

Cryptantha scoparia (Miner's Candle)

Conservation Status Rank Summary

February 9, 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	2026-02-09		0.000	MTNHP Databases	In MT, it is currently known from only one location, so the actual range is very small.
Area of Occupancy	2026-02-09	$\frac{1 \text{ } 4\text{km}^2 \text{ cells}}{A = 1 \text{ } 4\text{-km}^2 \text{ grid cell}}$	0.000	MTNHP Databases	The 1 location occupies 1 grid cell.
Number of Occurrences	2026-02-09	$\frac{1}{A = 1 - 5}$	0.000	MTNHP Databases	Only 1 known location.
Population Size	2026-02-09	$\frac{*}{CD = 250 - 2500 \text{ individuals}}$	[1.570, 2.360]	MTNHP Databases	The original observation in 1991 estimated the population at over 1,000 plants. A survey 2 years later only located a few plants. It has not been surveyed since. As an annual species, populations may fluctuate widely from year to year.
# of Occurrences in Good Condition			-		Factor not used in ranking.
% of Area Occupied in Good Condition			-		Factor not used in ranking.
Environmental Specificity	2025-03-01	$\frac{\text{Narrow}}{B = \text{Narrow}; \text{specialist or community with key requirements common}}$	-	Expert Opinion	Factor not used in ranking. Assessed by Scott Mincemoyer
Rarity is calculated by averaging weighted factor scores: $((0.00 \times 1) + (0.00 \times 2) + (0.00 \times 1) + ([1.57, 2.36] \times 2)) / 6 = [0.52, 0.79]$					
Trends					
Short-term Trend	2026-02-09	$\frac{*}{U = \text{Unknown}}$	-		Factor not used in ranking. Short-term trends are unknown. Population levels probably fluctuate greatly from year to year.
Long-term Trend	2026-02-09	$\frac{*}{U = \text{Unknown}}$	-		Factor not used in ranking. Long-term trends are unknown.
No trend data used in this rank					

*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 specific threats have been identified for the species or its immediate habitat.
Intrinsic Vulnerability	2026-02-09	Moderately vulnerable to not intrinsically vulnerable BC = Moderately vulnerable to not intrinsically vulnerable	-	Expert Opinion	Factor not used in ranking. Assessed by Scott Minceboyer
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 individual threats data used in this rank						

Conservation Status Rank Calculation

Raw score

Due to rarity, species is automatically classified as S1

Calculated Rank: S1

Author(s)	Scott Mincemoyer
Date Information Last Updated	2026-02-09
Accepted Rank	S1
Rank Approved By	Scott Mincemoyer
Date Current Rank Initially Approved	2026-02-09
Rank Justification	<p>DRAFT: Requesting feedback on the 2026 revised rank, factors, and State Rank Reason outlined below and in the Conservation Status Rank Report.</p> <p>Cryptantha scoparia is extremely rare in the state, being known from only one location in the Bighorn Basin/Pryor Mtn Desert area of Carbon County. It is somewhat disjunct in Montana with the next closest location being central Wyoming. The Montana occurrence has not been surveyed since the early 1990's.</p> <p>A survey of the location is needed to determine the current status of the species at the site, the habitat condition and if any potential threats exist. Additional surveys of potentially suitable habitat in the vicinity of the known location are needed to determine if other populations are present in Montana.</p>

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=PDBOR0A2Q0>

Predicted Suitable Habitat Model:

<https://mtnhp.mt.gov/resources/models/?elcode=PDBOR0A2Q0>

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

None

Summary of Information Needs

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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
No threats data available for this species							