

Sphaeromeria argentea (Chicken-sage)

Conservation Status Rank Summary

Date Published: August 19, 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	2026-03-20	4000.0 km ² D = 1,000-5,000 km ²	2.360	GIS Analysis	The known observations support a range of approximately 4,000 sq km.
Area of Occupancy	2026-03-20	18 4km ² cells D = 6-25 4-km ² grid cells	2.060	MTNHP Databases	The available observations occupy 18 grid cells.
Number of Occurrences	2026-03-20	18 BC = 6 - 80	[1.380, 2.750]	MTNHP Databases	The available observation data supports 18 occurrences, though it seems likely that at least a few others exist but are undocumented.
Population Size	2026-03-20	* EF = 2500 - 100,000 individuals	[3.140, 3.930]	MTNHP Databases	One population was estimated at 5,000-10,000 plants in 1994 and another between 1,000-10,000 plants. Many others have 100's of plants. It appears likely that the total population may be over 10,000 plants.
# of Occurrences in Good Condition	2026-03-20	* C = Few (4-12) occurrences with excellent or good viability or ecological integrity	2.200	MTNHP Databases	None
% of Area Occupied in Good Condition			-		Factor not used in ranking.
Environmental Specificity	2025-03-01	Moderate C = Moderate; generalist or community with some key requirements scarce	-	Expert Opinion	Factor not used in ranking. Assessed by Scott Mincemoyer
Rarity is calculated by averaging weighted factor scores: $((2.36 \times 1) + (2.06 \times 2) + ([1.38, 2.75] \times 1) + ([3.14, 3.93] \times 2) + (2.20 \times 2)) / 8 = [2.32, 2.69]$					
Trends					
Short-term Trend	2026-03-20	* FG = Decline of 30% to relatively stable	[-0.070, 0.000]	Expert Opinion	Data to determine short-term trends are unavailable. However, the species has likely been relatively stable or experienced only minor declines recently.
Long-term Trend	2026-03-20	* U = Unknown	-		Factor not used in ranking. Long-term trends are unknown.

Trends score is calculated by summing weighted short and long-term trend scores:
 $([-0.07, 0.00] \times 2) = [-0.14, 0.00]$

*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		Medium - Low CD = Medium - Low	[3.670, 5.500]		Grazing may be impacting a few areas. Non-native species are a potential concern within some of the species' habitat.
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: ([3.67, 5.50]) = [3.67, 5.50]					

Individual Threats Data

Threat Category	Date Assessed	Impact Score	Scope	Severity	Immediacy	Comments
Agriculture & Aquaculture	2026-03-20	Low	Large-Restricted	Slight	High	Livestock grazing occurs in some areas occupied by the species though impacts are probably minor.
Invasive & Other Problematic Species, Genes & Diseases	2026-03-20	Low	Restricted-Small	Slight	High	Non-native species such as Malcolmia africana and Bromus tectorum occur at some populations. The impact thus far on Sphaeromeria is probably negligible to slight.
Threat Tally: 0 - Very High, 0 - High, 0 - Medium, 2 - Low Overall Threat Impact* = Medium - 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: $([2.32, 2.69] \times 70\%) + \text{Threats: } ([3.67, 5.50] \times 30\%) + \text{Trends: } ([-0.14, 0.00]) = [2.58, 3.53]$

Calculated Rank: S3

Accepted Rank	S3
Author(s)	Scott Mincemoyer
Rank Approved By	Andrea Pipp
State Rank Reason	<i>Sphaeromeria argentea</i> is a regional endemic encompassing southwest Montana, southeast Idaho, southwest Wyoming, and portions of Colorado and Nevada. In Montana, the species is restricted to parts of Beaverhead County. Populations appear to be fairly robust and likely number over 10,000 plants. Plants are at risk of extirpation from competition with non-native plant species, specifically <i>Malcolmia africana</i> and <i>Bromus tectorum</i>. At some locations livestock grazing has been reported as a threat, but impact data is not available. Although population trend is also not available, the species is presumed to be relatively stable in Montana. Continued revisits to known occurrences, at specified intervals, would collect population, habitat, and potential threat information necessary for maintaining accurate and timely state conservation status ranks. Monitoring at a subset of populations is greatly needed to assess population trends, and at all occurrences to quantify any impacts from non-native species and other reported threats.

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=PDAST8S010>

Predicted Suitable Habitat Model:

<https://mtnhp.mt.gov/resources/models/?elcode=PDAST8S010>

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

Continued revisits to known occurrences, at specified intervals, would collect population, habitat, and potential threat information necessary for maintaining accurate and timely state conservation status ranks. Monitoring at a subset of populations is greatly needed to assess population trends, and at all occurrences to quantify any impacts from non-native species and other reported 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
Agriculture & Aquaculture - 2.3 - Livestock Farming & Ranching	2026-03-20	S. Mincemoyer	Expert Opinion	Large-Restricted	Slight	High	Livestock grazing occurs in some areas occupied by the species though impacts are probably minor.
Invasive & Other Problematic Species, Genes & Diseases - 8.1 - Invasive Non-Native/Alien Species/Diseases	2026-03-20	S. Mincemoyer	Expert Opinion, MTNHP Threats Data	Restricted-Small	Slight	High	Non-native species such as <i>Malcolmia africana</i> and <i>Bromus tectorum</i> occur at some populations. The impact thus far on <i>Sphaeromeria</i> is probably negligible to slight.