed	Value / Factor Rating	Score	Data Source	Comments
Threats					
Overall Threat Impact		Unknown / U = Unknown	-		**Factor not used in ranking.** Roost site disturbance and pesticide application probably represent threats to the species.
Intrinsic Vulnerability	2018-09-25	Moderately vulnerable / B = Moderately vulnerable	2.750	MTNHP Species Rank Data Table	Moderately Vulnerable. Species exhibits moderate age of maturity, frequency of reproduction, and/or fecundity such that populations generally tend to recover from decreases in abundance within 5-20 years or 2-5 generations. Species has good dispersal ca | Methodology: NS (2003) | Original Score: B
Threat score is calculated from Overall Threat Impact when available or Intrinsic Vulnerability if not: **(2.75) = 2.75**					

Individual Threats Data

Threat Category	Date Assessed	Impact Score	Scope	Severity	Immediacy	Comments
No individual threats data used in this rank						

Conservation Status Rank Calculation

Raw score

Rarity: (3.95 × 70%) + Threats: (2.75 × 30%) + Trends: (0.00) = 3.59

Calculated Rank: S4

Accepted Rank	SU
Author(s)	Dan Bachen
Rank Approved By	Montana Species of Concern Committee
State Rank Reason	Species is uncommon, but widely distributed across Montana. Threats are poorly characterized. Trend is poorly defined but monitored sites appear to continue to be occupied and habitat appears stable. Although the species is ranked an S4, current monitoring is unlikely to identify any declines and its general rarity may contribute to reductions in range or site-occupancy declines were to occur. Given the poor understanding of threats and habitat associations, the Montana Species of Concern Committee has assigned a rank of SU to the species due to uncertainty in the ranking factors.

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

Montana Field Guide Species Account:
https://fieldguide.mt.gov/speciesDetail.aspx?elcode=AMACC07010

Predicted Suitable Habitat Model:
https://mtnhp.mt.gov/resources/models/?elcode=AMACC07010

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

<u>Summary of Information Availability</u>

Information to assess status are generally available, but trend is based on limited data and threats are poorly defined. May occur in some areas within range that lack observations and outside of range.

<u>Summary of Information Needs</u>

Species is well-suited to acoustic monitoring and data to assess trend have been collected but general rarity precludes analysis of trend in activity. Acoustic monitoring should continue, and analysis of these data to confirm site occupancy should be prioritized to determine trend.

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	Imme-diacy	Comments
Energy Production & Mining - 3.3 - Renewable Energy	2026-04-30	Dan Bachen	Expert Opinion	Restricted	Unknown	Moderate	Spotted Bat has not been identified as a common mortality at wind energy facilities, but impacts are not well studied and impacts are possible.
Invasive & Other Problematic Species, Genes & Diseases - 8	2026-04-30	Dan Bachen	Expert Opinion	Pervasive	Unknown	Unknown	White-nose Syndrome has not been detected in Spotted Bats. The species generally occurs in regions of North America where the disease is either absent or in the initial stages of invasion. Therefore, its impacts on the species are unknown. It is known to use mines and caves in some areas so exposure is possible. Whether this species develops WNS after Pd exposure remains to be seen.
Climate Change & Severe Weather - 11.1 - Habitat Shifting & Alteration	2026-04-30	Dan Bachen	Expert Opnion	Pervasive	Unknown	Moderate	The impacts of climate change on Spotted Bat are not well characterized. As the species is found within arid environments and the curent distribution includes desert areas of the southwestern US, warming temperatures in Montana may have little impact on the species the species.