# Eastern Fox Squirrel (*Sciurus niger*)
# Conservation Status Rank Summary

January 29, 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** | 2025-01-29 | Y: 86358.5 km² | 3.930 | MTNHP Range Maps | None |
| **Area of Occupancy** | 2025-01-29 | 691 \| 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 | 2018-05-03 | Narrow | - | MTNHP Species Rank Data Table | **Factor not used in ranking.** Found in riparian hardwood forests \| Methodology: NS (2003) \| Original Score: B |
| Rarity is calculated by averaging weighted factor scores:<br>**( (3.93 × 1) + (4.13 × 2) ) / 3 = 4.06** | | | | | |
| **Trends** | | | | | |
| Short-term Trend | 2018-05-03 | | - | MTNHP Species Rank Data Table | **Factor not used in ranking.** No data on trends available \| Methodology: NS (2003) \| Original Score: U |
| **Long-term Trend** | 2018-05-03 | | 0.000 | MTNHP Species Rank Data Table | Habitat is likely stable within +/- 25% since European settlement. Species has expanded into Montana due to reintroduction efforts in North Dakota in the 1940's. \| Methodology: NS (2003) \| Original Score: F |
| Trends score is calculated by summing weighted short and long-term trend scores:<br>**( (0.00 × 1) ) = 0.00** | | | | | |

# Threats

| Rank Factor | Date Assessed | Value | Score | Data Source | Comments |
|---|---|---|---|---|---|
| **Threats** | | | | | |
| **Overall Threat Impact** | | Medium | 3.670 | | Threats are unknown. Species may be impacted by loss of Green Ash due to Emerald Ash Borer or other exotic forest pest species |
| **Intrinsic Vulnerability** | 2018-05-03 | Moderately vulnerable | - | MTNHP Species Rank Data Table | **Factor not used in ranking.** Moderately Vulnerable. Species matures in 1-2 years and has 1-2 young per year. Species has good dispersal capabilities such that extirpated populations generally become reestablished through natural recolonization. \| Methodology: NS (2003) \| Original Score: B |
| Threat score is calculated from Overall Threat Impact when available or Intrinsic Vulnerability if not: **( 3.67 ) = 3.67** | | | | | |

### Individual Threats Data

| Threat Category | Date Assessed | Impact Score | Scope | Severity | Immediacy | Comments |
|---|---|---|---|---|---|---|
| **Agriculture & Aquaculture** | 2025-01-29 | Medium | Restricted | Serious | High | Loss of riparian forest due to clearing for agriculture |
| Threat Tally: 0 - Very High, 0 - High, 1 - Medium, 0 - Low<br>Overall Threat Impact* = 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: (3.67 × 30%) + Trends: (0.00) = 3.95

Calculated Rank: S4

| | |
|---|---|
| **Accepted Rank** | S4 |
| **Date Approved** | 2025-01-29 |
| **Approval Authority** | MTNHP Staff |
| **Rank Justification** | Within it's native range, the species is common to uncommon in deciduous woodlands. It appears to be stable and faces threats from clearing of riparian forest. |

## 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=AMAFB07040

Predicted Suitable Habitat Model:
https://mtnhp.mt.gov/resources/models/?elcode=AMAFB07040

# 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 determine status are available

Summary of Information Needs

No additional information needed

## 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 |
|---|---|---|---|---|---|---|---|
| **Agriculture & Aquaculture - 2.1 - Annual & Perennial Non-Timber Crops** | 2025-01-29 | Dan Bachen | Expert Opinion | Restricted | Serious | High | Loss of riparian forest due to clearing for agriculture |
| | | | | | | | |