Pygmy Rabbit (*Sylvilagus idahoensis*)
Conservation Status Rank Summary

January 24, 2025

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	2024-09-12	Y: 12892.9 km²	3.140	MTNHP Range Maps	None
Area of Occupancy	2024-09-12	902 | 4km² cells	4.130	MTNHP Modeling	None
Number of Occurrences	2025-03-11	5	0.000	MTNHP Databases	Approximately 5 areas with more limited connectivity in Montana
Population Size			-		**Factor not used in ranking.**
# of Occurrences in Good Condition	2025-03-11		2.200		None
% of Area Occupied in Good Condition			-		**Factor not used in ranking.**
Environmental Specificity	2018-09-26	Narrow	-	MTNHP Species Rank Data Table	**Factor not used in ranking.** Species is a sagebrush obligate and within sagebrush requires deeper soils for burrowing, but these habitats are fairly widespread across their range in southwestern Montana. | Methodology: NS (2003) | Original Score: B
Rarity is calculated by averaging weighted factor scores: **((3.14 × 1) + (4.13 × 2) + (0.00 × 1) + (2.20 × 2)) / 6 = 2.63**					
Trends					
Short-term Trend	2024-09-12		-		**Factor not used in ranking.**
Long-term Trend	2018-09-26		0.000	MTNHP Species Rank Data Table	Sagebrush cover types in southwest Montana have been stable within +/-25% since European arrival within this region. Some sagebrush has been lost to fire and conversion to agriculture but the impacts to the region occupied by this species have likely not exceeded 25%. | Methodology: NS (2003) | Original Score: E
Trends score is calculated by summing weighted short and long-term trend scores: **((0.00 × 1)) = 0.00**					

Threats

Rank Factor	Date Assessed	Value	Score	Data Source	Comments
Threats					
Overall Threat Impact		Medium	3.670		Habitat loss through cover type conversion and/or increased fire frequency as a result of invasive weeds that result in cover type changes are likely the greatest threats to the species.
Intrinsic Vulnerability	2018-09-26	Not intrinsically vulnerable	-	MTNHP Species Rank Data Table	**Factor not used in ranking.** Not Intrinsically Vulnerable. Species may breed multiple times per year and produce 5-7 young per litter. During favorable conditions populations would be expected to recover quickly. | Methodology: NS (2003) | Original Score: C
Threat score is calculated from Overall Threat Impact when available or Intrinsic Vulnerability if not: **(3.67) = 3.67**					

Individual Threats Data

Threat Category	Date Assessed	Impact Score	Scope	Severity	Immediacy	Comments
Agriculture & Aquaculture	None	Low	Restricted	Moderate	High	Multiple Level 2 threats - see Additional Threat Details below.
Invasive & Other Problematic Species, Genes & Diseases	2024-09-12	Medium	Large	Moderate	High	Conifer encroachment on sagebrush steppe
Threat Tally: 0 - Very High, 0 - High, 1 - Medium, 1 - Low Overall Threat Impact* = Medium						

*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: (2.63 × 70%) + Threats: (3.67 × 30%) + Trends: (0.00) = 2.94

Calculated Rank: S3

Accepted Rank	S3
Date Approved	1992-09-01
Approval Authority	Montana Natural Heritage Program Staff
Rank Justification	Species is uncommon within suitable Steppe ecosystems in southwestern Montana. Current trend is unknown, but ongoing research should provide insight into the status of these populations. Threats include habitat loss from clearing of sagebrush for agriculture and invasive grass species and disease.

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=AMAEB04010

Predicted Suitable Habitat Model:
https://mtnhp.mt.gov/resources/models/?elcode=AMAEB04010

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

Most data are available but disease threats are poorly understood and short-term trend has not been assessed

Summary of Information Needs

Exploration of the potential impacts of Rabbit Hemorrhagic Disease is needed. Continuation of ongoing monitoring of populations and assessment of trend in occupancy or abundance.

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
Agriculture & Aquaculture - 2.1 - Annual & Perennial Non-Timber Crops	2024-09-12	Dan Bachen	Expert opinion	Restricted	Moderate	High	conversion of sagebrush to row crops
Agriculture & Aquaculture - 2.3 - Livestock Farming & Ranching	2024-09-12	Dan Bachen	Expert Opinion	Restricted	Moderate	High	Removal of sagebrush for grazing
Invasive & Other Problematic Species, Genes & Diseases - 8.1 - Invasive Non-Native/Alien Species/Diseases	2024-09-12	Dan Bachen	USDA APHIS 2020	Pervasive	Unknown	Moderat e	Rabbit Hemorrhagic Virus has the potential to impact the species but these impacts are poorly characterized
Invasive & Other Problematic Species, Genes & Diseases - 8.2 - Problematic Native Species/Diseases	2024-09-12	Dan Bachen	Expert opinion	Large	Moderate	High	Conifer encroachment on sagebrush steppe