

Eastern Red Bat (*Lasiurus borealis*) Conservation Status Rank Summary

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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 Factor Rating | Score | Data Source | Comments |
|---|---------------|--|-------|-------------------------------|---|
| Rarity | | | | | |
| Range Extent | 2024-01-10 | 255147.2 km ² G = 200,000-2,500,000 km ² | 4.710 | MTNHP Range Maps | None |
| Area of Occupancy | 2024-01-10 | 7491 4km ² cells H = 2,501-12,500 4-km ² grid cells | 4.810 | MTNHP Modeling | None |
| Number of Occurrences | 2024-01-10 | 79 C = 21 - 80 | 2.750 | MTNHP Databases | None |
| Population Size | | | - | | Factor not used in ranking. |
| # of Occurrences in Good Condition | 2024-05-13 | * D = Some (13-40) occurrences with excellent or good viability or ecological integrity | 3.300 | | Many of the areas where this species occurs or migrates through are impacted by wind energy |
| % of Area Occupied in Good Condition | | | - | | Factor not used in ranking. |
| Environmental Specificity | 2018-05-03 | Narrow B = Narrow; specialist or community with key requirements common | - | MTNHP Species Rank Data Table | Factor not used in ranking. Species is dependent on major riparian areas with cottonwoods or other deciduous trees for roosting. Methodology: NS (2003) Original Score: B |
| Rarity is calculated by averaging weighted factor scores: $((4.71 \times 1) + (4.81 \times 2) + (2.75 \times 1) + (3.30 \times 2)) / 6 = 3.95$ | | | | | |
| Trends | | | | | |
| Short-term Trend | 2012-01-04 | * U = Unknown | - | MTNHP Species Rank Data Table | Factor not used in ranking. No data on trends available. Methodology: NS (2003) Original Score: U |
| Long-term Trend | 2026-04-21 | * U = Unknown | - | | Factor not used in ranking. |
| No trend data used in this rank | | | | | |

*Values may be absent if not precisely estimated; factors may still be assessed for rank if a Factor Rating can be assigned.

Threats

| Rank Factor | Date Assessed | Value Factor Rating | Score | Data Source | Comments |
|---|---------------|--|-------|-------------------------------|--|
| Threats | | | | | |
| Overall Threat Impact | | High B = High | 1.830 | | None |
| Intrinsic Vulnerability | 2018-05-03 | Moderately vulnerable B = Moderately vulnerable | - | MTNHP Species Rank Data Table | Factor not used in ranking. Species can have 1-2 pups each year, although individuals may not breed each year. Juvenile mortality may be moderate to high. Species has good dispersal capabilities and reestablishment of extirpated populations through dispersal is possible. Methodology: NS (2003) Original Score: B |
| 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 |
|---|---------------|--------------|------------|-----------------|-----------|--|
| Agriculture & Aquaculture | 2026-04-21 | Low | Small | Moderate | High | Loss of cottonwood forests, and other native plants within the ecosystem, due to grazing and the spread of non-native species. |
| Energy Production & Mining | 2024-01-10 | High | Pervasive | Serious | High | Mortality at wind energy facilities. Expanding footprint and lack of mitigation are primary threats |
| Biological Resource Use | 2026-04-21 | Low | Restricted | Moderate-Slight | High | Loss of roosting habitat due to timber harvest and management activities. |
| Natural System Modifications | None | Low | Restricted | Moderate | High | Multiple Level 2 threats - see Additional Threat Details below. |
| Threat Tally: 0 - Very High, 1 - High, 0 - Medium, 3 - 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: $(3.95 \times 70\%)$ + Threats: $(1.83 \times 30\%)$ + Trends: $(0.00) = 3.31$

Calculated Rank: S3

| | |
|--------------------------|--|
| Accepted Rank | S3B |
| Author(s) | Dan Bachen |
| Rank Approved By | Montana Species of Concern Committee |
| State Rank Reason | Species is noncommon to rare across much of eastern Montana. Mortalities due to wind energy development have been observed within other portions of it's range and may be impacting the population within Montana. |

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=AMACC05010>

Predicted Suitable Habitat Model:

<https://mtnhp.mt.gov/resources/models/?elcode=AMACC05010>

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

Information to assess status are generally available, but trend is unknown.

Summary of Information Needs

Species is well-suited to acoustic monitoring and data to assess trend have been collected. Acoustic monitoring should continue, and analysis of these data should be prioritized to determine 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 |
|---|---------------|-------------|-----------------|------------|-----------------|-----------|---|
| Agriculture & Aquaculture - 2.3 - Livestock Farming & Ranching | 2026-04-21 | Dan Bachen | SWAP Assessment | Small | Moderate | High | Loss of cottonwood forests, and other native plants within the ecosystem, due to grazing and the spread of non-native species. |
| Energy Production & Mining - 3.3 - Renewable Energy | 2024-01-10 | Dan Bachen | Expert Opinion | Pervasive | Serious | High | Mortality at wind energy facilities. Expanding footprint and lack of mitigation are primary threats |
| Biological Resource Use - 5.3 - Logging & Wood Harvesting | 2026-04-21 | Dan Bachen | SWAP Assessment | Restricted | Moderate-Slight | High | Loss of roosting habitat due to timber harvest and management activities. |
| Natural System Modifications - 7.1 - Fire & Fire Suppression | 2026-04-21 | Dan Bachen | SWAP Assessment | Restricted | Moderate | High | Loss of roosts in conifer forest due to fire. Changes in forest structure due to fire suppression reducing foraging habitat |
| Natural System Modifications - 7.2 - Dams & Water Management/Use | 2026-04-21 | Dan Bachen | SWAP Assessment | Restricted | Moderate | High | Changes in hydrologic cycles (e.g. over-bank flows) resulting in loss of cottonwood galleries or changes in riparian corridors. |
| Pollution - 9.7 - Pesticide/Herbicide/Insecticide Application | 2026-04-21 | Dan Bachen | SWAP Assessment | Large | Unknown | High | Pesticide spraying (i.e., prey reduction; toxicity to bats) |
| Climate Change & Severe Weather - 11.1 - Habitat Shifting & Alteration | 2026-04-21 | Dan Bachen | SWAP Assessment | Pervasive | Unknown | Moderate | Negative impacts to survival and/or reproduction due to climate change-driven processes such as warming temperatures, extreme weather events (e.g., heat-induced pup die offs at maternity colonies) and drought (e.g., less surface water availability). |