Pedicularis pulchella (Mountain Lousewort)
Conservation Status Rank Summary

Date Published: July 24, 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	2026-07-24	14244.8 km² E = 5,000-20,000 km²	3.140	MTNHP Range Maps	The range is approximately 14,000 sq. km. based on either the MTNHP range map or drawing a single polygon around all the existing observations.
Area of Occupancy	2026-07-24	14 | 4km² cells D = 6-25 4-km² grid cells	2.060	MTNHP Databases	The available observations occupy 14 grid cells.
Number of Occurrences	2026-07-24	14 B = 6 - 20	1.380	MTNHP Databases	The available observations group into 14 occurrences.
Population Size	2026-07-24	* U = Unknown	-	MTNHP Databases	**Factor not used in ranking.** Population levels are largely unknown as the available observation data and specimen collections have little to no data on abundance.
# of Occurrences in Good Condition	2026-07-24	* U = Unknown	-		**Factor not used in ranking.** Unknown how many populations are large and have good viability.
% of Area Occupied in Good Condition			-		**Factor not used in ranking.**
Environmental Specificity	2025-03-01	Narrow to moderate BC = Narrow to moderate	-	Expert Opinion	**Factor not used in ranking.** Assessed by Scott Mincemoyer
Rarity is calculated by averaging weighted factor scores: **((3.14 × 1) + (2.06 × 2) + (1.38 × 1)) / 4 = 2.16**					
Trends					
Short-term Trend	2026-07-24	* FG = Decline of 30% to relatively stable	[-0.070, 0.000]	Expert Opinion	Actual short-term trends are unknown. However, the habitat is remote and intact, so populations have likely been relatively stable or experienced only small declines in the recent past.
Long-term Trend	2026-07-24	* U = Unknown	-	Expert Opinion	**Factor not used in ranking.** Long-term trends are unknown. The habitat is remote and intact, so populations have likely been relatively stable.
Trends score is calculated by summing weighted short and long-term trend scores: **(([-0.07, 0.00] × 2)) = [-0.14, 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		Low / D = Low	5.500		No significant and widespread threats to the species are known. The species' habitat is remote with much of it within designated wilderness areas. Climate change, including increased temperatures and increases in the frequency and severity of drought may negatively impact some populations though the magnitude and timing of impacts is uncertain. An assessment using the Climate Change Vulnerability Index (CCVI) in 2021 rated this species as "Extremely Vulnerable" to climate change.
Intrinsic Vulnerability	2025-03-01	Moderately vulnerable / B = Moderately vulnerable	-	Expert Opinion	**Factor not used in ranking.** Assessed by Scott Mincemoyer
Threat score is calculated from Overall Threat Impact when available or Intrinsic Vulnerability if not: **(5.50) = 5.50**					

Individual Threats Data

Threat Category	Date Assessed	Impact Score	Scope	Severity	Immediacy	Comments
No Threat Identified	2026-07-24	Low	Unknown	Unknown	Unknown	No significant and widespread threats to the species are known. The species' habitat is remote with much of it within designated wilderness areas.
Threat Tally: 0 - Very High, 0 - High, 0 - Medium, 1 - Low Overall Threat Impact* = Low						

*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: (2.16 × 70%) + Threats: (5.50 × 30%) + Trends: ([-0.14, 0.00]) = [3.02, 3.16]

Calculated Rank: S3

Accepted Rank	S3
Author(s)	Scott Mincemoyer
Rank Approved By	Montana Natural Heritage Program Staff
State Rank Reason	**DRAFT: Requesting feedback on the 2026 revised rank, factors, and State Rank Reason outlined below and in the Conservation Status Rank Report.** *Pedicularis pulchella* is rare in Montana, where it is known from alpine habitats in six different mountain ranges . Occurrences are in remote areas with most of the known populations occurring within designated wilderness areas. The remote habitat limits the potential for negative impacts, and no significant and widespread threats to the species are known besides potential impacts associated with climate change. Population levels are poorly documented, and trends are unknown though populations have likely been relatively stable in the recent past or experienced only minor declines. Only four of the occurrences have been visited since 2009. The remaining occurrences have not been visited since 1993 with the majority of those not being visited in more than 50 years, leading to uncertainty in the status of many of the populations. Climate change may negatively affect this species over the next several decades. However, the timing and magnitude of potential impacts are largely unknown. Although climate change is listed as a potential threat to the species, it does not affect the overall threat rank or scoring, or the final subnational rank. Survey and monitoring data are needed to be able to determine population levels, assess condition and for assessing population trends. Surveys in potentially suitable habitat are likely to document additional occurrences.

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=PDSCR1K0X0

Predicted Suitable Habitat Model:
https://mtnhp.mt.gov/resources/models/?elcode=PDSCR1K0X0

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

Summary of Information Needs

Survey and monitoring data are needed to be able to determine population levels, assess condition and for assessing population trends. Surveys in potentially suitable habitat are likely to document additional occurrences.

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
No Threat Identified - 0	2026-07-24	S. Mincemoyer	MTNHP Databases, Expert Opinion	Unknown	Unknown	Unknown	No significant and widespread threats to the species are known. The species' habitat is remote with much of it within designated wilderness areas.
Climate Change & Severe Weather - 11	2026-07-24	S. Mincemoyer	CCVI, Expert Opinion	Unknown	Unknown	Unknown	Climate change, including increased temperatures and increases in the frequency and severity of drought may negatively impact some populations though the magnitude and timing of impacts is uncertain. An assessment using the Climate Change Vulnerability Index (CCVI) in 2021 rated this species as "Extremely Vulnerable" to climate change.