

Mountain Big Sagebrush Shrubland (G304)

Conservation Status Rank Summary

March 18, 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: 200000.0 km ²	3.930	GIS Analysis	Approx 200,000 sq km.
Area of Occupancy	2025-03-18	12679.0 km ² (matrix)	4.130	2024 draft landcover layer	Large Patch-Matrix Spatial Pattern. 12,679 sq km mapped in the 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	2024-06-30		5.500	Expert Opinion	A majority of the habitat is in good condition and ecological function.
Environmental Specificity	2024-06-30	Broad	-	Expert Opinion	Factor not used in ranking.
Rarity is calculated by averaging weighted factor scores: $((3.93 \times 1) + (4.13 \times 2) + (5.50 \times 2)) / 5 = 4.64$					
Trends					
Short-term Trend	2024-06-30		-0.070	Expert Opinion	Reflects decreases in the condition and extent due to grazing practices and from invasion of these sites by non-native species.
Long-term Trend	2024-06-30		-0.140	Expert Opinion	Reflects decreases in the condition and extent due to grazing practices and from invasion of these sites by non-native species.
Trends score is calculated by summing weighted short and long-term trend scores: $((-0.07 \times 2) + (-0.14 \times 1)) = -0.28$					

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
Agriculture & Aquaculture	2025-03-18	Medium - Low	Large-Restricted	Moderate-Slight	High	Livestock grazing and related decreases in habitat quality and related preference or conversion to grass-dominated systems.
Natural System Modifications	2025-03-18	Medium - Low	Large-Restricted	Moderate	Moderate-Low	Increased frequency of severe wildfires and related decrease in sagebrush cover and extent.
Invasive & Other Problematic Species, Genes & Diseases	2025-03-18	Medium	Large	Moderate	High	Invasive species, including non-native grasses and associated degradation of habitat quality.
Threat Tally: 0 - Very High, 0 - High, [1,3] - Medium, [0,2] - 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: $(4.64 \times 70\%)$ + Threats: $([1.83, 3.67] \times 30\%)$ + Trends: $(-0.28) = [3.52, 4.07]$

Calculated Rank: S4

Accepted Rank	S4
Date Approved	2025-06-04
Approval Authority	Scott Mincemoyer
Rank Justification	This habitat is widespread and abundant in some areas. Decreases in habitat condition and extent have occurred and continue to occur. Threats from non-native species and grazing practices continue to be concerns but the abundance of the type limits overall impacts and concern.

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=EVSS0G304

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	2025-03-18	sm	Expert Opinion	Large-Restricted	Moderate-Slight	High	Livestock grazing and related decreases in habitat quality and related preference or conversion to grass-dominated systems.
Natural System Modifications - 7.1 - Fire & Fire Suppression	2025-03-18	sm	Expert Opinion	Large-Restricted	Moderate	Moderate-Low	Increased frequency of severe wildfires and related decrease in sagebrush cover and extent.
Invasive & Other Problematic Species, Genes & Diseases - 8.1 - Invasive Non-Native/Alien Species/Diseases	2025-03-18	sm	Expert Opinion	Large	Moderate	High	Invasive species, including non-native grasses and associated degradation of habitat quality.