

Final Report for Agreement 250930¹

Species of Greatest Conservation Need (SGCN) Distribution Modeling and Information Development

Project performance period: 1/1/2026 - 6/30/2026

Overview

Work was performed by Richard Norwood, Data Manager; Corrie Gonzalez, GIS Coordinator/Ecologist; Esteban Muldavin, NHNM Director; Jacqueline Smith, Assistant Data Manager; students at Natural Heritage New Mexico (NHNM); working with Ginny Seamster at New Mexico Department of Wildlife (NMDOW).

This progress report lists the scope of work tasks and then progress on these tasks in the “NHNM Progress on Task” sections below.

Agreement Tasks and Accomplishments

Part A. Species Distribution Modeling:

Task 1 – Develop Species Distribution Models

Develop Species Distribution Models (SDMs) for six (6) to eight (8) Species of Greatest Conservation Need (SGCN) by June 30, 2026. Prioritize species by first reviewing all newly added SGCN in the 2025 State Wildlife Action Plan for New Mexico and focusing on those without existing models. Select focal species for SDM development that have a sufficient number of records available in the NM Biotics database. Confirm the final list of species with the NMDOW.

NHNM PROGRESS ON TASK

- NHNM worked in collaboration with NMDOW to select six to eight SGCN for habitat suitability modeling. Priority was given to newly added SGCN from the 2025 State Wildlife Action Plan (SWAP) that did not already have existing models and that were anticipated to have sufficient observations available for modeling. The initial focal species selected were: Big Bend slider (*Trachemys gaigae*), Carlsbad agave-borer (*Agathymus neumoegeni carlsbadensis*), dotted checkerspot (*Poladryas minuta minuta*), gray-footed chipmunk (*Neotamias canipes*), Morrison’s bumblebee (*Bombus morrisoni*), prairie vole (*Microtus ochrogaster haydenii*), western painted turtle (*Chrysemys picta bellii*), and western water shrew (*Sorex navigator*). All but the Big Bend slider were newly added SGCN. Per guidance from NMDOW, the Big Bend slider was selected because it was classified as either a Category F (Current Focal Species) or Category I (Conservation Impact Species).

NHNM was unfortunately unable to create models for the Carlsbad agave-borer due to the scant number of observations that were ultimately available and the close proximity of these available records to one another across the species' range. Although we initially believed sufficient observations existed, further review determined that the available records were inadequate for

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modeling. We did, however, acquire 16 new observations for the Carlsbad agave-borer. Additionally, we acquired 63 observations for the dotted checkerspot but did not obtain those records with sufficient time remaining in the project period to complete modeling. We aim to work with pollinator species biologists during the next fiscal year to expand observation datasets for these species and incorporate them into the anticipated FY27 modeling effort.

Task 2 – Data Mining

Supplement SGCN observations used for modeling with mined species occurrence data from museum collections, the Global Biodiversity Information Facility (GBIF), citizen science platforms, and other sources and conduct quality control to ensure that only high-quality, verified records are incorporated into both NM Biotics and the SDMs.

NHNM PROGRESS ON TASK

- For the six species modeled: Big Bend slider, gray-footed chipmunk, Morrison’s bumblebee, prairie vole, western painted turtle, and western water shrew, we acquired observations from the NM Biotics database and the [GBIF](#). GBIF records included both citizen science observations and museum collection records. All observations from these sources underwent quality control and verification prior to being incorporated into the modeling process to ensure only high-quality records were used. NM Biotics records were filtered to include only observations collected in 1975 or later and with a reported coordinate uncertainty of $\leq 1,000$ m, consistent with New Mexico Crucial Habitat Assessment Tool (NMCHAT) guidelines. GBIF records were subjected to the same temporal (1975 or more recent) and spatial uncertainty ($\leq 1,000$ m) filters and were also reviewed for biological plausibility. This review evaluated whether observation locations were consistent with each species' known habitat requirements. For example, records for aquatic species, such as the Big Bend slider and western painted turtle, were examined to ensure that observations with relatively high spatial uncertainty (e.g., >100 m) remained associated with riparian or aquatic habitats; records that plotted in upland areas or other implausible locations were considered likely to be spatially inaccurate and were excluded.

Task 3 – Model Review

Employ an ensemble modeling framework that incorporates advanced pseudo-absence point generation methods, relevant environmental predictor variables, and standard model validation metrics. Work with relevant NMDOW species biologists to review the SDMs and refine them as needed based on biologist feedback. Consult additional species experts and modeling specialists as needed to support model development and review. Integrate the SDMs into the New Mexico Environmental Review Tool (NMERT), appropriate NMCHAT data layers, and Biota Information System of New Mexico (BISON-M), and update associated metadata on these sites.

NHNM PROGRESS ON TASK

- We employed an ensemble modeling framework for these six species that incorporated multiple modeling algorithms, advanced background (pseudo-absence) point generation methods, relevant environmental predictor variables, and standard model validation metrics. A set of models were distributed to species biologists for review, and their feedback was incorporated into the final model results. Detailed methods and final model outputs are described in a separate technical report (Gonzalez and Muldavin 2026).

Following final review and selection, the completed models will be incorporated into the NMCHAT Species of Conservation Concern layer, the NMERT SGCN model layer, and BISON-M during Fiscal Year 2027. Associated metadata will also be updated accordingly.

Part B. Data Collection:

Task 1 – SGCN Data Compilation

Obtain, compile, and analyze occurrence records for at least twenty (20) new SGCN for which SDMs are not being developed. Prioritize a subset of the two-hundred eighty-four (284) newly designated SGCN in the 2025 SWAP that have no occurrence data in NM Biotics. Add species with fewer than five (5) records for data compilation as time allows. Integrate compiled data into the New Mexico Conservation Information System (NMCIS) suite of conservation planning tools including the NMERT, NMCHAT data layers, and BISON-M.

NHNM PROGRESS ON TASK

- Numbers of species updated and numbers of new observations and source features are summarized in **Table 1**. Thirty newly designated SGCN with no occurrence records in NM Biotics were designated as the primary data compilation focus for this project period. Occurrence data were successfully compiled for 24 of these 31 species. A total of 2,480 new observations and 360 new source features (mapped locations) were added across these species, spanning seven taxonomic groups including amphibians, birds, flies, mammals, molluscs, moths and butterflies, and reptiles (**Table 2**).

As time allowed, data compilation was extended to 153 newly designated SGCN having less than 5 existing NM Biotics records. New data were added for 78 of these species, contributing 8,036 new observations and 2,438 new source features. Of these, 53 species were brought to five or more total observations (**Table 3**).

An additional 100 newly designated SGCN with five or more existing NM Biotics records were not individually targeted for data compilation but some of these species received additional records through bulk upload efforts aimed at primary focus species. In particular, new data were added for 46 of these species, contributing 1,354 new observations and 1,155 new source features spanning eight taxonomic groups including bees, beetles, birds, fish, flies, mammals, moths and butterflies, and reptiles (**Table 4**).

Across all newly designated SGCN, occurrence data were added for 148 of 284 species (52%), with a total of 11,870 new observations and 3,953 new source features integrated into NM Biotics. Among previously existing SGCN, new data were added for 53 of 221 species contributing 2,555 new observations and 1,644 new source features. Across all SGCN, newly designated and previously existing, occurrence data were added for 201 of 505 species (40%), with a total of 14,425 new observations and 5,597 new source features integrated into NM Biotics. Data from these observations will be integrated into the upcoming NMERT update, the next round of NMCHAT updates, and will be used to update distribution information in BISON-M. Full species-level results for all SGCN are provided in **Appendix A**.

Table 1. Summary of Species of Greatest Conservation Need (SGCN) data compilation results. Spp = Species

Description	Total Species	Spp with New Data	New Observations	New Source Features
Data Compilation Focus Species	31	24	2,480	360
Fewer than 5 records	153	78	8,036	2,438
5 or more records	100	46	1,354	1,155
All newly designated SGCN	284	148	11,870	3,953
Previously existing SGCN	221	53	2,555	1,644
All SGCN	505	201	14,425	5,597

Table 1. New Species of Greatest Conservation Need (SGCN) with no occurrence records in NM Biotics designated as primary data compilation focus species. Occurrence data were successfully compiled for 24 of 31 species (shown in green), contributing 2,480 new observations and 360 new source features across seven taxonomic groups.

Common Name	Scientific Name	Taxon	State Rank	Global Rank	New Source Features	New Observations
Blanchard's Cricket Frog	<i>Acris blanchardi</i>	Amphibian	S3	G5	2	9
Arizona Woodpecker	<i>Dryobates arizonae</i>	Birds	S2B,S2N	G5	3	13
Bullock's Oriole	<i>Icterus bullockii</i>	Birds	S4B,S5N	G5	22	365
Chihuahuan Meadowlark	<i>Sturnella lilianae</i>	Birds	S4B,S5N	GNR	4	36
Woodhouse's Scrub Jay	<i>Aphelocoma woodhouseii</i>	Birds	S3	G5	26	651
Painter's Mydas Fly	<i>Rhaphiomidas painteri</i>	Flies	S1	GNR	41	41
Banner-tailed Kangaroo Rat	<i>Dipodomys spectabilis</i>	Mammals	S4	G4T4	5	20
Common Porcupine	<i>Erethizon dorsatum</i>	Mammals	S5	G5	17	481
Ermine Weasel	<i>Mustela richardsonii</i>	Mammals	S3	G5	22	26
Hoary Bat	<i>Aeorestes cinereus cinereus</i>	Mammals	S4	G3G4	37	208
Holzner's Cottontail Rabbit	<i>Sylvilagus holzneri</i>	Mammals	SNR	GNR	0	0
Thirteen-lined Ground Squirrel	<i>Ictidomys tridecemlineatus</i>	Mammals	S4	G5	6	18
Western Jumping Mouse	<i>Zapus princeps princeps</i>	Mammals	S4	G5	34	235
Black Range Woodlandsnail	<i>Ashmunella cockerelli</i>	Molluscs	S1	G2T1	0	0
Dry Creek Woodlandsnail	<i>Ashmunella tetrodon</i>	Molluscs	S3	G3T3	0	0
Rocky Mountainsnail	<i>Oreohelix strigosa depressa</i>	Molluscs	S2?	G5T5	2	3
San Augustin Mountainsnail	<i>Oreohelix litoralis</i>	Molluscs	S1	G1	0	0
Subalpine Mountainsnail	<i>Oreohelix subrudis</i>	Molluscs	S3	G5	1	2
Woodlandsnail	<i>Ashmunella rhyssa</i>	Molluscs	S1	G3T1	0	0
Anicia Checkerspot	<i>Euphydryas anicia</i>	Moths and Butterflies	S2	G5T2	1	17
Carlsbad Agave-Borer	<i>Agathymus neumogeni carlsbadensis</i>	Moths and Butterflies	S1	G4G5T2T3	0	0
Colorado Rita Dotted-blue	<i>Euphilotes rita coloradensis</i>	Moths and Butterflies	S1	G3G4T3	0	0
Mountain Checkered-skipper	<i>Pyrgus xanthus</i>	Moths and Butterflies	S3	G3	15	50
Pogue's Flower Moth	<i>Schinia poguei</i>	Moths and Butterflies	S1	GNR	27	27
West Coast Lady	<i>Vanessa annabella</i>	Moths and Butterflies	S3	G5	33	108
Western Hobomok Skipper	<i>Lon hobomok wetona</i>	Moths and Butterflies	S1	G5T2T3	15	25
White Sands Cutworm Moth	<i>Protophygia whitesandsensis</i>	Moths and Butterflies	S1	GNR	12	12
White Sands Yinyang Moth	<i>Cochylis yinyangana</i>	Moths and Butterflies	S1	GNR	27	27
Bleached Earless Lizard	<i>Holbrookia maculata ruthveni</i>	Reptiles	SNR	G5TNR	2	91
Trans-Pecos Rat Snake	<i>Bogertophis subocularis subocularis</i>	Reptiles	S3	G4	3	3
Yarrow's Spiny Lizard	<i>Sceloporus jarrovi jarrovi</i>	Reptiles	S3	G5	3	12

Table 3. New Species of Greatest Conservation Need with fewer than five baseline occurrence records in NM Biotics. New occurrence data were compiled for 78 of 153 species (shown in green), contributing 8,036 new observations and 2,438 new source features. Of these, 53 species were brought to five or more total observations.

Common Name	Scientific Name	Taxon	State Rank	Global Rank	New Source Features	New Observations
Andrenid Bee	<i>Perdita tarda</i>	Bees	S1	GNR	0	0
Andrenid Bee	<i>Perdita maculipes</i>	Bees	S1	GNR	0	0
Andrenid Bee	<i>Perdita senecionis</i>	Bees	S1	GNR	1	1
Andrenid Bee	<i>Perdita claripennis</i>	Bees	S1	GNR	1	1
Andrenid Bee	<i>Perdita biparticeps</i>	Bees	S1	GNR	1	1
Andrenid Bee	<i>Perdita grandiceps</i>	Bees	S1	GNR	45	45
Chihuahuan Desert Digger Bee	<i>Anthophora chihuahua</i>	Bees	SNR	G2G3	0	0
Dakota Leaf-cutter Bee	<i>Megachile dakotensis</i>	Bees	SNR	G2G3	1	1
Melittid Bee	<i>Hesperapis trochanterata</i>	Bees	S1	GNR	0	0
Mimbres Miner Bee	<i>Andrena mimbresensis</i>	Bees	S1	GNR	0	0
Neff's Miner Bee	<i>Andrena neffi</i>	Bees	S1	GNR	0	0
Southwest Leaf-cutter Bee	<i>Megachile melanderi</i>	Bees	S1	G2G3	0	0
Thirsty Plaster Bee	<i>Colletes aridus</i>	Bees	S1	GNR	1	1
Triton Fairy Bee	<i>Perdita trinotata</i>	Bees	S1	GNR	9	8
Volger's Mining Bee	<i>Andrena vogleri</i>	Bees	S1	GNR	4	4
White Sands Sweat Bee	<i>Lasioglossum argammon</i>	Bees	S1	GNR	4	1
Wood's Jewel Scarab	<i>Chrysina woodi</i>	Beetles	S2	GNR	29	29
American Dipper	<i>Cinclus mexicanus unicolor</i>	Birds	S3B,S4N	G5	13	45
American Pipit	<i>Anthus rubescens</i>	Birds			0	0
American Tree Sparrow	<i>Spizelloides arborea ochracea</i>	Birds	S4N	G5	0	0
Bewick's Wren	<i>Thryomanes bewickii</i>	Birds	S4B,S4N	G5	52	196
Black-billed Magpie	<i>Pica hudsonia</i>	Birds	S4B,S4N	G5	1	1
Black-headed Grosbeak	<i>Pheucticus melanocephalus</i>	Birds	S5B,S5N	G5	123	511
Black-throated Sparrow	<i>Amphispiza bilineata</i>	Birds	S5	G4	19	30
Brewer's Sparrow	<i>Spizella breweri</i>	Birds	S3B,S4N	G5	21	55
Broad-tailed Hummingbird	<i>Selasphorus platycercus platycercus</i>	Birds	S4	G5	184	468
Buff-breasted Flycatcher	<i>Empidonax fulvifrons pygmaeus</i>	Birds	SHB	G5	0	0
Cactus Wren	<i>Campylorhynchus brunneicapillus couesi</i>	Birds	S4	G5	19	20
Canyon Towhee	<i>Melospiza fusca</i>	Birds	S4	G5	7	8
Canyon Wren	<i>Catherpes mexicanus conspersus</i>	Birds	S5B,S5N	G5	8	18

Common Name	Scientific Name	Taxon	State Rank	Global Rank	New Source Features	New Observations
Cassin's Kingbird	<i>Tyrannus vociferans vociferans</i>	Birds	S5B,S5N	G5	49	205
Chipping Sparrow	<i>Spizella passerina arizonae</i>	Birds	S4B,S5N	G5	289	1165
Cliff Swallow	<i>Petrochelidon pyrrhonota</i>	Birds	S5B,S5N	G5	20	73
Eastern Bluebird	<i>Sialia sialis</i>	Birds	S1B,S5N	G5	8	14
Field Sparrow	<i>Spizella pusilla arenacea</i>	Birds	S3N	G5	1	1
Grasshopper Sparrow	<i>Ammodramus savannarum perpallidus</i>	Birds	S3B,S3N	G5	1	1
Gray-crowned Rosy-Finch	<i>Leucosticte tephrocotis</i>	Birds	S3N	G5	0	0
Greater Pewee	<i>Contopus pertinax pallidiventris</i>	Birds	S3B,S3N	G5	0	0
Greater Yellowlegs	<i>Tringa melanoleuca</i>	Birds	S4N	G5	1	1
Green-tailed Towhee	<i>Pipilo chlorurus</i>	Birds	S3B,S4N	G5	31	150
Horned Lark	<i>Eremophila alpestris</i>	Birds	S5B,S5N	G5	32	146
Killdeer	<i>Charadrius vociferus vociferus</i>	Birds	S4B,S5N	G5	20	109
Lapland Longspur	<i>Calcarius lapponicus alascensis</i>	Birds	S4N	G5	0	0
Lark Bunting	<i>Calamospiza melanocorys</i>	Birds	S3B,S5N	G5	8	10
Lark Sparrow	<i>Chondestes grammacus strigatus</i>	Birds	S4B,S4N	G5	45	139
Lazuli Bunting	<i>Passerina amoena</i>	Birds	S4B,S4N	G5	18	61
Long-billed Dowitcher	<i>Limnodromus scolopaceus</i>	Birds	S4N	G5	2	2
Mountain Chickadee	<i>Poecile gambeli gambeli</i>	Birds	S3	G5	189	1002
Northern Harrier	<i>Circus hudsonius</i>	Birds	S2B,S4N	G5	0	0
Northern Rough-winged Swallow	<i>Stelgidopteryx serripennis</i>	Birds	S4B,S5N	G5	26	51
Olive Warbler	<i>Peucedramus taeniatus arizonae</i>	Birds	S3B,S3N	G5	0	0
Phainopepla	<i>Phainopepla nitens lepida</i>	Birds	S4B,S4N	G5	0	0
Pine Siskin	<i>Spinus pinus</i>	Birds	S4B,S5N	G5	0	0
Plumbeous Vireo	<i>Vireo plumbeus</i>	Birds	S4B,S4N	G5	283	620
Prairie Falcon	<i>Falco mexicanus</i>	Birds	S4	G5	12	37
Purple Martin	<i>Progne subis</i>	Birds	S3B,S4N	G5	13	14
Pyrrhuloxia	<i>Cardinalis sinuatus sinuatus</i>	Birds	S5B,S5N	G5	0	0
Red-naped Sapsucker	<i>Sphyrapicus nuchalis</i>	Birds	S3B,S5N	G5	33	43
Rock Wren	<i>Salpinctes obsoletus obsoletus</i>	Birds	S4	G5	18	39
Savannah Sparrow	<i>Passerculus sandwichensis</i>	Birds	S2B,S5N	G5	11	19
Scott's Oriole	<i>Icterus parisorum</i>	Birds	S4B,S5N	G5	3	3
Short-eared Owl	<i>Asio flammeus flammeus</i>	Birds	S1B,S2N	G5	0	0
Spotted Sandpiper	<i>Actitis macularius</i>	Birds	S4B,S5N	G5	0	0

Common Name	Scientific Name	Taxon	State Rank	Global Rank	New Source Features	New Observations
Spotted Towhee	<i>Pipilo maculatus</i>	Birds	SNA	G5	3	21
Steller's Jay	<i>Cyanocitta stelleri macrolopha</i>	Birds	S5B,S5N	G5	178	633
Violet-green Swallow	<i>Tachycineta thalassina lepida</i>	Birds	S3B,S4M	G5	183	533
Western Grebe	<i>Aechmophorus occidentalis</i>	Birds	S3S4	G5	3	3
Western Kingbird	<i>Tyrannus verticalis</i>	Birds	S5B,S5N	G5	15	34
Western Meadowlark	<i>Sturnella neglecta</i>	Birds	S5B,S5N	G5	33	306
Western Sandpiper	<i>Calidris mauri</i>	Birds	S4N	G5	2	2
Western Wood Pewee	<i>Contopus sordidulus</i>	Birds	S4B,S5N	G5	191	911
White-eared Hummingbird	<i>Basilinna leucotis borealis</i>	Birds	S2N	G5	0	0
White-throated Swift	<i>Aeronautes saxatalis saxatalis</i>	Birds	S3B,S4N	G5	18	29
Wilson's Warbler	<i>Cardellina pusilla</i>	Birds	S1B,S4M	G5	0	0
Yellow-headed Blackbird	<i>Xanthocephalus xanthocephalus</i>	Birds	S4B,S5N	G5	5	25
Desert Fairy Shrimp	<i>Streptocephalus dorotheae</i>	Crustaceans	SNR	G5	0	0
Desert Tadpole Shrimp	<i>Triops newberryi</i>	Crustaceans	SNR	G5	0	0
Mackin Fairy Shrimp	<i>Streptocephalus mackini</i>	Crustaceans	SNR	G5	0	0
Playa Clam Shrimp	<i>Leptestheria compleximanus</i>	Crustaceans	SNR	G5	0	0
Alamogordo Window Fly	<i>Caenotus inornatus</i>	Flies	S1	GNR	1	1
Crandall's Hornet Fly	<i>Spilomyia crandalli</i>	Flies	S1	G2G4	1	1
Prairie Bee Fly	<i>Poecilognathus scolopax</i>	Flies	S1	GNR	3	3
Small Window Fly	<i>Caenotus minutus</i>	Flies	S1	GNR	3	3
Southwestern Slender Bee Fly	<i>Thevenetimyia speciosa</i>	Flies	S1	GNR	0	0
Yellow-tailed Hornet Fly	<i>Spilomyia kahli</i>	Flies	S1	G4	1	1
American Beaver	<i>Castor canadensis</i>	Mammals	S3	G5	32	41
Canada Lynx	<i>Lynx canadensis</i>	Mammals	SNR	G5	0	0
Gray-collared Chipmunk	<i>Neotamias cinereicollis cinereicollis</i>	Mammals	S3	G4	0	0
Heather Vole	<i>Phenacomys intermedius intermedius</i>	Mammals	S3	G5	6	6
Pocketed Free-tailed Bat	<i>Nyctinomops femorosaccus</i>	Mammals	S1S2	G5	0	0
Southern Red-backed Vole	<i>Myodes gapperi</i>	Mammals	S3	G5	0	0
White-tailed Jackrabbit	<i>Lepus townsendii campanius</i>	Mammals	S2	G5	0	0
Apache Snaggletooth Snail	<i>Gastrocopta cochisensis</i>	Molluscs	S1	G3G4	0	0
Bearded Mountainsnail	<i>Oreohelix barbata</i>	Molluscs	S1	G2G3	0	0
Black Range Mountainsnail	<i>Oreohelix metcalfei cuchillensis</i>	Molluscs	S1	G2T1	0	0
Black Range Mountainsnail	<i>Oreohelix metcalfei</i>	Molluscs	SNR	G2T1	0	0

Common Name	Scientific Name	Taxon	State Rank	Global Rank	New Source Features	New Observations
Capitan Woodlandsnail	<i>Ashmunella pseudodonta</i>	Molluscs	SNR	G1	0	0
Diablo Mountainsnail	<i>Oreohelix houghi</i>	Molluscs	SNR	G1	0	0
Dry Creek Woodlandsnail	<i>Ashmunella tetrodon fragilis</i>	Molluscs	S1	G3T1	0	0
Florida Mountain Woodlandsnail	<i>Ashmunella walkeri</i>	Molluscs	S1	G1	0	0
Franklin Mountain Talussnail	<i>Sonorella metcalfi</i>	Molluscs	S1	G2	0	0
Heart Vertigo Snail	<i>Vertigo hinkleyi</i>	Molluscs	S1	G3	0	0
Iron Creek Woodlandsnail	<i>Ashmunella mendax</i>	Molluscs	S1	G3	0	0
Magdalena Mountainsnail	<i>Oreohelix magdalenae</i>	Molluscs	S1	G1G2	0	0
Mount Riley Woodlandsnail	<i>Ashmunella rileyensis</i>	Molluscs	S1	G1	0	0
Mountainsnail	<i>Oreohelix nogalensis</i>	Molluscs	S1	G5T1	0	0
Multirib Vallonia Snail	<i>Vallonia gracilicosta</i>	Molluscs	S1	G5	0	0
Northern Threeband	<i>Humboldtiana ultima</i>	Molluscs	S2	G2	0	0
Pinos Altos Mountainsnail	<i>Oreohelix confragosa</i>	Molluscs	S1	G2	0	0
Salinas Peak Woodlandsnail	<i>Ashmunella salinasensis</i>	Molluscs	S1	G1	0	0
Sonoran Snaggletooth Snail	<i>Gastrocopta prototypus</i>	Molluscs	SNR	G1	0	0
Vertigo Snail	<i>Vertigo concinnula</i>	Molluscs	SNR	G5TNR	0	0
Whitewashed Rabdotus Snail	<i>Rabdotus dealbatus neomexicanus</i>	Molluscs	SNR	G5T2	0	0
Whitewater Creek Woodlandsnail	<i>Ashmunella danielsi</i>	Molluscs	S1	G1T1	0	0
Blanchard's Pelochrista Moth	<i>Pelochrista blanchardi</i>	Moths and Butterflies	S1	GNR	12	12
Dotted Checkerspot	<i>Poladryas minuta minuta</i>	Moths and Butterflies	SNR	G5T2T3	0	0
Lafontaine's Cutworm Moth	<i>Euxoa lafontainei</i>	Moths and Butterflies	S1	GNR	49	49
Landry's Flower Moth	<i>Arotrura landryorum</i>	Moths and Butterflies	S1	GNR	3	3
Magdalena Alpine Butterfly	<i>Erebia magdalena magdalena</i>	Moths and Butterflies	S1	G4G5TNR	0	0
Mottled Duskywing	<i>Erynnis martialis</i>	Moths and Butterflies	S1	G3	1	2
New Mexico Desert Blue	<i>Euphilotes ellisii anasazi</i>	Moths and Butterflies	S1	G2G4T1	0	0
Nokomis Silverspot	<i>Argynnis nokomis nokomis</i>	Moths and Butterflies	S1	G3T1	0	0
Nokomis Silverspot	<i>Argynnis nokomis</i>	Moths and Butterflies	S1	G3T3	0	0
Orange Giant Skipper	<i>Agathymus neumoegeni</i>	Moths and Butterflies	S2	G4G5	4	30
Organ Mountains Poling's Hairstreak	<i>Satyrium polingi organensis</i>	Moths and Butterflies	S1	G3T1	1	1
Raton Mesa Boisduval's Blue	<i>Icaricia icarioides nigrifem</i>	Moths and Butterflies	S1	G5TNR	0	0
Raton Mesa Northwestern Fritillary	<i>Argynnis hesperis ratonensis</i>	Moths and Butterflies	S1	G5TNR	0	0
Raton Mesa Silvery Blue	<i>Glaucopteryx lygdamus erico</i>	Moths and Butterflies	S2	G5TNR	4	4
Rhena Crossline Skipper	<i>Polites origenes rhena</i>	Moths and Butterflies	S1	G5?T3	0	0

Common Name	Scientific Name	Taxon	State Rank	Global Rank	New Source Features	New Observations
Rhesus Skipper	<i>Polites rhesus</i>	Moths and Butterflies	S3	G3?	3	3
Rocky Mountain Polixenes Arctic	<i>Oeneis polixenes brucei</i>	Moths and Butterflies	S1	G5?T3	5	8
Sacramento Mountains Coral Hairstreak	<i>Satyrrium titus carrizozo</i>	Moths and Butterflies	S1	G5TNR	3	3
Sacramento Mountains Emerald Moth	<i>Nemoria subsequens</i>	Moths and Butterflies	S1	GNR	3	3
Sacramento Mountains Silvery Blue Butterfly	<i>Glaucopsyche lygdamus ruidoso</i>	Moths and Butterflies	S1	G5TNR	1	1
Snow's Lustrous Copper	<i>Lycaena cupreus snowi</i>	Moths and Butterflies	S1	G4T5	3	3
Socorro Chryxus Arctic	<i>Oeneis chryxus socorro</i>	Moths and Butterflies	S1	G5TNR	0	0
Southwestern Brown Moth	<i>Plagiomimicus astigmatosum</i>	Moths and Butterflies	S1	GNR	0	0
Sunrise Skipper	<i>Adopaeoides prittwitzi</i>	Moths and Butterflies	S1	G3G4	1	1
Ursine Giant Skipper	<i>Megathymus ursus ursus</i>	Moths and Butterflies	SNR	G4G5T3T4	0	0
White Sands Dune Moth	<i>Areniscythris whitesands</i>	Moths and Butterflies	S1	GNR	1	1
Wiest's Sphinx Moth	<i>Euproserpinus wiesti</i>	Moths and Butterflies	S1	G3	6	6
Yuma Skipper	<i>Ochlodes yuma yuma</i>	Moths and Butterflies	S1	G4	0	0
Bolson's Tortoise	<i>Gopherus flavomarginatus</i>	Reptiles			0	0
Little White Whiptail	<i>Aspidoscelis inornata gypsi</i>	Reptiles	SNR	G5T1T3	0	0
Midland Smooth Softshell Turtle	<i>Apalone mutica mutica</i>	Reptiles	S3	G5	0	0
North American Racer	<i>Coluber constrictor</i>	Reptiles	S3	G5	0	0
Plains Gartersnake	<i>Thamnophis radix</i>	Reptiles	S3	G5	1	1
Smooth Greensnake	<i>Opheodrys vernalis blanchardi</i>	Reptiles	S3	G5	3	3
Sonoran Lyresnake	<i>Trimorphodon lambda</i>	Reptiles	S3	G5	0	0
Texas Lyresnake	<i>Trimorphodon wilkinsonii</i>	Reptiles	S3	G4	0	0
Texas Spotted Whiptail	<i>Aspidoscelis gularis gularis</i>	Reptiles	S3	G5	0	0
Western Blind Snake	<i>Rena humilis segregus</i>	Reptiles	S3S4	G5	0	0
Yaqui Black-headed Snake	<i>Tantilla yaquia</i>	Reptiles	S1	G4G5	0	0

Table 4. New Species of Greatest Conservation Need with five or more baseline occurrence records in NM Biotics. Species were not individually targeted for data compilation but received additional records through bulk upload efforts aimed at target species (46 of 100 species, shown in green; 1,354 new observations, 1,155 new source features).

Common Name	Scientific Name	Taxon	State Rank	Global Rank	New Source Features	New Observations
Andrenid Bee	<i>Perdita geminata</i>	Bees	S1	GNR	7	7
Andrenid Bee	<i>Macrotera magniceps</i>	Bees	S1	GNR	12	12
Austin's Fairy Bee	<i>Perdita austini</i>	Bees	S2	GNR	128	128
Bare fairy Bee	<i>Perdita aperta</i>	Bees	S1	GNR	18	18
Beloved Fairy Bee	<i>Perdita cara</i>	Bees	S1	GNR	14	13
Brave Digger Bee	<i>Anthophora vallorum</i>	Bees	SNR	G2G3	0	0
Cockerell's Bumble Bee	<i>Bombus cockerelli</i>	Bees	S1	G1	69	69
Half-scarlet Fairy Bee	<i>Perdita semicrocea</i>	Bees	S1	GNR	13	13
Mighty Leaf-cutter Bee	<i>Megachile fortis</i>	Bees	S1	G2	0	0
Morrison's Bumble Bee	<i>Bombus morrisoni</i>	Bees	S3	G3	4	4
Sand Dune Wool-carder Bee	<i>Anthidium rodecki</i>	Bees	SNR	G2G3	0	0
Southern Plains Bumble Bee	<i>Bombus fraternus</i>	Bees	S2	G3G4	0	0
Sweat Bee	<i>Conanthalictus conanthi</i>	Bees	S2	GNR	10	9
Watson's Mason Bee	<i>Osmia watsoni</i>	Bees	S1	G2G3	386	386
Western Bumble Bee	<i>Bombus occidentalis</i>	Bees	S1	G3	1	1
Anthony Blister Beetle	<i>Lytta mirifica</i>	Beetles	S1	G2	29	29
American Kestrel	<i>Falco sparverius sparverius</i>	Birds	S5B,S5N	G5	41	174
Band-tailed Pigeon	<i>Patagioenas fasciata</i>	Birds	S4	G4	9	9
Black Rosy-Finch	<i>Leucosticte atrata</i>	Birds	S3N	G4	1	1
Brown Pelican	<i>Pelecanus occidentalis carolinensis</i>	Birds	SNA	G4	0	0
Chihuahuan Raven	<i>Corvus cryptoleucus</i>	Birds	S4B,S5N	G5	0	0
Ferruginous Hawk	<i>Buteo regalis</i>	Birds	S2B,S4N	G4	1	12
Golden Eagle	<i>Aquila chrysaetos canadensis</i>	Birds	S3B,S4N	G5	62	75
Harris's Hawk	<i>Parabuteo unicinctus harrisi</i>	Birds	S2	G5	1	1
Long-eared Owl	<i>Asio otus</i>	Birds	S4B,S4N	G5	52	53
Mexican Chickadee	<i>Poecile sclateri eidos</i>	Birds	S2B,S2N	G5	0	0
Pine Grosbeak	<i>Pinicola enucleator montana</i>	Birds	S2B,S3N	G5	1	1
Piping Plover	<i>Charadrius melodus circumcinctus</i>	Birds	SNA	G3	0	0
Sage Thrasher	<i>Oreoscoptes montanus</i>	Birds	S3B,S4N	G4	1	12
Verdin	<i>Auriparus flaviceps ornatus</i>	Birds	S4B,S4N	G5	0	0
Yellow-billed Cuckoo	<i>Coccyzus americanus americanus</i>	Birds	S3B,S3N	G5	1	1

Common Name	Scientific Name	Taxon	State Rank	Global Rank	New Source Features	New Observations
Scud	<i>Hyalella azteca</i>	Crustaceans	SNR	G5	0	0
Central Stoneroller	<i>Campostoma anomalum</i>	Fish	S3	G5	0	0
Headwater Catfish	<i>Ictalurus lupus</i>	Fish	S1	G3	0	0
Longnose Gar	<i>Lepisosteus osseus</i>	Fish	S2	G5	0	0
Mottled Sculpin	<i>Cottus bairdii</i>	Fish	S1?	G5	0	0
Plains Minnow	<i>Hybognathus placitus</i>	Fish	S3	G4	0	0
Rio Grande Cutthroat Trout	<i>Oncorhynchus clarkii virginalis</i>	Fish	S2	GNRT3	6	7
Rio Grande Shiner	<i>Notropis jemezianus</i>	Fish	S2	G3	0	0
Roundnose Minnow	<i>Dionda episcopa</i>	Fish	S3	G4	0	0
Smallmouth Buffalo	<i>Ictiobus bubalus</i>	Fish	S3	G5	0	0
Speckled Chub	<i>Macrhybopsis aestivalis</i>	Fish	S2	G3G4	0	0
Dune Flower-loving Fly	<i>Apiocera bilineata</i>	Flies	S1	GNR	52	52
Rio Grande Flower-loving Fly	<i>Apiocera hamata</i>	Flies	S1	GNR	52	52
Allen's Big-eared Bat	<i>Idionycteris phyllotis</i>	Mammals	S3	G4	0	0
Arizona Gray Squirrel	<i>Sciurus arizonensis arizonensis</i>	Mammals	S2	G4	0	0
Big Free-tailed Bat	<i>Nyctinomops macrotis</i>	Mammals	S3	G5	0	0
Cave Myotis	<i>Myotis velifer</i>	Mammals	S3S4	G4G5	0	0
Desert Pocket Gopher	<i>Geomys arenarius</i>	Mammals	S3	G4	0	0
Eastern Red Bat	<i>Lasiurus borealis</i>	Mammals	S3N	G3G4	0	0
Fringed Myotis	<i>Myotis thysanodes thysanodes</i>	Mammals	S4S5	G4	16	31
Gray-footed Chipmunk	<i>Neotamias canipes</i>	Mammals	S3	G4	0	0
Hooded Skunk	<i>Mephitis macroura milleri</i>	Mammals	S2	G5	0	0
Northern Pygmy Mouse	<i>Baiomys taylori ater</i>	Mammals	S2	G4G5	0	0
Prairie Vole	<i>Microtus ochrogaster haydenii</i>	Mammals	S2	G5	1	1
Snowshoe Hare	<i>Lepus americanus bairdii</i>	Mammals	S2	G5	0	0
Southwestern Little Brown Myotis	<i>Myotis occultus</i>	Mammals	S4	G4G5	3	5
Tri-colored Bat	<i>Perimyotis subflavus</i>	Mammals	S3	G3G4	0	0
Western Red Bat	<i>Lasiurus blossevillii</i>	Mammals	S3	G4	0	0
Western Water Shrew	<i>Sorex navigator</i>	Mammals	S2	G5	0	0
White-nosed Coati	<i>Nasua narica</i>	Mammals	S2	G5	0	0
Yellow-bellied Marmot	<i>Marmota flaviventris</i>	Mammals	S2	G5	0	0
Yellow-nosed Cotton Rat	<i>Sigmodon ochrognathus</i>	Mammals	S2	G4G5	0	0
Yuma Myotis	<i>Myotis yumanensis yumanensis</i>	Mammals	S4	G5	18	28

Common Name	Scientific Name	Taxon	State Rank	Global Rank	New Source Features	New Observations
Big Hatchet Woodlandsnail	<i>Ashmunella mearnsii</i>	Molluscs	S1	G1	0	0
Bishop Tubeshell Snail	<i>Coelostemma pyrgonasta</i>	Molluscs	S1	G1	0	0
Burnt Corral Pyrg	<i>Pyrgulopsis similis</i>	Molluscs	SNR	GNR	0	0
Cockerell Holospira Snail	<i>Holospira cockerelli</i>	Molluscs	S1	G1	0	0
Franklin Mountain Woodlandsnail	<i>Ashmunella pasonis pasonis</i>	Molluscs	S1	G2G3T1	0	0
Goat Mountain Woodlandsnail	<i>Ashmunella harrisi</i>	Molluscs	S1	G1	0	0
Guadalupe Woodlandsnail	<i>Ashmunella carlsbadensis</i>	Molluscs	SNR	G1	0	0
Hacheta Mountainsnail	<i>Radiocentrum hachetanum</i>	Molluscs	S1	G2	0	0
Jordan Spring Pyrg	<i>Pyrgulopsis marilynae</i>	Molluscs	SNR	GNR	0	0
Maple Canyon Woodlandsnail	<i>Ashmunella todseni</i>	Molluscs	S1	G1	0	0
Morgan Creek Mountainsnail	<i>Oreohelix swopei</i>	Molluscs	S1	G1	0	0
Organ Mountain Woodlandsnail	<i>Ashmunella organensis</i>	Molluscs	S2	G2	0	0
San Andres Woodlandsnail	<i>Ashmunella kochii</i>	Molluscs	S1	G1T1	0	0
Socorro Mountainsnail	<i>Oreohelix neomexicana</i>	Molluscs	S3	G3	0	0
Woodlandsnail	<i>Ashmunella auriculata</i>	Molluscs	S2	G2	0	0
Apache Northern Crescent	<i>Phyciodes cocyta apache</i>	Moths and Butterflies	S1	G5TNR	6	6
Capulin Mountain Alberta Arctic	<i>Oeneis alberta capulinensis</i>	Moths and Butterflies	S1	G5T2	0	0
Colorado Melissa Arctic	<i>Oeneis melissa lucilla</i>	Moths and Butterflies	S1	G5TNR	4	4
Monarch	<i>Danaus plexippus</i>	Moths and Butterflies	S3	G4	40	42
Questa Skipper	<i>Ochlodes yuma anasazi</i>	Moths and Butterflies	S1	G4T2	20	20
Rindge's Emerald Moth	<i>Nemoria rindgei</i>	Moths and Butterflies	S2	GNR	5	5
Sacramento Mountains Borer Moth	<i>Papaipema dribi</i>	Moths and Butterflies	S1	G1	1	1
Sacramento Mountains Checkerspot Butterfly	<i>Euphydryas anicia cloudcrofti</i>	Moths and Butterflies	S1	G5T1	4	9
Sacramento Mountains Western Green Hairstreak	<i>Callophrys affinis albipalpus</i>	Moths and Butterflies	S1	G4TNR	7	7
Sacramento Mountains White-lined Hairstreak	<i>Callophrys sheridanii sacramento</i>	Moths and Butterflies	S1	G5TNR	6	6
Sacred Boisduval's Blue	<i>Icaricia icarioides sacre</i>	Moths and Butterflies	S2	G5TNR	9	9
Sierra Blanca Margined White	<i>Pieris marginalis siblanca</i>	Moths and Butterflies	S2	G5TNR	17	17
White Sands Owllet Moth	<i>Aleptina arenaria</i>	Moths and Butterflies	S1	GNR	13	13
White Sands Twirler Moth	<i>Chionodes bustosorum</i>	Moths and Butterflies	S1	GNR	6	6
Zuni Flower Moth	<i>Schinia zuni</i>	Moths and Butterflies	S2	GNR	2	2
Banded Rock Rattlesnake	<i>Crotalus lepidus klauberi</i>	Reptiles	S4	G5	0	0
Knobloch's Mountain Kingsnake	<i>Lampropeltis knoblochi</i>	Reptiles	S1S2	G4	3	0
Mojave Rattlesnake	<i>Crotalus scutulatus scutulatus</i>	Reptiles	S3	G5	0	0

Common Name	Scientific Name	Taxon	State Rank	Global Rank	New Source Features	New Observations
Ornate Box Turtle	<i>Terrapene ornata</i>	Reptiles	S4	G4G5	2	2
Pyro Mountain Kingsnake	<i>Lampropeltis pyromelana</i>	Reptiles	S3	G4	0	0
Western Painted Turtle	<i>Chrysemys picta bellii</i>	Reptiles	S4	G5	1	1

Appendix A. FY26 Species of Greatest Conservation Need (SGCN) Occurrence Data Compilation — All Species

The accompanying file *Appx_A_SGCN_DataComp_All_SGCN_FY26.xlsx* provides species-level occurrence data compilation results for all newly designated SGCN along with all existing SGCN. For each species, the table includes common name, scientific name, taxonomic group, SGCN status (new or existing), State Rank, Global Rank, baseline source feature and observation counts, new source features and observations added during FY26, total source features and observations, and FY26 compilation status.

References

Gonzalez, C. and E. Muldavin. 2026. Species distribution models for six Species of Greatest Conservation Need in New Mexico. Natural Heritage New Mexico, Albuquerque, New Mexico.