

Chimney Swift (*Chaetura pelagica*) Conservation Status Rank Summary

November 14, 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	2024-11-13	S: 195285.3 km ²	3.930	MTNHP Range Maps	None
Area of Occupancy	2024-11-13	889 4km ² cells	4.130	MTNHP Modeling	None
Number of Occurrences	2024-11-14	20	2.750	MTNHP data	Approximately 20 locations with "b" records in the last 20 years
Population Size			-		Factor not used in ranking.
# of Occurrences in Good Condition	2024-11-14	*	3.300	Expert opinion	The status of occupied buildings is unknown and thus the number of roost sites in good condition is approximate
% of Area Occupied in Good Condition			-		Factor not used in ranking.
Environmental Specificity	2009-01-20	Narrow	-	MTNHP Species Rank Data Table	Factor not used in ranking. Rely on a variety of human structures and cavities. Methodology: NS (2003) Original Score: B
Rarity is calculated by averaging weighted factor scores: $((3.93 \times 1) + (4.13 \times 2) + (2.75 \times 1) + (3.30 \times 2)) / 6 = 3.59$					
Trends					
Short-term Trend	2024-11-14	*	-	MTFWP	Factor not used in ranking. No trend data available. Ongoing studies by Montana Fish Wildlife and Parks should be able to provide this information in the future
Long-term Trend	2009-01-20	*	[0.070, 0.140]	MTNHP Species Rank Data Table	Species expanded range west of Mississippi since European arrival due to increased nest habitat provided by chimneys, silos, barns, and wells. These habitats have now been decreasing for the past several decades. Methodology: NS (2003) Original Score: F
Trends score is calculated by summing weighted short and long-term trend scores: $(((0.07, 0.14) \times 1)) = [0.07, 0.14]$					

Threats

Rank Factor	Date Assessed	Value	Score	Data Source	Comments
Threats					
Overall Threat Impact		High - Medium	[1.830, 3.670]		Nest habitat loss
Intrinsic Vulnerability	2009-01-20	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
Residential & Commercial Development	2024-11-13	High - Medium	Pervasive	Serious-Moderate	High	Species is believed to rely on human structures for nest sites. Destruction or maintenance of buildings may result in colony loss through loss of nest habitat
Natural System Modifications	2024-11-14	Low	Restricted	Moderate	High	Alteration of historic flood cycles and changing land management is likely to impact the number of suitable snags the species may use as nest sites.
Pollution	2026-03-26	Medium	Pervasive	Moderate	High	Direct and indirect impacts of herbicide/pesticide use and runoff causes loss of invertebrate prey. There is a probable link between the use of insecticides, particularly neonicotinoids, and declines in populations of insect pollinators that chimney swifts rely on (Environment and Climate Change Canada. 2003).
Threat Tally: 0 - Very High, [0,1] - High, [1,2] - Medium, 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: $(3.59 \times 70\%)$ + Threats: $([1.83, 3.67] \times 30\%)$ + Trends: $([0.07, 0.14]) = [3.13, 3.75]$

Calculated Rank: S3S4

Accepted Rank	S3S4B
Date Approved	Date Unknown
Approval Authority	Legacy Assessment: MTNHP Staff
Rank Justification	Species uncommon to rare within the eastern portions of Montana. It is thought to be reliant on man-made structures for nesting although it has been documented using snags in other portions of its range. Abundance has likely increased over historic norms due to urbanization, but current trend in the state is not known. It's primary threat is loss of building roosts, but alteration of riparian forest and loss of large snags due to hydrologic and land use changes may also impact the species to a lesser 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/speciesDetail.aspx?elcode=ABNUA03010>

Predicted Suitable Habitat Model:

<https://mtnhp.mt.gov/resources/models/?elcode=ABNUA03010>

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

Species rank score is uncertain. Core habitat is well defined, but species may use natural features which is poorly documented. The extent of threats is unknown. No short-term trend data exist.

Summary of Information Needs

Exploration of use of natural features (snags) will provide more complete data on nesting habitat. Identification of building roosts and assessment of the likelihood of these roosts remaining suitable for nesting would allow better threats assessment. Continuation of current monitoring programs will help define short-term trend.

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
Residential & Commercial Development - 1.1 - Housing & Urban Areas	2024-11-13	Dan Bachen	Expert opinion	Pervasive	Serious-Moderate	High	Species is believed to rely on human structures for nest sites. Destruction or maintenance of buildings may result in colony loss through loss of nest habitat
Natural System Modifications - 7.3 - Other Ecosystem Modifications	2024-11-14	Dan Bachen	Expert opinion	Restricted	Moderate	High	Alteration of historic flood cycles and changing land management is likely to impact the number of suitable snags the species may use as nest sites.
Pollution - 9.3 - Agricultural & Forestry Effluents	2026-03-26	Dan Bachen	SWAP Assessment	Pervasive	Moderate	High	Direct and indirect impacts of herbicide/pesticide use and runoff causes loss of invertebrate prey. There is a probable link between the use of insecticides, particularly neonicotinoids, and declines in populations of insect pollinators that chimney swifts rely on (Environment and Climate Change Canada. 2003).