Plumbeous Vireo (*Vireo plumbeus*)
Conservation Status Rank Summary

November 18, 2024

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	2024-11-18	S: 144033.7 km²	3.930	MTNHP Range Maps	None
Area of Occupancy	2024-11-18	2305 | 4km² cells	4.130	MTNHP Modeling	None
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			-		**Factor not used in ranking.**
Environmental Specificity	2009-01-21	Moderate	-	MTNHP Species Rank Data Table	**Factor not used in ranking.** Use a variety of open conifer forest and adjacent habitats | Methodology: NS (2003) | Original Score: C
Rarity is calculated by averaging weighted factor scores: **((3.93 × 1) + (4.13 × 2)) / 3 = 4.06**					
Trends					
Short-term Trend	2023-12-20	-13.1%	-0.070	IMBCR	IMBCR trend in population estimates for Bird Conservation Region 17. "-Point Estimate"
Long-term Trend	2024-11-18		-0.070		None
Trends score is calculated by summing weighted short and long-term trend scores: **((-0.07 × 2) + (-0.07 × 1)) = -0.21**					

Threats

Rank Factor	Date Assessed	Value	Score	Data Source	Comments
Threats					
Overall Threat Impact		High - medium	[1.830, 3.670]		No major threat identified, but increased fire and weeds interaction with fire could present a threat. Cowbird parasitism also represents a threat, but the magnitude of the threat is unknown.
Intrinsic Vulnerability	2009-01-21	Not intrinsically vulnerable	-	MTNHP Species Rank Data Table	**Factor not used in ranking.** Methodology: NS (2003) | Original Score: C
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	2024-11-18	High - Medium	Large	Serious-Moderate	High	Pine Savanah within eastern Montana is at high risk for wildlife due to drought and decades of fire suppression efforts. Loss of these forests may have substantial impacts on the amount of available habitat for this species
Invasive & Other Problematic Species, Genes & Diseases	2024-11-18	Medium	Pervasive	Moderate	High	Nest parasitism by Brown-headed Cow Birds is likely ubiquitous across the species range. The impacts in Montana are poorly documented but in other regions of the country this threat has been recognized as significant.
Threat Tally: 0 - Very High, [0,1] - High, [1,2] - Medium, 0 - 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: (4.06 × 70%) + Threats: ([1.83, 3.67] × 30%) + Trends: (-0.21) = [3.18, 3.74]

Calculated Rank: S3S4

Accepted Rank	S3S4B
Date Approved	2024-11-18
Approval Authority	Montana Natural Heritage Program
Rank Justification	Species is uncommon to rare within pine forests in eastern and southeastern Montana. It is currently undergoing moderate declines and faces threats from habitat loss due to wildlife and parasitism of nests by Brown-headed Cow Birds.

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=ABPBW01280

Predicted Suitable Habitat Model:
https://mtnhp.mt.gov/resources/models/?elcode=ABPBW01280

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

Rarity and trends are adequate. The severity of threat due to wildfire is uncertain.

Summary of Information Needs

Species is well documented and has sufficient trend data, but threats are uncertain. More research is needed to better define the impacts future fires may have on habitat. As threats are moderately high, monitoring should continue.

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	2024-11-18	Dan Bachen	Expert Poinion	Large	Serious-Moderate	High	Pine Savanah within eastern Montana is at high risk for wildlife due to drought and decades of fire suppression efforts. Loss of these forests may have substanital impacts on the amount of available habitat for this species
Invasive & Other Problematic Species, Genes & Diseases - 8.2 - Problematic Native Species/Diseases	2024-11-18	Dan Bachen	Expert Opinion, Chace et al. 2003	Pervasive	Moderate	High	Nest paracitism by Brown-headed Cow Birds is likley ubiquitous across the species range. The impacts in Montana are poorly documented but in other regions of the country this threat has been recognised as significant.