Physaria ludoviciana (Silver Bladderpod)
Conservation Status Rank Summary

Date Published: August 20, 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	2026-02-23	194607.0 km² F = 20,000-200,000 km²	3.930	MTNHP Range Maps	None
Area of Occupancy	2026-02-23	* E = 26-125 4-km² grid cells	2.750	MTNHP Databases	Of the approximate 96,004 2km x 2km grid cells that cover Montana, known occurrences of the species occupy 40 grid cells. The number of occurrences is questionable as some observations are historical and others may be mis-identified.
Number of Occurrences	2026-02-23	* C = 21 - 80	2.750	MTNHP Databases	Observations and collections support approximately 40 occurrences. There is uncertainty in the precise number as some observations are historical and others are questionable in terms of their identification and likely represent the more common and morphologically similar P. arenosa.
Population Size	2026-02-23	* U = Unknown	-	MTNHP Databases	**Factor not used in ranking.** Many observations lack quantitative estimates of population size.
# of Occurrences in Good Condition	2026-02-23	* U = Unknown	-		**Factor not used in ranking.**
% 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: **((3.93 × 1) + (2.75 × 2) + (2.75 × 1)) / 4 = 3.05**					
Trends					
Short-term Trend	2026-02-23	* G = Relatively Stable (=10% change)	0.000	Expert Opinion	Short-term trend data are lacking. However, the species and its habitat have likely been relatively stable in the recent past.
Long-term Trend	2026-02-23	* U = Unknown	-		**Factor not used in ranking.** Data to determine long-term trends are lacking.
Trends score is calculated by summing weighted short and long-term trend scores: **((0.00 × 2)) = 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]		No significant or likely threats to the species have been identified. Localized impacts from non-native plant species and human activity are possible, though data is not available. Climate change could pose a potential risk to the state's populations; however, field-based data on the timing and magnitude are not available. Therefore, the potential threat from climate change is not used in the calculation of the overall threat rank, score, or final subnational rank.
Intrinsic Vulnerability	2025-03-01	Not intrinsically vulnerable / C = 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
No individual threats data used in this rank						

Conservation Status Rank Calculation

Raw score

Rarity: (3.05 × 70%) + Threats: ([3.67, 5.50] × 30%) + Trends: (0.00) = [3.23, 3.78]

Calculated Rank: S3S4

Accepted Rank	S3?
Author(s)	Scott Mincemoyer
Rank Approved By	Andrea Pipp
State Rank Reason	*Physaria ludoviciana* is relatively widespread though uncommon in central and eastern Montana. Plants grow in areas of sandy soils. The species appears to be known from at least 40 occurrences; however, mis-identifications may be leading to inaccurate information. *Physaria ludoviciana* can easily be confused with the more commonly found *Physaria arenosa*. The lack of voucher specimens or specific photograph documentation tied with measurements prevents observations from being validated. Associated population counts are inconsistently reported, and trends are unknown. Therefore, the state conservation status remains uncertain though the data suggests that plants may be slightly more common than previously thought. Surveys that bring forth current data on population parameters, habitat conditions, mapping, and potential threats with voucher specimens or appropriate photographs are greatly needed. **Reported observations to sites that lacked a voucher specimen or necessary photo documentaion should be revisited to verify the species' identification**. Monitoring at a subset of occurences is necessary to track population trends and assign a timely and accurate state conservation status rank.

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=PDBRA1N110

Predicted Suitable Habitat Model:
https://mtnhp.mt.gov/resources/models/?elcode=PDBRA1N110

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 population parameters, habitat conditions, mapping, and potential threats with voucher specimens or appropriate photographs are greatly needed. **Reported observations to sites that lacked a voucher specimen or necessary photo documentaion should be revisited to verify the species' identification**. Monitoring at a subset of occurences is necessary to track population trends and assign a timely and accurate state conservation status rank.

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 threats data available for this species							