Balsamorhiza hookeri (Hooker's Balsamroot)
Conservation Status Rank Summary

Date Published: August 12, 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	2025-11-26	27219.0 km² EF = 5000-200,000 km²	[3.140, 3.930]	MTNHP Range Maps	The 2026 range map places the species' distribution at greater than 20,000 sq km., which may over-estimate the range based on the few known occurrences. As such, the actual range may also be less than the 20,000 sq km. theshold.
Area of Occupancy	2025-11-26	3 | 4km² cells C = 3-5 4-km² grid cells	1.380	MTNHP Modeling	Of the approximate 96,004 2km x 2km grid cells that cover Montana, 4-5 cells contain observations of the species.
Number of Occurrences	2025-11-26	8 B = 6 - 20	1.380	MTNHP Databases	None
Population Size	2025-11-26	* E = 2,500 - 10,000 individuals	3.140	MTNHP databases/ Expert Opinion	Available data points to population levels >2,000 plants with one occurrence containing an estimated 1,000 plants and another occurrence with 500-750 plants. As data for the species is limited, it seems likely that population levels in MT are easily >2,500 plants.
# of Occurrences in Good Condition	2025-11-26	* C = Few (4-12) occurrences with excellent or good viability or ecological integrity	2.200	Expert Opinion	None
% 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, 3.93] × 1) + (1.38 × 2) + (1.38 × 1) + (3.14 × 2) + (2.20 × 2)) / 8 = [2.25, 2.34]**					
Trends					
Short-term Trend	2025-11-26	* FH = Decline of 30% to increase of 25%	[-0.070, 0.070]	Expert Opinion	Actual trend data are lacking, though populations are likely stable, experiencing only minor declines or perhaps even expanding.
Long-term Trend	2025-11-26	* U = Unknown	-	Expert Opinion	**Factor not used in ranking.** Long-term trends are unknown and they may have experienced declines due to livestock grazing, habitat

					conversion and related activities or from contamination related to the Anaconda smelter, though populations just as likely may have increased over the long-term as the species is not preferred forage, has a large taproot for storage and may be responding favorably to climate change by expanding at the northern edge of its range.
Trends score is calculated by summing weighted short and long-term trend scores: **(([-0.07, 0.07] × 2)) = [-0.14, 0.14]**					

*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		None
Intrinsic Vulnerability	2025-03-01	Moderately vulnerable to not intrinsically vulnerable / BC = Moderately vulnerable to not intrinsically 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	None	Low	None	None	None	
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: ([2.25, 2.34] × 70%) + Threats: (5.50 × 30%) + Trends: ([-0.14, 0.14]) = [3.08, 3.43]

Calculated Rank: S3

Accepted Rank	S3
Author(s)	Scott Mincemoyer
Rank Approved By	Andrea Pipp
State Rank Reason	*Balsamorhiza hookeri* occurs in two main areas of Montana, Mt Haggin and southern Beaverhead County. Additional populations may occur in the southwestern portion of the state. *Balsamorhiza hookeri* occurs in habitats and landscapes that are generally intact and in good quality. Long-term trends are unknown, while short-term trends (based on 2008 data) may likely indicate relatively stable populations. Significant threats to the species have not been identified. Surveys that bring forth current data on distributions, population counts, habitat condition, and threats are needed.

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=PDAST11040

Predicted Suitable Habitat Model:
https://mtnhp.mt.gov/resources/models/?elcode=PDAST11040

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

Surveys that bring forth current data on distributions, population counts, habitat condition, and threats are needed.

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	None	None	None	None	None	None	