

# Western Screech-Owl (*Megascops kennicottii*)

## Conservation Status Rank Summary

January 23, 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
<b>Rarity</b>					
Range Extent	2024-11-14	Y: 128467.5 km <sup>2</sup>	3.930	MTNHP Range Maps	None
Area of Occupancy	2024-11-14	4424   4km <sup>2</sup> cells	4.810	MTNHP Modeling	None
Number of Occurrences	2025-01-23	6	1.380	MTNHP Data	Approximately 6 discreet areas where species breeds
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	2011-12-20	Narrow	-	MTNHP Species Rank Data Table	Factor not used in ranking. Narrow Specialist. Uses a broad variety of mature deciduous forests, but rely on relatively large nest cavities.   Methodology: NS (2003)   Original Score: B
Rarity is calculated by averaging weighted factor scores: $((3.93 \times 1) + (4.81 \times 2) + (1.38 \times 1)) / 4 = 3.73$					
<b>Trends</b>					
Short-term Trend	2025-01-23		-		Factor not used in ranking.
Long-term Trend	2025-01-22		-0.070	Expert Opinion	Riparian deciduous forests and woody draws have likely declined since european arrival due to urbanization, grazing and agriculture
Trends score is calculated by summing weighted short and long-term trend scores: $((-0.07 \times 1)) = -0.07$					

## Threats

Rank Factor	Date Assessed	Value	Score	Data Source	Comments
<b>Threats</b>					
Overall Threat Impact		High	1.830		Housing development in riparian areas and altered hydrology and grazing leading to the loss of cottonwood forest regeneration, are the greatest threats to the species in Montana.
Intrinsic Vulnerability	2011-12-20	Not intrinsically vulnerable	-	MTNHP Species Rank Data Table	Factor not used in ranking. Not Intrinsicly Vulnerable. Species matures quickly, reproduces frequently, and/or has a high fecundity such that populations recover quickly ( 5 years or 2 generations) from decreases in abundance. Species has good dispersal capabilities such that extirpated populations generally become reestablished through natural recolonization.   Methodology: NS (2003)   Original Score: C
Threat score is calculated from Overall Threat Impact when available or Intrinsic Vulnerability if not: ( 1.83 ) = 1.83					

### Individual Threats Data

Threat Category	Date Assessed	Impact Score	Scope	Severity	Immediacy	Comments
Residential & Commercial Development	2024-11-14	Medium	Restricted	Serious	High	With increasing development in western Montana valleys leading to threat of habitat loss through removal of riparian forest.
Agriculture & Aquaculture	None	Medium	Restricted	Serious	High	Multiple Level 2 threats - see Additional Threat Details below.
Biological Resource Use	2026-03-24	Low	Small	Slight	High	Forest Management practices, such as dead and dying tree/snag removal, reduces nesting habitats for the species
Natural System Modifications	2026-03-24	Low	Restricted	Slight	High	Burned cottonwood stands facilitates invasion of problematic plants and may result in degradation of habitat, and results in less dense canopy structure, which may cause drier average conditions, which may alter the fire regime
Invasive & Other Problematic Species, Genes & Diseases	2025-01-23	Medium - Low	Pervasive	Moderate-Slight	High	Competition with Barred Owls as this species expands and becomes more abundant in Montana.
Climate Change & Severe Weather	2026-03-24	Low	Pervasive	Slight	High	Increased severity of storms with direct impacts and indirect impacts on breeding habitat
Threat Tally: 0 - Very High, 0 - High, [2,3] - Medium, [3,4] - Low Overall Threat Impact* = High						

\*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:  $(3.73 \times 70\%)$  + Threats:  $(1.83 \times 30\%)$  + Trends:  $(-0.07) = 3.09$

Calculated Rank: S3

<b>Accepted Rank</b>	S3S4
<b>Date Approved</b>	Date Unknown
<b>Approval Authority</b>	Legacy Assessment: MTNHP Staff
<b>Rank Justification</b>	Species is found across western and west central Montana in forested habitats, primarily along valleys and mountainous areas. The population trend is unknown. Threats include habitat loss due to development and agriculture and competition with Barred Owls.

## 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](https://mtnhp.mt.gov/docs/Montana_State_Rank_Criteria_20211201.pdf)

Montana Field Guide Species Account:

<https://fieldguide.mt.gov/speciesDetail.aspx?elcode=ABNSB01040>

Predicted Suitable Habitat Model:

<https://mtnhp.mt.gov/resources/models/?elcode=ABNSB01040>

## 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

Most data to assess status are available. Trend is not monitored

### Summary of Information Needs

Given the moderate threats the species is facing, efforts should be made to establish 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
<b>Residential &amp; Commercial Development - 1.1 - Housing &amp; Urban Areas</b>	2024-11-14	Dan Bachen	Expert Opinion	Restricted	Serious	High	With increasing development in western Montana valleys leading to threat of habitat loss through removal of riparian forest.
<b>Agriculture &amp; Aquaculture - 2.1 - Annual &amp; Perennial Non-Timber Crops</b>	2024-11-14	Dan Bachen	Expert Opinion	Restricted	Serious	High	Removal of forest to benefit agriculture and ranching
<b>Agriculture &amp; Aquaculture - 2.3 - Livestock Farming &amp; Ranching</b>	2026-03-24	Dan Bachen	SWAP Assessment	Restricted	Moderate	High	Overgrazing in deciduous riparian forests introduces/favors invasive plant species that can reduce prey base, require more herbicide use, and/or result in shifting fire regimes. Historic and current grazing in riparian habitats reduces cottonwood forest regeneration and may facilitate stream channel incision, which alters stream hydrology and facilitates a shift to shrub/grassland type ecosystems
<b>Biological Resource Use - 5.3 - Logging &amp; Wood Harvesting</b>	2026-03-24	Dan Bachen	SWAP Assessment	Small	Slight	High	Forest Management practices, such as dead and dying tree/snag removal, reduces nesting habitats for the species
<b>Natural System Modifications - 7.1 - Fire &amp; Fire Suppression</b>	2026-03-24	Dan Bachen	SWAP Assessment	Restricted	Slight	High	Burned cottonwood stands facilitates invasion of problematic plants and may result in degradation of habitat, and results in less dense canopy structure, which may cause drier average conditions, which may alter the fire regime
<b>Invasive &amp; Other Problematic Species, Genes &amp; Diseases - 8.2 - Problematic Native Species/Diseases</b>	2025-01-23	Dan Bachen	Rugg et al. 2023	Pervasive	Moderate-Slight	High	Competition with Barred Owls as this species expands and becomes more abundant in Montana.
<b>Climate Change &amp; Severe Weather - 11.4 - Storms &amp; Flooding</b>	2026-03-24	Dan Bachen	SWAP Assessment	Pervasive	Slight	High	Increased severity of storms with direct impacts and indirect impacts on breeding habitat