

Pallid Bat (*Antrozous pallidus*)

Conservation Status Rank Summary

January 19, 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
Rarity					
Range Extent	2024-01-19	S: 44300.3 km ²	3.930	MTNHP Range Maps	None
Area of Occupancy			-		Factor not used in ranking.
Number of Occurrences	2024-01-19	19	1.380	MTNHP Databases	None
Population Size			-		Factor not used in ranking.
# of Occurrences in Good Condition			-		Factor not used in ranking.
% 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: $(3.93 \times 1) + (1.38 \times 1) / 2 = 2.66$					
Trends					
Short-term Trend	2018-09-26		-	MTNHP Species Rank Data Table, Methodology: NS (2003) Original Score: U	Factor not used in ranking. No data on trends available.
Long-term Trend	2018-09-26		[-0.070, 0.070]	MTNHP Species Rank Data Table, Methodology: NS (2003) Original Score: E	Arid habitats in south central Montana have been relatively stable (+/- 25%) since European arrival.

Trends score is calculated by summing weighted short and long-term trend scores:
 $([-0.07, 0.07] \times 1) = [-0.07, 0.07]$

Threats

Rank Factor	Date Assessed	Value	Score	Data Source	Comments
Threats					
Overall Threat Impact		Unknown	-		Factor not used in ranking. Not enough information exists about this species within Montana to assess threats
Intrinsic Vulnerability	2018-09-26	Moderately vulnerable	2.750	MTNHP Species Rank Data Table, Methodology: NS (2003) Original Score: B	Species is long lived and has low fecundity. As these animals can fly, dispersal to and recolonization of extirpated populations is possible.
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 ranking this species						

Conservation Status Rank Calculation

Raw score

Rarity: $(2.66 \times 70\%)$ + Threats: $(2.75 \times 30\%)$ + Trends: $([-0.07, 0.07])$ = $[2.61, 2.75]$

Calculated Rank: S3

Accepted Rank	S3
Date Approved	2018-09-26
Approval Authority	Montana Species of Concern Committee
Rank Justification	Species is uncommon within a limited area of southern Montana. No threats are identified but the species may be vulnerable to declines.

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=AMACC10010>

Predicted Suitable Habitat Model:

<https://mtnhp.mt.gov/resources/models/?elcode=AMACC10010>

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 has uncertainty in the rank score. Range appears to be adequately defined, but threats are not well understood and no trend data are available.

Summary of Information Needs

Targeted surveys and in-depth analysis of acoustic data are necessary to determine trend. Species is poorly suited to acoustics as search phase calls are easily confused with Big Brown Bat. Analysis of existing data to identify social calls is necessary and may provide data on site occupancy for the species. NABat monitoring does not provide necessary site density in suitable habitat and species specific surveys within the Pryor Mountains, Ashland Ranger district of the Custer-Gallatin National Forest and Bull Mountains are necessary should be conducted to supplement NABat Cells. Mist net captures are infrequent, but historically occupied sites have been identified across the species range and these areas generally have a high density of surveys. Resurvey of

these sites should provide additional data to assess trend. A significant portion of the species range has recently burned, the impacts of fire on the species are unknown, but monitoring within and outside of burn areas should allow insight into impacts of this threat.