Northern Alligator Lizard (*Elgaria coerulea*)
Conservation Status Rank Summary

January 8, 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	2025-01-06	Y: 45876.6 km²	3.930	MTNHP Range Maps	None
Area of Occupancy	2025-01-06	1413 | 4km² cells	4.130	MTNHP Modeling	None
Number of Occurrences	2025-01-06	197	4.130	MTNHP Databases	None
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	Moderate	-	MTNHP Species Rank Data Table	**Factor not used in ranking.** Associated with cover such as rock outcrops, grassy or overgrown areas within or on the margins of woodlands | Methodology: NS (2003) | Original Score: C
Rarity is calculated by averaging weighted factor scores: **((3.93 × 1) + (4.13 × 2) + (4.13 × 1)) / 4 = 4.08**					
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		-	MTNHP Species Rank Data Table	**Factor not used in ranking.** No data on trends available | Methodology: NS (2003) | Original Score: U
No trend data used in ranking this species					

Threats

Rank Factor	Date Assessed	Value	Score	Data Source	Comments
Threats					
Overall Threat Impact		High - medium	[1.830, 3.670]		Unknown
Intrinsic Vulnerability	2018-05-03	Moderately vulnerable	-	MTNHP Species Rank Data Table	**Factor not used in ranking.** Moderately Vulnerable. Species exhibits moderate age of maturity, frequency of reproduction, and/or fecundity such that populations generally tend to recover from decreases in abundance within 5-20 years or 2-5 generations. Species has good dispersal ca | Methodology: NS (2003) | Original Score: B
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
Transportation & Service Corridors	2025-01-08	Medium - Low	Restricted -Small	Serious	High	Mortality while traveling over or basking on roads likely impacts populations that occur in proximity to roads.
Biological Resource Use	2025-01-08	Medium - Low	Pervasive	Moderate- Slight	High	Collection for the pet trade or people collecting and taking home lizards. This threat is not well quantified.
Natural System Modifications	2025-01-08	Low	Restricted	Moderate	High	Abundance of alligator lizards has declined post-fire in other areas and with other species.
Invasive & Other Problematic Species, Genes & Diseases	2025-01-08	Low	Restricted	Moderate	High	Predation by domestic cats near urban and exurban areas. This threat is not well studied, but impacts are likely occurring.
Threat Tally: 0 - Very High, 0 - High, [0,2] - Medium, [2,4] - 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: (4.08 × 70%) + Threats: ([1.83, 3.67] × 30%) + Trends: (0.00) = [3.41, 3.96]

Calculated Rank: S4?

Accepted Rank	S3
Date Approved	2003-01-01
Approval Authority	Montana Species of Concern Committee
Rank Justification	Species is uncommon across much of western Montana in suitable habitat. Little is known about population status and no trend information is available. Threats are not well studied but likely include forest fire, incidental and targeted collection, and predation by domestic cats.

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=ARACB01010

Predicted Suitable Habitat Model:
https://mtnhp.mt.gov/resources/models/?elcode=ARACB01010

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 is well described, but trends are unknown and threats are poorly studied for this species in general and have not been studied in Montana.

Summary of Information Needs

Monitoring of historic populations would provide threat information. Study of mortality within known populations would help better describe threats.

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
Transportation & Service Corridors - 4.1 - Roads & Railroads	2025-01-08	Dan Bachen	Expert Opinion	Restricted-Small	Serious	High	Mortality while traveling over or basking on roads likely impacts populations that occur in proximity to roads.
Biological Resource Use - 5.1 - Hunting & Collecting Terrestrial Animals	2025-01-08	Dan Bachen	Expert Opinion	Pervasive	Moderate-Slight	High	Collection for the pet trade or people collecting and taking home lizards. This threat is not well quantified.
Natural System Modifications - 7.1 - Fire & Fire Suppression	2025-01-08	Dan Bachen	Expert Opinion; Rochester et al. 2000	Restricted	Moderate	High	Abundance of alligator lizards has declined post-fire in other areas and with other species.
Invasive & Other Problematic Species, Genes & Diseases - 8.1 - Invasive Non-Native/Alien Species/Diseases	2025-01-08	Dan Bachen	Expert Opinion	Restricted	Moderate	High	Predation by domestic cats near urban and exurban areas. This threat is not well studied, but impacts are likely occurring.