

Gray-crowned Rosy-Finch (*Leucosticte tephrocotis*)

Conservation Status Rank Summary

October 21, 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	2024-10-21	Y: 110590.5 km ²	3.930	MTNHP Range Maps	None
Area of Occupancy	2024-10-21	894 4km ² cells	4.130	MTNHP Modeling	None
Number of Occurrences	2024-10-21	50	2.750	MTNHP Databases	None
Population Size			-		Factor not used in ranking.
# of Occurrences in Good Condition	2024-10-21	0	0.000	Expert Opinion	Although the vast majority of breeding sites are federally managed lands, climate change is likely impacting all sites
% of Area Occupied in Good Condition			-		Factor not used in ranking.
Environmental Specificity	2009-02-02	Narrow	-	MTNHP Species Rank Data Table	Factor not used in ranking. Nest in alpine cliffs and forage around alpine snowfields. Methodology: NS (2003) Original Score: B
Rarity is calculated by averaging weighted factor scores: $((3.93 \times 1) + (4.13 \times 2) + (2.75 \times 1) + (0.00 \times 2)) / 6 = 2.49$					
Trends					
Short-term Trend	2024-10-21		-		Factor not used in ranking. No Breeding Bird Survey (BBS) data and no alpine monitoring programs in place in Montana. CBC data for Montana is variable.
Long-term Trend	2024-10-21		-	Expert Opinion	Factor not used in ranking. Long-term trend for this species is not described
No trend data used in ranking this species					

Threats

Rank Factor	Date Assessed	Value	Score	Data Source	Comments
Threats					
Overall Threat Impact		High	1.830		Climate change impacts on snowfields through reduced winter precipitation and increased spring and summer temperatures are probably the greatest threat to the species since they are dependent on snow fields for foraging. Encroaching tree line may also alt
Intrinsic Vulnerability	2009-02-02	Not intrinsically vulnerable	-	MTNHP Species Rank Data Table	Factor not used in ranking. Methodology: NS (2003) Original Score: C
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
Climate Change & Severe Weather	2024-10-21	High	Pervasive	Serious	High	Threat is probably similar to Black Rosy-finch. Reduction or elimination of alpine habitat through loss of snowpack and conifer encroachment driven by warming temperatures.
Threat Tally: 0 - Very High, 1 - High, 0 - 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: $(2.49 \times 70\%)$ + Threats: $(1.83 \times 30\%)$ + Trends: $(0.00) = 2.29$

Calculated Rank: S2

Accepted Rank	S2
Date Approved	2021-01-01
Approval Authority	Montana Species of Concern Committee
Rank Justification	Species is an alpine specialist and found across montane regions in west and central Montana. Species is rare and has specific nesting and habitat requirements. Trend is unknown and it faces significant threats from habitat loss due to loss of alpine snowpack and conifer encroachment on alpine tundra.

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=ABPBY02030>

Predicted Suitable Habitat Model:

<https://mtnhp.mt.gov/resources/models/?elcode=ABPBY02030>

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

Rarity information is generally good. Trend information is not available and threats have some degree of uncertainty although the species is currently scored in one category.

Summary of Information Needs

Inventory and monitoring of species across its breeding range to determine baseline information and trend. Better assessment of climate-mediated impacts to refine threats.

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
Climate Change & Severe Weather - 11.1 - Habitat Shifting & Alteration	2024-10-21	Dan Bachen	Rosenberg et al. 2016	Pervasive	Serious	High	Threat is probably similar to Black Rosy-finch. Reduction or elimination of alpine habitat through loss of snowpack and conifer encroachment driven by warming temperatures.