Fisher (*Pekania pennanti*)
Conservation Status Rank Summary

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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	2024-05-13	70555.2 km² F = 20,000-200,000 km²	3.930	MTNHP Range Maps	None
Area of Occupancy	2024-09-25	422 | 4km² cells F = 126-500 4-km² grid cells	3.440	Krohner et al. 2022	30 (14-55) 7.5x7.5 km grid cells estimated as occupied
Number of Occurrences	2024-05-13	[25, 69] C = 21 - 80	2.750	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	2024-09-25	Moderate C = Moderate; generalist or community with some key requirements scarce	-		**Factor not used in ranking.**
Rarity is calculated by averaging weighted factor scores: **((3.93 × 1) + (3.44 × 2) + (2.75 × 1)) / 4 = 3.39**					
Trends					
Short-term Trend	2024-09-25	* U = Unknown	-	Kluge 2023	**Factor not used in ranking.** Ongoing monitoring projects have not published any trend assessment for the species
Long-term Trend	2024-09-25	* F = Decline of 10 - 30%	-0.070	Expert Opinion	It is likely that large diameter trees and old growth forest have been lost within the species range since European arrival
Trends score is calculated by summing weighted short and long-term trend scores: **((-0.07 × 1)) = -0.07**					

*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		High B = High	1.830		None
Intrinsic Vulnerability	2024-09-25	Not intrinsically vulnerable C = Not intrinsically vulnerable	-	Expert Opinion	**Factor not used in ranking.** Species has the ability to disperse and repopulate etripated areas
Threat score is calculated from Overall Threat Impact when available or Intrinsic Vulnerability if not: **(1.83) = 1.83**					

Individual Threats Data

Threat Category	Date Assessed	Impact Score	Scope	Severity	Immediacy	Comments
Biological Resource Use	None	High	Pervasive	Serious	High	Multiple Level 2 threats - see Additional Threat Details below.
Natural System Modifications	2024-09-25	Medium	Restricted	Serious	High	High severity fire and reductions in canopy cover may impact this species.
Threat Tally: 0 - Very High, 1 - High, 1 - Medium, 0 - Low Overall Threat Impact* = 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: (3.39 × 70%) + Threats: (1.83 × 30%) + Trends: (-0.07) = 2.85

Calculated Rank: S3

Accepted Rank	S3
Author(s)	Dan Bachen
Rank Approved By	Legacy Assessment: MTNHP Staff
State Rank Reason	Species is uncommon or rare within forested areas of western Montana. Habitat has likely declined since European arrival. It faces minor threats from forest management and fire.

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=AMAJF01020

Predicted Suitable Habitat Model:
https://mtnhp.mt.gov/resources/models/?elcode=AMAJF01020

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

Data to assess status are generally available. Short-term trend based on recent monitoring efforts is unavailable.

Summary of Information Needs

Recent surveys have established a baseline for populations in Montana. Continued survey efforts should provide an assessment of population 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
Biological Resource Use - 5.1 - Hunting & Collecting Terrestrial Animals	2024-09-25	Dan Bachen	Expert Opinion	Pervasive	Slight	High	Direct trapping and incidental capture remove individuals across the species range, but these are managed by MTFWP and are unlikley to cause significant declines. Through the quota system any population level impacts can be mitigated.
Biological Resource Use - 5.3 - Logging & Wood Harvesting	2026-04-23	Dan Bachen	Sweitzer et al. 2016; SWAP Assessment	Large	Serious	High	Intensive forest management such as fuels reduction has shown to have a negative impact on Fisher in the Sierra Nevada Mountains. This may impact Montana's populations. First order habitat selection for fisher includes low- to mid-elevation environments of mesic (moderately moist), coniferous and mixed conifer and hardwood forests (Hagmeier 1956, Arthur et al. 1989a, Banci 1989, Aubry and Houston 1992, Jones and Garton 1994; Powell 1994, Powell et al. 2003). Fishers also select against areas with little or no cover (Schwartz et al. 2013, Sauder and Rachlow 2014, Powell and Zielinski 1994, Buskirk and Powell 1994). In the Northern Rocky Mountains, fishers select for landscapes with abundant large trees (Schwartz et al. 2013, Olson et al. 2014), and greater than 50 percent mature (trees from 25 to 50 meters tall) forest (Sauder and Rachlow 2014) arranged in a contiguous, complex mosaic (Sauder and Rachlow 2014). Within areas of low and mid-elevation forests, the most consistent predictor of fisher occurrence at larger spatial scales is moderate to high levels of contiguous canopy cover rather than any particular forest plant community (Arthur et al. 1989b, Powell 1993, Jones and Garton 1994, Weir and Corbould 2010).
Natural System Modifications - 7.1 - Fire & Fire Suppression	2024-09-25	Dan Bachen	Sweitzer et al. 2016, Expert Opinion	Restricted	Serious	High	High severity fire and reductions in canopy cover may impact this species.
Climate Change & Severe Weather - 11.2 - Droughts	2026-04-23	Dan Bachen	SWAP Assessment	Large	Unknown	Moderate	Decreased precipitation leading to changes in forest structure and type, as well as fire regimes.