Alpine Dwarf-Shrubland and Krummholz (G316)
Conservation Status Rank Summary

March 13, 2025

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	Score	Data Source	Comments
Rarity					
Range Extent	2024-11-11	Y: 130000.0 km²	3.930	GIS Analysis	Approximate range extent of the mountain ranges supporting alpine vegetation in MT.
Area of Occupancy	2024-11-11	287.0 km² (large patch)	3.440	2024 Landcover Layer	Small Patch-Large Patch Spatial Pattern. 287 sq km mapped in landcover layer as of 11/2024.
Number of Occurrences			-		Factor not used in ranking.
Population Size			-		Factor not used in ranking.
# of Occurrences in Good Condition			-		Factor not used in ranking.
% of Area Occupied in Good Condition	2024-11-11		5.500	Expert Opinion	Majority of the habitat is in good condition and ecological function.
Environmental Specificity	2024-11-11	Narrow	-	Expert Opinion	Factor not used in ranking.
Rarity is calculated by averaging weighted factor scores: **((3.93 × 1) + (3.44 × 2) + (5.50 × 2)) / 5 = 4.36**					
Trends					
Short-term Trend	2024-11-11		0.000	Expert Opinion	None
Long-term Trend	2025-03-13		[-0.070, 0.000]	Expert Opinion	Some decline in habitat and extent has likely occurred over the long-term due to warming trends but actual trend data are lacking
Trends score is calculated by summing weighted short and long-term trend scores: **((0.00 × 2) + ([-0.07, 0.00] × 1)) = [-0.07, 0.00]**					

Threats

Rank Factor	Date Assessed	Value	Score	Data Source	Comments
Threats					
Overall Threat Impact		Medium	3.670		None
Intrinsic Vulnerability	2024-11-11	Moderately vulnerable	-	Expert Opinion	**Factor not used in ranking.**
Threat score is calculated from Overall Threat Impact when available or Intrinsic Vulnerability if not: **(3.67) = 3.67**					

Individual Threats Data

Threat Category	Date Assessed	Impact Score	Scope	Severity	Immediacy	Comments
Climate Change & Severe Weather	2025-03-13	Medium	Pervasive	Moderate	High-Moderate	Increased temperatures and changes in precipitation patterns and droughts.
Threat Tally: 0 - Very High, 0 - High, 1 - Medium, 0 - Low Overall Threat Impact* = Medium						

*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: (4.36 × 70%) + Threats: (3.67 × 30%) + Trends: ([-0.07, 0.00]) = [4.08, 4.15]

Calculated Rank: S4

Accepted Rank	S4
Date Approved	2025-05-30
Approval Authority	Scott Mincemoyer
Rank Justification	This alpine group occurs in all the higher mountain ranges. They are primarily threatened by increased temperatures and changes in precipitation patterns and amounts, specifically decreases in winter snowpack, though they are relatively common and widespread.

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/displayEG_Detail.aspx?eg=EVAV0G316

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
Climate Change & Severe Weather - 11	2025-03-13	sm	Expert Opinion	Pervasive	Moderate	High-Moderate	Increased temperatures and changes in precipitation patterns and droughts.