Mertensia bella (Oregon Bluebells)
Conservation Status Rank Summary

Date Published: August 28, 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	2026-02-15	[10.0,15.0] km² A = 100 km²	0.000	GIS Analysis	Total range in Montana, as calculated in 2026, is approximately 10-15 sq km.
Area of Occupancy	2026-02-15	[2, 3] | 4km² cells BC = 2-5 4-km² grid cells	[0.690, 1.380]	MTNHP Databases	Of the approximate 96,004 2km x 2km grid cells that cover Montana, 2-3 cells contain occurrences of the species.
Number of Occurrences	2026-02-15	3 A = 1 - 5	0.000	MTNHP Databases	Observations group into 3 occurrences.
Population Size	2026-02-15	* EF = 2500 - 100,000 individuals	[3.140, 3.930]	MTNHP Databases	Statewide populations appear to number at least a few thousand plants. Available data varies widely in terms of number of individuals estimated. One population has estimates that range from 100's to a few thousand by one observer and another observer placed it at 10,000-100,000 plants. These observations were 4 years apart.
# 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	Narrow B = Narrow; 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 × 1) + ([0.69, 1.38] × 2) + (0.00 × 1) + ([3.14, 3.93] × 2)) / 6 = [1.28, 1.77]**					
Trends					
Short-term Trend	2026-02-15	* G = Relatively Stable (=10% change)	0.000		Data to determine short-term trends are lacking. However, it seems likely that populations have been relatively stable based on the location and habitat.
Long-term Trend	2026-02-15	* 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: **((0.00 × 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 and immediate threats are known. Timber harvesting, if it were to occur within the vicinity of the population, could negatively impact the populations. Mining in the vicinity of one occurrence has been mentione as a potential threat though there is no indication that this activity is likely or imminent.
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: **([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: ([1.28, 1.77] × 70%) + Threats: ([3.67, 5.50] × 30%) + Trends: (0.00) = [2.00, 2.89]

Calculated Rank: S2S3

Accepted Rank	S2S3
Author(s)	Scott Mincemoyer
Rank Approved By	Andrea Pipp
State Rank Reason	*Mertensia bella* occurs in Montana at the eastern edge of the species' range. Plants are known from three occurrences, within a 10 kilometer distance, along the border with Idaho, on the Lolo National Forest in Montana. Populations appear to be relatively large, and growing in intact habitat of good condition. However data on population trends are undocumented. Continued revisits to known occurrences, at specified intervals, to collect data on population parameters, habitat conditions, and potential threats are necessary to maintain accurate and timely state conservation status ranks. Monitoring at a subset of populations is greatly needed to track population trends.

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=PDBOR0N040

Predicted Suitable Habitat Model:
https://mtnhp.mt.gov/resources/models/?elcode=PDBOR0N040

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, to collect data on population parameters, habitat conditions, and potential threats are necessary to maintain accurate and timely state conservation status ranks. Monitoring at a subset of populations is greatly needed to track population trends.

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
Energy Production & Mining - 3	None	None	None	Large	Slight	Low	Reported threat of mining applies to state populations.
Energy Production & Mining - 3.2 - Mining & Quarrying	None	None	None	Large	Slight	Low	Reported threat of mining applies to state populations.