Montane - Subalpine Limber Pine Woodland (G101)
Conservation Status Rank Summary

March 20, 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	2024-06-30	Y: 145000.0 km²	3.930	GIS Analysis	Approx. 145,000 sq km.
Area of Occupancy	2024-06-30		[2.060, 2.750]	2024 draft landcover layer	Only 13 sq km mapped in landcover layer though this is likely highly under-estimated due to mapping issues with this habitat.
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	2024-06-30		5.500	Expert Opinion	Majority of the habitat is in good condition and ecological function
Environmental Specificity	2024-06-30	Moderate	-	Expert Opinion	Factor not used in ranking.
Rarity is calculated by averaging weighted factor scores: **((3.93 × 1) + ([2.06, 2.75] × 2) + (5.50 × 2)) / 5 = [3.81, 4.09]**					
Trends					
Short-term Trend	2024-06-30		-0.070	Expert Opinion	Some habitat declines likely have occurred due to mortality in limber pine from blister rust and encroachment of more shade tolerant conifers as a result of fire suppression activities.
Long-term Trend	2024-06-30		[-0.070, 0.000]	Expert Opinion	Reflects relative stability of the type. However, some habitat declines likely have occurred due to mortality in limber pine from blister rust and encroachment of more shade tolerant conifers as a result of fire suppression activities.
Trends score is calculated by summing weighted short and long-term trend scores: **((-0.07 × 2) + ([-0.07, 0.00] × 1)) = [-0.21, -0.14]**					

Threats

Rank Factor	Date Assessed	Value	Score	Data Source	Comments
Threats					
Overall Threat Impact		High - medium	[1.830, 3.670]		None
Intrinsic Vulnerability	2024-06-30	Moderately vulnerable	-	Expert Opinion	**Factor not used in ranking.**
Threat score is calculated from Overall Threat Impact when available or Intrinsic Vulnerability if not: **([1.83, 3.67]) = [1.83, 3.67]**					

Individual Threats Data

Threat Category	Date Assessed	Impact Score	Scope	Severity	Immediacy	Comments
Natural System Modifications	2025-03-20	Medium - Low	Restricted -Small	Serious-Moderate	Moderate-Low	Increased frequency of severe wildfires, though these habitats gen have more sparse fuels than other forest types.
Invasive & Other Problematic Species, Genes & Diseases	2025-03-20	High - Medium	Large	Serious-Moderate	High-Low	Blister rust.
Threat Tally: 0 - Very High, [0,1] - High, 1 - Medium, [0,1] - Low Overall Threat Impact* = High - 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: ([3.81, 4.09] × 70%) + Threats: ([1.83, 3.67] × 30%) + Trends: ([-0.21, -0.14]) = [3.01, 3.82]

Calculated Rank: S3S4

Accepted Rank	S3S4
Date Approved	2025-06-03
Approval Authority	Scott Mincemoyer
Rank Justification	These high elevation limber pine habitats are much more limited in extent than the lower elevation G209. They have likely been relatively stable or experienced only minor declines. Blister rust and severe wildfires may impact occurrences in the near- and long-term. Other threats appear to be minor in scope and/or extent.

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=EVFM0G101

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
Natural System Modifications - 7.1 - Fire & Fire Suppression	2025-03-20	sm	Expert Opinion	Restricted-Small	Serious-Moderate	Moderate-Low	Increased frequency of severe wildfires, though these habitats gen have more sparse fuels than other forest types.
Invasive & Other Problematic Species, Genes & Diseases - 8.1 - Invasive Non-Native/Alien Species/Diseases	2025-03-20	sm	Expert Opinion	Large	Serious-Moderate	High-Low	Blister rust.