Resolution Copper Project and Land Exchange
Environmental Impact Statement

USDA Forest Service
Tonto National Forest
Arizona

August 6, 2018
Revised April 12, 2023
Revised April 11, 2025

Process Memorandum to File

Wildlife Resource Analysis: Assumptions; Methodology Used; Relevant Regulations, Laws, and Guidance; and Key Documents

This document is deliberative and is prepared by the third-party contractor in compliance with the National Environmental Policy Act and other laws, regulations, and policies to document ongoing process and analysis steps. This document does not take the place of any Line Officer's decision space related to this project.

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Revision History

Date	Personnel	Revisions Made
08/06/18	Emily Newell	Process memorandum created.
10/29/18	Emily Newell	Revisions to process memorandum title, revision history table added, edits to purpose of process memorandum section, references and key documents section added.
10/31/18	Emily Newell	Applicability of relevant laws updated.
11/15/18	Emily Newell	Edits to references cited.
12/13/18	Jeffery Johnson	Added in text from wildlife section.
12/18/18	Emily Newell	Updated references, analysis area information.
01/14/19	Emily Newell	Prepared for project manager review.
7/12/19	Donna Morey	Updated process memorandum to draft environmental impact statement section.
8/6/19	Emily Newell	Final consistency review.
8/14/19	Donna Morey	Addition of Appendix 2 – Literature Review of Artificial Light Effects on Wildlife Species.
09/02/20	Stacy Campbell	Revisions to occurrence records, references updated.
10/9/20	Sarah Epstein	Update management indicator species table.
12/30/20	Chris Garrett	Final update for consistency prior to final environmental impact statement release.
3/17/2023	Eleanor Gladding	Updated proposed critical habitat to designated critical habitats since Final Rules have been published by the U.S. Fish and Wildlife Service, added that monarch butterfly (*Danaus plexippus*) has Endangered Species Act Candidate species status, and noted occurrence records for the butterfly.
January 10, 2025	Stacy Campbell	Updated memo to include evaluation of the 52 species of conservation concern identified in the *Tonto National Forest Land Management Plan* (U.S. Forest Service 2023). The analysis is based on Arizona Game and Fish Department (AGFD) Species of Greatest Conservation Need Tiers as described in *Arizona's State Wildlife Action Plan: 2012-2022* (AGFD 2012), even though the AGFD published a plan update with revised Species of Greatest Conservation Need statuses in 2022. The U.S. Fish and Wildlife Service proposed to list the monarch butterfly as threatened in December 2024, and its status has been updated in this memo.

Purpose of Process Memorandum

To provide a concise and accessible summary of resource impacts, certain detailed information has not been included directly in the environmental impact statement (EIS). The purpose of this process memorandum is to describe additional supporting resource information in detail. The wildlife section of Chapter 3 of the EIS includes brief summaries of the information contained in this process memorandum. This process memorandum covers the following topics:

- Resource analysis area
- Analysis methodology
- Regulations, laws, and guidance
- Key documents and references cited

Detailed Information Supporting Environmental Impact Statement Analysis

Resource Analysis Area

The analysis area covers the project footprint plus a 1-mile buffer, as well as areas along Queen Creek and Devil's Canyon where groundwater drawdown or reductions in surface water could change habitat (see Figure 3.8.2-1 in Section 3.8.2 of the EIS). Much of the impact to species and habitat is caused by direct disturbance of the land and vegetation. The 1-mile buffer and areas of Queen Creek and Devil's Canyon were determined by using the areas where the noise analyses, water analyses (i.e., groundwater and surface water quantity/quality analyses), fugitive dust distance affecting air quality, and noxious weed introduction and spread (Foxcroft et al. 2007) indicate the potential for impacts. The species considered in the analysis area are documented in Tables 1 through 3.

According to the air quality analysis, ambient air quality standards would be achieved at the project footprint boundaries; therefore, any potential air quality impacts are encompassed within the 1-mile buffer. The noise modeling shows that for all action alternatives, noise levels at 1 mile would be at or below the level of normal human conversation; as such, the 1-mile buffer is sufficient to address potential impacts from noise-producing activities. In addition, it is also expected that light associated with project construction and facilities will increase night-sky brightness from 1% to 9% on average (Dark Sky Partners LLC 2018). Light impacts would occur across the landscape, but available research suggests any substantial impacts would occur within the 1-mile buffer. Species' movement corridors include areas outside the 1-mile buffer; the analysis addresses the potential impacts on those corridors at a landscape level.

The Arizona Game and Fish Department (AGFD) is a cooperating agency and made species records and other information available to the U.S. Forest Service (Forest Service) for use in the analysis. The AGFD searched for records within the project footprint plus a 5-mile buffer; this information was used to determine the likelihood of occurrence for each species. This search area is greater than the analysis area and thus errs on the side of including more species' records, rather than fewer. Although the

analysis area includes a 1-mile buffer, data provided by the AGFD were for the area within a 5-mile buffer and could not be further delineated in regard to the 1-mile buffer. This larger 5-mile buffer is clearly noted when it has been used.

The temporal parameters for this analysis involved the time frames for 1) construction, mine years 1 through 9; 2) operation, mine years 6 through 46; and 3) post-closure/reclamation, mine years 46 through 51 to 56, plus any additional years that are identified in other resource analyses (e.g., the groundwater analysis used to inform this section predicts out to 200 years). Construction activities would overlap operations activities for approximately 6 years.

Analysis Methodology

The 1-mile buffer and areas of Queen Creek and Devil's Canyon were determined by using the areas where the noise analyses, water analyses (i.e., groundwater and surface water quantity/quality analyses), fugitive dust distance affecting air quality, and noxious weed introduction and spread (Foxcroft et al. 2007) indicate the potential for impacts. The 1-mile buffer is bolstered by available literature studying the response of various species to noise at various distances. Some examples include the following:

- Delaney et al. (1999) researched percent flushing of Mexican spotted owl (*Strix occidentalis lucida*) with distance and found little response beyond 250 meters (m) (0.2 mile).
- Grubb and King (1991) researched the response of more than 4,000 human events on nesting bald eagles (*Haliaeetus leucocephalus*) in Arizona. Their recommendation, based on this research, was a restricted primary buffer zone of 600 m (0.40 mile) and a secondary buffer zone of 1,200 m (0.75 mile). These researchers also report other buffer zones considered by various regulatory programs, ranging from 450 to 1,600 m (0.28–1.00 mile).
- Eigenbrod et al. (2009) examined pond habitats and found road-effect zones extending roughly 250 to 1,000 m (1.2–1.6 miles) from highways.
- Siemers and Schaub (2011) researched simulated highway noise effects on bat foraging and found that effects largely fell off after 25 m (82 feet).

Additional light associated with project construction and facilities is anticipated to increase night-sky brightness by 1% to 9% on average (Dark Sky Partners LLC 2018). With the additional light increase of 1% to 9% over existing conditions, the 1.0-mile buffer would be sufficient to take into account potential project-related impacts to wildlife from additional light. Although substantial research has been conducted on the ecological effects of night lighting, research identifying distance impacts with night lighting is more scarce, but some studies suggest a 1.0-mile buffer is sufficient (see Appendix 2 for additional information). Bruce-White and Shardlow (2011) generally cite 500 m (0.3 mile) as the distance insects are attracted to an unshielded light source or as buffer distance for water bodies.

In addition, the analysis considered species' movement corridors that include areas outside the 1-mile buffer, and the analysis addressed the potential impacts to those corridors at a landscape level. The AGFD is a cooperating agency and made species' records and other information available to the Forest Service for use in the analysis. The AGFD searched for records for the area within the project footprint

plus a 5-mile buffer; this information was used to determine the likelihood of occurrence for each species. This search area is greater than the analysis area and thus errs on the side of including more species' records rather than fewer. This larger 5-mile buffer is clearly noted when it has been used.

The goal of this analysis is to identify the reasonably potentially foreseeable impacts to wildlife and special-status wildlife species and their habitat from all activities associated with each project alternative. Several elements constitute the core of this analysis: 1) the factors for analysis identified during the National Environmental Policy Act (NEPA) scoping process, 2) survey and records data provided as part of this project, and 3) a scientific examination using current literature on species and how environmental changes (human or natural) affect species and their habitat.

Important wildlife movement corridors throughout the state have been identified in recent years through the aid of resource management planning by agencies, organizations, stakeholders, academia, private citizens, and non-profit organizations. Detail on the identified wildlife movement corridors can be found in the wildlife connectivity section in Table 1 and background documentation below.

Additionally, further information and details, including species accounts, occurrence records, etc., on wildlife resources discussed in Section 3.8 of the FEIS, can be found in Appendix 1 of this process memorandum.

Wildlife Connectivity

Table 1. Wildlife Connectivity Elements that Overlap the Analysis Area

Connectivity Element (Type)	Alternatives 2 and 3 Components	Alternative 4 Components	Alternative 5 Components	Alternative 6 Components
Modeled Linkage				
Superior–Miami U.S. Route 60 (Modeled Linkage)	East Plant Site/subsidence zones; Magma Arizona Railroad Company (MARRCO) disturbance; Silver King realignment; Tailings Storage Facility corridor; West Plant Site	East Plant Site/subsidence zones; MARRCO disturbance; Silver King Road realignment with Filter Plant; Silver King 500-foot pipeline right-of-way (ROW); Silver King fence line polygon; Tailings Facility; West Plant Site	500-foot pipeline ROW; East Plant Site/subsidence zones; MARRCO disturbance; Silver King realignment; West Plant Site; West Peg Leg 500-foot pipeline ROW	Access roads; East Plant Site/subsidence zones; MARRCO disturbance; North Skunk Camp 500-foot pipeline ROW, Silver King realignment; Skunk Camp transmission line; West Plant Site; South Skunk Camp 500-foot pipeline ROW
Barrier				
U.S. Route 60 (Barrier)	East Plant Site/subsidence zones; MARRCO disturbance; Silver King realignment; West Plant Site	East Plant Site/subsidence zones; MARRCO disturbance; Silver King Road realignment with Filter Plant; Tailings Facility; West Plant Site	500-foot pipeline ROW; East Plant Site/subsidence zones; MARRCO disturbance; Silver King realignment; West Plant Site; West Peg Leg 500-foot pipeline ROW	Access roads; East Plant Site/subsidence zones; MARRCO disturbance; North Skunk Camp 500-foot pipeline ROW, Silver King realignment; Skunk Camp transmission line; West Plant Site; South Skunk Camp 500-foot pipeline ROW
State Route 177 (Barrier)	Inconceivables mitigation area, trail mitigation area	Inconceivables mitigation area, trail mitigation area	Inconceivables mitigation area, trail mitigation area	Inconceivables mitigation area, trail mitigation area
Central Arizona Project Canal (Barrier)	MARRCO disturbance	MARRCO disturbance	MARRCO disturbance	MARRCO disturbance

Connectivity Element (Type)	Alternatives 2 and 3 Components	Alternative 4 Components	Alternative 5 Components	Alternative 6 Components
Railroad Modification (Barrier)	MARRCO disturbance; Filter Plant disturbance; Near West fence line, Silver King realignment; Tailings Facility; West Plant Site; Fence and tailings storage facility; Queen Creek waterline	Fence and tailings storage facility; Filter Plant disturbance; MARRCO disturbance; Near West fence line; Silver King realignment; Tailings Facility; West Plant Site; Queen Creek waterline	500-foot pipeline ROW; Filter Plant disturbance; MARRCO disturbance; Silver King realignment; West Plant Site, West Peg Leg 500-foot pipeline ROW; Queen Creek waterline	Filter Plant disturbance; MARRCO disturbance; Silver King realignment; West Plant Site; South Skunk Camp 500-foot pipeline ROW; Queen Creek waterline
State Route 79 (Barrier)	MARRCO disturbance	MARRCO disturbance	MARRCO disturbance	MARRCO disturbance
State Route 177 (Barrier)	Not applicable (N/A)	N/A	500-foot pipeline ROW	South Skunk Camp 500-foot pipeline ROW
Diffuse Movement Area (DMA)				
Devil's Canyon (DMA)	East Plant Site/subsidence zones	East Plant Site/subsidence zones	East Plant Site/subsidence zones; 500-foot pipeline ROW	East Plant Site/subsidence zones; access roads; North Skunk Camp 500-foot pipeline ROW; Skunk Camp transmission line; South Skunk Camp 500-foot pipeline ROW
Mineral Mountains (DMA)	Trail mitigation area	Trail mitigation area	500-foot pipeline ROW; pipeline access road; West Peg Leg 500-foot pipeline ROW; trail mitigation area	South Skunk Camp 500-foot pipeline ROW; trail mitigation area
Landscape Movement Area (LMA)				
Florence Military Reservation (LMA)	MARRCO disturbance	MARRCO disturbance	MARRCO disturbance	MARRCO disturbance

Connectivity Element (Type)	Alternatives 2 and 3 Components	Alternative 4 Components	Alternative 5 Components	Alternative 6 Components
Galiuro Mountains – Santa Catalina Mountain (LMA)	H&E compensatory mitigation parcel	H&E compensatory mitigation parcel	H&E compensatory mitigation parcel	H&E compensatory mitigation parcel
Queen Valley – Middle Gila/Mineral Mountains (LMA)	MARRCO disturbance	MARRCO disturbance	MARRCO disturbance	MARRCO disturbance
Tonto National Forest West of Superior through Gonzales Pass (LMA)	MARRCO disturbance; Near West Fence line; Tailings Facility; Fence and tailings storage facility; Castleberry Campground; Inconceivables mitigation area; trail mitigation area	MARRCO disturbance; Castleberry Campground; Inconceivables mitigation area; trail mitigation area	500-foot pipeline ROW; MARRCO disturbance; West Peg Leg 500-foot pipeline ROW; Castleberry Campground; Inconceivables mitigation area; trail mitigation area	MARRCO disturbance; South Skunk Camp 500-foot pipeline ROW; Castleberry Campground; Inconceivables mitigation area; trail mitigation area
Valley north and east of the San Tan Mountains (LMA)	MARRCO disturbance; Filter Plant disturbance	Filter Plant disturbance; MARRCO disturbance	Filter Plant disturbance; MARRCO disturbance	Filter Plant disturbance; MARRCO disturbance
Canyon passes between Superior and Globe (LMA)	Inconceivables mitigation area	Inconceivables mitigation area	500-foot pipeline ROW; Inconceivables mitigation area	Access roads; North Skunk Camp 500-foot pipeline ROW; Skunk Camp transmission line; Skunk Camp fence line; Tailings Facility; South Skunk Camp 500-foot pipeline ROW; Inconceivables mitigation area
Tortilla Mountains – Ripsey Wash – Donnelly Wash (LMA)	N/A	N/A	500-foot pipeline ROW; Fence line; Tailings Facility; Peg Leg fence line	N/A
Tortolita Mountains – Tortilla Mountains (LMA)	N/A	N/A	Fence line; Tailings Facility; Peg Leg fence line; West Peg Leg 500-foot pipeline ROW	N/A

Connectivity Element (Type)	Alternatives 2 and 3 Components	Alternative 4 Components	Alternative 5 Components	Alternative 6 Components
El Capitan – Aravaipa Canyon (LMA)	N/A	N/A	N/A	Access roads; North Skunk Camp 500-foot pipeline ROW; Skunk Camp transmission line; Skunk Camp fence line; Tailings Facility; South Skunk Camp 500-foot pipeline ROW
Riparian Movement Areas (RMA)				
Queen Creek – Gila River Indian Community (RMA)	East Plant Site/subsidence zones; MARRCO disturbance; Near West Fence line; Silver King realignment; Tailings Facility; West Plant Site; Castleberry Campground; Inconceivables mitigation area; trail mitigation area	East Plant Site/subsidence zones; MARRCO disturbance; Silver King Road realignment with Filter Plant; Tailings Facility; West Plant Site; Castleberry Campground; Inconceivables mitigation area; trail mitigation area	500-foot pipeline ROW, East Plant Site/subsidence zones, MARRCO disturbance; Silver King Realignment; West Plant Site; West Peg Leg 500-foot pipeline ROW; Castleberry Campground; Inconceivables mitigation area; trail mitigation area	Access Roads; East Plant Site/subsidence zones; MARRCO Disturbance; North Skunk Camp 500 foot Pipeline ROW; Silver King Realignment; West Plant Site; South Skunk Camp 500 foot Pipeline ROW; Castleberry Campground; Inconceivables mitigation area; trail mitigation area
Gila River (RMA)	Olberg/MAR-5 compensatory mitigation area	Olberg/MAR-5 compensatory mitigation area	500-foot pipeline ROW; Pipeline access road; West Peg Leg 500-foot pipeline ROW; Olberg/MAR-5 compensatory mitigation area	Olberg/MAR-5 compensatory mitigation area
Gila River – San Pedro River (RMA)	H&E compensatory mitigation parcel	H&E compensatory mitigation parcel	H&E compensatory mitigation parcel	H&E compensatory mitigation parcel

Special-Status Species

Table 2. Special-Status Species Potentially Occurring within the Proposed Action Mining Component and Its Associated 5-Mile Analysis Area

Common Name (Scientific Name)	Status*	Habitat Components	Alternatives 2 and 3	Alternative 4	Alternative 5	Alternative 6
Amphibians						
Lowland leopard frog (*Lithobates yavapaiensis*)	TNF: S, SCC AGFD: SGCN 1A	Aquatic systems in elevations ranging from 480–6,200 feet above mean sea level (amsl); species uses a variety of habitats, both natural and human made.	Known to occur (WestLand Resources Inc. [WestLand] 2009a, 2018a)	Known to occur (WestLand 2009a, 2018a)	Known to occur (WestLand 2009a, 2018a)	Known to occur (WestLand 2009, 2018a)
Birds						
Northern goshawk (*Accipiter gentilis*)	TNF: S, MBSC AGFD: SGCN 1B MBTA: Yes	Species is found in wide variety of forest associations, including deciduous, coniferous, and mixed forests; prefers mature forests for breeding in elevations ranging from 4,750–9,120 feet amsl.	Known to occur (WestLand 2012a, 2015)	Known to occur (WestLand 2012a, 2015)	Known to occur (WestLand 2012a, 2015)	Known to occur (WestLand 2012a, 2015)
Golden eagle (*Aquila chrysaetos*)	TNF: MBSC AGFD: SGCN 1B MBTA: Yes BGEPA: Yes	Species prefers mountainous areas; nesting occurs at elevations 4,000–10,000 feet amsl.	Known to occur (WestLand 2012a, 2012b, 2015)	Known to occur (WestLand 2012a, 2012b, 2015)	Known to occur (WestLand 2012a, 2012b, 2015)	Known to occur (WestLand 2012a, 2012b, 2015)
Western burrowing owl (*Athene cunicularia hypugaea*)	BLM: S AGFD: SGCN 1B MBTA: Yes	Distribution is common across the western United States, south-central Canada, and Mexico. The species is found in open, dry grasslands, deserts, and agricultural lands at an elevation range 650–6,140 feet amsl (Klute et al. 2003).	May occur	May occur	May occur	May occur

Common Name (Scientific Name)	Status*	Habitat Components	Alternatives 2 and 3	Alternative 4	Alternative 5	Alternative 6
Juniper titmouse (*Baeolophus ridgwayi*)	TNF: MBSC AGFD: SGCN 1C MBTA: Yes	Species is a year-round resident across the northern regions of Arizona and New Mexico, into southwestern Colorado, Utah, Nevada, and parts of California and Oregon. The species prefers middle elevation areas where oaks (*Quercus* spp.), junipers (*Juniperus* spp.), and pinyon pine (*Pinus* spp.) are present.	Known to occur (WestLand 2010, 2012a)	Known to occur (WestLand 2010, 2012a)	Known to occur (WestLand 2010, 2012a)	Known to occur (WestLand 2010, 2012a)
Ferruginous hawk (*Buteo regalis*)	BLM: S AGFD: SGCN 1B MBTA: Yes	Species is found in open grasslands, scrublands, and woodlands in winter; ranges in elevation from 3,500–6,000 feet amsl.	Unlikely to occur	Unlikely to occur	May occur	May occur
Swainson's hawk (*Buteo swainsoni*)	TNF: MBSC AGFD: SGCN 1C MBTA: Yes	Largely found across the western United States, western Canada, and Mexico; the species does breed in Arizona. Species prefers grasslands, semidesert grasslands, and open desertscrub for nesting; elevational range of 1,890–5,650 feet amsl.	Known to occur (WestLand 2012a, 2012b)	Known to occur (WestLand 2012a, 2012b)	Known to occur (WestLand 2012a, 2012b)	Known to occur (WestLand 2012a, 2012b)
Common black hawk (*Buteogallus anthracinus*)	TNF: MBSC AGFD: SGCN 1C MBTA: Yes	Species present only during breeding season; riparian obligate found along streams 1,750–7,080 feet amsl.	Known to occur (WestLand 2010, 2012a, 2012b, 2017a)	Known to occur (WestLand 2010, 2012a, 2012b, 2017a)	Known to occur (WestLand 2010, 2012a, 2012b, 2017a)	Known to occur (WestLand 2010, 2012a, 2012b, 2017a)
Costa's hummingbird (*Calypte costae*)	TNF: MBSC AGFD: SGCN 1C MBTA: Yes	Habitat for this species includes desert, semidesert, and brushy foothills.	Known to occur (WestLand 2012a, 2015, 2018b)	Known to occur (WestLand 2012a, 2015, 2018b)	Known to occur (WestLand 2012a, 2015, 2018b)	Known to occur (WestLand 2012a, 2015, 2018b)

Common Name (Scientific Name)	Status*	Habitat Components	Alternatives 2 and 3	Alternative 4	Alternative 5	Alternative 6
Northern beardless-tyrannulet (*Camptostoma imberbe*)	TNF: MBSC AGFD: N/A MBTA: Yes	Habitat includes arid scrub, mesquite (*Prosopis* spp.), and open riparian woodland, often near streams.	Known to occur, vicinity of Boyce Thompson Arboretum (WestLand 2015)	Known to occur, vicinity of Boyce Thompson Arboretum (WestLand 2015)	Known to occur, vicinity of Boyce Thompson Arboretum (WestLand 2015)	Known to occur, vicinity of Boyce Thompson Arboretum (WestLand 2015)
Red-faced warbler (*Cardellina rubrifrons*)	TNF: SCC‡ AGFD: SGCN 1C MBTA: Yes	Summer resident only; occurs in montane fir (*Abies* spp.), pine (*Pinus* spp.), and pine-oak (*Pinus* spp.-*Quercus* spp.) woodlands.	Unlikely to occur	Unlikely to occur	Unlikely to occur	May occur
Western yellow-billed cuckoo (distinct population segment) (*Coccyzus americanus*)	ESA: T (all Arizona counties) with designated critical habitat TNF: MBSC AGFD: SGCN 1A MBTA: Yes	Typically found in riparian woodland vegetation (cottonwood [*Populus* spp.], willow [*Salix* spp.], or saltcedar [*Tamarix* spp.]) at elevations below 6,600 feet amsl. Dense understory foliage appears to be an important factor in nest site selection. The highest concentrations in Arizona are along the Agua Fria, San Pedro, upper Santa Cruz, and Verde River drainages and Cienega and Sonoita Creeks. This species is found in every Arizona county.	Known to occur (WestLand 2012a, 2015, 2017a, 2020)	Known to occur (WestLand 2012a, 2015, 2017a, 2020)	Known to occur (WestLand 2012a, 2015, 2017a, 2020) Designated critical habitat at proposed pipeline crossings of the Gila River. Potential impacts on habitat and designated critical habitat would occur on up to 17.9 acres of the 2,232.1 acres of proposed critical habitat within the analysis area.	Known to occur (WestLand 2012a, 2015, 2017a, 2020) No ground disturbance within designated critical habitat because proposed pipeline would be constructed using a trenchless crossing underneath Mineral Creek.

Common Name (Scientific Name)	Status*	Habitat Components	Alternatives 2 and 3	Alternative 4	Alternative 5	Alternative 6
Gilded flicker (*Colaptes chrysoides*)	TNF: SCC, MBSC AGFD: SGCN 1B MBTA: Yes BLM: S	Habitat includes stands of large saguaros (*Carnegiea gigantea*), Joshua trees (*Yucca* spp.), and low-elevation riparian groves.	Known to occur (WestLand 2012a, 2015, 2017a)	Known to occur (WestLand 2012a, 2015, 2017a)	Known to occur (WestLand 2012a, 2015, 2017a)	Known to occur (WestLand 2012a, 2015, 2017a)
Olive-sided flycatcher (*Contopus cooperi*)	TNF: SCC‡, MBSC AGFD: SGCN 1C MBTA: Yes	Species is present only in summer; breeding habitat includes mixed-conifer forests near open areas with lots of snags. During migration, species can be found in almost any habitat.	Known to occur (WestLand 2015)	Known to occur, vicinity of Boyce Thompson Arboretum (WestLand 2015)	Known to occur, vicinity of Boyce Thompson Arboretum (WestLand 2015)	Known to occur, vicinity of Boyce Thompson Arboretum (WestLand 2015)
Broad-billed hummingbird (*Cynanthus latirostris*)	TNF: SCC‡ AGFD: SGCN 1B MBTA: Yes BLM: S	Preferred habitat is rocky canyons in desert-like mountain habitats; can be found in foothills, canyons, arroyos, and deserts and along streams.	Known to occur (WestLand 2012a, 2017a)	Known to occur (WestLand 2012a, 2017a)	Known to occur (WestLand 2012a, 2017a)	Known to occur (WestLand 2012a, 2017a)
Cordilleran flycatcher (*Empidonax occidentalis*)	TNF: MBSC AGFD: SGCN 1C MBTA: Yes	Species breeds in high-elevation riparian forests in mixed-conifer woodlands. Travels through low-elevation habitats during migration.	May occur	May occur	May occur	May occur

Common Name (Scientific Name)	Status*	Habitat Components	Alternatives 2 and 3	Alternative 4	Alternative 5	Alternative 6
Southwestern willow flycatcher (*Empidonax traillii extimus*)	ESA: E (all Arizona counties except Navajo) with designated critical habitat AGFD: SGCN 1A MBTA: Yes BLM: S	Found in dense riparian habitats along streams, rivers, and other wetlands where cottonwood, willow, boxelder (*Acer negundo*), saltcedar, Russian olive (*Elaeagnus angustifolia*), buttonbush (*Cephalanthus* spp.), and arrowweed (*Pluchea sericea*) are present. Nests are found in thickets of trees and shrubs, primarily those that are 13–23 feet tall, among dense, homogeneous foliage. Habitat occurs at elevations below 8,500 feet amsl.	Known to occur (WestLand 2017b)	Known to occur (WestLand 2017b)	Known to occur (WestLand 2017b) Designated critical habitat occurs where the proposed pipeline routes would cross the Gila River. Potential impacts on habitat and designated critical habitat would occur on up to 12.8 acres of the 2,234.0 acres of designated critical habitat within the analysis area.	Known to occur (WestLand 2017b)
Gray flycatcher (*Empidonax wrightii*)	TNF: MBSC AGFD: SGCN 1C MBTA: Yes	Species breeds in arid woodlands and brushy areas, particularly in pinyon-juniper woodlands. During nonbreeding, species can be found in arid scrub, riparian woodland, and mesquite.	Known to occur (WestLand 2009b, 2010, 2012a, 2013a, 2015)	Known to occur (WestLand 2009b, 2010, 2012a, 2013a, 2015)	Known to occur (WestLand 2009b, 2010, 2012a, 2013a, 2015)	Known to occur (WestLand 2009b, 2010, 2012a, 2013a, 2015)
Prairie falcon (*Falco mexicanus*)	TNF: MBSC AGFD: SGCN 1C MBTA: Yes	Preferred habitat includes open areas in mountainous, steppe, plains, or prairie regions.	Known to occur, vicinity of Boyce Thompson Arboretum (WestLand 2015)	Known to occur, vicinity of Boyce Thompson Arboretum (WestLand 2015)	Known to occur, vicinity of Boyce Thompson Arboretum (WestLand 2015)	Known to occur, vicinity of Boyce Thompson Arboretum (WestLand 2015)

Common Name (Scientific Name)	Status*	Habitat Components	Alternatives 2 and 3	Alternative 4	Alternative 5	Alternative 6
American peregrine falcon (*Falco peregrinus anatum*)	TNF: S†, MBSC AGFD: SGCN 1A MBTA: Yes	Species is found near cliffs overlooking habitats that support large numbers of birds; range in elevation from 400–9,000 feet amsl.	Known to occur (WestLand 2004, 2009b, 2012a, 2012b, 2015, 2017a)	Known to occur (WestLand 2004, 2009b, 2012a, 2012b, 2015, 2017a)	Known to occur (WestLand 2004, 2009b, 2012a, 2012b, 2015, 2017a)	Known to occur (WestLand 2004, 2009b, 2012a, 2012b, 2015, 2017a)
MacGillivray's warbler (*Geothlypis tolmiei*)	TNF: SCC‡, MBSC AGFD: SGCN 1B MBTA: Yes	Species is primarily a migratory species in Arizona; however, during breeding season, the species is known to take residence over the higher forested elevations of northern Arizona, especially along the Mogollon Rim. Preferred habitat during breeding season includes mixed-conifer forests with riparian areas that have low shrubs; during migration, species can be found in a variety of habitats.	Known to occur (WestLand 2010, 2012a, 2015)	Known to occur (WestLand 2010, 2012a, 2015)	Known to occur (WestLand 2010, 2012a, 2015)	Known to occur (WestLand 2010, 2012a, 2015)
Pinyon jay (*Gymnorhinus cyanocephalus*)	TNF: MBSC AGFD: SGCN 1B MBTA: Yes	Habitat consists of pinyon-juniper woodland, sometimes found in pine forests and in scrub oak (*Quercus* spp.) or sagebrush (*Artemisia* spp.) areas.	Known to occur, vicinity of Boyce Thompson Arboretum (WestLand 2015)	Known to occur, vicinity of Boyce Thompson Arboretum (WestLand 2015)	Known to occur, vicinity of Boyce Thompson Arboretum (WestLand 2015)	Known to occur, vicinity of Boyce Thompson Arboretum (WestLand 2015)
Bald eagle (*Haliaeetus leucocephalus*)	TNF: MBSC AGFD: SGCN 1A MBTA: Yes BGEPA: Yes	Habitat components include large bodies of water with lots of coastline and tall perches above water to allow for hunting.	May occur	Unlikely to occur	May occur	Unlikely to occur
Yellow-eyed junco (*Setophaga petechia*)	TNF S, SCC AGFD: SGCN 1B MBTA: Yes	Habitat consists of open coniferous forest and pine-oak associations.	Unlikely to occur	May occur	Unlikely to occur	May occur

Common Name (Scientific Name)	Status*	Habitat Components	Alternatives 2 and 3	Alternative 4	Alternative 5	Alternative 6
Lewis's woodpecker (*Melanerpes lewis*)	TNF: SCC ‡ MBSC AGFD: SGCN 1C MBTA: Yes	Distribution of the species is across the Four Corner states, the northern Rocky Mountains, and over the interior mountainous regions of Oregon and California. The species is common year-round across the higher forested elevations of northern Arizona, with some expansion of range into the southern Arizona deserts during the winter. Breeding habitats include open forests and woodlands that include oaks, ponderosa pine (*Pinus ponderosa*), riparian woodlands, and orchards.	Known to occur	Known to occur	Known to occur	Known to occur
Gila woodpecker (*Melanerpes uropygialis*)	TNF: MBSC AGFD: SGCN 1B MBTA: Yes	Habitat includes arid lowland scrub, arid montane scrub, gallery forest, and deserts with large cacti or trees.	Known to occur (WestLand 2008, 2009b, 2012a, 2013a, 2015, 2017a, 2018b)	Known to occur (WestLand 2008, 2009b, 2012a, 2013a, 2015, 2017a, 2018b)	Known to occur (WestLand 2008, 2009b, 2012a, 2013a, 2015, 2017a, 2018b)	Known to occur (WestLand 2008, 2009b, 2012a, 2013a, 2015, 2017a, 2018b)
Canyon towhee (*Melozone fusca*)	TNF: MBSC MBTA: Yes	Habitat includes dense brush, riparian thickets, and arid scrub near rocky areas.	Known to occur (WestLand 2008, 2009b, 2010, 2012a, 2013a, 2015, 2018b)	Known to occur (WestLand 2008, 2009b, 2010, 2012a, 2013a, 2015, 2018b)	Known to occur (WestLand 2008, 2009b, 2010, 2012a, 2013a, 2015, 2018b)	Known to occur (WestLand 2008, 2009b, 2010, 2012a, 2013a, 2015, 2018b)
Elf owl (*Micrathene whitneyi*)	TNF: SCC‡, MBSC AGFD: SGCN 1C MBTA: Yes	Species is present during breeding season only, found in desert-woodland washes, riparian forests, upland deserts, evergreen woodlands, and canyon riparian forests.	Known to occur (WestLand 2012a, 2012b, 2015)	Known to occur (WestLand 2012a, 2012b, 2015)	Known to occur (WestLand 2012a, 2012b, 2015)	Known to occur (WestLand 2012a, 2012b, 2015)

Common Name (Scientific Name)	Status*	Habitat Components	Alternatives 2 and 3	Alternative 4	Alternative 5	Alternative 6
Lucy's warbler (*Oreothlypis luciae*)	TNF: MBSC AGFD: SGCN 1C MBTA: Yes	Species is an Arizona resident only during the breeding season. The species' preferred breeding habitat includes deserts, mesquites along streams, and riparian woodlands.	Known to occur (WestLand 2009b, 2010, 2012a, 2013a, 2015, 2017a)	Known to occur (WestLand 2017a)	Known to occur (WestLand 2017a)	Known to occur (WestLand 2017a)
Phainopepla (*Phainopepla nitens*)	TNF: MBSC AGFD: SGCN 1C MBTA: Yes	Habitat includes desertscrub, oak and juniper woodlands, tall brush, and riparian woodlands.	Known to occur (WestLand 2008, 2009b, 2010, 2015, 2017a)	Known to occur (WestLand 2008, 2009b, 2010, 2015, 2017a)	Known to occur (WestLand 2008, 2009b, 2010, 2015, 2017a)	Known to occur (WestLand 2008, 2009b, 2010, 2015, 2017a)
Desert purple martin (*Progne subis hesperia*)	TNF: SCC, ‡ MBSC AGFD: SGCN 1B MBTA: Yes	Habitat consists of Sonoran Desert with many large saguaros proximal to water. Only present during breeding season.	Known to occur (WestLand 2009b, 2012a, 2013a, 2015)	Known to occur (WestLand 2009b, 2012a, 2013a, 2015)	Known to occur (WestLand 2009b, 2012a, 2013a, 2015)	Known to occur (WestLand 2009b, 2012a, 2013a, 2015)
Flammulated owl (*Psiloscops flammeolus*)	TNF: MBSC AGFD: SGCN 1C MBTA: Yes	Species prefers mixed-conifer, pine, and pine-oak associations at elevations of 5,000–8,000 feet amsl; species is tied to yellow pine a.k.a. Ponderosa pine (*Pinus ponderosa*) and mixed-conifer forests.	Unlikely to occur	Unlikely to occur	Unlikely to occur	May occur
Golden-crowned kinglet (*Regulus satrapa*)	TNF: MBSC AGFD: SGCN 1C MBTA: Yes	Species is found in coniferous forests and woodlands and is occasionally found in scrub and brush in winter.	Known to occur, vicinity of Boyce Thompson Arboretum (WestLand 2015)	Known to occur, vicinity of Boyce Thompson Arboretum (WestLand 2015)	Known to occur, vicinity of Boyce Thompson Arboretum (WestLand 2015)	Known to occur, vicinity of Boyce Thompson Arboretum (WestLand 2015)

Common Name (Scientific Name)	Status*	Habitat Components	Alternatives 2 and 3	Alternative 4	Alternative 5	Alternative 6
Black-throated gray warbler (*Setophaga nigrescens*)	TNF: MBSC AGFD: SGCN 1C MBTA: Yes	Preferred breeding habitat includes a variety of semiarid woodlands, especially conifers, live oaks (*Quercus* spp.), and mixed pinyon-juniper woodlands; species migrates through lower elevations.	Known to occur, vicinity of Boyce Thompson Arboretum (WestLand 2015)	Known to occur, vicinity of Boyce Thompson Arboretum (WestLand 2015)	Known to occur, vicinity of Boyce Thompson Arboretum (WestLand 2015)	Known to occur, vicinity of Boyce Thompson Arboretum (WestLand 2015)
Yellow warbler (*Setophaga petechia*)	TNF: MBSC AGFD: SGCN 1B MBTA: Yes	Species is prevalent across much of North America but is found in Arizona only during the breeding season. Breeding habitat includes open scrub, second-growth woodland, and riparian woodlands.	Known to occur (WestLand 2009b, 2012a, 2015, 2017a)	Known to occur (WestLand 2009b, 2012a, 2015, 2017a)	Known to occur (WestLand 2009b, 2012a, 2015, 2017a)	Known to occur (WestLand 2009b, 2012a, 2015, 2017a)
Red-naped sapsucker (*Sphyrapicus nuchalis*)	TNF: MBSC AGFD: SGCN 1C MBTA: Yes	Breeding habitat is coniferous forest that includes quaking aspen (*Populus tremuloides*) and other hardwoods; migration and winter habitat includes open woodlands and parks.	Known to occur (WestLand 2008, 2012a, 2015)	Known to occur (WestLand 2008, 2012a, 2015)	Known to occur (WestLand 2008, 2012a, 2015)	Known to occur (WestLand 2008, 2012a, 2015)
Black-chinned sparrow (*Spizella atrogularis*)	TNF: MBSC AGFD: SGCN 1C MBTA: Yes	Habitat includes chaparral, sagebrush, and arid scrub on hillsides with steep rocky slopes or in brushy canyons.	Known to occur (WestLand 2008, 2009b, 2010, 2012a, 2015)	Known to occur (WestLand 2008, 2009b, 2010, 2012a, 2015)	Known to occur (WestLand 2008, 2009b, 2010, 2012a, 2015)	Known to occur (WestLand 2008, 2009b, 2010, 2012a, 2015)

Common Name (Scientific Name)	Status*	Habitat Components	Alternatives 2 and 3	Alternative 4	Alternative 5	Alternative 6
Mexican spotted owl (*Strix occidentalis lucida*)	ESA: T (all Arizona counties except La Paz and Yuma) with designated critical habitat TNF: MBSC AGFD: SGCN 1A MBTA: Yes	Species is found in mature montane forests and woodlands and steep, shady, wooded canyons. Species can also be found in mixed-conifer and pine-oak vegetation types; generally nests in older forests of mixed conifers or ponderosa pine-Gambel oak (*Quercus gambelii*). Nests in live trees on natural platforms (e.g., dwarf mistletoe [*Arceuthobium* spp.] brooms), snags, and canyon walls at elevations between 4,100 and 9,000 feet amsl.	Unlikely to occur	Unlikely to occur	Unlikely to occur	Known to occur
Bendire's thrasher (*Toxostoma bendirei*)	TNF: MBSC AGFD: SGCN 1C MBTA: Yes	Habitat consists of a variety of desert habitats with large shrubs or cacti and open ground.	May occur	May occur	May occur	May occur
Arizona Bell's vireo (*Vireo bellii arizonae*)	TNF: MBSC AGFD: SGCN 1B MBTA: Yes	Species prefers lowland riparian areas consisting of willows, mesquite, and seepwillow (*Baccharis* spp.) with dense vegetation below 3,500 feet amsl in elevation.	Known to occur (WestLand 2009b, 2012a, 2013a, 2015, 2017a, 2018b)	Known to occur (WestLand 2009b, 2012a, 2013a, 2015, 2017a, 2018b)	Known to occur (WestLand 2009b, 2012a, 2013a, 2015, 2017a, 2018b)	Known to occur (WestLand 2009b, 2012a, 2013a, 2015, 2017a, 2018b)
Gray vireo (*Vireo vicinior*)	TNF: MBSC AGFD: SGCN 1C MBTA: Yes	A migratory species that winters in northern Sonora, Mexico, and breeds across much of the American Southwest. Habitat consists of brushy mountain slopes, open chaparral, scrub oak, and junipers at an elevational range 3,000–6,500 feet amsl.	Known to occur (WestLand 2009, 2012a, 2013a, 2015, 2018b)	Known to occur (WestLand 2009, 2012a, 2013a, 2015, 2018b)	Known to occur (WestLand 2009, 2012a, 2013a, 2015, 2018b)	Known to occur (WestLand 2009, 2012a, 2013a, 2015, 2018b)

Common Name (Scientific Name)	Status*	Habitat Components	Alternatives 2 and 3	Alternative 4	Alternative 5	Alternative 6
Fish						
Gila longfin dace (*Agosia chrysogaster chrysogaster*)	TNF: SCC‡ AGFD: SGCN 1B	Habitat varies from intermittent hot low-desert streams to clear, cool streams at higher elevations; prefers medium-sized to small streams with sandy/gravely bottoms and pools with some cover. Species is normally found below 4,900 feet amsl.	Known to occur (WestLand 2009a, 2018a)	Known to occur (WestLand 2009a, 2018a)	Known to occur (WestLand 2009a, 2018a)	Known to occur (WestLand 2009a, 2018a)
Desert sucker (*Catostomus clarki*)	TNF: S† BLM: S AGFD: SGCN 1B	Species is found in flowing pools of streams and rivers with a gravel substrate; elevational range of 480–8,840 feet amsl.	Unlikely to occur	Unlikely to occur	Known to occur	Known to occur
Sonora sucker (*Catostomus insignis*)	TNF: S† BLM: S AGFD: SGCN 1B	Species is found in a variety of habitats, from warm rivers to cool streams; prefers gravelly or rocky pools in elevations ranging from 1,210–8,730 feet amsl.	Unlikely to occur	Unlikely to occur	Known to occur	Known to occur

Common Name (Scientific Name)	Status*	Habitat Components	Alternatives 2 and 3	Alternative 4	Alternative 5	Alternative 6
Desert pupfish (*Cyprinodon macularius*)	ESA: E (Cochise, Gila, Graham, Maricopa, Pima, Santa Cruz, and Yavapai Counties) with designated critical habitat AGFD: SGCN 1A	Species is restricted to three natural populations in California and the non-natural irrigation drains around the Salton Sea. Also found in restricted locations in Sonora and Baja California, Mexico. One natural population still occurs in Quitobaquito Spring and pond in Pima County, and reintroductions have been made in Pima, Pinal, Maricopa, Graham, Cochise, La Paz, and Yavapai Counties. Species is found in the shallow water of desert springs, small streams, and marshes at elevations below 5,000 feet amsl. The species tolerates high salinities and high water temperatures.	Known to occur	Known to occur	Known to occur	Known to occur
Gila chub (*Gila intermedia*)	ESA: E (Cochise, Coconino, Gila, Graham, Greenlee, Pima, Pinal, Santa Cruz, and Yavapai Counties) with designated critical habitat BLM: S AGFD: SGCN 1A	Species is found in pools, springs, ciénegas, and streams at elevations between 2,000 and 5,500 feet amsl. The species is dependent on undercut banks, terrestrial vegetation, boulders, root wads, fallen logs, and thick overhanging or aquatic vegetation for cover.	Unlikely to occur	Unlikely to occur	Known to occur	Known to occur; the pipeline will avoid disturbance within the ordinary high water mark or within designated critical habitat by using a trenchless crossing under Mineral Creek.

Common Name (Scientific Name)	Status*	Habitat Components	Alternatives 2 and 3	Alternative 4	Alternative 5	Alternative 6
Spikedace (*Meda fulgida*)	ESA: E (Apache, Cochise, Coconino, Gila, Graham, Greenlee, Maricopa, Pinal, and Yavapai Counties) with designated critical habitat BLM: S AGFD: SGCN 1A	Habitat consists of mid-water habitats, including runs, pools, and swirling eddies, below 4,500 feet amsl.	Unlikely to occur	Unlikely to occur	Known to occur	Unlikely to occur
Gila topminnow (including Yaqui) (*Poeciliopsis occidentalis*)	ESA: E (Cochise, Gila, Graham, Maricopa, Pima, Pinal, Santa Cruz, and Yavapai Counties) AGFD: SGCN 1A	Species occurs in small streams, springs, and ciénegas at elevations below 4,500 feet amsl, primarily in shallow areas with aquatic vegetation and debris for cover. In Arizona, most of the remaining native populations are in the Santa Cruz River system. There is a refugium population in Ayer Lake at Boyce Thompson Arboretum.	Known to occur	Known to occur	Known to occur	Known to occur

Common Name (Scientific Name)	Status*	Habitat Components	Alternatives 2 and 3	Alternative 4	Alternative 5	Alternative 6
Invertebrates						
Monarch butterfly (*Danaus plexippus*)	ESA: PT TNF: SCC	Species is a migratory species found in a variety of habitats; monarch butterflies require milkweed (family Asclepiadaceae) for breeding. During fall migration in Arizona, monarch butterflies seek nectar from a variety of native plants and garden plants. Populations in Arizona can migrate to California or Mexico for winter or may overwinter in the low deserts in California. In the Southwest, migrating monarch butterflies often occur near water sources (e.g., rivers, creeks, riparian corridors, roadside ditches, irrigated gardens). In the low deserts of Arizona, monarch butterflies breed in late August to early September; however, monarch butterfly reproduction in Arizona is more common in higher elevations and is less common in the Sonoran desertscrub (Morris et al. 2015).	May occur	May occur	May occur	May occur
Mammals						
Pale Townsend's big-eared bat (*Corynorhinus townsendii pallescens*)	TNF: S, SCC AGFD: SGCN 1B	This bat occurs in most of Arizona, except for the low-elevation deserts of the southwestern portion of the state. In summer, the species is found in caves and mines at elevations ranging from 550–7,520 feet amsl; in winter, the species is found in cold caves, lava tubes, and mines at higher elevations than in summer.	Known to occur (WestLand 2012c, 2018c)	Known to occur (WestLand 2012c, 2018c)	Known to occur (WestLand 2012c, 2018c)	Known to occur (WestLand 2012c, 2018c)

Common Name (Scientific Name)	Status*	Habitat Components	Alternatives 2 and 3	Alternative 4	Alternative 5	Alternative 6
Spotted bat (*Euderma maculatum*)	BLM: S TNF: S[†]AGFD: SGCN 1B	Habitat can vary widely from dry deserts to coniferous forest; species prefers to roost in crevices and cracks in cliff faces; elevational range of 110–8,670 feet amsl.	Unlikely to occur	May occur	May occur	May occur
Greater western mastiff bat (*Eumops perotis californicus*)	BLM: S AGFD: SGCN 1B	Species prefers lower and upper Sonoran desertscrub near cliffs with lots of crevices; elevational range of 240–8,475 feet amsl.	Known to occur (WestLand 2012c, 2018c)	Known to occur (WestLand 2012c, 2018c)	Known to occur (WestLand 2012c, 2018c)	Known to occur (WestLand 2012c, 2018c)
Allen's lappet-browed or big-eared bat (*Idionycteris phyllotis*)	TNF: S, SCC AGFD: SGCN 1B	Found in ponderosa pine, pinyon-juniper, Mexican woodland and in riparian areas with cottonwoods, sycamores (*Platanus* spp.), and willows; also have records of occurrence in desertscrub and white fir (*Abies concolor*) habitats; elevational range of 1,320–9,800 feet amsl.	May occur	Unlikely to occur	Unlikely to occur	May occur
Western red bat (*Lasiurus blossevillii*)	TNF: S, SCC AGFD: SGCN 1B	Distribution in Arizona is from the southeast corner of the state northwest along the Mogollon Rim to near Flagstaff, with outlier records of occurrence in the Grand Canyon and at the Bill Williams River near its confluence with the Colorado River. Habitat consists of riparian and wooded areas. Species typically roosts in cottonwood trees; elevational range of 1,900–7,200 feet amsl.	Known to occur (WestLand 2012c)	Known to occur (WestLand 2012c)	Known to occur (WestLand 2012c)	Known to occur (WestLand 2012c)

Common Name (Scientific Name)	Status*	Habitat Components	Alternatives 2 and 3	Alternative 4	Alternative 5	Alternative 6
Western yellow bat (*Lasiurus xanthinus*)	AGFD: SGCN 1B (added in accordance with request from AGFD)	Species may be associated with palm trees (Arecaceae), sycamores, hackberries (*Celtis* spp.), and cottonwoods. Habitat consists of riparian and wooded areas; typically roosts in cottonwood trees; elevational range of 1,900–7,200 feet amsl.	May occur	May occur	May occur	May occur
Lesser long-nosed bat (*Leptonycteris curasoae yerbabuenae*)	BLM: S AGFD: SGCN 1A	Habitat consists of desert grasslands and shrublands in elevations ranging from 1,190–7,320 feet amsl; present only in summer.	Unlikely to occur	Unlikely to occur	May occur	Unlikely to occur
California leaf-nosed bat (*Macrotus californicus*)	BLM: S TNF: SCC‡ AGFD: SGCN 1B	Species prefers Sonoran Desert desertscrub and roosts in mines, caves, and rock shelters that have large areas of ceiling and flying space; elevational range of 160–3,980 feet amsl.	Known to occur (WestLand 2012c, 2018c)	Known to occur (WestLand 2012c, 2018c)	Known to occur (WestLand 2012c, 2018c)	Known to occur (WestLand 2012c, 2018c)
Fringed myotis (*Myotis thysanodes*)	TNF: SCC	Species ranges from desert to grasslands to woodland and is most frequently captured in oak-pinyon woodlands and other open, coniferous, middle-elevation forests; roosts in caves, mine tunnels, large snags, and buildings, and under exfoliating bark; may hibernate in lower-elevation caves and mines; elevational range of 4,000 to 8,437 feet amsl.	Known to occur	Known to occur	Known to occur	Known to occur

Common Name (Scientific Name)	Status*	Habitat Components	Alternatives 2 and 3	Alternative 4	Alternative 5	Alternative 6
Cave myotis (*Myotis velifer*)	BLM: S AGFD: SGCN 1B	Found in Arizona, south-central United States, and throughout the interior mountainous regions of Mexico. Habitat consists of creosote bush (*Larrea tridentata*), brittlebush (*Encelia* spp.), paloverde (*Parkinsonia* spp.), and cacti; roosts in caves, tunnels, and mineshafts; under bridges; and sometimes in buildings. Elevational range of 300–5,000 feet amsl.	Known to occur (WestLand 2012c, 2018c)	Known to occur (WestLand 2012c, 2018c)	Known to occur (WestLand 2012c, 2018c)	Known to occur (WestLand 2012c, 2018c)
Brazilian free-tailed bat (*Tadarida brasiliensis*)	AGFD: SGCN 1B (added in accordance with request from AGFD)	Species is distributed across much of the southern United States, with the largest concentrations residing in the western United States. Preferred habitat is the Upper and Lower Sonoran life zones; commonly roosts in caves, abandoned mines, buildings, and hollow trees and under bridges. Elevational range of 450–8,475 feet amsl.	Known to occur (WestLand 2012c, 2018c)	Known to occur (WestLand 2012c, 2018c)	Known to occur (WestLand 2012c, 2018c)	Known to occur (WestLand 2012c, 2018c)
Reptiles						
Sonoran Desert tortoise (*Gopherus morafkai*)	Candidate Conservation Agreement; TNF: SCC AGFD: SGCN 1A BLM: S	The range of the species in Arizona is most of the southwest corner of the state, below the Mogollon Rim, and north to Lake Mead. Habitat includes desertscrub to semidesert grassland and interior chaparral; elevational range of 510–5,300 feet amsl.	Known to occur (WestLand 2013b, 2014)	Known to occur (WestLand 2013b, 2014)	Known to occur (WestLand 2013b, 2014, 2018d)	Known to occur (WestLand 2013b, 2014)

Common Name (Scientific Name)	Status*	Habitat Components	Alternatives 2 and 3	Alternative 4	Alternative 5	Alternative 6
Desert ornate box turtle (*Terrapene ornata*)	BLM: S AGFD: SGCN 1A	This species' range is from southern Texas to southern New Mexico, and into parts of southern Arizona as well as in the states of Chihuahua and Sonora in Mexico. Species prefers grasslands but is also occasionally found in desertscrub; elevational range of 2,000–7,100 feet amsl.	Unlikely to occur	Unlikely to occur	Known to occur	May occur
Bezy's night lizard (*Xantusia bezyi*)	TNF: S, SCC AGFD: SGCN 1B	Species prefers rocky slopes in upland Sonoran desertscrub and chaparral vegetation types; elevational range of 2,400–5,800 feet amsl.	Known to occur	Known to occur	May occur	Known to occur

Sources: Unless otherwise noted, range or habitat information is from AGFD (2025); Forest Service (2017); Kaufman (1996); NatureServe (2025); TNF (2000); U.S. Fish and Wildlife Service (2016).

Unless otherwise noted, occurrence data are from AGFD, transmitted on August 13, 2018, or from eBird (2025).

Note: Table 2 addresses the potential for species to occur within 5 miles of a project feature; however, in the EIS, potential for occurrence was further refined to address only species potentially occurring within 1 mile of project features, as this was the area determined to be appropriate for analysis of potential impacts.

* Status definitions are as follows:

AGFD

SGCN 1A = Species of Greatest Conservation Need Tier 1A. Species for which the AGFD has entered into an agreement or has legal or other contractual obligations or species that warrant the protection of a closed season.

SGCN 1B = Species of Greatest Conservation Need Tier 1B. Vulnerable species.

SGCN 1C = Species of Greatest Conservation Need Tier 1C. Species for which insufficient information is available to fully assess the vulnerabilities and, therefore, need to be watched for signs of stress.

After publication of the FEIS in 2021, the AGFD updated its state wildlife action plan; however, SWCA Environmental Consultants made no related changes within the tables in this document. The AGFD statuses in this document are based on Arizona's State Wildlife Action Plan: 2012–2022 (AGFD 2012).

Not all species with an SGCN status are addressed as part of these analyses; however, SWCA added Brazilian free-tailed bat (Tadarida brasiliensis) and western yellow bat (Lasiurus xanthinus) to the analysis at the request of the AGFD, which is a cooperating agency.

BGEPA = Bald and Golden Eagle Protection Act

This federal statute protects two eagle species.

BLM = Bureau of Land Management

S = Sensitive. Species could easily become endangered or extinct in the state (BLM 2017).

ESA = Endangered Species Act

E = Endangered. Endangered species are those in imminent jeopardy of extinction. The ESA specifically prohibits the take of a species listed as endangered. Take is defined by the ESA as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to engage in any such conduct.

PT = Proposed Threatened. Any species the U.S. Fish and Wildlife Service has determined is likely to become endangered within the foreseeable future throughout all or a significant portion of its range and the agency has proposed a draft rule to list as threatened.

T = Threatened. Threatened species are those that are likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.

MBTA = Migratory Bird Treaty Act

This international treaty is intended to ensure the sustainability of populations of all protected migratory bird species.

TNF = Tonto National Forest

MBSC = Migratory bird species of concern.

S = Sensitive. Under the *Tonto National Forest Land and Resource Management Plan* (Forest Service 1985), sensitive species are those identified by a regional forester for which population viability is a concern, as evidenced by 1) significant current or predicted downward trends in population number or density or 2) significant current or predicted downward trends in habitat capability that would reduce the species' existing distribution.

SCC = Species of conservation concern. The *Tonto National Forest Land Management Plan* (Forest Service 2023) defines SCC as species that are native to and known to occur in the TNF and for which there are substantial concerns about the species' ability to persist within the TNF. These species are listed on the most recently published list of Species of Conservation Concern for the Tonto National Forest (Forest Service 2021).

There is substantial overlap between SCC and S. SWCA evaluated S and draft SCC for the FEIS, which was published in 2021. After publication of the FEIS, the publication of *Tonto National Forest Land Management Plan* (Forest Service 2023) resulted in the need for revision of the FEIS and this table. SWCA deleted no species or statuses from the table and added only species newly designated as SCC.

The TNF provided SWCA with a list of MBSC before the issuance of the *Tonto National Forest Land Management Plan* (Forest Service 2023). Even though MBSC is a designation not currently in use by the TNF, SWCA retained analysis of those species in this table.

† SWCA evaluated this species as an S during initial analysis and FEIS publication; however, the species was not included as an SCC in the *Tonto National Forest Land Management Plan* (Forest Service 2023).

‡ SWCA evaluated this species as a draft SCC during initial analysis and FEIS publication; however, the species was not included as an SCC in the *Tonto National Forest Land Management Plan* (Forest Service 2023).

Management Indicator Species

Table 3. Tonto National Forest Management Indicator Species Habitat Acreages and Trends in the Project Area

Vegetation Type/Species	Tonto National Forest Management Indicator Species Population Trend*	Key Habitat Components Trend†	Total Forest Acres	Acres in Action Alternative 2 (percent change)	Acres in Action Alternative 3 (percent change)	Acres in Action Alternative 4 (percent change)	Acres in Action Alternative 5 (percent change)	Acres in Action Alternative 6 (percent change)
Ponderosa Pine (*Pinus ponderosa*)/Mixed-Conifer			283,204	0	0	0	0	0
Elk (*Cervus canadensis*)	S	S	283,204	0	0	0	0	0
Wild turkey (*Meleagris gallopavo*)	S	S	283,204	0	0	0	0	0
Pygmy nuthatch (*Sitta pygmaea*)	D	S	283,204	0	0	0	0	0
Violet-green swallow (*Tachycineta thalassina*)	D	S	283,204	0	0	0	0	0
Western bluebird (*Sialia mexicana*)	S	S	283,204	0	0	0	0	0
Hairy woodpecker (*Dryobates villosus*)	S	S	283,204	0	0	0	0	0
Northern goshawk (*Accipiter gentilis*)	D	S	283,204	0	0	0	0	0
Abert's squirrel (*Sciurus aberti*)	D	S	283,204	0	0	0	0	0
Pinyon-Juniper (*Pinus* spp.-*Juniperus* spp.) (Woodland)			1,155,722	0	0	0	0	0
Ash-throated flycatcher (*Myiarchus cinerascens*)	S	S	1,155,722	0	0	0	0	0
Gray vireo (*Vireo vicinior*)	D	S	1,155,722	0	0	0	0	0

Vegetation Type/Species	Tonto National Forest Management Indicator Species Population Trend*	Key Habitat Components Trend†	Total Forest Acres	Acres in Action Alternative 2 (percent change)	Acres in Action Alternative 3 (percent change)	Acres in Action Alternative 4 (percent change)	Acres in Action Alternative 5 (percent change)	Acres in Action Alternative 6 (percent change)
Townsend's solitaire (*Myadestes townsendi*)	S	S	1,155,722	0	0	0	0	0
Juniper (plain) titmouse (*Baeolophus ridgwayi*)	D	S	1,155,722	0	0	0	0	0
Northern flicker (*Colaptes auratus*)	S	S	1,155,722	0	0	0	0	0
Spotted towhee (*Pipilo maculatus*)	S	S	1,155,722	0	0	0	0	0
Interior Chaparral			265,480	1,237.3	1,237.3	1,364.0	1,242.4	1,848.0
Spotted towhee (*Pipilo maculatus*)	S	S	265,480	1,237 (0.5)	1,237 (0.5)	1,364.0 (0.5)	1,242.4 (0.5)	1,848.0 (0.7)
Black-chinned sparrow (*Spizella atrogularis*)	S	S	265,480	1,237 (0.5)	1,237 (0.5)	1,364.0 (0.5)	1,242.4 (0.5)	1,848.0 (0.7)
Desert Grassland			316,894	92.1	92.1	1,410.4	108.6	7,329.4
Savannah sparrow (*Passerculus sandwichensis*)	S	U/S	316,894	92.1 (0.03)	92.1 (0.03)	1,410.4 (0.4)	108.6 (0.03)	7,329.4 (2.3)
Horned lark (*Eremophila alpestris*)	D	U/S	316,894	92.1 (0.03)	92.1 (0.03)	1,410.4 (0.4)	108.6 (0.03)	7,329.4 (2.3)
Desert Communities			774,220	7,827.5	7,827.5	6,954.0	14,740.3	4,120.5
Black-throated sparrow (*Amphispiza bilineata*)	S	D/S	774,220	7,827.5 (1.0)	7,827.5 (1.0)	6,954.0 (0.8)	14,740.3 (1.9)	4,120.5 (0.5)

Vegetation Type/Species	Tonto National Forest Management Indicator Species Population Trend*	Key Habitat Components Trend†	Total Forest Acres	Acres in Action Alternative 2 (percent change)	Acres in Action Alternative 3 (percent change)	Acres in Action Alternative 4 (percent change)	Acres in Action Alternative 5 (percent change)	Acres in Action Alternative 6 (percent change)
Canyon towhee (*Melozone fusca*)	D	D/S	774,220	7,827.5 (1.0)	7,827.5 (1.0)	6,954.0 (0.8)	14,740.3 (1.9)	4,120.5 (0.5)
Riparian low elevation (1,500–3,500 feet amsl)			31,147	57.9	57.9	84.7	82.6	43.6
Bald eagle (*Haliaeetus leucocephalus*)	S	NC	31,147	57.9 (0.2)	57.9 (0.2)	84.7 (0.3)	82.6 (0.3)	43.6 (0.1)
Bell's vireo (*Vireo bellii*)	D	NC	31,147	57.9 (0.2)	57.9 (0.2)	84.7 (0.3)	82.6 (0.3)	43.6 (0.1)
Summer tanager (*Piranga rubra*)	D	NC	31,147	57.9 (0.2)	57.9 (0.2)	84.7 (0.3)	82.6 (0.3)	43.6 (0.1)
Hooded oriole (*Icterus cucullatus*)	S	NC	31,147	57.9 (0.2)	57.9 (0.2)	84.7 (0.3)	82.6 (0.3)	43.6 (0.1)
Riparian (>3,500 feet amsl)			10,232	0	0	0	0	0
Hairy woodpecker	S	NC	10,232	0	0	0	0	0
Arizona gray squirrel (*Sciurus arizonensis*	S	NC	10,232	0	0	0	0	0
Warbling vireo (*Vireo gilvus*)	S	NC	10,232	0	0	0	0	0
Western wood-pewee (*Contopus sordidulus*)	D	NC	10,232	0	0	0	0	0
Common black hawk (*Buteogallus anthracinus*)	D	NC	10,232	0	0	0	0	0

Vegetation Type/Species	Tonto National Forest Management Indicator Species Population Trend*	Key Habitat Components Trend†	Total Forest Acres	Acres in Action Alternative 2 (percent change)	Acres in Action Alternative 3 (percent change)	Acres in Action Alternative 4 (percent change)	Acres in Action Alternative 5 (percent change)	Acres in Action Alternative 6 (percent change)
Aquatic			29,000	14.7	14.7	14.7	14.7	14.7
Macroinvertebrates	Not applicable	Not applicable	29,000	14.7 0.05	14.7 0.05	14.7 0.05	14.7 0.05	14.7 0.05

Note: The *Tonto National Forest Land Management Plan* (Forest Service 2023) does not include Management Indicator Species (MIS). Even though MIS are no longer a concern for Tonto National Forest, this previously completed analysis has been retained in this document.

* Management indicator species (MIS) population trend column key from Forest Service (2016):

S = Stable trend for MIS population forest wide

D = Decreasing trend for MIS population forest wide

† Key habitat components (KHC) trend column key from Forest Service (2016):

U = Upward trend for KHC forest wide

D = Downward trend for KHC forest wide

S = Stable trend for KHC forest wide

NC = No change for KHC forest wide

Regulations, Laws, and Guidance

Mine operations are subject to a wide range of federal, State, and local requirements. Table 4 provides a summary of wildlife laws, regulations, policies, and plans at the federal, State, and local level.

Table 4. Laws, Regulations, Policies, and Plans

Laws, Regulations, Policies, and Plans	Description	Applicability
Bald and Golden Eagle Protection Act of 1940, as amended (16 United States Code [U.S.C.] 668–668c)	Provides for the protection of the bald eagle (*Haliaeetus leucocephalus*) and the golden eagle (*Aquila chrysaetos*) by prohibiting, except under certain specified conditions, the taking, possession, and commercial sale of such birds.	Bald and golden eagle habitat occurs within the Resolution Copper Project analysis area for wildlife.
Endangered Species Act of 1973, as amended (ESA) (16 U.S.C. 1531 et seq.)	Requires federal agencies (e.g., Forest Service and U.S. Army Corps of Engineers) to use their authority to conserve endangered and threatened species.	ESA-listed wildlife species having the potential to occur within the analysis area include the yellow-billed cuckoo (*Coccyzus americanus*), southwestern willow flycatcher (*Empidonax traillii extimus*), and Gila chub (*Gila intermedia*).
Executive Order 13186: Responsibilities of Federal Agencies to Protect Migratory Birds	States that a memorandum of understanding must occur between the Forest Service and U.S. Fish and Wildlife Service. This order places procedural requirements on the analysis of each federal agency taking actions that have, or are likely to have, measurable negative effects on migratory bird populations and to promote the conservation of migratory bird populations.	Migratory birds may experience impacts as a result of artificial night lighting, noise and vibrations, changes in surface water or groundwater quality or availability, exposure to process ponds or canals, exposure to a potential pit lake, erosion, loss of vegetation or open water habitat, and the spread of pathogens or noxious or invasive weeds.

Laws, Regulations, Policies, and Plans	Description	Applicability
Executive Order 13443: Facilitation of Hunting Heritage and Wildlife Conservation	Emphasizes hunting and conservation; the federal government is required to address its activities on these natural resource components.	The footprint of the analysis area is within AGFD's Game Management Units 24A, 24B, 26M, and 37B, where game species are present. Those species include dove (*Zenaida* spp.), Gambel's quail (*Callipepla gambelii*), javelina (*Tayassu tajacu*), cottontail (*Sylvilagus* spp.), mule deer (*Odocoileus hemionus*), white-tailed deer (*Odocoileus virginianus*), black bear (*Ursus americanus*), mountain lion (*Puma concolor*), elk (*Cervus canadensis*), bighorn sheep (*Ovis canadensis*), and tree squirrel (*Sciurus* spp.). Additionally, there are 10 Species of Economic and Regional Importance with predicted occurrences within 5 miles of the General Plan of Operations footprint. These species are mule deer, white-tailed deer, javelina, elk, black bear, mountain lion, Gambel's quail, mourning dove (*Zenaida macroura*), white-winged dove (*Zenaida asiatica*), and band-tailed pigeon (*Patagioenas fasciata*).
Fish and Wildlife Coordination Act of 1934 (16 U.S.C. 661–666c)	Requires coordination with federal and state wildlife agencies for the purpose of mitigating losses of wildlife resources caused by a project that impounds, diverts, or otherwise modifies a stream or other natural body of water.	Resolution Copper Mining LLC must mitigate potential losses of wildlife resources caused by project-related activities that impound, divert, or otherwise modify a stream or other natural body of water.
Migratory Bird Treaty Act of 1918, as amended (16 U.S.C. 703–711)	Provides federal protection to all migratory birds, including nests and eggs. Under this act, it is unlawful to take, kill, or possess migratory birds.	Species protected under the Migratory Bird Treaty Act are known to occur within the analysis area and were analyzed for each of the action alternatives.

Laws, Regulations, Policies, and Plans	Description	Applicability
National Forest Management Act of 1976 implementing regulations (36 Code of Federal Regulations 219.19(a)(1))	Directs the Secretary of Agriculture to provide "for diversity of plant and animal communities based on the suitability and capability of the specific land area in order to meet overall multiple-use objectives." In addition, the role of management indicator species in National Forest planning is described in the 1982 implementing regulations of the act.	In addition to federally listed species (see section on ESA, above), this law has regulatory implementation requirements for "sensitive species" that appear as directives in FSM 2600 – *Wildlife, Fish, and Sensitive Plant Habitat Management*, Chapter 2670 - Threatened, Endangered and Sensitive Plants and Animals (Forest Service 2005).
National Forest System Land Management Planning rule (Forest Service 2012)	Requires the Forest Service to maintain a "viable population" of each species of conservation concern. Also requires use of "the best available science for planning decisions."	Forest Service species of conservation concern were identified as known to occur and/or may occur within at least one of the alternative tailings storage facility footprints analyzed. Many of these species of conservation concern are also Forest Service Sensitive Species.
Arizona Revised Statutes 17	Specifies State regulations regarding fish and game species, including management on State lands, hunting, and take of individuals. Arizona Revised Statutes 17-102 state that wildlife, both resident and migratory, native or introduced, found in the state (with certain exceptions) are property of the State and may be taken at such times, in such places, in such manner, and with such devices as provided by law or rule of the commission. In addition, *Species of Greatest Conservation Need (SGCN)* is an AGFD status listing defined as wildlife of conservation priority—described nationally as Wildlife of Greatest Conservation Need.	SGCN are species of vertebrates, crustaceans, and mollusks that rank high in the vulnerability category and that have been identified for immediate action (AGFD 2012). Seventy-five SGCN were evaluated for likelihood of occurrence in Alternatives 2 and 3. Alternative 4 addressed the likelihood of occurrence for 72 SGCN. Seventy-three SGCN were evaluated for likelihood of occurrence in Alternative 5. Finally, 75 SGCN were evaluated for likelihood of occurrence in Alternative 6.

Laws, Regulations, Policies, and Plans	Description	Applicability
Approved Las Cienegas Resource Management Plan and Record of Decision (Bureau of Land Management [BLM] 2003); *Phoenix Resource Management Plan Environmental Impact Statement: Record of Decision* (BLM 1989); *San Pedro Riparian National Conservation Area Record of Decision and Approved Resource Management Plan* (BLM 2019)	BLM resource management plans serve to allocate resources and determine appropriate multiple uses for public lands and provide strategies to manage and protect resources and establish systems to monitor and evaluate the health of resources and effectiveness of management practices over time.	The analysis area includes lands managed by the BLM and thus are applicable under the resource management plans indicated.
FSM 2600 – *Wildlife, Fish, and Sensitive Plant Habitat Management*, Chapter 2670 - Threatened, Endangered and Sensitive Plants and Animals (Forest Service 2005)	Indicates that the Forest Service will do the following: 1) manage "habitats for all existing native and desired nonnative plants, fish, and wildlife species in order to maintain at least viable populations of such species;" and 2) avoid actions that "may cause a species to become threatened or endangered."	Eleven Forest Service Sensitive Species were identified as known to occur and/or May occur within at least one of the alternative tailings storage facility footprints analyzed.
Manual 6840 – Special Status Species Management (BLM 2008)	Defines BLM sensitive species as those "species that require special management consideration to avoid potential future listing under the ESA and that have been identified in accordance with procedures set forth in this manual."	Thirteen BLM sensitive species are known to occur and/or possibly occur in at least one of the alternative tailings storage facility footprints analyzed.

Laws, Regulations, Policies, and Plans	Description	Applicability
Tonto National Forest Land Management Plan (Forest Service 2023)	Developed in accordance with the 2012 National Forest System Land Management Planning rule and guides land and resource management throughout the Tonto National Forest. The plan provides management direction for and description of Ecological Response Units. The plan identifies 52 Tonto National Forest species of concern (SCC) in the planning area (i.e., the Tonto National Forest), according to the current Tonto National Forest SCC list (Forest Service 2021). SCC are "are species native to, and known to occur in, the plan area; and for which there is substantial concern about the species ability to persist in the plan area" (Forest Service 2023:140). The 2023 *Tonto National Forest Land Management Plan* replaced the 1985 *Tonto National Forest Land and Resource Management Plan* (Forest Service 1985). The 1985 *Tonto National Forest Land and Resource Management Plan* (Forest Service 1985) identified 29 wildlife species and one macroinvertebrate species group as management indicator species for the Tonto National Forest and provided management direction for activities impacting Forest Service Sensitive Species.	Ten wildlife SCC were identified as known to occur and/or May occur within at least one of the alternative tailings storage facility footprints analyzed. Many of these SCC are also Forest Service Sensitive Species.

Key Documents and References Cited for Wildlife

The following list is meant to highlight key process or analysis documents available in the project record. It should not be considered a full list of all available documentation considered within this process memorandum or the EIS analysis. Occurrence records reports and other sources of habitat or range information can be found on file and have been incorporated into the project record.

Arizona Game and Fish Department (AGFD). 2012. *Arizona's State Wildlife Action Plan: 2012-2022*. Phoenix: Arizona Game and Fish Department. May 16.

———. 2025. AZ Natural Heritage Program, Heritage Data Management System, species abstracts (the dates of individual species abstracts differ). Available at: https://www.azgfd.com/wildlife-conservation/on-the-ground-conservation/cooperative-programs/az-natural-heritage-program/. Accessed February 2025.

Beier, P. 2006. Effects of artificial night lighting on terrestrial mammals. In *Ecological Consequences of Artificial Night Lighting*, edited by C. Rich and T. Longcore, pp. 19–42. Washington, D.C.: Island Press.

Bruce-White, C., and M. Shardlow. 2011. *A Review of the Impact of Artificial Light on Invertebrates*. Peterborough, United Kingdom: Buglife - The Invertebrate Conservation Trust. March.

Buchanan, B.W. 2006. Observed and potential effects of artificial night lighting on Anuran amphibians. In *Ecological Consequences of Artificial Night Lighting*, edited by C. Rich and T. Longcore, pp. 192–220. Washington, D.C.: Island Press.

Bureau of Land Management (BLM). 1989. *Phoenix Resource Management Plan Environmental Impact Statement: Record of Decision*. Phoenix, Arizona: Bureau of Land Management. September 29.

———. 2003. *Approved Las Cienegas Resource Management Plan and Record of Decision*. Tucson, Arizona: Bureau of Land Management. July 25.

———. 2008. *Manual 6840 – Special Status Species Management*. Release 6-125. Washington D.C.: Bureau of Land Management. December 12.

———. 2017. *Updated Bureau of Land Management Sensitive Species List for Arizona*. Instruction Memorandum No. AZ-IM-2017-009. Phoenix, Arizona: Bureau of Land Management. March 1.

———. 2019. *San Pedro Riparian National Conservation Area Record of Decision and Approved Resource Management Plan.* Tucson, Arizona: Bureau of Land Management. July.

Corman, T.E., and C. Wise-Gervais (eds). 2005. *Arizona Breeding Bird Atlas*. Albuquerque: University of New Mexico Press.

Dark Sky Partners LLC. 2018. *Impact Assessment of the Proposed Resolution Copper Mine on Night Sky Brightness, Final Report*. Prepared for Resolution Copper. Tucson, Arizona: Dark Sky Partners LLC. February.

Delaney, D.K., T.G. Grubb, P. Beier, L.L. Pater, and M.H. Reiser. 1999. Effects of helicopter noise on Mexican spotted owls. *Journal of Wildlife Management* 63(1):60–76.

eBird. 2025. eBird: An online database of bird distribution and abundance. Species occurrence maps. eBird, Cornell Lab of Ornithology, Ithaca, New York. Available at: https://ebird.org. Accessed February 12, 2025.

Eigenbrod, F., S.J. Hecnar, and L. Fahrig. 2009. Quantifying the road-effect zone: Threshold effects of a motorway on anuran populations in Ontario, Canada. *Ecology and Society* 14(1):1–18.

Eisenbeis, G. 2006. Artificial Night Lighting and Insects: Attraction of Insects to Streetlamps in a Rural Setting in Germany. In *Ecological Consequences of Artificial Night Lighting*, edited by C. Rich and T. Longcore, pp. 281–304. Washington, D.C.: Island Press.

Foxcroft, L.C., M. Rouget, and D.M. Richardson. 2007. Risk assessment of riparian plant invasions into protected areas. *Conservation Biology* 21(2):412–421.

Frank, K.D. 2006. Effects of artificial night lighting on moths. In *Ecological Consequences of Artificial Night Lighting*, edited by C. Rich and T. Longcore, pp. 305–344. Washington, D.C.: Island Press.

Gauthreaux Jr., S.A., and C.G. Belser. 2006. Effects of artificial night lighting on migrating birds. In *Ecological Consequences of Artificial Night Lighting*, edited by C. Rich and T. Longcore, pp. 67–93. Washington D.C.: Island Press.

Gregg, W.O. 1953. Two new land snails from Arizona. *Bulletin of Southern California Academy of Sciences* 52, Part 2:71–75.

Grubb, T.G., and R.M. King. 1991. Assessing human disturbance of breeding bald eagles with classification tree models. *The Journal of Wildlife Management* 55(3):500–511.

Kaufman, K. 1996. *Lives of North American Birds*. New York, New York: Houghton Mifflin Company.

Klute, D.S., L.W. Ayers, M.T. Green, W.H. Howe, S.L. Jones, J.A. Shaffer, S.R. Sheffield, and T.S. Zimmerman. 2003. *Status Assessment and Conservation Plan for the Western Burrowing Owl in the United States*. Biological Technical Publication BTP-R6001-2003. Washington, D.C.: U.S. Fish and Wildlife Service.

McCafferty, W.P. 2006. Rediscovery of *Fallceon eatoni* (Kimmins) (Ephemeroptera:Baetidae). *Proceedings of the Entomological Society of Washington* 108(1):248.

Morris, G.M., C. Kline, and S.M. Morris. 2015. Status of *Danaus plexippus* Population in Arizona. *Journal of the Lepidopterists' Society* 69(2):91–107.

Muñoz-Quesada, F.J., and R.W. Holzenthal. 2008. Revision of the Nearctic species of the caddisfly genus *Wormaldia* McLachlan (Trichoptera: Philopotamidae). *Zootaxa* 1838:1–75.

NatureServe Explorer. 2025. NatureServe Explorer. Species profiles (the dates of individual species profiles differ). Available at: https://explorer.natureserve.org/. Accessed February 2025.

Nightingale, B., T. Longcore, and C.A. Simenstad. 2006. Artificial night lighting and fishes. In *Ecological Consequences of Artificial Night Lighting*, edited by C. Rich and T. Longcore. Washington, D.C.: Island Press.

Perry, G., and R.N. Fisher. 2006. Night lights and reptiles: Observed and potential effects. In *Ecological Consequences of Artificial Night Lighting*, edited by C. Rich and T. Longcore, pp. 169–191. Washington, D.C.: Island Press.

Rydell, J. 2006. Bats and their insect prey at streetlights. In *Ecological Consequences of Artificial Night Lighting*, edited by C. Rich and T. Longcore, pp. 43–60. Washington, D.C.: Island Press.

SEINet. 2025. Welcome to SEINet, SEINet Arizona - New Mexico Chapter, species occurrence maps. Available at: http://swbiodiversity.org/seinet/index.php. Accessed April 9, 2025.

Siemers, B.M., and A. Schaub. 2011. Hunting at the highway: Traffic noise reduces foraging efficiency in acoustic predators. *Proceedings of the Royal Society B: Biological Sciences* 278:1646–1652.

Stone, E.L., G. Jones, and S. Harris. 2012. Conserving energy at a cost to biodiversity? Impacts of LED lighting on bats. *Global Change Biology* 18:2458–2465.

Stone, E.L., S. Harris, and G. Jones. 2015. Impact of artificial lighting on bats: a review of challenges and solutions. *Mammalian Biology* 80:213–219.

Tonto National Forest. 2000. *Threatened, Endangered and Sensitive (TES) Species 2000: Draft Abstracts*. Prepared by Debbie Lutch. Available at: https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/fsbdev3_018579.pdf. Accessed January 2, 2019.

Troy, J.R. 2013. Studies of Artificial Light, Seabird Fallout, and Habitat Suitability Concerning Newell's Shearwater and Hawaiian Petrel Conservation. Unpublished Ph.D. dissertation, Texas State University-San Marcos.

Troy, J.R., N.D. Holmes, J.A. Veech, and M.C. Green. 2013. Using observed seabird fallout records to infer patterns of attraction to artificial light. *Endangered Species Research* 22(3):225–234.

U.S. Fish and Wildlife Service. 2016. Arizona Ecological Services, Southwest Region: Documents by Species. Available at: https://www.fws.gov/southwest/es/arizona/Docs_Species.htm. Accessed January 9, 2018.

U.S. Forest Service (Forest Service). 1985. *Tonto National Forest Land and Resource Management Plan.* U.S. Forest Service, Southwestern Region. October.

———. 2005. Chapter 2670 - Threatened, Endangered and Sensitive Plants and Animals. In *FSM 2600 - Wildlife, Fish, and Sensitive Plant Habitat Management*. Amendment No. 2600-2005-1. Washington, D.C.: U.S. Forest Service National Headquarters. September 23.

———. 2012. National Forest System Land Management Planning. *Federal Register* 77(68):21162–21276. Accessed January 10, 2025.

———. 2016. *Tonto National Forest Federal Endangered, Threatened, and Sensitive Species (2016)*. Phoenix, Arizona: Tonto National Forest.

———. 2017. *Final Assessment Report of Ecological Conditions, Trends, and Risks to Sustainability, Tonto National Forest: Volume 1*. Phoenix, Arizona: U.S. Forest Service. March.

———. 2021. 2021 List of Species of Conservation Concern for the Tonto National Forest. Available at: https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/fseprd1000744.pdf. Accessed January 10, 2025.

———. 2023. *Tonto National Forest Land Management Plan: Coconino, Gila, Maricopa, Pinal, and Yavapai Counties, Arizona*. MB-R3-12-13. Phoenix, Arizona: Tonto National Forest. December.

Van Doren, B.M., K.G. Horton, A.M. Dokter, H. Klinck, S.B. Elbin, and A. Farnsworth. 2017. High-intensity urban light installation dramatically alters nocturnal bird migration. *PNAS* 114(42):11175–11180.

Watson, M.J., D.R. Wilson, and D.J. Mennill. 2016. Anthropogenic light is associated with increased vocal activity by nocturnally migrating birds. *The Condor* 118(2):338–344.

Western Monarch Milkweed Mapper. 2023. Boyce Thompson Arboretum occurrence records. Available at: https://www.monarchmilkweedmapper.org/. Accessed: April 2023.

WestLand Resources Inc. (WestLand). 2004. *2004 Raptor Survey, Federal Parcel, Pinal County, Arizona*. Prepared for Resolution Copper. Tucson, Arizona: Westland Resources Inc. December 2004.

———. 2008. *Draft Baseline Biological Winter Bird Surveys, Resolution Copper Mining*. Prepared for Resolution Copper. Tucson Arizona: Westland Resources Inc. April 2008.

———. 2009a. *2007-2008 Fish Survey, Resolution Baseline Biological Surveys, Pinal County, Arizona*. Tucson, Arizona: Westland Resources Inc. February 2009.

———. 2009b. *Raptor Survey and 2008 Bird Census, Resolution Copper Mine Study Area*. Tucson, Arizona: Westland Resources Inc. March 2009.

———. 2010. *2009 Bird Census Resolution Copper Mine Study Area*. Prepared for Resolution Copper Mining. September, 2010.

———. 2012a. *Bird Survey and Occurrence Record Compilation, Resolution Copper Mining*. Tucson, Arizona: Westland Resources Inc. September 2012.

———. 2012b. *2011 Raptor Surveys of Mine Area and Vicinity*. Prepared for Resolution Copper Mining. July, 2012.

———. 2012c. *2011 Bat Species Survey, Resolution Copper Mining*. Project Number 807.53. Prepared for Resolution Copper. Tucson, Arizona: Westland Resources Inc. July 2012.

———. 2013a. *Results of Bird Surveys Conducted at Near West 2013, Resolution Copper Mining*. Tucson, Arizona: Westland Resources Inc. December 2013.

———. 2013b. 2012 Far West Desert Tortoise Survey. Project Number: 807.81. Prepared for Resolution Copper. Tucson, Arizona: WestLand Resources Inc. February 2013.

———. 2014. *Results of Sonoran Desert Tortoise Survey in the Tonto National Forest Near Superior, Arizona 2013*. Prepared for Resolution Copper. Tucson, Arizona: WestLand Resources Inc. May 2014.

———. 2015. *Draft Migratory Bird Treaty Act Report for Baseline Hydrologic and Geotechnical Data Gathering Activities on Tonto National Forest, Pinal County, Arizona*. Tucson Arizona: Westland Resources Inc. September 24, 2014, revised July 31, 2015.

———. 2017a. *2017 Yellow-billed Cuckoo Survey for the Resolution Copper Project, Resolution Copper*. Prepared for Resolution Copper. Tucson, Arizona: Westland Resources Inc. November 2017.

———. 2017b. *2017 Southwestern Willow Flycatcher Survey for the Resolution Copper Project*. Prepared for Resolution Copper. Tucson, Arizona: WestLand Resources Inc. December 2017.

———. 2018a. *2017 Fish Survey for the Resolution Copper Project*. Project Number: 807.132 04 04. Prepared for Resolution Copper. Tucson, Arizona: WestLand Resources Inc. March 9.

———. 2018b. *2018 Yellow-billed Cuckoo Survey for the Resolution Copper Project, Resolution Copper*. Prepared for Resolution Copper. Tucson, Arizona: Westland Resources Inc. November 2018.

———. 2018c. *2017 Near West Bat Survey Report, Resolution Copper*. Prepared for Resolution Copper. Tucson, Arizona: Westland Resources Inc. February 2018.

———. 2018d. *Biological Evaluation for the Proposed Peg Leg Well Tailings Storage Facility in the Vicinity of Florence, Pinal County, Arizona*. Prepared for Resolution Copper. Tucson Arizona: Westland Resources Inc. March 2018.

———. 2020. *2019 Yellow-billed Cuckoo Survey for the Resolution Copper Project, Resolution Copper*. Prepared for Resolution Copper. Tucson, Arizona: Westland Resources Inc. June 2020.

Wise, S. 2009. Studying the Ecological Impacts of Light Pollution on Wildlife: Amphibians as Models. In *StarLight: A Common Heritage*, edited by Cipriano Marin and Jafar Jafari, pp. 209–218. StarLight Initiative and Instituto de Astrofisica de Canarias. Available at: https://issuu.com/starlightinitiative/docs/stralightcommonheritage. Accessed April 9, 2025.

Appendix 1 – Wildlife Screening Tables

Table A1. Special-Status Wildlife Species Analyzed for Alternative 2 – Near West Proposed Action and Alternative 3 – Near West – Ultrathickened

Table A2. Special-Status Wildlife Species Analyzed for Alternative 4 – Silver King

Table A3. Special-Status Wildlife Species Analyzed for Alternative 5 – Peg Leg

Table A4. Special-Status Wildlife Species Analyzed for Alternative 6 – Skunk Camp

Table A1. Special-Status Wildlife Species Analyzed for Alternative 2 – Near West Proposed Action and Alternative 3 – Near West – Ultrathickened

Common Name (*Scientific Name*)	Status*	AGFD Records of Occurrence within 5 miles	Baseline Data Records of Occurrence	Other Records of Occurrence	Habitat Components (Elevation, Soils, Vegetation Association, Slope, Aspect, etc.)	Geographical Range in Arizona	Likelihood of Occurrence in Proposed Action Analysis Area	Likelihood of Occurrence in Selected Lands Analysis Area
Amphibians								
Western barking frog (*Craugastor augusti cactorum*)	TNF: S†				Species prefers outcrops or caves on rocky slopes in oak (*Quercus* spp.)/pine-oak (*Pinus* spp.-*Quercus* spp.) associations; elevational range of 4,200–6,200 feet above mean sea level (amsl).	Occurs in rocky outcrops in Cochise and southern Pima and Santa Cruz Counties, in the Quinlan, Santa Rita, Patagonia, Huachuca, and Pajarito Mountain ranges.	Unlikely to occur	Unlikely to occur
Northern leopard frog (*Lithobates pipiens*)	TNF: S†				Range of habitats, including grasslands, brush land, and forests, usually with permanent water; elevational range of 2,640–9,155 feet amsl.	Occurs in northern and central Arizona.	Unlikely to occur	Unlikely to occur
Lowland leopard frog (*Lithobates yavapaiensis*)	TNF: S, SCC	Arnett Creek (2010), Telegraph Canyon (2016), Rio Rancho Creek (2017), Queen Creek (1992), Pinal Mountains: west of Iron Canyon (2010)	Tailings corridor; East Plant; Devil's Canyon; Queen Creek; Oak Flat; Mineral Creek (WestLand 2009a, 2018a)		Aquatic systems in elevations ranging from 480–6,200 feet amsl; species uses a variety of habitats, both natural and human made.	Occurs in central and southeastern Arizona.	Known to occur	Known to occur
Chiricahua leopard frog (*Rana chiricahuensis*)	ESA: T (all Arizona counties except La Paz, Mohave, Pinal, and Yuma Counties) with designated critical habitat				Headwater streams, springs, and livestock tanks. An important characteristic of habitat is that it be free or have low numbers of nonnative species, including nonnative fish, crayfish, bull frogs (*Lithobates catesbeianus*), and barred tiger salamanders (*Ambystoma mavortium*).	Occurs in all Arizona counties except La Paz, Mohave, Pinal, and Yuma Counties. Occurs along the Mogollon Rim and in mountainous areas of southeastern Arizona.	Unlikely to occur	Unlikely to occur
Birds								
Northern goshawk (*Accipiter gentilis*)	TNF: S†		Oak Flat/vicinity of Boyce Thompson Arboretum (WestLand 2012a, 2015)		Species is found in wide variety of forest associations, including deciduous, coniferous, and mixed forests; prefers mature forests for breeding in elevations ranging from 4,750–9,120 feet amsl.	Occurs throughout Arizona.	Known to occur	May occur
Clark's grebe (*Aechmophorus clarkia*)	TNF: SCC‡				Requires large, deep bodies of water for fishing.	Occurs throughout Arizona in winter; breeding occurs in Mohave and La Paz Counties.	Unlikely to occur	Unlikely to occur
Western grebe (*Aechmophorus occidentalis*)	TNF: SCC‡				Requires large, deep bodies of water for fishing.	Occurs throughout Arizona in winter; breeding occurs in Coconino, Yavapai, Maricopa, Pinal, and Pima Counties.	Unlikely to occur	Unlikely to occur
Golden eagle (*Aquila chrysaetos*)	BGEPA: Yes	Superstition Mountains: Hewitt Ridge (2014)	Devil's Canyon, Queen Creek, Boyce Thompson Arboretum and Arnett-Queen Creeks IBA (WestLand 2012a, 2012b, 2015)	eBird: Arnett Creek (2011), Oak Flat (2013, 2014)	Species prefers mountainous areas; nesting occurs at elevations 4,000–10,000 feet amsl.	Occurs throughout Arizona.	Known to occur	May occur
Red-faced warbler (*Cardellina rubrifrons*)	TNF: SCC‡				Summer resident only; occurs in montane fir (*Abies* spp.), pine, and pine-oak woodlands at elevations between 5,400 and 9,000 feet amsl.	Occurs in mountain ranges from southeastern Arizona to Mogollon Rim.	Unlikely to occur	Unlikely to occur

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American dipper (*Cinclus mexicanus*)	TNF: SCC				Fast-flowing montane streams.	Occurs in central and northern Arizona.	Unlikely to occur	Unlikely to occur
Western yellow-billed cuckoo (distinct population segment) (*Coccyzus americanus*)	ESA: T (all Arizona counties) with designated critical habitat	Dripping Springs Mountains: vicinity of Government Mountain (2011), Dripping Springs Mountains: Devil's Canyon (2011), Queen Creek: Whitlow Dam (2000)	Devil's Canyon; Queen Creek; Whitlow Dam; Apache Leap; Oak Flat; Rancho Rio Creek; Mineral Creek; Pinto Creek (WestLand 2012a, 2015, 2017a, 2020)		Typically found in riparian woodland vegetation (cottonwood [*Populus* spp.], willow [*Salix* spp.], or saltcedar [*Tamarix* spp.]) at elevations below 6,600 feet amsl. Dense understory foliage appears to be an important factor in nest site selection.	Occurs in every Arizona county, from below Mogollon Rim to southeast Arizona and along the Colorado River. The highest concentrations in Arizona are along the Agua Fria, San Pedro, upper Santa Cruz, and Verde River drainages and Cienega and Sonoita Creeks.	Known to occur	Unlikely to occur
Gilded flicker (*Colaptes chrysoides*)	TNF: SCC		Devil's Canyon; Queen Creek; Rancho Rio Creek; Mineral Creek; Apache Leap; East Plant Site (WestLand 2012a, 2015, 2017a)	Devil's Canyon (2012), Apache Leap (2015), Arnett Creek (2017)	Habitat includes stands of large saguaros (*Carnegiea gigantea*), Joshua trees (*Yucca* spp.), and low-elevation riparian groves.	Occurs in southern, central, and western Arizona.	Known to occur	Known to occur
Olive-sided flycatcher (*Contopus cooperi*)	TNF: SCC‡ AGFD: SGCN 1C		Boyce Thompson (WestLand 2015)	eBird: Oak Flat (2017), Devil's Canyon (2014), Arnett Creek (2015)	Species is present only in summer; breeding habitat includes mixed-conifer forests near open areas with lots of snags. During migration, species can be found in almost any habitat.	Occurs throughout Arizona.	Known to occur	Known to occur
Broad-billed hummingbird (*Cynanthus latirostris*)	TNF: SCC‡		Apache Leap; Queen Creek; East Plant Site; Rancho Rio Creek; Devil's Canyon; Mineral Creek (WestLand 2012a); Queen Creek (Westland 2017a)	eBird: Oak Flat (2017), Arnett Creek (2016)	Preferred habitat is rocky canyons in desert-like mountain habitats; can be found in foothills, canyons, arroyos, and deserts and along streams.	Occurs in southeast and central Arizona.	Known to occur	Unlikely to occur
Southwestern willow flycatcher (*Empidonax traillii extimus*)	ESA: E (all Arizona counties except Navajo County) with designated critical habitat	Robles Butte: Queen Creek (2005)	Queen Creek near Boyce Thompson (WestLand 2017b)		Found in dense riparian habitats along streams, rivers, and other wetlands where cottonwood, willow, boxelder (*Acer negundo*), saltcedar, Russian olive (*Elaeagnus angustifolia*), buttonbush (*Cephalanthus* spp.), and arrowweed (*Pluchea sericea*) are present. Nests are found in thickets of trees and shrubs, primarily those that are 13–23 feet tall, among dense, homogeneous foliage. Habitat occurs at elevations below 8,500 feet amsl.	Occurs in all Arizona counties except Navajo County, in lower elevation riparian areas, during breeding season.	Known to occur	Unlikely to occur

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American peregrine falcon (*Falco peregrinus anatum*)	TNF: S[†]	East Plant Site (2015)	East Plant; West Plant; Devil's Canyon; Queen Creek; Rancho Rio Creek; Apache Leap; Boyce Thompson Arboretum and Arnett-Queen Creeks IBA (WestLand 2004, 2009b, 2012a, 2012b, 2015, 2017a)	eBird: Oak Flat (2017), Arnett Creek (2014)	Species is found near cliffs overlooking habitats that support large numbers of birds; range in elevations from 400–9,000 feet amsl.	Occurs throughout Arizona.	Known to occur	Known to occur
MacGillivray's warbler (*Geothlypis tolmiei*)	TNF: SCC[‡]		Apache Leap; Queen Creek Canyon; East Plant Site; Rancho Rio Creek; Devil's Canyon; Mineral Creek (WestLand 2010, 2012a, 2015)	eBird: Oak Flat (2017), Arnett Creek (2017)	Species is primarily a migratory species in Arizona; however, during breeding season, the species is known to take residence over the higher forested elevations of northern Arizona, especially along the Mogollon Rim. Preferred habitat during breeding season includes mixed-coniferous forests with riparian areas that have low shrubs; during migration, species can be found in a variety of habitats.	Occurs throughout Arizona.	Known to occur	Known to occur
Bald eagle (*Haliaeetus leucocephalus*)	BGEPA: Yes				Habitat components include large bodies of water with lots of coastline and tall perches above water to allow for hunting.	Occurs in central and northern Arizona.	May occur	Unlikely to occur
Yellow-eyed junco (*Junco phaeonotus*)	TNF: S, SCC				Habitat consists of open coniferous forest and pine-oak associations.	Occurs in central and southeastern Arizona.	Unlikely to occur	Unlikely to occur
Lewis's woodpecker (*Melanerpes lewis*)	TNF: SCC[‡]		Oak Flat (WestLand 2012a)	eBird: Oak Flat (2007)	Distribution of the species is across the Four Corner states, the northern Rocky Mountains, and over the interior mountainous regions of Oregon and California. The species is common year-round across the higher forested elevations of northern Arizona with some expansion of range into the southern Arizona deserts during the winter. Breeding habitats include open forests and woodlands that include oaks, ponderosa, pine (*Pinus ponderosa*), riparian woodlands, and orchards.	Occurs throughout Arizona.	Known to occur	Known to occur
Elf owl (*Micrathene whitneyi*)	TNF: SCC[‡]		Magma Arizona Railroad Company Corridor, Apache Leap; Queen Creek Canyon; East Plant Site; Rancho Rio Creek; Devil's Canyon; Mineral Creek (WestLand 2012a, 2012b, 2015)		Species is present during breeding season only, found in desert-woodland washes, riparian forests, upland deserts, evergreen woodlands, and canyon riparian forests.	Occurs in the south half of Arizona.	Known to occur	May occur

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Sulphur-bellied flycatcher (*Myiodynastes luteiventris*)	TNF: S†, SCC‡				Preferred habitat includes sycamore-walnut (*Platanus* spp.-*Juglans* spp.) canyons; species present in Arizona only during its breeding season. They are cavity nesters in broad-leaved riparian trees but occasionally use provided nest boxes (Corman and Wise-Gervais 2005).	Occurs in southeast and central Arizona.	Unlikely to occur	Unlikely to occur
Desert purple martin (*Progne subis Hesperia*)	TNF: SCC‡		Apache Leap; Queen Creek Canyon; East Plant Site; Rancho Rio Creek; Devil's Canyon; Mineral Creek (WestLand 2009b, 2012a, 2013a, 2015)		Habitat consists of Sonoran Desert with many large saguaros proximal to water. Only present during breeding season.	Occurs in southern and central Arizona.	Known to occur	May occur
Yuma Ridgeway's rail (*Rallus longirostris yumanensis*)	ESA: E (Gila, La Paz, Maricopa, Mohave, Pinal, and Yuma Counties)				Found in freshwater and brackish marshes below 4,500 feet amsl.	Occurs in Gila, La Paz, Maricopa, Mohave, Pinal, and Yuma Counties.	Unlikely to occur	Unlikely to occur
Mexican spotted owl (*Strix occidentalis lucida*)	ESA: T (all Arizona counties except La Paz and Yuma Counties) with designated critical habitat				Species is found in mature montane forests and woodlands and steep, shady, wooded canyons. Species can also be found in mixed-conifer and pine-oak vegetation types; generally nests in older forests of mixed conifers or ponderosa pine–Gambel oak (*Quercus gambelii*). Nests in live trees on natural platforms (e.g., dwarf mistletoe [*Arceuthobium* spp.] brooms), snags, and canyon walls at elevations 4,100 and 9,000 feet amsl.	Occurs in all counties in Arizona, except La Paz and Yuma Counties.	Unlikely to occur	Unlikely to occur
Pacific wren (*Troglodytes pacificus*)	TNF: SCC				Commonly found from the coastal islands of Alaska southward to the northern Rockies and northern California, the species has been known to winter near the Mogollon Rim. Wintering habitat in Arizona consists of woodlands and brushy vegetation.	Occurs along the Mogollon Rim.	Unlikely to occur	Unlikely to occur
Fish								
Gila longfin dace (*Agosia chrysogaster chrysogaster*)	TNF: SCC‡	Mineral Creek (2010)	Mineral Creek (WestLand 2009a, 2018a)		Habitat varies from intermittent hot low-desert streams to clear, cool streams at higher elevations; prefers medium-sized to small streams with sandy/gravely bottoms and pools with some cover. Species is normally found below 4,900 feet amsl.	Occurs in central, southern, and southeastern Arizona.	Known to occur	May occur
Desert sucker (*Catostomus clarki*)	TNF: S†				Species is found in flowing pools of streams and rivers with a gravel substrate; elevational range of 480–8,840 feet amsl.	Occurs in central, southern, and southeastern Arizona.	Unlikely to occur	Unlikely to occur
Sonora sucker (*Catostomus insignis*)	TNF: S†				Species is found in a variety of habitats, from warm rivers to cool streams; prefers gravelly or rocky pools in elevations ranging from 1,210–8,730 feet amsl.	Occurs in central, southern, and southeastern Arizona.	Unlikely to occur	Unlikely to occur

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Desert pupfish (*Cyprinodon macularius*)	ESA: E (Cochise, Gila, Graham, Maricopa, Pima, Santa Cruz, and Yavapai Counties) with designated critical habitat	Queen Creek (2003)			Species is restricted to three natural populations in California and the non-natural irrigation drains around the Salton Sea. Also found in restricted locations in Sonora and Baja California, Mexico. One natural population still occurs in Quitobaquito Spring and pond in Pima County and reintroductions have been made in Pima, Pinal, Maricopa, Graham, Cochise, La Paz, and Yavapai Counties. Species is found in the shallow water of desert springs, small streams, and marshes at elevations below 5,000 feet amsl. The species tolerates high salinities and high water temperatures.	Occurs in Cochise, Gila, Graham, Maricopa, Pima, Santa Cruz, and Yavapai Counties.	Known to occur	Unlikely to occur
Gila chub (*Gila intermedia*)	ESA: E (Cochise, Coconino, Gila, Graham, Greenlee, Pima, Pinal, Santa Cruz, and Yavapai Counties) with designated critical habitat				Species is found in pools, springs, ciénegas, and streams at elevations 2,000 and 5,500 feet amsl. The species is dependent on undercut banks, terrestrial vegetation, boulders, root wads, fallen logs, and thick overhanging or aquatic vegetation for cover.	Occurs in Cochise, Coconino, Gila, Graham, Greenlee, Pima, Pinal, Santa Cruz, and Yavapai Counties.	Unlikely to occur	Unlikely to occur
Headwater chub (*Gila nigra*)	TNF: S[†]				Species is found in the middle to headwater reaches of medium-sized streams with large pools and cover; elevational range of 3,030–6,560 feet amsl.	Occurs in Gila, Graham, and Yavapai Counties.	Unlikely to occur	Unlikely to occur
Roundtail chub (*Gila robusta*)	TNF: S, SCC				Species prefers cool to warm water in mid-elevation streams and rivers with pools up to 6.6 feet deep near flowing water. Cover consists of boulders, tree roots, deep water, and submerged vegetation. Elevational range of 1,210–7,220 feet amsl.	Occurs in Apache, Coconino, Gila, Graham, Greenlee, La Paz, Maricopa, Mohave, Navajo, Pinal, and Yavapai Counties.	Unlikely to occur	Unlikely to occur
Spikedace (*Meda fulgida*)	ESA: E (Apache, Cochise, Coconino, Gila, Graham, Greenlee, Maricopa, Pinal, and Yavapai Counties) with designated critical habitat				Habitat consists of mid-water habitats, including runs, pools, and swirling eddies below 4,500 feet amsl.	Occurs in Apache, Cochise, Coconino, Gila, Graham, Greenlee, Maricopa, Pinal, and Yavapai Counties.	Unlikely to occur	Unlikely to occur
Gila topminnow (including Yaqui) (*Poeciliopsis occidentalis*)	ESA: E (Cochise, Gila, Graham, Maricopa, Pima, Pinal, Santa Cruz, and Yavapai Counties)	Refugium population in Ayer Lake at Boyce Thompson Arboretum (2003)			Species occurs in small streams, springs, and ciénegas at elevations below 4,500 feet amsl, primarily in shallow areas with aquatic vegetation and debris for cover. In Arizona, most of the remaining native populations are in the Santa Cruz River system.	Occurs in Cochise, Gila, Graham, Maricopa, Pima, Pinal, Santa Cruz, and Yavapai Counties.	Known to occur	Unlikely to occur

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Colorado pikeminnow (nonessential experimental) (*Ptychocheilus lucius*)	ESA: E, ENE (Gila, Maricopa, and Yavapai Counties) with designated critical habitat				Juveniles prefer slack water, backwater, and side channels with little or no flow and silty substrates; adults use turbid, deep, and fast-flowing waters. Species was reintroduced at an elevation of 1,960 feet amsl. Nonessential experimental populations of this fish in Arizona are in the Salt and Verde River drainages.	This species is found in Coconino, Gila, Maricopa, and Yavapai Counties	Unlikely to occur	Unlikely to occur
Loach minnow (*Tiaroga cobitis*)	ESA: E (Apache, Cochise, Coconino, Gila, Graham, Greenlee, Pinal, and Yavapai Counties) with designated critical habitat				Found at elevations below 8,000 feet amsl in small to large perennial streams with swift shallow water over cobble and gravel. Recurrent flooding and natural hydrography are important.	Occurs in Apache, Cochise, Coconino, Gila, Graham, Greenlee, Pinal, and Yavapai Counties.	Unlikely to occur	Unlikely to occur
Razorback sucker (*Xyrauchen texanus*)	ESA: E (Coconino, Gila, Graham, Greenlee, La Paz, Maricopa, Mohave, Pinal, Yavapai, and Yuma Counties) with designated critical habitat				Found in riverine and lacustrine areas, generally not in fast-moving water, and may use backwaters at elevations below 6,000 feet amsl.	Occurs in Coconino, Gila, Graham, Greenlee, La Paz, Maricopa, Mohave, Pinal, Yavapai, and Yuma Counties.	Unlikely to occur	Unlikely to occur
Invertebrates								
Netwing midge (*Agathon arizonicus*)	TNF: S, SCC				Confined to areas in the immediate vicinity of rapidly flowing streams.	Disjunct populations present in Gila and Graham counties. Recorded from Workman Creek in the Sierra Ancha Mountains, and from 6,000 to 9,300 feet amsl in the Pinaleño Mountains.	Unlikely to occur	Unlikely to occur
Parker's cylloepus riffle beetle (*Cylloepus parkeri*)	TNF: S†, SCC‡				Habitat consists of small, rocky streams between 2,800–4,000 feet amsl.	Known only from creeks in the Bloody Basin, Yavapai County, Arizona.	Unlikely to occur	Unlikely to occur

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Monarch butterfly (*Danaus plexippus*)	ESA: PT TNF: SCC			Boyce Thompson Arboretum (Western Monarch Milkweed Mapper 2023) Records for milkweed plants: West Plant Site; East Plant Site; Boyce Thompson Arboretum (SEINet 2025)	Species is a migratory species found in a variety of habitats; monarch butterflies require milkweed (family Asclepiadaceae) for breeding. During fall migration in Arizona, monarch butterflies seek nectar from a variety of native plants and garden plants. Populations in Arizona can migrate to California or Mexico for winter or may overwinter in the low deserts in California. In the Southwest, migrating monarch butterflies often occur near water sources (e.g., rivers, creeks, riparian corridors, roadside ditches, irrigated gardens). In the low deserts of Arizona, monarch butterflies breed in late August to early September; however, monarch butterfly reproduction in Arizona is more common in higher elevations and is less common in the Sonoran desertscrub (Morris et al. 2015).	Occurs throughout Arizona.	May occur	May occur
Mayfly (*Fallceon eatoni*)	TNF: S, SCC				Aquatic areas. Rediscovered in 2005 from a single specimen taken in the Salt River Canyon, Gila County (McCafferty 2006).	Occurs in Gila County.	Unlikely to occur	Unlikely to occur
Ancha Mountainsnail (*Oreohelix anchana*)	TNF: SCC				Limestone rock slide, talus.	Known from a single slide of limestone rocks on the northeastern slope of Center Mountain in the Sierra Ancha Mountains, Tonto National Forest, Gila County, Arizona (Gregg 1953).	Unlikely to occur	Unlikely to occur
Verde Rim springsnail (*Pyrgulopsis glandulosa*)	TNF: SCC				Habitat is freshwater, benthic desert springs at 5,280 feet amsl.	Nelson Place Spring complex, which consists of two springs 492 apart that form the headwaters of Sycamore Creek, Yavapai County, Arizona.	Unlikely to occur	Unlikely to occur
Fossil springsnail (*Pyrgulopsis simplex*)	TNF: S, SCC				Habitat is present only at headsprings and upper section of the outflow; individuals generally found on rocks or aquatic macrophytes in moderate current.	The known distribution of this species is limited to an unnamed spring near Strawberry in Gila County and at Fossil Springs in Yavapai County.	Unlikely to occur	Unlikely to occur
Phoenix talussnail (*Sonorella allynsmithi*)	TNF: SCC‡				Species prefers talus slopes in mid-elevation areas of the Sonoran Desert.	Occurs in Maricopa County, Arizona.	Unlikely to occur	Unlikely to occur
Sierra Ancha talussnail (*Sonorella anchana*)	TNF: SCC				Habitat is terrestrial; individuals occur in rockslides and talus slopes.	Known from several close-proximity localities in the Sierra Ancha Mountains: near Reynolds Creek; a rockslide northeast slope of Center Mountain; and on the southwest side of Center Mountain, Tonto National Forest, Gila County, Arizona	Unlikely to occur	Unlikely to occur

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Richinbar talussnail (*Sonorella ashmuni*)	TNF: SCC				Loose talus slopes, rocky hillsides, and cracks and fissures in rock faces.	Known from Gila, Maricopa, and Yavapai Counties. Widely distributed within Tonto National Forest. Range extends from Richinbar Mine, southeast of Prescott to west of the Agua Fria River and to 3 miles east of Bubblebee, Arizona. Species also occurs along Seven Springs Road, near Locust Spring, near Roundtree Canyon, and on the northeast slope of Center Mountain in the Sierra Ancha Mountains.	Unlikely to occur	Unlikely to occur
Milk Ranch talussnail (*Sonorella micromphala*)	TNF: SCC				Occurs in talus slopes and is found in crevices 1 to several feet below the surface at elevations of 6,000 to 7,000 feet amsl.	Mogollon Rim in vicinity of Pine, Gila County, Arizona.	Unlikely to occur	Unlikely to occur
Roosevelt talussnail (*Sonorella rooseveltiana*) (=*Myotophallus rooseveltianus*) + (*S.r. fragilis*)	TNF: SCC				Loose talus slopes, rocky hillsides, and cracks and fissures in rock faces.	Known from five locations on the Tonto National Forest. Occurrences in Gila County, west and southwest of Roosevelt Dam.	Unlikely to occur	Unlikely to occur
A Caddisfly (*Wormaldia planae*)	TNF: S[†]				This species is primarily a neotropical species, with a limited distribution in Arizona (Muñoz-Quesada and Holzenthal 2008). Occurs in central Arizona, near Camp Verde, Beaver Creek, Sycamore Creek, and Fossil Creek. Typically occurs in mountainous regions, in cooler, spring-fed streams. Has been found in the upper portion of slow-velocity speed streams with rocky substrate.	Occurs in Gila and Yavapai Counties; recently found in Line Fossil Creek, Fossil Creek, Beaver Creek, and an unnamed stream at Ward Ranch, and below the outlet of Montezuma Well.	Unlikely to occur	Unlikely to occur
Mammals								
Sonoran pronghorn (*Antilocapra americana sonoriensis*)	ESA: ENE (La Paz, Maricopa, Pima, Pinal, Santa Cruz, and Yuma Counties)				Found in Sonoran desertscrub within broad, intermountain, alluvial valleys with creosote bush (*Larrea tridentata*)-bursage (*Ambrosia* spp.) and paloverde (*Parkinsonia* spp.)-mixed cacti associations at elevations between 2,000 and 4,000 feet amsl. The only extant U.S. population is in southwestern Arizona; however, reintroductions have occurred in La Paz County.	This species is found in La Paz, Maricopa, Pima, Pinal, Santa Cruz, and Yuma Counties.	Unlikely to occur	Unlikely to occur
Mexican gray wolf (*Canis lupis baileyi*)	ESA: E (Apache and Greenlee Counties), EXPN TNF: ENE				Found in variety of vegetation types, except low deserts. Cover, water, and sufficient prey, such as deer and elk, are important. Reintroduction areas are typically rugged lands in coniferous forest. Elevational range of 3,000–12,000 feet amsl.	Occurs in Apache and Greenlee Counties, reintroductions are occurring in Apache County. All packs are currently on the Apache-Sitgreaves National Forests.	Unlikely to occur	Unlikely to occur

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Pale Townsend's big-eared bat (*Corynorhinus townsendii pallescens*)	TNF: S, SCC AGFD: SGCN 1B		Tailings corridor, East Plant, Devil's Canyon, Queen Creek, Oak Creek (vicinity), near west vicinity (WestLand 2012c, 2018c)		This bat occurs in most of Arizona, except for the low-elevation deserts of the southwestern portion of the state. In summer, the species is found in caves and mines in elevations ranging from 550–7,520 feet amsl; in winter, the species is found in cold caves, lava tubes, and mines in higher elevations than summer.	Occurs throughout Arizona.	Known to occur	Known to occur
Spotted bat (*Euderma maculatum*)	TNF: S[†] AGFD: SGCN 1B				Habitat can vary widely from dry deserts to coniferous forests; species prefers to roost in crevices and cracks in cliff faces; elevational range of 110–8,670 feet amsl.	Occurs throughout Arizona.	Unlikely to occur	Unlikely to occur
Allen's lappet-browed or big-eared bat (*Idionycteris phyllotis*)	TNF: S, SCC				Found in ponderosa pine, pinyon-juniper (*Pinus* spp.-*Juniperus* spp.), Mexican woodland, and riparian areas with cottonwoods, sycamores, and willows; also have records of occurrence in desertscrub and white fir (*Abies concolor*) habitats; elevational range of 1,320–9,800 feet amsl.	Occurs throughout Arizona except for deserts in southwestern Arizona.	May occur	Unlikely to occur
Western red bat (*Lasiurus blossevillii*)	TNF: S, SCC	Queen Creek: Whitlow Dam (1965)	East Plant, Devil's Canyon, Queen Creek, near west vicinity (WestLand 2012c)		Distribution in Arizona is from the southeast corner of the state northwest along the Mogollon Rim to near Flagstaff, with outlier records of occurrence in the Grand Canyon and at the Bill Williams River near its confluence with the Colorado River. Habitat consists of riparian and wooded areas. Species typically roosts in cottonwood trees; elevational range of 1,900–7,200 feet amsl.	Distribution in Arizona is from the southeast corner of the state northwest along the Mogollon Rim to near Flagstaff, with outlier records in Grand Canyon and at the Bill Williams River near its confluence with the Colorado River.	Known to occur	Known to occur
Western yellow bat (*Lasiurus xanthinus*)	AGFD: SGCN 1B (added in accordance with request from AGFD)				Species may be associated with palm trees (Arecaceae), sycamores, hackberries (*Celtis* spp.), and cottonwoods. Habitat consists of riparian and wooded areas; typically roosts in cottonwood trees; elevational range of 1,900–7,200 feet amsl.	Occurs throughout Arizona, historically found near Phoenix and Casa Grande.	May occur	Unlikely to occur

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Ocelot (*Leopardus* [*Felis*] *pardalis*)	ESA: E (Cochise, Gila, Graham, Maricopa, Pima, Pinal, and Santa Cruz Counties)	Devil's Canyon (2011)			Habitats preferred by ocelots are variable, from tropical semiarid deserts to brushy forests and semiarid deserts in the northern part of its range. Densely vegetated movement corridors and small, semi-isolated habitat patches are important for facilitating dispersal movements in fragmented habitats. The current distribution extends into southern Arizona; dispersing individuals range more widely, as evidenced by the 2010 roadkill (on U.S. Route 60) near Top-of-the-World, Gila County. Little is known about ocelot habitat use in Arizona and Sonora, Mexico. Current information is lacking to draw conclusions about ocelot populations in Arizona, although more sightings have been substantiated recently in southern Arizona, in the vicinity of the United States–Mexico border. No information exists as to any established or breeding populations in Arizona. The individual killed near Top-of-the-World, between Superior and Globe along U.S. Route 60, is considered by some to be an extreme occurrence and well beyond its expected range.	Occurs in Cochise, Gila, Graham, Maricopa, Pima, Pinal, and Santa Cruz Counties.	Unlikely to occur	Unlikely to occur
California leaf-nosed bat (*Macrotus californicus*)	TNF: SCC‡		Oak Flat (immediate vicinity), Near West (WestLand 2012c, 2018c)		Species prefers Sonoran desertscrub and roosts in mines, caves, and rock shelters that have large areas of ceiling and flying space; elevational range of 160–3,980 feet amsl.	Occurs south of the Mogollon Plateau and in Mohave County.	Known to occur	Known to occur
Fringed myotis (*Myotis thysanodes*)	TNF: SCC		Apache Leap (WestLand 2012c)		Species ranges from desert to grasslands to woodland and is most frequently captured in oak-pinyon woodlands and other open, coniferous, middle-elevation forests; roosts in caves, mine tunnels, large snags, and buildings and under exfoliating bark; may hibernate in lower-elevation caves and mines; elevational range of 4,000 to 8,437 feet amsl.	Throughout Arizona but not known from northeast or southwest corners of state. In winter, the species' range shifts to the southernmost counties and Mohave County.		
Brazilian free-tailed bat (*Tadarida brasiliensis*)	AGFD: SGCN 1B (added in accordance with request from AGFD)	Picketpost Mountain: Pott's Canyon (2017)	Oak Flat (immediate vicinity), Near West (WestLand 2012c, 2018c)		Species is distributed across much of the southern United States, with the largest concentrations residing in the western United States. Preferred habitat is the Upper and Lower Sonoran life zones. Species commonly roosts in caves, abandoned mines, hollow trees, and buildings and under bridges. Elevational range is 450–8,475 feet amsl.	Occurs throughout Arizona during summer; occurs in south half of Arizona only during winter.	Known to occur	May occur

Common Name (*Scientific Name*)	Status*	AGFD Records of Occurrence within 5 miles	Baseline Data Records of Occurrence	Other Records of Occurrence	Habitat Components (Elevation, Soils, Vegetation Association, Slope, Aspect, etc.)	Geographical Range in Arizona	Likelihood of Occurrence in Proposed Action Analysis Area	Likelihood of Occurrence in Selected Lands Analysis Area
Reptiles								
Sonoran Desert tortoise (*Gopherus morafkai*)	TNF: S, SCC AGFD: SGCN 1A	Cottonwood Canyon (2007), Arnett Creek (2017), Telegraph Canyon (1990), Belmont Canyon (1990), Picketpost Mountain (1990), Raymert Wash (1990), Queen Creek (2016), Whitlow Ranch (2014), Whitlow Canyon (2014), Hewitt Canyon (2016)	Tailings Area, Far West Parcel, Near West (WestLand 2013b, 2014)	Picketpost Mountain Quadrangle (Forest Service 2016)	Habitat includes desertscrub to semidesert grassland and interior chaparral; elevational range is 510–5,300 feet amsl.	Occurs in the southern and southwest part of Arizona. The range of the species in Arizona is most of the southwest half of the state, below the Mogollon Rim, and north to Lake Mead.	Known to occur	Unlikely to occur
Northern Mexican gartersnake (*Thamnophis eques megalops*)	ESA: T (all Arizona counties except Maricopa and Yuma Counties) with designated critical habitat TNF: S[†]				Inhabits streams, rivers, ciénegas, and ponds with dense shoreline vegetation from Sonoran desertscrub up into Petran montane conifer forest.	Occurs throughout Arizona except Maricopa and Yuma Counties.	Unlikely to occur	Unlikely to occur
Narrow-headed gartersnake (*Thamnophis rufipunctatus*)	ESA: T (Apache, Coconino, Gila, Graham, Greenlee, Navajo, and Yavapai Counties) with designated critical habitat TNF: S[†]				Species prefers pinyon-juniper and pine-oak woodlands, ranging into ponderosa pine at elevations 2,440–8,080 feet amsl; species needs a permanent water source.	Occurs in Apache, Coconino, Gila, Graham, Greenlee, Navajo, and Yavapai Counties.	Unlikely to occur	Unlikely to occur
Bezy's night lizard (*Xantusia bezyi*)	TNF: S, SCC	Queen Creek Canyon (2008)			Species prefers rocky slopes in upland Sonoran desertscrub and chaparral vegetation types; elevational range is 2,400–5,800 feet amsl.	Occurs in Gila, Pinal, and Maricopa Counties.	Known to occur	May occur

Unless otherwise noted, range or habitat information is from AGFD (2025); Forest Service (2017); Kaufman (1996); NatureServe (2025); TNF (2000); U.S. Fish and Wildlife Service (2016).

Unless otherwise noted, occurrence data is from AGFD, transmitted on August 13, 2018, or from eBird (2025).

Note: Occurrence evaluation is based on the proposed action mining component and its associated 5-mile analysis area.

* Status definitions are as follows:

AGFD

SGCN 1A = Species of Greatest Conservation Need Tier 1A. Species for which the AGFD has entered into an agreement or has legal or other contractual obligations or species that warrant the protection of a closed season.

SGCN 1B = Species of Greatest Conservation Need Tier 1B. Vulnerable species.

SGCN 1C = Species of Greatest Conservation Need Tier 1C. Species for which insufficient information is available to fully assess the vulnerabilities and, therefore, need to be watched for signs of stress.

After publication of the FEIS in 2021, the AGFD updated its state wildlife action plan; however, SWCA Environmental Consultants made no related changes within the tables in this document. The AGFD statuses in this document are based on Arizona's State Wildlife Action Plan: 2012–2022 (AGFD 2012).

Not all species with an SGCN status are addressed as part of these analyses; however, SWCA added Brazilian free-tailed bat (Tadarida brasiliensis) and western yellow bat (Lasiurus xanthinus) to the analysis at the request of the AGFD, which is a cooperating agency.

BGEPA = Bald and Golden Eagle Protection Act

This federal statute protects two eagle species.

ESA = Endangered Species Act

E = Endangered. Endangered species are those in imminent jeopardy of extinction. The ESA specifically prohibits the take of a species listed as endangered. Take is defined by the ESA as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to engage in any such conduct.

PT = Proposed Threatened. Any species the U.S. Fish and Wildlife Service has determined is likely to become endangered within the foreseeable future throughout all or a significant portion of its range and the agency has proposed a draft rule to list as threatened.

T = Threatened. Threatened species are those that are likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.

EXPN = A population of a species designated under Section 10(j) of the ESA that the U.S. Fish and Wildlife Service, based on review of the best available information, believes is not essential for the continued existence of the species. Regulatory restrictions are considerably reduced under an EXPN designation.

TNF = Tonto National Forest

ENE = Reintroduced populations designated as Experimental - Nonessential, under the ESA.

S = Sensitive. Under the *Tonto National Forest Land and Resource Management Plan* (Forest Service 1985), sensitive species are those identified by a regional forester for which population viability is a concern, as evidenced by 1) significant current or predicted downward trends in population number or density or 2) significant current or predicted downward trends in habitat capability that would reduce the species' existing distribution.

SCC = Species of conservation concern. The *Tonto National Forest Land Management Plan* (Forest Service 2023) defines SCC as species that are native to and known to occur in the TNF and for which there are substantial concerns about the species' ability to persist within the TNF. These species are listed on the most recently published list of Species of Conservation Concern for the Tonto National Forest (Forest Service 2021).

There is substantial overlap between SCC and S. SWCA Environmental Consultants (SWCA) evaluated S and draft SCC for the FEIS, which was published in 2021. After publication of the FEIS, the publication of *Tonto National Forest Land Management Plan* (Forest Service 2023) resulted in the need for revision of the FEIS and this table. SWCA deleted no species or statuses from the table and added only species newly designated as SCC.

†SWCA evaluated this species as an S during initial analysis and FEIS publication; however, the species was not included as an SCC in the *Tonto National Forest Land Management Plan* (Forest Service 2023).

‡ SWCA evaluated this species as a draft SCC during initial analysis and FEIS publication; however, the species was not included as an SCC in the *Tonto National Forest Land Management Plan* (Forest Service 2023).

Table A2. Special-Status Wildlife Species Analyzed for Alternative 4 – Silver King

Common Name (*Scientific Name*)	Status*	AGFD Records of Occurrence within 5 miles	Baseline Data Records of Occurrence	Other Records of Occurrence	Habitat Components (Elevation, Vegetation Association, Slope, Aspect, etc.)	Geographical Range in Arizona	Likelihood of Occurrence in Silver King Analysis Area
Amphibians							
Western barking frog (*Craugastor augusti cactorum*)	TNF: S†				Species prefers outcrops or cave on rocky slopes in oak (*Quercus* spp.)/pine-oak (*Pinus* spp.-*Quercus* spp.) associations; elevational range of 4,200–6,200 feet above mean sea level (amsl).	Occurs in rocky outcrops in Cochise and southern Pima and Santa Cruz Counties, and in the Quinlan, Santa Rita, Patagonia, Huachuca, and Pajarito mountain ranges.	Unlikely to occur
Northern leopard frog (*Lithobates pipiens*)	TNF: S†				Range of habitats, including grasslands, brush land, and forests, usually with permanent water; elevational range of 2,640–9,155 feet amsl.	Occurs in northern and central Arizona.	Unlikely to occur
Lowland leopard frog (*Lithobates yavapaiensis*)	TNF: S, SCC	Arnett Creek (2010), Telegraph Canyon (2016), Rio Rancho Creek (2017), Queen Creek (1992), Pinal Mountains: west of Iron Canyon (2010); Happy Camp Tank (2017)	Tailings corridor, East Plant, Devil's Canyon, Queen Creek, Oak Flat, Mineral Creek (WestLand 2009a, 2018a)		Aquatic systems in elevations ranging from 480–6,200 feet amsl; species uses a variety of habitats, both natural and human made.	Occurs in central and southeastern Arizona.	Known to occur
Chiricahua leopard frog (*Rana chiricahuensis*)	ESA: T (all Arizona counties except La Paz, Mohave, Pinal, and Yuma Counties) with designated critical habitat				Headwater streams, springs, and livestock tanks. An important characteristic of habitat is that it be free or have low numbers of nonnative species, including nonnative fish, crayfish, bull frogs (*Lithobates catesbeianus*), and barred tiger salamanders (*Ambystoma mavortium*).	Occurs in all Arizona counties except La Paz, Mohave, Pinal, and Yuma Counties. Occurs along the Mogollon Rim and in mountainous areas of southeastern Arizona.	Unlikely to occur
Birds							
Northern goshawk (*Accipiter gentilis*)	TNF: S†		Oak Flat/ vicinity of Boyce Thompson Arboretum (WestLand 2012a, 2015)		Species is found in wide variety of forest associations, including deciduous, coniferous, and mixed forests; prefers mature forests for breeding in elevations ranging from 4,750–9,120 feet amsl.	Occurs throughout Arizona.	Known to occur
Clark's grebe (*Aechmophorus clarkia*)	TNF: SCC‡				Requires large, deep bodies of water for fishing.	Occurs in Mohave and La Paz Counties.	Unlikely to occur
Western grebe (*Aechmophorus occidentalis*)	TNF: SCC‡				Requires large, deep bodies of water for fishing.	Occurs throughout Arizona in winter; breeding occurs in Coconino, Yavapai, Maricopa, Pinal, and Pima Counties.	Unlikely to occur
Golden eagle (*Aquila chrysaetos*)	BGEPA: Yes	Superstition Mountains: Hewitt Ridge (2014)	Devil's Canyon, Queen Creek, Boyce Thompson Arboretum, and Arnett-Queen Creeks IBA (WestLand 2012a, 2012b, 2015)		Species prefers mountainous areas; nesting occurs at elevations between 4,000 and 10,000 feet amsl.	Occurs throughout Arizona.	Known to occur
Red-faced warbler (*Cardellina rubrifrons*)	TNF: SCC‡				Summer resident only; occurs in montane fir (*Abies* spp.), pine, and pine-oak woodlands at elevations between 5,400 and 9,000 feet amsl.	Occurs in southeastern Arizona and along the Mogollon Rim.	Unlikely to occur

Common Name (*Scientific Name*)	Status*	AGFD Records of Occurrence within 5 miles	Baseline Data Records of Occurrence	Other Records of Occurrence	Habitat Components (Elevation, Vegetation Association, Slope, Aspect, etc.)	Geographical Range in Arizona	Likelihood of Occurrence in Silver King Analysis Area
American dipper (*Cinclus mexicanus*)	TNF: SCC				Fast-flowing montane streams.	Occurs in northern and eastern Arizona.	Unlikely to occur
Western yellow-billed cuckoo (distinct population segment) (*Coccyzus americanus*)	ESA: T (all Arizona counties) TNF: S	Dripping Springs Mountains: vicinity of Government Mountain (2011), Dripping Springs Mountains: Devil's Canyon (2011), Queen Creek: Whitlow Dam (2000)	Devil's Canyon, Queen Creek, Whitlow Dam, Apache Leap, Oak Flat, Rancho Rio Creek, Mineral Creek (WestLand 2012a, 2015, 2017a, 2020)		Typically found in riparian woodland vegetation (cottonwood [*Populus* spp.], willow [*Salix* spp.], or saltcedar [*Tamarix* spp.]) at elevations below 6,600 feet amsl. Dense understory foliage appears to be an important factor in nest site selection.	Occurs in every Arizona county, from below Mogollon Rim to southeast Arizona and along the Colorado River. The highest concentrations in Arizona are along the Agua Fria, San Pedro, upper Santa Cruz, and Verde River drainages and Cienega and Sonoita Creeks.	Known to occur
Gilded flicker (*Colaptes chrysoides*)	TNF: SCC		Devil's Canyon (WestLand 2012a), Apache Leap (WestLand 2015), Arnett Creek (WestLand 2017a)		Habitat includes stands of large saguaros (*Carnegiea gigantea*), Joshua trees (*Yucca* spp.), and low-elevation riparian groves.	Occurs in southern, central, and western Arizona.	Known to occur
Olive-sided flycatcher (*Contopus cooperi*)	TNF: SCC‡		Boyce Thompson (1989) (Westland 2015)		Species is present only in summer; breeding habitat includes mixed-conifer forests near open areas with lots of snags. During migration, species can be found in almost any habitat.	Occurs throughout Arizona.	May occur
Broad-billed hummingbird (*Cynanthus latirostris*)	TNF: SCC‡		Apache Leap; Queen Creek; East Plant Site; Rancho Rio Creek; Devil's Canyon; Mineral Creek (WestLand 2012a), Queen Creek (Westland 2017a),		Preferred habitat is rocky canyons in desert-like mountain habitats; can be found in foothills, canyons, arroyos, and deserts and along streams.	Occurs in southeast and central Arizona.	Known to occur
Southwestern willow flycatcher (*Empidonax traillii extimus*)	ESA: E (all Arizona counties except Navajo County) with designated critical habitat	Robles Butte: Queen Creek (2005)	Queen Creek near Boyce Thompson (WestLand 2017b)		Found in dense riparian habitats along streams, rivers, and other wetlands where cottonwood, willow, boxelder (*Acer negundo*), saltcedar, Russian olive (*Elaeagnus angustifolia*), buttonbush (*Cephalanthus* spp.), and arrowweed (*Pluchea sericea*) are present. Nests are found in thickets of trees and shrubs, primarily those that are 13–23 feet tall, among dense, homogeneous foliage. Habitat occurs at elevations below 8,500 feet amsl.	Occurs in all Arizona counties except Navajo County, in lower elevation riparian areas, during breeding season.	Known to occur

Common Name (*Scientific Name*)	Status*	AGFD Records of Occurrence within 5 miles	Baseline Data Records of Occurrence	Other Records of Occurrence	Habitat Components (Elevation, Vegetation Association, Slope, Aspect, etc.)	Geographical Range in Arizona	Likelihood of Occurrence in Silver King Analysis Area
American peregrine falcon (*Falco peregrinus anatum*)	TNF: S[†]	Oak Flat (2015)	East Plant; West Plant; Devil's Canyon; Queen Creek; Rancho Rio Creek; Apache Leap; vicinity of Boyce Thompson Arboretum (WestLand 2004, 2009b, 2012a, 2012b, 2015, 2017a)		Species is found near cliffs overlooking habitats that support large numbers of birds; range in elevations from 400–9,000 feet amsl.	Occurs throughout Arizona.	Known to occur
MacGillivray's warbler (*Geothlypis tolmiei*)	TNF: SCC[‡]		Apache Leap; Queen Creek Canyon; East Plant Site; Rancho Rio Creek; Devil's Canyon; Mineral Creek (WestLand 2010, 2012a, 2015)		Species is primarily a migratory species in Arizona; however, during breeding season, the species Is known to take residence over the higher forested elevations of northern Arizona, especially along the Mogollon Rim. Preferred habitat during breeding season includes mixed-coniferous forests with riparian areas that have low shrubs; during migration, species can be found in a variety of habitats.	Occurs throughout Arizona.	Known to occur
Bald eagle (*Haliaeetus leucocephalus*)	BGEPA: Yes				Habitat components include large bodies of water with lots of coastline and tall perches above water to allow for hunting.	Occurs in central and northern Arizona.	Unlikely to occur
Yellow-eyed junco (*Junco phaeonotus*)	TNF: S, SCC				Habitat consists of open coniferous forest and pine-oak associations.	Occurs in central and southeastern Arizona.	May occur
Lewis's woodpecker (*Melanerpes lewis*)	TNF: SCC[‡]		Oak Flat (WestLand 2012a)		Distribution of the species is across the Four Corner states, the northern Rocky Mountains, and over the interior mountainous regions of Oregon and California. The species is common year-round across the higher forested elevations of northern Arizona with some expansion of range into the southern Arizona deserts during the winter. Breeding habitats include open forests and woodlands that include oaks, ponderosa, pine (*Pinus ponderosa*), riparian woodlands, and orchards.	Occurs throughout Arizona.	Unlikely to occur
Elf owl (*Micrathene whitneyi*)	TNF: SCC[‡]		Magma Arizona Railroad Company Corridor, Apache Leap; Queen Creek Canyon; East Plant Site;, Rancho Rio Creek; Devil's Canyon; Mineral Creek (WestLand 2012a, 2012b, 2015)		Species is present during breeding season only, found in desert-woodland washes, riparian forests, upland deserts, evergreen woodlands, and canyon riparian forests.	Occurs in the south half of Arizona.	Known to occur
Sulphur-bellied flycatcher (*Myiodynastes luteiventris*)	TNF: S[†], SCC[‡]				Preferred habitat includes sycamore-walnut (*Platanus* spp.-*Juglans* spp.) canyons; species present in Arizona only during its breeding season. They are cavity nesters in broad-leaved riparian trees but occasionally use provided nest boxes (Corman and Wise-Gervais 2005).	Occurs in southeast and central Arizona.	Unlikely to occur

Common Name (*Scientific Name*)	Status*	AGFD Records of Occurrence within 5 miles	Baseline Data Records of Occurrence	Other Records of Occurrence	Habitat Components (Elevation, Vegetation Association, Slope, Aspect, etc.)	Geographical Range in Arizona	Likelihood of Occurrence in Silver King Analysis Area
Desert purple martin (*Progne subis hesperia*)	TNF: SCC‡		Apache Leap; Queen Creek Canyon; East Plant Site; Rancho Rio Creek; Devil's Canyon; Mineral Creek (WestLand 2009b, 2012a, 2013a, 2015)		Habitat consists of Sonoran Desert with many large saguaros proximal to water. Only present during breeding season.	Occurs in southern and central Arizona.	Known to occur
Yuma Ridgeway's rail (*Rallus longirostris yumanensis*)	ESA: E (Gila, La Paz, Maricopa, Mohave, Pinal, and Yuma Counties)				Found in freshwater and brackish marshes below 4,500 feet amsl.	This species is found in Gila, La Paz, Maricopa, Mohave, Pinal, and Yuma Counties.	Unlikely to occur
Mexican spotted owl (*Strix occidentalis lucida*)	ESA: T (all Arizona counties except La Paz and Yuma Counties) with designated critical habitat				Found in mature montane forests and woodlands and steep, shady, wooded canyons. Can also be found in mixed-conifer and pine-oak vegetation types; generally nests in older forests of mixed conifers or ponderosa pine-Gambel oak (*Quercus gambelii*). Nests in live trees on natural platforms (e.g., dwarf mistletoe [*Arceuthobium* spp.] brooms), snags, and canyon walls at elevations between 4,100 and 9,000 feet amsl.	Occurs throughout Arizona, except La Paz and Yuma counties.	Unlikely to occur
Pacific wren (*Troglodytes pacificus*)	TNF: SCC				Commonly found from the coastal islands of Alaska southward to the northern Rockies and northern California; the species has been known to winter near the Mogollon Rim. Wintering habitat in Arizona consists of woodlands and brushy vegetation.	Occurs along the Mogollon Rim.	Unlikely to occur
Fish							
Gila longfin dace (*Agosia chrysogaster chrysogaster*)	TNF: SCC‡	Mineral Creek (2010)	Mineral Creek (WestLand 2009a, 2018a)		Habitat varies from intermittent hot low-desert streams to clear, cool streams at higher elevations; prefers medium-sized to small streams with sandy/gravely bottoms and pools with some cover. Species is normally found below 4,900 feet amsl.	Occurs in central, southern, and southeastern Arizona.	Known to occur
Desert sucker (*Catostomus clarki*)	TNF: S†				Species is found in flowing pools of streams and rivers with a gravel substrate; elevational range of 480–8,840 feet amsl.	Occurs in central, southern, and southeastern Arizona.	Unlikely to occur
Sonora sucker (*Catostomus insignis*)	TNF: S†				Species is found in a variety of habitats, from warm rivers to cool streams; prefers gravelly or rocky pools in elevations ranging from 1,210–8,730 feet amsl.	Occurs in central, southern, and southeastern Arizona.	Unlikely to occur

Common Name (*Scientific Name*)	Status*	AGFD Records of Occurrence within 5 miles	Baseline Data Records of Occurrence	Other Records of Occurrence	Habitat Components (Elevation, Vegetation Association, Slope, Aspect, etc.)	Geographical Range in Arizona	Likelihood of Occurrence in Silver King Analysis Area
Desert pupfish (*Cyprinodon macularius*)	ESA: E (Cochise, Gila, Graham, Maricopa, Pima, Santa Cruz, and Yavapai Counties) with designated critical habitat	Queen Creek (2003)			Species is restricted to three natural populations in California and the non-natural irrigation drains around the Salton Sea. Also found in restricted locations in Sonora and Baja California, Mexico. One natural population still occurs in Quitobaquito Spring and pond in Pima County and reintroductions have been made in Pima, Pinal, Maricopa, Graham, Cochise, La Paz, and Yavapai Counties. Species is found in the shallow water of desert springs, small streams, and marshes at elevations below 5,000 feet amsl. The species tolerates high salinities and high water temperatures.	Occurs in Cochise, Gila, Graham, Maricopa, Pima, Santa Cruz, and Yavapai Counties.	Known to occur
Gila chub (*Gila intermedia*)	ESA: E (Cochise, Coconino, Gila, Graham, Greenlee, Pima, Pinal, Santa Cruz, and Yavapai Counties) with designated critical habitat				Species is found in pools, springs, ciénegas, and streams at elevations 2,000 and 5,500 feet amsl. The species is dependent on undercut banks, terrestrial vegetation, boulders, root wads, fallen logs, and thick overhanging or aquatic vegetation for cover.	Occurs in Cochise, Coconino, Gila, Graham, Greenlee, Pima, Pinal, Santa Cruz, and Yavapai Counties.	Unlikely to occur
Headwater chub (*Gila nigra*)	TNF: S†				Species is found in the middle to headwater reaches of medium-sized streams with large pools and cover; elevational range of 3,030–6,560 feet amsl.	Occurs in Gila, Graham, and Yavapai Counties.	Unlikely to occur
Roundtail chub (*Gila robusta*)	TNF: S, SCC				Species prefers cool to warm water in mid-elevation streams and rivers with pools up to 6.6 feet deep near flowing water. Cover consists of boulders, tree roots, deep water, and submerged vegetation. Elevational range of 1,210–7,220 feet amsl.	Occurs in Apache, Coconino, Gila, Graham, Greenlee, La Paz, Maricopa, Mohave, Navajo, Pinal, and Yavapai Counties.	Unlikely to occur
Spikedace (*Meda fulgida*)	ESA: E (Apache, Cochise, Coconino, Gila, Graham, Greenlee, Maricopa, Pinal, and Yavapai Counties) with designated critical habitat				Habitat consists of mid-water habitats, including runs, pools, and swirling eddies below 4,500 feet amsl.	Occurs in Apache, Cochise, Coconino, Gila, Graham, Greenlee, Maricopa, Pinal, and Yavapai Counties.	Unlikely to occur
Gila topminnow (including Yaqui) (*Poeciliopsis occidentalis*)	ESA: E (Cochise, Gila, Graham, Maricopa, Pima, Pinal, Santa Cruz, and Yavapai Counties)	Refugium population in Ayer Lake at Boyce Thompson Arboretum (2003)			Species occurs in small streams, springs, and ciénegas at elevations below 4,500 feet amsl, primarily in shallow areas with aquatic vegetation and debris for cover. In Arizona, most of the remaining native populations are in the Santa Cruz River system.	Occurs in Cochise, Gila, Graham, Maricopa, Pima, Pinal, Santa Cruz, and Yavapai Counties.	Known to occur
Colorado pikeminnow (nonessential experimental) (*Ptychocheilus lucius*)	ESA: E, ENE (Gila, Maricopa, and Yavapai Counties) with designated critical habitat				Juveniles prefer slack water, backwater, and side channels with little or no flow and silty substrates; adults use turbid, deep, and fast-flowing waters. Species was reintroduced at an elevation of 1,960 feet amsl. Nonessential experimental populations of this fish in Arizona are in the Salt and Verde River drainages.	This species is found in Coconino, Gila, Maricopa, and Yavapai Counties.	Unlikely to occur

Common Name (*Scientific Name*)	Status*	AGFD Records of Occurrence within 5 miles	Baseline Data Records of Occurrence	Other Records of Occurrence	Habitat Components (Elevation, Vegetation Association, Slope, Aspect, etc.)	Geographical Range in Arizona	Likelihood of Occurrence in Silver King Analysis Area
Loach minnow (*Tiaroga cobitis*)	ESA: E (Apache, Cochise, Coconino, Gila, Graham, Greenlee, Pinal, and Yavapai Counties) with designated critical habitat				Found at elevations below 8,000 feet amsl in small to large perennial streams with swift shallow water over cobble and gravel. Recurrent flooding and natural hydrography are important.	Occurs in Apache, Cochise, Coconino, Gila, Graham, Greenlee, Pinal, and Yavapai Counties.	Unlikely to occur
Razorback sucker (*Xyrauchen texanus*)	ESA: E (Coconino, Gila, Graham, Greenlee, La Paz, Maricopa, Mohave, Pinal, Yavapai, and Yuma Counties) with designated critical habitat				Found in riverine and lacustrine areas, generally not in fast-moving water, and may use backwaters at elevations below 6,000 feet amsl.	Occurs in Coconino, Gila, Graham, Greenlee, La Paz, Maricopa, Mohave, Pinal, Yavapai, and Yuma Counties.	Unlikely to occur
Invertebrates							
Netwing midge (*Agathon arizonicus*)	TNF: S, SCC				Confined to areas in the immediate vicinity of rapidly flowing streams.	Disjunct populations present in Gila and Graham Counties. Recorded in Workman Creek in the Sierra Ancha Mountains, and from 6,000–9,300 feet amsl in the Pinaleño Mountains.	Unlikely to occur
Parker's cylloepus riffle beetle (*Cylloepus parkeri)*	TNF: S†, SCC‡				Habitat consists of small, rocky streams between 2,800 and 4,000 feet amsl.	Known only from creeks in the Bloody Basin, Yavapai County, Arizona.	Unlikely to occur
Monarch butterfly (*Danaus Plexippus*)	ESA: PT TNF: SCC			Boyce Thompson Arboretum (Western Monarch Milkweed Mapper 2023) Records for milkweed plants: West Plant Site; East Plant Site; Boyce Thompson Arboretum; Silver King Fenceline (SEINet 2025)	Species is a migratory species found in a variety of habitats; monarch butterflies require milkweed (family Asclepiadaceae) for breeding. During fall migration in Arizona, monarch butterflies seek nectar from a variety of native plants and garden plants. Populations in Arizona can migrate either to California or Mexico for winter or may overwinter in the low deserts in California. In the Southwest, migrating monarch butterflies often occur near water sources (e.g., rivers, creeks, riparian corridors, roadside ditches, irrigated gardens). In the low deserts of Arizona, monarch butterflies breed in late August to early September; however, monarch butterfly reproduction in Arizona is more common in higher elevations and is less common in the Sonoran desertscrub (Morris et al. 2015).	Occurs throughout Arizona.	May occur
Mayfly (*Fallceon eatoni*)	TNF: S, SCC				Aquatic areas. Rediscovered in 2005 from a single specimen taken in the Salt River Canyon in Gila County (McCafferty 2006).	Occurs in Gila County.	Unlikely to occur

Common Name (*Scientific Name*)	Status*	AGFD Records of Occurrence within 5 miles	Baseline Data Records of Occurrence	Other Records of Occurrence	Habitat Components (Elevation, Vegetation Association, Slope, Aspect, etc.)	Geographical Range in Arizona	Likelihood of Occurrence in Silver King Analysis Area
Ancha Mountainsnail (*Oreohelix anchana*)	TNF: SCC				Limestone rock slide, talus.	Known from a single slide of limestone rocks on the northeastern slope of Center Mountain in the Sierra Ancha Mountains, Tonto National Forest, Gila County, Arizona (Gregg 1953)	Unlikely to occur
Verde Rim springsnail (*Pyrgulopsis glandulosa*)	TNF: SCC				Habitat is freshwater, benthic, desert springs at 5,280 feet amsl.	Nelson Place Spring complex, which consists of two springs 492 apart that form the headwaters of Sycamore Creek, Yavapai County, Arizona.	Unlikely to occur
Fossil springsnail (*Pyrgulopsis simplex*)	TNF: S, SCC				Habitat is present only at headsprings and upper section of the outflow; individuals generally found on rocks or aquatic macrophytes in moderate current.	The known distribution of this species is limited to an unnamed spring near Strawberry in Gila County and at Fossil Springs in Yavapai County.	Unlikely to occur
Phoenix talussnail (*Sonorella allynsmithi*)	TNF: SCC‡				Species prefers talus slopes in mid-elevation areas of the Sonoran Desert.	Occurs in Maricopa County, Arizona.	Unlikely to occur
Sierra Ancha talussnail (*Sonorella anchana*)	TNF: SCC				Habitat is terrestrial; individuals occur in rockslides and talus slopes.	Known from several close proximity localities in the Sierra Ancha Mountains: near Reynolds Creek, a rockslide northeast slope of Center Mountain, and on the southwest side of Center Mountain, Tonto National Forest, Gila County, Arizona	Unlikely to occur
Richinbar talussnail (*Sonorella ashmuni*)	TNF: SCC				Loose talus slopes, rocky hillsides, and cracks and fissures in rock faces.	Known from Gila, Maricopa, and Yavapai Counties. Widely distributed within Tonto National Forest. Range extends from Richinbar Mine, southeast of Prescott to west of the Agua Fria River and to 3 miles east of Bubblebee, Arizona. Species also occurs along Seven Springs Road, near Locust Spring, near Roundtree Canyon, and on the northeast slope of Center Mountain in the Sierra Ancha Mountains.	Unlikely to occur
Milk Ranch talussnail (*Sonorella micromphala*)	TNF: SCC				Occurs in talus slopes and found in crevices one to several feet below the surface at elevations of 6,000 to 7,000 feet amsl.	Mogollon Rim in vicinity of Pine, Gila County, Arizona.	Unlikely to occur

Common Name (*Scientific Name*)	Status*	AGFD Records of Occurrence within 5 miles	Baseline Data Records of Occurrence	Other Records of Occurrence	Habitat Components (Elevation, Vegetation Association, Slope, Aspect, etc.)	Geographical Range in Arizona	Likelihood of Occurrence in Silver King Analysis Area
Roosevelt talussnail (*Sonorella rooseveltiana*) (=*Myotophallus rooseveltianus*) + (*S.r. fragilis*)	TNF: SCC				Loose talus slopes, rocky hillsides, and cracks and fissures in rock faces.	Known from five locations on the Tonto National Forest. Occurrences in Gila County, west and southwest of Roosevelt Dam.	Unlikely to occur
A Caddisfly (*Wormaldia planae*)	TNF: S†				This species is primarily a neotropical species, with a limited distribution in Arizona (Muñoz-Quesada and Holzenthal 2008). Occurs in central Arizona, near Camp Verde, Beaver Creek, Sycamore Creek, and Fossil Creek. Typically occur in mountainous regions, in cooler, spring-fed streams. Has been found in upper portion of slow-speed velocity streams with rocky substrate.	Occurs in Gila and Yavapai Counties.	Unlikely to occur
Mammals							
Sonoran pronghorn (*Antilocapra americana sonoriensis*)	ESA: ENE (La Paz, Maricopa, Pima, Pinal, Santa Cruz, and Yuma Counties)				Found in Sonoran desertscrub within broad, intermountain, alluvial valleys with creosote bush (*Larrea tridentata*)-bursage (*Ambrosia* spp.) and paloverde (Parkinsonia spp.)–mixed cacti associations at elevations 2,000–4,000 feet amsl. The only extant U.S. population is in southwestern Arizona; however, reintroductions have occurred in La Paz County. This species is found in La Paz, Maricopa, Pima, Pinal, Santa Cruz, and Yuma Counties.	Occurs in southwestern Arizona.	Unlikely to occur
Mexican gray wolf (*Canis lupis baileyi*)	ESA: E (Apache and Greenlee Counties), EXPN TNF: ENE				Found in variety of vegetation types, except low deserts. Cover, water, and sufficient prey, such as deer and elk, are important. Reintroduction areas are typically rugged lands in coniferous forest. Elevational range of 3,000–12,000 feet amsl.	Occurs in Apache and Greenlee counties, reintroductions are occurring in Apache County. All packs are currently on the Apache-Sitgreaves National Forests.	Unlikely to occur
Pale Townsend's big-eared bat (*Corynorhinus townsendii pallescens*)	TNF: S, SCC AGFD: SGCN 1B		Tailings corridor, East Plant, Devil's Canyon, Queen Creek, Oak Creek (vicinity), near west vicinity (WestLand 2012c, 2018c)		This bat occurs in most of Arizona, except for the low-elevation deserts of the southwestern portion of the state. In summer, the species is found in caves and mines in elevations ranging from 550–7,520 feet amsl; in winter, the species is found in cold caves, lava tubes, and mines in higher elevations than summer.	Occurs throughout Arizona.	Known to occur
Spotted bat (*Euderma maculatum*)	TNF: S† AGFD: SGCN 1B				Habitat can vary widely from dry deserts to coniferous forests; species prefers to roost in crevices and cracks in cliff faces; elevational range of 110–8,670 feet amsl.	Occurs throughout Arizona.	May occur
Allen's lappet-browed or big-eared Bat (*Idionycteris phyllotis*)	TNF: S, SCC				Found in ponderosa pine, pinyon-juniper (*Pinus* spp.-*Juniperus* spp.), Mexican woodland, and riparian areas with cottonwoods, sycamores, and willows; also have records of occurrence in desertscrub and white fir (*Abies concolor*) habitats; elevational range of 1,320–9,800 feet amsl.	Occurs south central to southern and southeastern Arizona.	Unlikely to occur

Common Name (*Scientific Name*)	Status*	AGFD Records of Occurrence within 5 miles	Baseline Data Records of Occurrence	Other Records of Occurrence	Habitat Components (Elevation, Vegetation Association, Slope, Aspect, etc.)	Geographical Range in Arizona	Likelihood of Occurrence in Silver King Analysis Area
Western red bat (*Lasiurus blossevillii*)	TNF: S, SCC	Queen Creek: Whitlow Dam (1965)	East Plant, Devil's Canyon, Queen Creek, near west vicinity (WestLand 2012c)		Distribution in Arizona is from the southeast corner of the state northwest along the Mogollon Rim to near Flagstaff, with outlier records of occurrence in the Grand Canyon and at the Bill Williams River near its confluence with the Colorado River. Habitat consists of riparian and wooded areas. Species typically roosts in cottonwood trees; elevational range of 1,900–7,200 feet amsl.	Distribution in Arizona is from the southeast corner of the state northwest along the Mogollon Rim to near Flagstaff, with outlier records in Grand Canyon and at the Bill Williams River near its confluence with the Colorado River.	Known to occur
Western yellow bat (*Lasiurus xanthinus*)	AGFD: SGCN 1B (added in accordance with request from AGFD)				Species may be associated with palm trees (Arecaceae), sycamores, hackberries (*Celtis* spp.), and cottonwoods. Habitat consists of riparian and wooded areas, typically roosts in cottonwood trees; elevational range of 1,900–7,200 feet amsl.	Occurs throughout Arizona, historically found near Phoenix and Casa Grande.	May occur
Ocelot (*Leopardus* [*Felis*] *pardalis*)	ESA: E (Cochise, Gila, Graham, Maricopa, Pima, Pinal, and Santa Cruz Counties)	Devil's Canyon (2011)			Habitats preferred by ocelots are variable, from tropical semiarid deserts to brushy forests and semiarid deserts in the northern part of its range. Densely vegetated movement corridors and small, semi-isolated habitat patches are important for facilitating dispersal movements in fragmented habitats. The current distribution extends into southern Arizona; dispersing individuals range more widely, as evidenced by the 2010 roadkill (on U.S. Route 60) near Top-of-the-World, Gila County. Little is known about ocelot habitat use in Arizona and Sonora, Mexico. Current information is lacking to draw conclusions about ocelot populations in Arizona, although more sightings have been substantiated recently in southern Arizona, in the vicinity of the United States–Mexico border. No information exists as to any established or breeding populations in Arizona. The individual killed near Top-of-the-World, between Superior and Globe along U.S. Route 60, is considered by some to be an extreme occurrence and well beyond its expected range.	Occurs in Cochise, Gila, Graham, Greenlee, Maricopa, Pima, Pinal, Santa Cruz, Yavapai, and Yuma Counties.	Unlikely to occur
California leaf-nosed bat (*Macrotus californicus*)	TNF: SCC‡		Oak Flat (immediate vicinity), Near West (WestLand 2012c, 2018c)		Species prefers Sonoran desertscrub and roosts in mines, caves, and rock shelters that have large areas of ceiling and flying space; elevational range of 160–3,980 feet amsl.	Occurs south of the Mogollon Plateau and in Mohave County.	Known to occur
Fringed myotis (*Myotis thysanodes*)	TNF: SCC		Apache Leap (WestLand 2012c)		Species ranges from desert to grasslands to woodland and is most frequently captured in oak-pinyon woodlands and other open, coniferous, middle-elevation forests; roosts in caves, mine tunnels, large snags, and buildings and under exfoliating bark; may hibernate in lower-elevation caves and mines; elevational range of 4,000 to 8,437 feet amsl.	Throughout Arizona but not known from northeast or southwest corners of state. In winter, the species' range shifts to the southernmost counties and Mohave County.	Known to occur

Common Name (*Scientific Name*)	Status*	AGFD Records of Occurrence within 5 miles	Baseline Data Records of Occurrence	Other Records of Occurrence	Habitat Components (Elevation, Vegetation Association, Slope, Aspect, etc.)	Geographical Range in Arizona	Likelihood of Occurrence in Silver King Analysis Area
Brazilian free-tailed bat (*Tadarida brasiliensis*)	AGFD: SGCN 1B (added in accordance with request from AGFD)	Picketpost Mountain: Pott's Canyon (2017)	Oak Flat (immediate vicinity), Near West (WestLand 2012c, 2018c)		A species that is distributed across much of the southern United States with the largest concentrations residing in the western United States. Preferred habitat is the Upper and Lower Sonoran life zones and commonly roosts in caves, abandoned mines, under bridges, buildings, and hollow trees. Elevational range 450–8,475 feet amsl.	Occurs throughout Arizona during summer; only occurs in the southern half of Arizona during winter.	Known to occur
Reptiles							
Sonoran desert tortoise (*Gopherus morafkai*)	TNF: S, SCC	Cottonwood Canyon (2007), Arnett Creek (2017), Telegraph Canyon (1990), Belmont Canyon (1990), Picketpost Mountain (1990), Raymert Wash (1990), Queen Creek (2016), Whitlow Ranch (2014), Whitlow Canyon (2014), Hewitt Canyon (2016)	Tailings Area, Far West Parcel, Near West (WestLand 2013b, 2014)		Habitat includes desertscrub to semidesert grassland and interior chaparral; elevational range of 510–5,300 feet amsl.	Occurs in the southern and southwestern part of Arizona. The range of the species in Arizona is most of the southwest half of the state, below the Mogollon Rim, and north to Lake Mead.	Known to occur
Northern Mexican gartersnake (*Thamnophis eques megalops*)	ESA: T (all Arizona counties except Maricopa and Yuma Counties) with designated critical habitat TNF: S†				Inhabits streams, rivers, ciénegas, and ponds with dense shoreline vegetation from Sonoran desertscrub up into Petran montane conifer forest.	Occurs throughout Arizona except Maricopa and Yuma Counties.	Unlikely to occur
Narrow-headed gartersnake (*Thamnophis rufipunctatus*)	ESA: T (Apache, Coconino, Gila, Graham, Greenlee, Navajo, and Yavapai Counties) with designated critical habitat TNF: S†				Species prefers pinyon-juniper and pine-oak woodlands, ranging into ponderosa pine at elevations 2,440–8,080 feet amsl; species needs permanent water source.	Occurs in Apache, Coconino, Gila, Graham, Greenlee, Navajo, and Yavapai Counties.	Unlikely to occur
Bezy's night lizard (*Xantusia bezyi*)	TNF: S, SCC	Queen Creek Canyon (2008)			Species prefers rocky slopes in upland Sonoran desertscrub and chaparral vegetation types; elevational range of 2,400–5,800 feet amsl.	Occurs in Gila, Pinal, and Maricopa Counties.	Known to occur

Unless otherwise noted, range or habitat information is from AGFD (2025); Forest Service (2017); Kaufman (1996); NatureServe (2025); TNF (2000); U.S. Fish and Wildlife Service (2016).

Note: Occurrence evaluation is based on the proposed action mining component and its associated 5-mile analysis area.

Unless otherwise noted, occurrence information is from data obtained from AGFD on August 13, 2018, or from eBird (2025).

* Status definitions are as follows:

AGFD

SGCN 1B = Species of Greatest Conservation Need Tier 1B. Vulnerable species.

After publication of the FEIS in 2021, the AGFD updated its state wildlife action plan; however, SWCA Environmental Consultants made no related changes within the tables in this document. The AGFD statuses in this document are based on Arizona's State Wildlife Action Plan: 2012–2022 (AGFD 2012).

Not all species with an SGCN status are addressed as part of these analyses; however, SWCA added Brazilian free-tailed bat (Tadarida brasiliensis) and western yellow bat (Lasiurus xanthinus) to the analysis at the request of the AGFD, which is a cooperating agency.

BGEPA = Bald and Golden Eagle Protection Act

This federal statute protects two eagle species.

Endangered Species Act (ESA):

E = Endangered. Endangered species are those in imminent jeopardy of extinction. The ESA specifically prohibits the take of a species listed as endangered. Take is defined by the ESA as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to engage in any such conduct.

PT = Proposed Threatened. Any species the U.S. Fish and Wildlife Service has determined is likely to become endangered within the foreseeable future throughout all or a significant portion of its range and the agency has proposed a draft rule to list as threatened.

T = Threatened. Threatened species are those that are likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.

EXPN = A population of a species designated under Section 10(j) of the ESA that the U.S. Fish and Wildlife Service, based on review of the best available information, believes is not essential for the continued existence of the species. Regulatory restrictions are considerably reduced under an EXPN designation.

TNF = Tonto National Forest

ENE = Reintroduced populations designated as Experimental - Nonessential, under the ESA.

S = Sensitive. Under the *Tonto National Forest Land and Resource Management Plan* (Forest Service 1985), sensitive species are those identified by a regional forester for which population viability is a concern, as evidenced by 1) significant current or predicted downward trends in population number or density or 2) significant current or predicted downward trends in habitat capability that would reduce the species' existing distribution.

SCC = Species of conservation concern. The *Tonto National Forest Land Management Plan* (Forest Service 2023) defines SCC as species that are native to and known to occur in the TNF and for which there are substantial concerns about the species' ability to persist within the TNF. These species are listed on the most recently published list of Species of Conservation Concern for the Tonto National Forest (Forest Service 2021).

† SWCA evaluated this species as an S during initial analysis and FEIS publication; however, the species was not included as an SCC in the *Tonto National Forest Land Management Plan* (Forest Service 2023).

‡ SWCA evaluated this species as a draft SCC during initial analysis and FEIS publication; however, the species was not included as an SCC in the *Tonto National Forest Land Management Plan* (Forest Service 2023).

Table A3. Special-Status Wildlife Species Analyzed for Alternative 5 – Peg Leg

Common Name (*Scientific Name*)	Status*	AGFD Records of Occurrence within 5 miles	Baseline Data Records of Occurrence	Other Records of Occurrence	Habitat Components (Elevation, Soils, Vegetation Association, Slope, Aspect, etc.)	Geographical Range in Arizona	Likelihood of Occurrence in Peg Leg Analysis Area
Amphibians							
Arizona toad (*Anaxyrus microscaphus*)	BLM: S				Species prefers rocky stream and canyons in pine-oak (*Pinus* spp.-*Quercus* spp.) associations and in lower deserts. Elevation ranges from sea level to 8,000 feet above mean sea level (amsl).	Occurs in Apache, Coconino, Gila, Graham, La Paz, Maricopa, Mohave, Navajo, and Yavapai Counties.	Unlikely to occur
Sonoran green toad (*Anaxyrus retiformis*)	BLM: S				Species is found in rain pools, wash bottoms, and areas near water in semiarid mesquite (*Prosopis* spp.)-grassland, creosote bush (*Larrea tridentata*) desert, and upland saguaro-paloverde (*Carnegiea gigantea-Parkinsonia* spp.) desert; elevational range of 500– 3,225 feet amsl.	Found in south-central Arizona, from Organ Pipe Cactus National Monument to 9 miles north of the Pima-Pinal County line in Santa Rosa Valley.	Unlikely to occur
Western barking frog (*Craugastor augusti cactorum*)	TNF: S[†] BLM: S				Species prefers outcrops or caves on rocky slopes in oak/pine-oak associations; elevational range of 4,200– 6,200 feet amsl.	Occurs in rocky outcrops in Cochise and southern Pima and Santa Cruz Counties, in the Quinlan, Santa Rita, Patagonia, Huachuca, and Pajarito mountain ranges.	Unlikely to occur
Great Plains narrow-mouthed toad (*Gastrophryne olivacea*)	BLM: S				Found in mesquite semidesert grassland to oak woodland near streams, springs, and rain pools; elevational range from sea level to 4,100 feet amsl.	Found from Santa Cruz County north to Maricopa County, west to near Ajo in Pima County, and in Pinal County.	Unlikely to occur
Plains leopard frog (*Lithobates blairi*)	BLM: S				Found near stream, ponds, reservoirs, marshes, or irrigation ditches in prairies and desert grasslands; elevational range of 4,060–5,880 feet amsl.	Isolated population on the western side of the Chiricahua Mountains, Cochise County.	Unlikely to occur
Northern leopard frog (*Lithobates pipiens*)	TNF: S[†] BLM: S				Range of habitats, including grasslands, brush land, and forests, usually with permanent water; elevational range of 2,640–9,155 feet amsl.	Occurs in northern and central Arizona.	Unlikely to occur

Common Name (*Scientific Name*)	Status*	AGFD Records of Occurrence within 5 miles	Baseline Data Records of Occurrence	Other Records of Occurrence	Habitat Components (Elevation, Soils, Vegetation Association, Slope, Aspect, etc.)	Geographical Range in Arizona	Likelihood of Occurrence in Peg Leg Analysis Area
Lowland leopard frog (*Lithobates yavapaiensis*)	TNF: S, SCC BLM: S	Walnut Canyon (1993), White Canyon (2010), Wood Canyon (2016), Telegraph Canyon (2016), Tributary to Arnett Creek (2017), Rawhide Canyon west of Government Mountain (2009), Arnett Creek (1981, 1992, 2017), Dripping Springs Mountains: Picketpost Mountain (2017), Rio Rancho Creek (2017), Queen Creek (1992), Pinal Mountains: west of Iron Canyon (2010), Happy Camp Tank (2017)	Tailings corridor, East Plant, Devil's Canyon, Queen Creek, Oak Flat, Mineral Creek (WestLand 2009a, 2018a)		Aquatic systems in elevations ranging from 480–6,200 feet amsl; species uses a variety of habitats, both natural and human made.	Occurs in central and southeastern Arizona.	Known to occur
Chiricahua leopard frog (*Rana chiricahuensis*)	ESA: T (all Arizona counties except La Paz, Mohave, Pinal, and Yuma Counties) with designated critical habitat BLM: S				Headwater streams, springs, and livestock tanks. An important characteristic of habitat is that it be free or have low numbers of nonnative species, including nonnative fish, crayfish, bull frogs (*Lithobates catesbeianus*), and barred tiger salamanders (*Ambystoma mavortium*). This species occurs in Apache, Cochise, Coconino, Gila, Graham, Greenlee, Navajo, Pima, Pinal, Santa Cruz, and Yavapai Counties.	Occurs in all Arizona counties except La Paz, Mohave, Pinal, and Yuma Counties. Occurs along the Mogollon Rim and in mountainous areas of southeastern Arizona.	Unlikely to occur
Birds							
Northern goshawk (*Accipiter gentilis*)	TNF: S[†] BLM: S		Oak Flat/ vicinity of Boyce Thompson Arboretum (WestLand 2012a, 2015)		Species is found in wide variety of forest associations, including deciduous, coniferous, and mixed forests; prefers mature forests for breeding in elevations ranging from 4,750–9,120 feet amsl.	Occurs throughout Arizona.	Known to occur
Clark's grebe (*Aechmophorus clarkia*)	TNF: SCC[‡] BLM: S				Requires large, deep bodies of water for fishing.	Occurs in Mohave and La Paz Counties during summer; found on large lakes throughout Arizona in winter.	Unlikely to occur
Western grebe (*Aechmophorus occidentalis*)	TNF: SCC[‡]				Requires large, deep bodies of water for fishing.	Occurs throughout Arizona in winter; breeding occurs in Coconino, Yavapai, Maricopa, Pinal, and Pima Counties.	Unlikely to occur
Arizona grasshopper sparrow (*Ammodramus savannarum ammolegus*)	BLM: S				Species' preferred habitat is open grasslands with some shrubs 3,800–5,300 feet amsl.	Occurs in southeastern and southern Arizona.	Unlikely to occur

Common Name (*Scientific Name*)	**Status***	**AGFD Records of Occurrence within 5 miles**	**Baseline Data Records of Occurrence**	**Other Records of Occurrence**	**Habitat Components (Elevation, Soils, Vegetation Association, Slope, Aspect, etc.)**	**Geographical Range in Arizona**	**Likelihood of Occurrence in Peg Leg Analysis Area**
Golden eagle (*Aquila chrysaetos*)	BLM: S BGEPA: Yes	Dripping Springs Mountains: Walnut Canyon (2016), Superstition Mountains: Hewitt Ridge (2014)	Devil's Canyon, Queen Creek, Boyce Thompson Arboretum and Arnett-Queen Creeks IBA (WestLand 2012a, 2012b, 2015)		Species prefers mountainous areas; nesting occurs at elevations 4,000–10,000 feet amsl.	Occurs throughout Arizona.	Known to occur
Western burrowing owl (*Athene cunicularia hypugaea*)	BLM: S				Distribution is common across the western United States, south-central Canada, and Mexico. Species is found in open, dry grasslands, deserts, and agricultural lands; elevation ranges from 650–6,140 feet amsl.	Occurs in southern and southeastern Arizona.	May occur
Ferruginous hawk (*Buteo regalis*)	BLM: S				Species is found in open grasslands, scrublands, and woodlands in winter; ranges in elevation from 3,500 to 6,000 feet amsl.	Occurs throughout Arizona.	May occur
Red-faced warbler (*Cardellina rubrifrons*)	TNF: SCC‡				Summer resident only; occurs in montane fir (*Abies* spp.), pine, and pine-oak woodlands at elevations between 5,400 and 9,000 feet amsl.	Occurs in southeastern Arizona.	Unlikely to occur
American dipper (*Cinclus mexicanus*)	TNF: SCC				Fast-flowing montane streams.	Occurs in northern and eastern Arizona.	Unlikely to occur
Western yellow-billed cuckoo (distinct population segment) (*Coccyzus americanus*)	ESA: T (all Arizona counties) with designated critical habitat TNF: S† BLM: S	Gila River: Indian Camp Wash (1999), Gila River: Kearny (2003), Gila River: southwest of North Butte (1993), Dripping Springs Mountains: vicinity of Government Mountain (2011), Dripping Springs Mountains: Devil's Canyon (2011), Queen Creek: Whitlow Ranch Dam (2000)	Devil's Canyon, Queen Creek, Whitlow Dam, Apache Leap, Oak Flat, Rancho Rio Creek, Mineral Creek (WestLand 2012a, 2015, 2017a, 2020)		Typically found in riparian woodland vegetation (cottonwood [*Populus* spp.], willow [*Salix* spp.], or saltcedar [*Tamarix* spp.]) at elevations below 6,600 feet amsl. Dense understory foliage appears to be an important factor in nest site selection.	Occurs in every Arizona county, from below Mogollon Rim to southeast Arizona and along the Colorado River. The highest concentrations in Arizona are along the Agua Fria, San Pedro, upper Santa Cruz, and Verde River drainages and Cienega and Sonoita Creeks.	Known to occur
Gilded flicker (*Colaptes chrysoides*)	TNF: SCC BLM: S		Devil's Canyon (WestLand 2012a) Apache Leap (WestLand 2015), Arnett Creek (WestLand 2017a)		Habitat includes stands of large saguaros, Joshua trees (*Yucca* spp.), and low-elevation riparian groves.	Occurs in southern, central, and western Arizona.	Known to occur
Olive-sided flycatcher (*Contopus cooperi*)	TNF: SCC‡		Boyce Thompson (1989) (Westland 2015)		Species is present only in summer; breeding habitat includes mixed-conifer forests near open areas with lots of snags. During migration, species can be found in almost any habitat.	Occurs throughout Arizona.	May occur

Common Name (*Scientific Name*)	**Status***	**AGFD Records of Occurrence within 5 miles**	**Baseline Data Records of Occurrence**	**Other Records of Occurrence**	**Habitat Components (Elevation, Soils, Vegetation Association, Slope, Aspect, etc.)**	**Geographical Range in Arizona**	**Likelihood of Occurrence in Peg Leg Analysis Area**
Broad-billed hummingbird (*Cynanthus latirostris*)	TNF: SCC‡BLM: S		Apache Leap, Queen Creek, East Plant Site, Rancho Rio Creek, Devil's Canyon, Mineral Creek (WestLand 2012a), Queen Creek (WestLand 2017a)		Preferred habitat is rocky canyons in desert-like mountain habitats; can be found in foothills, canyons, arroyos, and deserts and along streams.	Occurs in southeast and central Arizona.	Known to occur
Southwestern willow flycatcher (*Empidonax traillii extimus*)	ESA: E (all Arizona counties except Navajo County) with designated critical habitat BLM: S	Dripping Springs Mountains: Gila River (2015), Tortilla Mountains: Gila River near Kearny (2011, 2015), Gila River: near Box Canyon (2008), Gila River: Kelvin vicinity (2015), Gila River: east of North Butte (2010), Gila River: near Zellweger Wash (2015), Gila River: north of Grayback Mountain (1996), Gila River: The Spine (2011), Dripping Springs Mountains: Mineral Creek (2013), Robles Butte: Queen Creek (2005)	Queen Creek near Boyce Thompson (WestLand 2017b)		Found in dense riparian habitats along streams, rivers, and other wetlands where cottonwood, willow, boxelder (*Acer negundo*), saltcedar, Russian olive (*Elaeagnus angustifolia*), buttonbush (*Cephalanthus* spp.), and arrowweed (*Pluchea sericea*) are present. Nests are found in thickets of trees and shrubs, primarily those that are 13–23 feet tall, among dense, homogeneous foliage. Habitat occurs at elevations below 8,500 feet amsl.	Occurs in all Arizona counties except Navajo County, in lower elevation riparian areas, during breeding season.	Known to occur
American peregrine falcon (*Falco peregrinus anatum*)	TNF: S† BLM: S	Oak Flat (2015)	East Plant, West Plant, Devil's Canyon, Queen Creek, Rancho Rio Creek, Apache Leap, Boyce Thompson Arboretum and Arnett-Queen Creeks IBA (WestLand 2004, 2009b, 2012a, 2012b 2015, 2017a)		Species is found near cliffs overlooking habitats that support large numbers of birds; range in elevation from 400–9,000 feet amsl.	Occurs throughout Arizona.	Known to occur
MacGillivray's warbler (*Geothlypis tolmiei*)	TNF: SCC‡		Apache Leap, Queen Creek Canyon, East Plant Site, Rancho Rio Creek, Devil's Canyon, Mineral Creek (WestLand 2010, 2012a, 2015)		Species is primarily a migratory species in Arizona; however, during breeding season, the species Is known to take residence over the higher forested elevations of northern Arizona, especially along the Mogollon Rim. Preferred habitat during breeding season includes mixed-coniferous forests with riparian areas that have low shrubs; during migration, species can be found in a variety of habitats.	Occurs throughout Arizona.	Known to occur

Common Name (*Scientific Name*)	Status*	AGFD Records of Occurrence within 5 miles	Baseline Data Records of Occurrence	Other Records of Occurrence	Habitat Components (Elevation, Soils, Vegetation Association, Slope, Aspect, etc.)	Geographical Range in Arizona	Likelihood of Occurrence in Peg Leg Analysis Area
Cactus ferruginous pygmy-owl (*Glaucidium brasilianum cactorum*)	BLM: S				Species prefers streamside cottonwoods and willows near mesquite bosques; can also be found in dry washes with large mesquite, paloverde, desert ironwood (*Olneya tesota*), and saguaro.	Occurs in Organ Pipe Cactus National Monument and suburban Tucson.	Unlikely to occur
California condor (*Gymnogyps californianus*)	ESA: ENE (Apache, Coconino, Mohave, Navajo, and Yavapai Counties) BLM: S				Roosts and nest in steep terrain with rock outcroppings, cliffs, and caves. High perches are necessary to create the strong updrafts the bird requires to lift into flight, and open grasslands or savannas are essential for searching for food.	Occurs mostly along the Grand Canyon and Kaibab Plateau in northern Arizona.	Unlikely to occur
Pinyon jay (*Gymnorhinus cyanocephalus*)	BLM: S		Boyce Thompson Arboretum and Arnett-Queen Creeks IBA (WestLand 2015)		Habitat consists of pinyon-juniper (*Pinus* spp.-*Juniperus* spp.) woodland, sometimes found in pine forests and in scrub oak (*Quercus* spp.) or sagebrush (*Artemisia* spp.) areas.	Occurs in northern Arizona.	Known to occur
Bald eagle (*Haliaeetus leucocephalus*)	BLM: S BGEPA: Yes				Habitat components include large bodies of water with lots of coastline and tall perches above water to allow for hunting.	Occurs in central and northern Arizona.	May occur
Yellow-eyed junco (*Junco phaeonotus*)	TNF: S, SCC				Habitat consists of open coniferous forest and pine-oak associations.	Occurs in central and southeastern Arizona.	Unlikely to occur
California black rail (*Laterallus jamaicensis coturniculus*)	BLM: S				Habitat in Arizona consists of shallow water habitat with emergent and shoreline vegetation. Prefers areas where water levels do not fluctuate.	Occurs only in southwestern part of Arizona along the Colorado River in Yuma County.	Unlikely to occur
Lewis's woodpecker (*Melanerpes lewis*)	TNF: SCC‡		Oak Flat (WestLand 2012a)		Distribution of the species is across the Four Corner states, the northern Rocky Mountains, and over the interior mountainous regions of Oregon and California. The species is common year-round across the higher forested elevations of northern Arizona with some expansion of range into the southern Arizona deserts during the winter. Breeding habitats includes open forests and woodlands that include oaks, ponderosa, pine (*Pinus ponderosa*), riparian woodlands, and orchards.	Occurs throughout Arizona.	Unlikely to occur
Elf owl (*Micrathene whitneyi*)	TNF: SCC‡ BLM: S		Magma Arizona Railroad Company corridor, Apache Leap, Queen Creek Canyon, East Plant Site, Rancho Rio Creek, Devil's Canyon, Mineral Creek (WestLand 2012a, 2012b, 2015)		Species is present during breeding season only, found in desert-woodland washes, riparian forests, upland deserts, evergreen woodlands, and canyon riparian forests.	Occurs in the south half of Arizona.	Known to occur

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Sulphur-bellied flycatcher (*Myiodynastes luteiventris*)	TNF: S†, SCC‡				Preferred habitat includes sycamore-walnut (*Platanus* spp.-*Juglans* spp.) canyons; species present in Arizona only during its breeding season. They are cavity nesters in broad-leaved riparian trees but occasionally use provided nest boxes (Corman and Wise-Gervais 2005).	Occurs in southeast and central Arizona.	Unlikely to occur
Arizona Botteri's sparrow (*Peucaea botterii arizonae*)	BLM: S				Species is found in grasslands with scattered mesquite trees.	Occurs in southeastern Arizona.	Unlikely to occur
Desert purple martin (*Progne subis hesperia*)	TNF: SCC‡ BLM: S		Apache Leap, Queen Creek Canyon, East Plant Site, Rancho Rio Creek, Devil's Canyon, Mineral Creek (WestLand 2009b, 2012a, 2013a, 2015)		Habitat consists of Sonoran Desert with many large saguaros proximal to water. Only present during breeding season.	Occurs in southern and central Arizona.	Known to occur
Yuma Ridgeway's rail (*Rallus longirostris yumanensis*)	ESA: E (Gila, La Paz, Maricopa, Mohave, Pinal, and Yuma Counties) BLM: S				Found in freshwater and brackish marshes below 4,500 feet amsl.	This species is found in Gila, La Paz, Maricopa, Mohave, Pinal, and Yuma Counties.	Unlikely to occur
California least tern (*Sternula antillarum browni*)	BLM: S				Habitat includes seacoasts, beaches, bays, estuaries, lagoons, lakes, and rivers.	Species is rarely found in Arizona; one breeding record occurred in 2009 in Maricopa County, but the species has not bred in Arizona since then.	Unlikely to occur
Mexican spotted owl (*Strix occidentalis lucida*)	ESA: T (all Arizona Counties except La Paz and Yuma Counties) with designated critical habitat BLM: S				Species is found in mature montane forests and woodlands and steep, shady, wooded canyons. Species can also be found in mixed-conifer and pine-oak vegetation types; generally nests in older forests of mixed conifers or ponderosa pine-Gambel oak (*Quercus gambelii*). Nests in live trees on natural platforms (e.g., dwarf mistletoe [*Arceuthobium* spp.] brooms), snags, and canyon walls at elevations 4,100–9,000 feet amsl.	Occurs throughout Arizona, except in La Paz and Yuma Counties.	Unlikely to occur
Le Conte's thrasher (*Toxostoma lecontei*)	BLM: S				A year-round resident in western Arizona, southern Nevada, southern California, and into northern Sonora, Mexico. Suitable habitats are desert flats with sparse, scattered low shrubs. Favors saltbush vegetation and mesquite and cholla (*Cylindropuntia* spp.) cactus.	Occurs in southwestern Arizona.	Unlikely to occur
Pacific wren (*Troglodytes pacificus*)	TNF: SCC				Commonly found from the coastal islands of Alaska southward to the northern Rockies and northern California, the species has been known to winter near the Mogollon Rim. Wintering habitat in Arizona consists of woodlands and brushy vegetation.	Occurs along the Mogollon Rim.	Unlikely to occur

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Fish							
Gila longfin dace (*Agosia chrysogaster chrysogaster*)	TNF: SCC‡ BLM: S	Gila River: Upstream of Box O Wash (1994), Gila River: Kelvin (1994), Tortilla Mountains: Gila River (1994), Gila River: Cochran (1993), Tortilla Mountains: Walnut Canyon (1994), Mineral Creek (1999, 2000, 2010)	Mineral Creek (WestLand 2009a, 2018a)		Habitat varies from intermittent hot low-desert streams to clear, cool streams at higher elevations; prefers medium-sized to small streams with sandy/gravely bottoms and pools with some cover. Species is normally found below 4,900 feet amsl.	Occurs in central, southern, and southeastern Arizona.	Known to occur
Desert sucker (*Catostomus clarki*)	TNF: S†BLM: S	Gila River: North Butte (1994), Gila River: Kelvin (1994), Gila River: Riverside (1994), Gila River: Cochran (1996)			Species is found in flowing pools of streams and rivers with a gravel substrate; elevational range of 480–8,840 feet amsl.	Occurs in central, southern, and southeastern Arizona.	Known to occur
Bluehead sucker (*Catostomus discobolus*)	BLM: S				Species occurs in a variety of habitats from small streams to large rivers ranging from cold, clear streams to warm, turbid rivers; elevational range of 2,001–6,759 feet amsl.	Occurs in the Colorado River mainstem and Grand Canyon tributaries.	Unlikely to occur
Sonora sucker (*Catostomus insignis*)	TNF: S†BLM: S	Gila River: Kelvin (1994), Gila River: Riverside (1994), Gila River: Cochran (2001)			Species is found in a variety of habitats, from warm rivers to cool streams; prefers gravelly or rocky pools in elevations ranging from 1,210–8,730 feet amsl.	Occurs in central, southern, and southeastern Arizona.	Known to occur
Little Colorado sucker (*Catostomus* sp.)	BLM: S				Species prefers creeks, small to medium rivers, and impoundments most often with abundant cover; elevational range of 2,200–7,100 feet amsl.	Species is endemic to the upper portion of the Little Colorado River and some of its north-flowing tributaries.	Unlikely to occur
Desert pupfish (*Cyprinodon macularius*)	ESA: E (Cochise, Gila, Graham, Maricopa, Pima, Santa Cruz, and Yavapai Counties) with designated critical habitat BLM: S	Mineral Mountain vicinity: West of Box Canyon (1983), Queen Creek: West of Superior (2003)			Species is restricted to three natural populations in California and the non-natural irrigation drains around the Salton Sea. Also found in restricted locations in Sonora and Baja California, Mexico. One natural population still occurs in Quitobaquito Spring and pond in Pima County and reintroductions have been made in Pima, Pinal, Maricopa, Graham, Cochise, La Paz, and Yavapai Counties. Species is found in the shallow water of desert springs, small streams, and marshes at elevations below 5,000 feet amsl. The species tolerates high salinities and high water temperatures.	Occurs in Cochise, Gila, Graham, Maricopa, Pima, Santa Cruz, and Yavapai Counties.	Known to occur

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Gila chub (*Gila intermedia*)	ESA: E (Cochise, Coconino, Gila, Graham, Greenlee, Pima, Pinal, Santa Cruz, and Yavapai Counties) with designated critical habitat BLM: S	Dripping Springs Mountains: Mineral Creek (1999), Dripping Springs Mountains: Devil's Canyon (2000)			Species is found in pools, springs, ciénegas, and streams at elevations 2,000 and 5,500 feet amsl. The species is dependent on undercut banks, terrestrial vegetation, boulders, root wads, fallen logs, and thick overhanging or aquatic vegetation for cover.	Occurs in Cochise, Coconino, Gila, Graham, Greenlee, Pima, Pinal, Santa Cruz, and Yavapai Counties.	Known to occur
Headwater chub (*Gila nigra*)	TNF: S[†] BLM: S				Species is found in the middle to headwater reaches of medium-sized streams with large pools and cover; elevational range of 3,030–6,560 feet amsl.	Occurs in Gila, Graham, and Yavapai Counties.	Unlikely to occur
Roundtail chub (*Gila robusta*)	TNF: S, SCC BLM: S				Species prefers cool to warm water in mid-elevation streams and rivers with pools up to 6.6 feet deep near flowing water. Cover consists of boulders, tree roots, deep water, and submerged vegetation. Elevational range of 1,210–7,220 feet amsl.	Occurs in Apache, Coconino, Gila, Graham, Greenlee, La Paz, Maricopa, Mohave, Navajo, Pinal, and Yavapai Counties.	Unlikely to occur
Little Colorado spinedace (*Lepidomeda vittata*)	ESA: T (Apache, Coconino, and Navajo Counties) BLM: S				Habitat consists of medium to small streams and is characteristically found in pools with water flowing over fine gravel and silt-mud substrates; elevational range of 4,000–8,000 feet amsl.	Found in East Clear Creek and its tributaries, Chevelon and Silver Creeks, and Nutrioso Creek and the Little Colorado River.	Unlikely to occur
Spikedace (*Meda fulgida*)	ESA: E (Apache, Cochise, Coconino, Gila, Graham, Greenlee, Maricopa, Pinal, and Yavapai Counties) with designated critical habitat BLM: S	Gila River: Cochran (1991), Gila River: Donnelly Wash vicinity (1991)			Habitat consists of mid-water habitats, including runs, pools, and swirling eddies below 4,500 feet amsl.	Occurs in Apache, Cochise, Coconino, Gila, Graham, Greenlee, Maricopa, Pinal, and Yavapai Counties.	Known to occur
Gila topminnow (including Yaqui) (*Poeciliopsis occidentalis*)	ESA: E (Cochise, Gila, Graham, Maricopa, Pima, Pinal, Santa Cruz, and Yavapai Counties) BLM: S	Refugium population in Ayer Lake at Boyce Thompson Arboretum (2003)			Species occurs in small streams, springs, and ciénegas at elevations below 4,500 feet amsl, primarily in shallow areas with aquatic vegetation and debris for cover. In Arizona, most of the remaining native populations are in the Santa Cruz River system.	Occurs in Cochise, Gila, Graham, Maricopa, Pima, Pinal, Santa Cruz, and Yavapai Counties.	Known to occur
Colorado pikeminnow (*Ptychocheilus lucius*)	ESA: E, ENE (Gila, Maricopa, and Yavapai Counties) with designated critical habitat				Juveniles prefer slack water, backwater, and side channels with little or no flow and silty substrates; adults use turbid, deep, and fast flowing waters. Species was reintroduced at an elevation of 1,960 feet amsl. Nonessential experimental populations of this fish in Arizona are in the Salt and Verde River drainages.	This species is found in Coconino, Gila, Maricopa, and Yavapai Counties.	Unlikely to occur
Speckled dace (*Rhinichthys osculus*)	BLM: S				Species prefers rocky areas of riffles, runs, pools, creeks, and small to medium-sized rivers.	Occurs in the Colorado, Bill Williams, and Gila River drainages.	Unlikely to occur

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Loach minnow (*Tiaroga cobitis*)	ESA: E (Apache, Cochise, Coconino, Gila, Graham, Greenlee, Pinal, and Yavapai Counties) with designated critical habitat BLM: S				Found at elevations below 8,000 feet amsl in small to large perennial streams with swift shallow water over cobble and gravel. Recurrent flooding and natural hydrography are important.	Occurs in Apache, Cochise, Coconino, Gila, Graham, Greenlee, Pinal, and Yavapai Counties.	Unlikely to occur
Razorback sucker (*Xyrauchen texanus*)	ESA: E (Coconino, Gila, Graham, Greenlee, La Paz, Maricopa, Mohave, Pinal, Yavapai, and Yuma Counties) with designated critical habitat BLM: S				Found in riverine and lacustrine areas, generally not in fast-moving water, and may use backwaters at elevations below 6,000 feet amsl.	Occurs in Coconino, Gila, Graham, Greenlee, La Paz, Maricopa, Mohave, Pinal, Yavapai, and Yuma Counties.	Unlikely to occur
Invertebrates							
Netwing midge (*Agathon arizonicus*)	TNF:S, SCC				Confined to areas in the immediate vicinity of rapidly flowing streams.	Disjunct populations present in Gila and Graham counties. Recorded from Workman Creek in the Sierra Ancha Mountains, and from 6,000 to 9,300 feet amsl in the Pinaleño Mountains.	Unlikely to occur
Parker's cylloepus riffle beetle (*Cylloepus parkeri*)	TNF: S[†], SCC[‡]				Habitat consists of small, rocky streams between 2,800–4,000 feet amsl.	Known only from creeks in the Bloody Basin, Yavapai County, Arizona.	Unlikely to occur
Monarch butterfly (*Danaus plexippus*)	ESA: PT TNF: SCC BLM: S			Boyce Thompson Arboretum (Western Monarch Milkweed Mapper 2023) Records for milkweed plants: West Plant Site; East Plant Site; Boyce Thompson Arboretum; Gila River (SEINet 2025)	Species is a migratory species found in a variety of habitats; monarch butterflies require milkweed (family Asclepiadaceae) for breeding. During fall migration in Arizona, monarch butterflies seek nectar from a variety of native plants and garden plants. Populations in Arizona can migrate either to California or Mexico for winter or may overwinter in the low deserts in California. In the Southwest, migrating monarch butterflies often occur near water sources (e.g., rivers, creeks, riparian corridors, roadside ditches, irrigated gardens). In the low deserts of Arizona, monarch butterflies breed in late August to early September; however, monarch butterfly reproduction in Arizona is more common in higher elevations and is less common in the Sonoran desertscrub (Morris et al. 2015).	Occurs throughout Arizona.	May occur
Mayfly (*Fallceon eatoni*)	TNF: S, SCC				Aquatic areas. Rediscovered in 2005 from a single specimen taken in the Salt River Canyon in Gila County (McCafferty 2006).	Occurs in Gila County.	Unlikely to occur

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Ancha Mountainsnail (*Oreohelix anchana*)	TNF: SCC				Limestone rock slide, talus.	Known from a single slide of limestone rocks on the northeastern slope of Center Mountain in the Sierra Ancha Mountains, Tonto National Forest, Gila County, Arizona (Gregg 1953).	Unlikely to occur
Verde Rim springsnail (*Pyrgulopsis glandulosa*)	TNF: SCC				Habitat is freshwater, benthic, desert springs at 5,280 feet amsl.	Nelson Place Spring complex, which consists of two springs 492 apart that form the headwaters of Sycamore Creek, Yavapai County, Arizona.	Unlikely to occur
Bylas springsnail (*Pyrgulopsis arizonae*)	BLM: S				Species is found in springs ranging from 26–32 degrees Celsius with submergent vegetation.	Found in three springs along the Gila River between Bylas and Pima in Graham County.	Unlikely to occur
Fossil springsnail (*Pyrgulopsis simplex*)	TNF: S, SCC				Habitat is present only at headsprings and upper section of the outflow; individuals generally found on rocks or aquatic macrophytes in moderate current.	The known distribution of this species is limited to an unnamed spring near Strawberry in Gila County and at Fossil Springs in Yavapai County.	Unlikely to occur
Phoenix talussnail (*Sonorella allynsmithi*)	TNF: SCC‡ BLM: S				Species prefers talus slopes in mid-elevation areas of the Sonoran Desert.	Occurs in Maricopa County.	Unlikely to occur
Sierra Ancha talussnail (*Sonorella anchana*)	TNF: SCC				Habitat is terrestrial; individuals occur in rockslides and talus slopes.	Known from several close proximity localities in the Sierra Ancha Mountains: near Reynolds Creek, a rockslide northeast slope of Center Mountain, and on the southwest side of Center Mountain, Tonto National Forest, Gila County, Arizona	Unlikely to occur
Richinbar talussnail (*Sonorella ashmuni*)	TNF: SCC				Loose talus slopes, rocky hillsides, and cracks and fissures in rock faces.	Known from Gila, Maricopa, and Yavapai Counties. Widely distributed within Tonto National Forest. Range extends from Richinbar Mine, southeast of Prescott to west of the Agua Fria River and to 3 miles east of Bubblebee, Arizona. Species also occurs along Seven Springs Road, near Locust Spring, near Roundtree Canyon, and on the northeast slope of Center Mountain in the Sierra Ancha Mountains.	Unlikely to occur

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Milk Ranch talussnail (*Sonorella micromphala*)	TNF: SCC				Occurs in talus slopes and found in crevices one to several feet below the surface at elevations of 6,000 to 7,000 feet amsl.	Mogollon Rim in vicinity of Pine, Gila County, Arizona.	Unlikely to occur
Roosevelt talussnail (*Sonorella rooseveltiana*) (=*Myotophallus rooseveltianus*) + (*S.r. fragilis*)	TNF: SCC				Loose talus slopes, rocky hillsides, and cracks and fissures in rock faces.	Known from five locations on the Tonto National Forest. Occurrences in Gila County, west and southwest of Roosevelt Dam.	Unlikely to occur
Sonoran talussnail (*Sonorella magdalenensis*)	BLM: S				Species prefers talus slopes of coarse broken rock; elevational range of 2,750–6,000 feet amsl.	Occurs in Pima and Santa Cruz Counties.	Unlikely to occur
Arizona cave amphipod (*Stygobromus arizonensis*)	BLM: S				Species prefers aquatic habitat in subterranean caves and mines; found at elevations of 5,245 feet amsl.	Found only at two locations in Cochise County.	Unlikely to occur
Gila tryonia (*Tryonia gilae*)	BLM: S				Species is found in mildly thermal springs with submergent vegetation; elevational range of 2,600– 2,800 feet amsl.	Found in an unnamed spring north of Bylas, also in Cold Springs and Porter Wash in Graham County.	Unlikely to occur
A Caddisfly (*Wormaldia planae*)	TNF: S†				This species is primarily a neotropical species, with a limited distribution in Arizona (Muñoz-Quesada and Holzenthal 2008). Occurs in central Arizona, near Camp Verde, Beaver Creek, Sycamore Creek, and Fossil Creek. Typically occurs in mountainous regions, in cooler, spring-fed streams. Has been found in upper portions of slow-speed velocity streams with rocky substrate.	Occurs in Gila and Yavapai Counties, recently found in Line Fossil Creek, Fossil Creek, Beaver Creek, below the outlet of Montezuma Well, and an unnamed stream at Ward Ranch.	Unlikely to occur
Mammals							
Sonoran pronghorn (*Antilocapra americana sonoriensis*)	ESA: ENE (La Paz, Maricopa, Pima, Pinal, Santa Cruz, and Yuma Counties) BLM: S				Found in Sonoran desertscrub within broad, intermountain, alluvial valleys with creosote bush-bursage (*Ambrosia* spp.) and paloverde-mixed cacti associations at elevations 2,000–4,000 feet amsl. The only extant U.S. population is in southwestern Arizona; however, reintroductions have occurred in La Paz County.	This species is found in La Paz, Maricopa, Pima, Pinal, Santa Cruz, and Yuma Counties.	Unlikely to occur
Mexican gray wolf (*Canis lupis baileyi*)	ESA: E (Apache and Greenlee Counties), EXPN TNF: ENE BLM: S				Found in variety of vegetation types, except low deserts. Cover, water, and sufficient prey, such as deer and elk, are important. Reintroduction areas are typically rugged lands in coniferous forest. Elevational range of 3,000–12,000 feet amsl.	Occurs in Apache and Greenlee Counties; reintroductions are occurring in Apache County. All packs are currently on the Apache-Sitgreaves National Forests.	Unlikely to occur

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Mexican long-tongued bat (*Choeronycteris mexicana*)	BLM: S				Habitat includes mesic areas in canyons of mixed oak-conifer forests in mountains rising from the desert. Roosts in daytime in caves, abandoned mines, and rockshelters and occasionally in paloverde-saguaro areas. Typically at elevations of 2,540– 7,320 feet amsl.	Occurs in southeastern Arizona from the Chiricahua Mountains west to the Baboquivari Mountains, and as far north as the Santa Catalina Mountains. Unpublished AGFD records from Pinal, Pima, Graham, Santa Cruz, and Cochise Counties.	Unlikely to occur
Pale Townsend's big-eared bat (*Corynorhinus townsendii pallescens*)	TNF: S, SCC BLM: S AGFD: SGCN 1B		Tailings corridor, East Plant, Devil's Canyon, Queen Creek, Oak Creek (vicinity), near west vicinity (WestLand 2012c, 2018c)		This bat occurs in most of Arizona, except for the low-elevation deserts of the southwestern portion of the state. In summer, the species is found in caves and mines at elevations ranging from 550–7,520 feet amsl; in winter, the species is found in cold caves, lava tubes, and mines in higher elevations than summer.	Occurs throughout Arizona.	Known to occur
Gunnison's prairie dog (*Cynomys gunnisoni*)	BLM: S				Species prefers high mountain valleys and plateaus; elevational range of 6,000–12,000 feet amsl.	Occurs in central and eastern Arizona	Unlikely to occur
Black-tailed prairie dog (*Cynomys ludovicianus*)	BLM: S				Habitat is dry, flat, open plains and desert grasslands; elevational range of 2,300–7,200 feet amsl.	Occurs in southeast Arizona where they have been reintroduced to the Las Cienegas National Conservation Area.	Unlikely to occur
Banner-tailed kangaroo rat (*Dipodomys spectabilis*)	BLM: S				Habitat is Great Basin desertscrub, desert grasslands with mesquite, junipers, or shrubs; elevational range of 3,500–4,000 feet amsl.	Occurs in Pima and Cochise Counties.	Unlikely to occur
Spotted bat (*Euderma maculatum*)	TNF: S[†] BLM: S AGFD: SGCN 1B				Habitat can vary widely from dry deserts to coniferous forest; species prefers to roost in crevices and cracks in cliff faces; elevational range of 110–8,670 feet amsl.	Occurs throughout Arizona.	Unlikely to occur
Greater western mastiff bat (*Eumops perotis californicus*)	BLM: S AGFD: SGCN 1B		East Plant, Devil's Canyon, Queen Creek, near west vicinity, Near West (WestLand 2012c, 2018c)		Species prefers lower and upper Sonoran desertscrub near cliffs with lots of crevices; elevational range of 240–8,475 feet amsl.	Occurs throughout Arizona.	Known to occur
Allen's lappet-browed or big-eared bat (*Idionycteris phyllotis*)	TNF: S, SCC BLM: S				Found in ponderosa pine, pinyon-juniper, Mexican woodland, and riparian areas with cottonwoods, sycamores, and willows; also have records of occurrence in desertscrub and white fir (*Abies concolor*) habitats; elevational range of 1,320–9,800 feet amsl.	Occurs throughout Arizona except for deserts in southwestern Arizona.	Unlikely to occur
Western red bat (*Lasiurus blossevillii*)	TNF: S, SCC		East Plant, Devil's Canyon, Queen Creek, near west vicinity (WestLand 2012c)		Distribution in Arizona is from the southeast corner of the state northwest along the Mogollon Rim to near Flagstaff, with outlier records of occurrence in the Grand Canyon and at the Bill Williams River near its confluence with the Colorado River. Habitat consists of riparian and wooded areas. Species typically roosts in cottonwood trees; elevational range of 1,900–7,200 feet amsl.	Distribution in Arizona is from the southeast corner of the state northwest along the Mogollon Rim to near Flagstaff, with outlier records in Grand Canyon and at the Bill Williams River near its confluence with the Colorado River.	Known to occur

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Western yellow bat (*Lasiurus xanthinus*)	AGFD: SGCN 1B (added in accordance with request from AGFD)				Species may be associated with palm trees (Arecaceae), sycamores, hackberries (*Celtis* spp.), and cottonwoods. Habitat consists of riparian and wooded areas; typically roosts in cottonwood trees; elevational range of 1,900–7,200 feet amsl.	Occurs throughout Arizona; historically found near Phoenix and Casa Grande.	May occur
Ocelot (*Leopardus* [*Felis*] *pardalis*)	ESA: E (Cochise, Gila, Graham, Maricopa, Pima, Pinal, and Santa Cruz Counties) BLM: S	Devil's Canyon (2011)			Habitats preferred by ocelots are variable, from tropical semiarid deserts to brushy forests and semiarid deserts in the northern part of its range. Densely vegetated movement corridors and small, semi-isolated habitat patches are important for facilitating dispersal movements in fragmented habitats. The current distribution extends into southern Arizona; dispersing individuals range more widely, as evidenced by the 2010 roadkill (on U.S. Route 60) near Top-of-the-World, Gila County. Little is known about ocelot habitat use in Arizona and Sonora, Mexico. Current information is lacking to draw conclusions about ocelot populations in Arizona although more sightings have been substantiated recently in southern Arizona, in the vicinity of the United States–Mexico border. No information exists as to any established or breeding populations in Arizona. The individual killed near Top-of-the-World, between Superior and Globe along U.S. Route 60, is considered by some to be an extreme occurrence and well beyond its expected range.	Occurs in Cochise, Gila, Graham, Maricopa, Pima, Pinal, and Santa Cruz Counties.	Unlikely to occur
Lesser long-nosed bat (*Leptonycteris curasoae yerbabuenae*)	BLM: S				Habitat consists of desert grasslands and shrublands in elevations ranging from 1,190–7,320 feet amsl; present only in summer.	Occurs in Cochise, Gila, Graham, Greenlee, Maricopa, Pima, Pinal, Santa Cruz, Yavapai, and Yuma Counties.	May occur
California leaf-nosed bat (*Macrotus californicus*)	TNF: SCC‡ BLM: S	Tortilla Mountains: Gila River (2000), Dripping Springs Mountains: Mineral Creek (1999)	Oak Flat (immediate vicinity), Near West (WestLand 2012c, 2018c)		Species prefers Sonoran desertscrub and roosts in mines, caves, and rock shelters that have large areas of ceiling and flying space; elevational range of 160–3,980 feet amsl.	Occurs south of the Mogollon Plateau and in Mohave County.	Known to occur
Fringed myotis (*Myotis thysanodes*)	TNF: SCC		Apache Leap (WestLand 2012c)		Species ranges from desert to grasslands to woodland and is most frequently captured in oak-pinyon woodlands and other open, coniferous, middle-elevation forests; roosts in caves, mine tunnels, large snags, and buildings and under exfoliating bark; may hibernate in lower-elevation caves and mines; elevational range of 4,000 to 8,437 feet amsl.	Throughout Arizona but not known from northeast or southwest corners of state. In winter, the species' range shifts to the southernmost counties and Mohave County.	Known to occur
Arizona myotis (*Myotis occultus*)	BLM: S				Found in ponderosa pine and oak-pine woodlands near water, can also be found in riparian forests along the lower Colorado and Verde rivers; elevational ranges of 150–1,000 feet (lower Colorado River) and 3,200–8,620 feet amsl.	Occurs in central and eastern Arizona.	Unlikely to occur

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Cave myotis (*Myotis velifer*)	BLM: S	Dripping Springs Mountains: Mineral Creek (2001)	Oak Flat (immediate vicinity), Near West (WestLand 2012c, 2018c)		Found in Arizona, the south-central United States, and throughout the interior mountainous regions of Mexico. Habitat consists of creosote bush, brittlebush (*Encelia* spp.), paloverde, and cacti; roosts in caves, tunnels, mineshafts, under bridges, and sometimes in buildings. Elevational range of 300–5,000 feet amsl.	Occurs south of the Mogollon Plateau.	Known to occur
Jaguar (*Panthera onca*)	ESA: E (Cochise, Pima and Santa Cruz Counties) BLM: S				Variety of habitats, prefers lowland wet habitats but also occurs in drier habitats such as oak-pine woodlands; elevational range is rarely above 8,500 feet amsl.	Occurs in Cochise, Pima, and Santa Cruz Counties.	Unlikely to occur
Brazilian free-tailed bat (*Tadarida brasiliensis*)	AGFD: SGCN 1B (added in accordance with request from AGFD)	Picketpost Mountain: Pott's Canyon (2017)	Oak Flat (immediate vicinity), Near West (WestLand 2012c, 2018c)		A species that is distributed across much of the southern United States with the largest concentrations residing in the western United States. Preferred habitat is the Upper and Lower Sonoran life zones and commonly roosts in caves, abandoned mines, under bridges, in buildings, and hollow trees. Elevational ranges 450–8,475 feet amsl.	Occurs throughout Arizona during summer; only occurs in in the southern half of Arizona during winter.	Known to occur
Reptiles							
Arizona striped whiptail (*Aspidoscelis arizonae*)	BLM: S				Species prefers semidesert grasslands in low valleys and sandy flats.	Species only occurs near Willcox in Cochise County, and in Whitlock Valley in Graham County.	Unlikely to occur
New Mexico ridge-nosed rattlesnake (*Crotalus willardi obscurus*)	ESA: T (Cochise County) BLM: S				Habitat includes rocks, bunchgrass, and leaf litter in steep rocky canyons in the pine-oak and pine-fir belts at elevations of 5,600–9,000 feet amsl.	Occurs only in the Peloncillo Mountains of Cochise County.	Unlikely to occur

Common Name (*Scientific Name*)	**Status***	**AGFD Records of Occurrence within 5 miles**	**Baseline Data Records of Occurrence**	**Other Records of Occurrence**	**Habitat Components (Elevation, Soils, Vegetation Association, Slope, Aspect, etc.)**	**Geographical Range in Arizona**	**Likelihood of Occurrence in Peg Leg Analysis Area**
Sonoran Desert tortoise (*Gopherus morafkai*)	TNF: S, SCC BLM: S	Gila River: southeast of Kearny (1995), Tortilla Mountains (2011, 2014), South Butte: south of the Gila River (1990), North of Gila River: east of Dozer Hill (1997), Walnut Canyon (1994), northeast of Florence: south of Mineral Mountain (2015), Black Hill vicinity (1984), Cottonwood Canyon (2007), Arnett Creek (2017), Telegraph Canyon (1990), Belmont Canyon (1990), Picketpost Mountain (1990), Raymert Wash (1990), Queen Creek (2016), Whitlow Ranch (2014), Whitlow Canyon (2014), Hewitt Canyon (2016)	Tailings Area, Far West Parcel, Near West (WestLand 2013b, 2014, 2018d)		Habitat includes desertscrub to semidesert grassland and interior chaparral; elevational range of 510–5,300 feet amsl.	Occurs in the southern and southwestern part of Arizona. The range of the species in Arizona is most of the southwest half of the state, below the Mogollon Rim, and north to Lake Mead.	Known to occur
Sonora mud turtle (*Kinosternon sonoriense sonoriense*)	BLM: S				Species prefers springs, creeks, and ponds of intermittent streams.	Found in the Gila River drainage of central and southeastern Arizona, Quitobaquito Spring, Laguna Dam area, and Big Sandy-Burro River drainages.	Unlikely to occur
Slevin's bunchgrass lizard (*Sceloporus slevini*)	BLM: S				Species prefers coniferous forests around bunchgrass in open sunny areas; elevational range of 4,300–9,480 feet amsl.	Found only in the mountains of extreme southeastern Arizona.	Unlikely to occur
Desert massasauga (*Sistrurus catenatus edwardsii*)	BLM: S				Species prefers tobosa grasslands in sloping bajadas with surface rocks; elevational range of 4,400–4,700 feet amsl.	Occurs in extreme southeastern Arizona in San Bernardino and Sulphur Springs Valley.	Unlikely to occur
Desert ornate box turtle (*Terrapene ornata*)	BLM: S	Gila River: town of Kearny (2003)			This species' range is from southern Texas to southern New Mexico and into parts of southern Arizona as well as in the states of Chihuahua and Sonora in Mexico. Species prefers grasslands but is also occasionally found in desertscrub; elevational range of 2,000–7,100 feet amsl.	Occurs in the southeast corner of Arizona from Winkelman to the Huachuca Mountains.	Known to occur

Common Name (*Scientific Name*)	Status*	AGFD Records of Occurrence within 5 miles	Baseline Data Records of Occurrence	Other Records of Occurrence	Habitat Components (Elevation, Soils, Vegetation Association, Slope, Aspect, etc.)	Geographical Range in Arizona	Likelihood of Occurrence in Peg Leg Analysis Area
Northern Mexican gartersnake (*Thamnophis eques megalops*)	ESA: T (all Arizona counties except Maricopa and Yuma Counties) with designated critical habitat TNF: S† BLM: S				Inhabits streams, rivers, ciénegas, and ponds with dense shoreline vegetation from Sonoran desertscrub up into Petran montane conifer forest.	Occurs throughout Arizona except Maricopa and Yuma Counties.	Unlikely to occur
Narrow-headed gartersnake (*Thamnophis rufipunctatus*)	ESA: T (Apache, Coconino, Gila, Graham, Greenlee, Navajo, and Yavapai Counties) with designated critical habitat TNF: S†BLM: S				Species prefers pinyon-juniper and pine-oak woodlands, ranging into ponderosa pine at elevations 2,440– 8,080 feet amsl; species needs permanent water source.	Occurs in Apache, Coconino, Gila, Graham, Greenlee, Navajo, and Yavapai Counties.	Unlikely to occur
Bezy's night lizard (*Xantusia bezyi*)	TNF: S, SCC				Species prefers rocky slopes in upland Sonoran desertscrub and chaparral vegetation types; elevational range of 2,400– 5,800 feet amsl.	Occurs in Gila, Pinal, and Maricopa Counties.	May occur

Sources: Unless otherwise noted, range or habitat information is from AGFD (2025); Forest Service (2017); Kaufman (1996); NatureServe (2025); TNF (2000); U.S. Fish and Wildlife Service (2016).

Unless otherwise noted, occurrence information is from data obtained from AGFD on August 13, 2018, or from eBird (2025).

Note: Occurrence evaluation is based on the proposed action mining component and its associated 5-mile analysis area.

* Status definitions are as follows:

AGFD

SGCN 1B = Species of Greatest Conservation Need Tier 1B. Vulnerable species.

After publication of the FEIS in 2021, the AGFD updated its state wildlife action plan; however, SWCA Environmental Consultants made no related changes within the tables in this document. The AGFD statuses in this document are based on Arizona's State Wildlife Action Plan: 2012–2022 (AGFD 2012).

Not all species with an SGCN status are addressed as part of these analyses; however, SWCA added Brazilian free-tailed bat (Tadarida brasiliensis) and western yellow bat (Lasiurus xanthinus) to the analysis at the request of the AGFD, which is a cooperating agency.

BGEPA = Bald and Golden Eagle Protection Act

This federal statute protects two eagle species.

BLM = Bureau of Land Management

S = Sensitive. Species could easily become endangered or extinct in the state (BLM 2017).

Endangered Species Act (ESA):

ESA = Endangered Species Act

E = Endangered. Endangered species are those in imminent jeopardy of extinction. The ESA specifically prohibits the take of a species listed as endangered. Take is defined by the ESA as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to engage in any such conduct.

PT = Proposed Threatened. Any species the U.S. Fish and Wildlife Service has determined is likely to become endangered within the foreseeable future throughout all or a significant portion of its range and the agency has proposed a draft rule to list as threatened.

T = Threatened. Threatened species are those that are likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.

EXPN = A population of a species designated under Section 10(j) of the ESA that the U.S. Fish and Wildlife Service, based on review of the best available information, believes is not essential for the continued existence of the species. Regulatory restrictions are considerably reduced under an EXPN designation.

TNF = Tonto National Forest

ENE = Reintroduced populations designated as Experimental - Nonessential, under the ESA.

S = Sensitive. Under the *Tonto National Forest Land and Resource Management Plan* (Forest Service 1985), sensitive species are those identified by a regional forester for which population viability is a concern, as evidenced by 1) significant current or predicted downward trends in population number or density or 2) significant current or predicted downward trends in habitat capability that would reduce the species' existing distribution.

SCC = Species of conservation concern. The *Tonto National Forest Land Management Plan* (Forest Service 2023) defines SCC as species that are native to and known to occur in the TNF and for which there are substantial concerns about the species' ability to persist within the TNF. These species are listed on the most recently published list of Species of Conservation Concern for the Tonto National Forest (Forest Service 2021).

There is substantial overlap between SCC and S. SWCA Environmental Consultants (SWCA) evaluated S and draft SCC for the FEIS, which was published in 2021. After publication of the FEIS, the publication of *Tonto National Forest Land Management Plan* (Forest Service 2023) resulted in the need for revision of the FEIS and this table. SWCA deleted no species or statuses from the table and added only species newly designated as SCC.

† SWCA evaluated this species as an S during initial analysis and FEIS publication; however, the species was not included as an SCC in the *Tonto National Forest Land Management Plan* (Forest Service 2023).

‡ SWCA evaluated this species as a draft SCC during initial analysis and FEIS publication; however, the species was not included as an SCC in the *Tonto National Forest Land Management Plan* (Forest Service 2023).

Table A4. Special-Status Wildlife Species Analyzed for Alternative 6 – Skunk Camp

Common Name (*Scientific Name*)	Status*	AGFD Records of Occurrence within 5 miles	Baseline Data Records of Occurrence	Other Records of Occurrence	Habitat Components (Elevation, Vegetation Association, Slope, Aspect, etc.)	Geographical Range in Arizona	Likelihood of Occurrence in Skunk Camp Analysis Area
Amphibians							
Western barking frog (*Craugastor augusti cactorum*)	TNF: S[†]				Species prefers outcrops or caves on rocky slopes in oak (*Quercus* spp.)/pine-oak (*Pinus* spp.-*Quercus* spp.) associations; elevational range of 4,200– 6,200 feet above mean sea level (amsl).	Occurs in rocky outcrops in Cochise and southern Pima and Santa Cruz Counties, in the Quinlan, Santa Rita, Patagonia, Huachuca, and Pajarito mountain ranges.	Unlikely to occur
Northern leopard frog (*Lithobates* [*Rana*] *pipiens*)	TNF: S[†]				Range of habitats, including grasslands, brush land, and forests, usually with permanent water; elevational range of 2,640–9,155 feet amsl.	Occurs in northern and central Arizona.	Unlikely to occur
Lowland leopard frog (*Lithobates yavapaiensis*)	TNF: S, SCC	Arnett Creek (2010), Telegraph Canyon (2016), Rio Rancho Creek (2017), Queen Creek (1992), Pinal Mountains: west of Iron Canyon (2010), Pinal Mountains: west of El Capitan Canyon (1990), Wood Canyon (2016), Government Mountain (2017), Pinto Creek (2005)	Tailings corridor, East Plant, Devil's Canyon, Queen Creek, Oak Flat, Mineral Creek (WestLand 2009a, 2018a)		Aquatic systems in elevations ranging from 480–6,200 feet amsl; species uses a variety of habitats, both natural and human made.	Occurs in central and southeastern Arizona.	Known to occur
Chiricahua leopard frog (*Rana chiricahuensis*)	ESA: T (all Arizona counties except La Paz, Mohave, Pinal, Yuma Counties) with designated critical habitat				Headwater streams, springs, and livestock tanks. An important characteristic of habitat is that it be free or have low numbers of nonnative species, including nonnative fish, crayfish, bull frogs (*Lithobates catesbeianus*), and barred tiger salamanders (*Ambystoma mavortium*). This species occurs in Apache, Cochise, Coconino, Gila, Graham, Greenlee, Navajo, Pima, Pinal, Santa Cruz, and Yavapai Counties.	Occurs in all Arizona counties except La Paz, Mohave, Pinal, and Yuma Counties. Occurs along the Mogollon Rim and in mountainous areas of southeastern Arizona.	Unlikely to occur
Birds							
Northern goshawk (*Accipiter gentilis*)	TNF: S[†]		Oak Flat/Boyce Thompson Arboretum and Arnett-Queen Creeks IBA (WestLand 2012a, 2015)		Species is found in wide variety of forest associations, including deciduous, coniferous, and mixed forests; prefers mature forests for breeding in elevations ranging from 4,750–9,120 feet amsl. The project action area is at the western edge of the documented breeding range of the species (Corman and Wise-Gervais 2005).	Occurs throughout Arizona.	Known to occur
Clark's grebe (*Aechmophorus clarkia*)	TNF: SCC[‡]				Requires large, deep bodies of water for fishing.	Occurs throughout Arizona in winter; breeding occurs in Mohave and La Paz Counties.	Unlikely to occur

Common Name (*Scientific Name*)	Status*	AGFD Records of Occurrence within 5 miles	Baseline Data Records of Occurrence	Other Records of Occurrence	Habitat Components (Elevation, Vegetation Association, Slope, Aspect, etc.)	Geographical Range in Arizona	Likelihood of Occurrence in Skunk Camp Analysis Area
Western grebe (*Aechmophorus occidentalis*)	TNF: SCC‡				Requires large, deep bodies of water for fishing.	Occurs throughout Arizona in winter; breeding occurs in Coconino, Yavapai, Maricopa, Pinal, and Pima Counties.	Unlikely to occur
Golden eagle (*Aquila chrysaetos*)	BGEPA: Yes	Walnut Canyon (2016), Hewitt Ridge (2014)	Devil's Canyon, Queen Creek, Boyce Thompson Arboretum and Arnett-Queen Creeks IBA (WestLand 2012a, 2012b, 2015)		Species prefers mountainous areas; nesting occurs at elevations 4,000–10,000 feet amsl.	Occurs throughout Arizona.	Known to occur
Red-faced warbler (*Cardellina rubrifrons*)	TNF: SCC‡				Summer resident only; occurs in montane fir (*Abies* spp.), pine, and pine-oak woodlands at elevations between 5,400 and 9,000 feet amsl.	Occurs along the Mogollon Rim and in southeastern Arizona.	May occur
American dipper (*Cinclus mexicanus*)	TNF: SCC				Fast-flowing montane streams.	Occurs in central and northern Arizona.	Unlikely to occur
Western yellow-billed cuckoo (distinct population segment) (*Coccyzus americanus*)	ESA: T (all Arizona counties) with designated critical habitat TNF: S	Dripping Spring Mountains: vicinity of Government Mountain (2011), Devil's Canyon (2011), Whitlow Ranch Dam (2000)	Devil's Canyon, Queen Creek, Whitlow Dam, Apache Leap, Oak Flat, Rancho Rio Creek, Mineral Creek (WestLand 2012a, 2015, 2017a, 2020)		Typically found in riparian woodland vegetation (cottonwood [*Populus* spp.], willow [*Salix* spp.], or saltcedar [*Tamarix* spp.]) at elevations below 6,600 feet amsl. Dense understory foliage appears to be an important factor in nest site selection.	Occurs in every Arizona county, from below Mogollon Rim to southeast Arizona and along the Colorado River. The highest concentrations in Arizona are along the Agua Fria, San Pedro, upper Santa Cruz, and Verde River drainages and Cienega and Sonoita Creeks.	Known to occur
Gilded flicker (*Colaptes chrysoides*)	TNF: SCC		Devil's Canyon (WestLand 2012a) Apache Leap (WestLand 2015), Arnett Creek (WestLand 2017a)		Habitat includes stands of large saguaros (*Carnegiea gigantea*), Joshua trees (*Yucca* spp.), and low-elevation riparian groves.	Occurs in southern, central, and western Arizona.	Known to occur
Olive-sided flycatcher (*Contopus cooperi*)	TNF: SCC‡		Boyce Thompson (1989) (Westland 2015)		Species is present only in summer; breeding habitat includes mixed-conifer forests near open areas with lots of snags. During migration, species can be found in almost any habitat.	Occurs throughout Arizona.	May occur
Broad-billed hummingbird (*Cynanthus latirostris*)	TNF: SCC‡		Apache Leap, Queen Creek, East Plant Site, Rancho Rio Creek, Devil's Canyon; Mineral Creek (WestLand 2012a), Queen Creek (Westland 2017a)		Preferred habitat is rocky canyons in desert-like mountain habitat; can be found in foothills, canyons, arroyos, and deserts and along streams.	Occurs in southeastern and central Arizona.	Known to occur

Common Name (*Scientific Name*)	Status*	AGFD Records of Occurrence within 5 miles	Baseline Data Records of Occurrence	Other Records of Occurrence	Habitat Components (Elevation, Vegetation Association, Slope, Aspect, etc.)	Geographical Range in Arizona	Likelihood of Occurrence in Skunk Camp Analysis Area
Southwestern willow flycatcher (*Empidonax traillii extimus*)	ESA: E (all Arizona counties except Navajo County) with designated critical habitat	Dripping Spring Mountain: vicinity of Government Mountain (2011), Devil's Canyon (2011), Queen Creek: Whitlow Ranch Dam (2000)	Queen Creek near Boyce Thompson (WestLand 2017b)		Found in dense riparian habitats along streams, rivers, and other wetlands where cottonwood, willow, boxelder (*Acer negundo*), saltcedar, Russian olive (*Elaeagnus angustifolia*), buttonbush (*Cephalanthus* spp.), and arrowweed (*Pluchea sericea*) are present. Nests are found in thickets of trees and shrubs, primarily those that are 13–23 feet tall, among dense, homogeneous foliage. Habitat occurs at elevations below 8,500 feet amsl.	Occurs in all Arizona counties except Navajo County, in lower elevation riparian areas, during breeding season.	Known to occur
American peregrine falcon (*Falco peregrinus anatum*)	TNF: S[†]	Oak Flat (2015)	East Plant, West Plant, Devil's Canyon, Queen Creek, Rancho Rio Creek, Apache Leap, Boyce Thompson Arboretum and Arnett-Queen Creeks IBA (WestLand 2004, 2009b, 2012a, 2012b, 2015, 2017a)		Species is found near cliffs overlooking habitats that support large numbers of birds; ranges in elevation from 400–9,000 feet amsl.	Occurs throughout Arizona.	Known to occur
MacGillivray's warbler (*Geothlypis tolmiei*)	TNF: SCC[‡]		Apache Leap, Queen Creek Canyon, East Plant Site, Rancho Rio Creek, Devil's Canyon, Mineral Creek (WestLand 2010, 2012a, 2015)		Species is primarily a migratory species in Arizona; however, during breeding season, the species is known to take residence over the higher forested elevations of northern Arizona, especially along the Mogollon Rim. Preferred habitat during breeding season includes mixed-coniferous forests with riparian areas that have low shrubs; during migration, species can be found in a variety of habitats.	Occurs throughout Arizona.	Known to occur
Bald eagle (*Haliaeetus leucocephalus*)	BGEPA: Yes				Habitat components include large bodies of water with lots of coastline and tall perches above water to allow for hunting.	Occurs in central and northern Arizona.	Unlikely to occur
Yellow-eyed junco (*Junco phaeonotus*)	TNF: S, SCC				Habitat consists of open coniferous forest and pine-oak associations.	Occurs in central and southeastern Arizona.	May occur
Lewis's woodpecker (*Melanerpes lewis*)	TNF: SCC[‡]		Oak Flat (WestLand 2012a)		Distribution of the species is across the Four Corner states, the northern Rocky Mountains, and over the interior mountainous regions of Oregon and California. The species is common year-round across the higher forested elevations of northern Arizona with some expansion of range into the southern Arizona deserts during the winter. Breeding habitats include open forests and woodlands that include oaks, ponderosa, pine (*Pinus ponderosa*), riparian woodlands, and orchards.	Occurs throughout Arizona.	Unlikely to occur

Common Name (*Scientific Name*)	Status*	AGFD Records of Occurrence within 5 miles	Baseline Data Records of Occurrence	Other Records of Occurrence	Habitat Components (Elevation, Vegetation Association, Slope, Aspect, etc.)	Geographical Range in Arizona	Likelihood of Occurrence in Skunk Camp Analysis Area
Elf owl (*Micrathene whitneyi*)	TNF: SCC‡		Magma Arizona Railroad Company Corridor, Apache Leap, Queen Creek Canyon, East Plant Site, Rancho Rio Creek, Devil's Canyon, Mineral Creek (WestLand 2012a, 2012b, 2015)		Species is present during breeding season only, found in desert-woodland washes, riparian forests, upland deserts, evergreen woodlands, and canyon riparian forests.	Occurs in the south half of Arizona.	Known to occur
Sulphur-bellied flycatcher (*Myiodynastes luteiventris*)	TNF: S†, SCC‡				Preferred habitat includes sycamore-walnut (*Platanus* spp.-*Juglans* spp.) canyons; species present in Arizona only during its breeding season. They are cavity nesters in broad-leaved riparian trees but occasionally use provided nest boxes (Corman and Wise-Gervais 2005).	Occurs in southeastern and central Arizona.	Unlikely to occur
Desert purple martin (*Progne subis hesperia*)	TNF: SCC‡		Apache Leap, Queen Creek Canyon, East Plant Site, Rancho Rio Creek, Devil's Canyon, Mineral Creek (WestLand 2009b, 2012a, 2013a, 2015)		Habitat consists of Sonoran Desert with many large saguaros proximal to water. Only present during breeding season.	Occurs in southern and central Arizona.	Known to occur
Yuma Ridgeway's rail (*Rallus longirostris yumanensis*)	ESA: E (Gila, La Paz, Maricopa, Mohave, Pinal, and Yuma Counties)				Found in freshwater and brackish marshes below 4,500 feet amsl.	This species is found in Gila, La Paz, Maricopa, Mohave, Pinal, and Yuma Counties.	Unlikely to occur
Mexican spotted owl (*Strix occidentalis lucida*)	ESA: T (all Arizona counties except La Paz and Yuma Counties) with designated critical habitat	Pinal Mountains: Mill Creek (2003)			Species is found in mature montane forests and woodlands and steep, shady, wooded canyons. Species can also be found in mixed-conifer and pine-oak vegetation types; generally nests in older forests of mixed conifers or ponderosa pine-Gambel oak (*Quercus gambelii*). Nests in live trees on natural platforms (e.g., dwarf mistletoe [*Arceuthobium* spp.] brooms), snags, and canyon walls at elevations between 4,100 and 9,000 feet amsl.	Occurs throughout Arizona, except La Paz and Yuma Counties.	Known to occur
Pacific wren (*Troglodytes pacificus*)	TNF: SCC				Commonly found from the coastal islands of Alaska southward to the northern Rockies and northern California, the species has been known to winter near the Mogollon Rim. Wintering habitat in Arizona consists of woodlands and brushy vegetation.	Occurs along the Mogollon Rim.	Unlikely to occur
Fish							
Gila longfin dace (*Agosia chrysogaster chrysogaster*)	TNF: SCC‡	Tortilla Mountains: Gila River (1994), Mineral Creek (1999, 2000, 2010), Government Hill: Pinto Creek (2013)	Mineral Creek (WestLand 2009a, 2018a)		Habitat varies from intermittent hot low-desert streams to clear, cool streams at higher elevations; prefers medium-sized to small streams with sandy/gravely bottoms and pools with some cover. Species is normally found below 4,900 feet amsl.	Occurs in central, southern, and southeastern Arizona.	Known to occur

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Desert sucker (*Catostomus clarki*)	TNF: S†	Gila River: Riverside (1994), northwest of Kearny: vicinity of Ray Junction (1998), Government Hill: Pinto Creek (2005)			Species is found in flowing pools of streams and rivers with a gravel substrate; elevational range of from 480–8,840 feet amsl.	Occurs in central, southern, and southeastern Arizona.	Known to occur
Sonora sucker (*Catostomus insignis*)	TNF: S†	Gila River: Riverside (1994)			Species is found in a variety of habitats, from warm rivers to cool streams; prefers gravelly or rocky pools in elevations ranging from 1,210–8,730 feet amsl.	Occurs in central, southern, and southeastern Arizona.	Known to occur
Desert pupfish (*Cyprinodon macularius*)	ESA: E (Cochise, Gila, Graham, Maricopa, Pima, Santa Cruz, and Yavapai Counties) with designated critical habitat	Queen Creek: west of Superior (2003)			Species is restricted to three natural populations in California and the non-natural irrigation drains around the Salton Sea. Also found in restricted locations in Sonora and Baja California, Mexico. One natural population still occurs in Quitobaquito Spring and pond in Pima County and reintroductions have been made in Pima, Pinal, Maricopa, Graham, Cochise, La Paz, and Yavapai Counties. Species is found in the shallow water of desert springs, small streams, and marshes at elevations below 5,000 feet amsl. The species tolerates high salinities and high water temperatures.	Occurs in Cochise, Gila, Graham, Maricopa, Pima, Santa Cruz, and Yavapai Counties.	Known to occur
Gila chub (*Gila intermedia*)	ESA: E (Cochise, Coconino, Gila, Graham, Greenlee, Pima, Pinal, Santa Cruz, and Yavapai Counties) with designated critical habitat	Dripping Spring Mountains: Mineral Creek (1999), Devil's Canyon (2000)			Species is found in pools, springs, ciénegas, and streams at elevations 2,000 and 5,500 feet amsl. The species is dependent on undercut banks, terrestrial vegetation, boulders, root wads, fallen logs, and thick overhanging or aquatic vegetation for cover.	Occurs in Cochise, Coconino, Gila, Graham, Greenlee, Pima, Pinal, Santa Cruz, and Yavapai Counties.	Known to occur
Headwater chub (*Gila nigra*)	TNF: S†				Species is found in the middle to headwater reaches of medium-sized streams with large pools and cover; elevational range of 3,030–6,560 feet amsl.	Occurs in Gila, Graham, and Yavapai Counties.	Unlikely to occur
Roundtail chub (*Gila robusta*)	TNF: S, SCC				Species prefers cool to warm water in mid-elevation streams and rivers with pools up to 6.6 feet deep near flowing water. Cover consists of boulders, tree roots, deep water, and submerged vegetation. Elevational range of 1,210–7,220 feet amsl.	Occurs in Apache, Coconino, Gila, Graham, Greenlee, La Paz, Maricopa, Mohave, Navajo, Pinal, and Yavapai Counties.	Unlikely to occur
Spikedace (*Meda fulgida*)	ESA: E (Apache, Cochise, Coconino, Gila, Graham, Greenlee, Maricopa, Pinal, and Yavapai Counties) with designated critical habitat				Habitat consists of mid-water habitats, including runs, pools, and swirling eddies below 4,500 feet amsl.	Occurs in Apache, Cochise, Coconino, Gila, Graham, Greenlee, Maricopa, Pinal, and Yavapai Counties.	Unlikely to occur

Common Name (*Scientific Name*)	Status*	AGFD Records of Occurrence within 5 miles	Baseline Data Records of Occurrence	Other Records of Occurrence	Habitat Components (Elevation, Vegetation Association, Slope, Aspect, etc.)	Geographical Range in Arizona	Likelihood of Occurrence in Skunk Camp Analysis Area
Gila topminnow (including Yaqui) (*Poeciliopsis occidentalis*)	ESA: E (Cochise, Gila, Graham, Maricopa, Pima, Pinal, Santa Cruz, and Yavapai Counties)	West of Mescal Mountains: south of Pasadera Mountain (1987), Refugium population in Ayer Lake at Boyce Thompson Arboretum (2003)			Species occurs in small streams, springs, and ciénegas at elevations below 4,500 feet amsl, primarily in shallow areas with aquatic vegetation and debris for cover. In Arizona, most of the remaining native populations are in the Santa Cruz River system.	Occurs in Cochise, Gila, Graham, Maricopa, Pima, Pinal, Santa Cruz, and Yavapai Counties.	Known to occur
Colorado pikeminnow (nonessential experimental) (*Ptychocheilus Lucius*)	ESA: E (Gila, Maricopa, and Yavapai Counties) with designated critical habitat				Juveniles prefer slack water, backwater, and side channels with little or no flow and silty substrates; adults use turbid, deep, and fast-flowing waters. Species was reintroduced at an elevation of 1,960 feet amsl. Nonessential experimental populations of this fish in Arizona are in the Salt and Verde River drainages.	This species is found in Coconino, Gila, Maricopa, and Yavapai Counties.	Unlikely to occur
Loach minnow (*Tiaroga cobitis*)	ESA: E (Apache, Cochise, Coconino, Gila, Graham, Greenlee, Pinal, and Yavapai Counties) with designated critical habitat				Found at elevations below 8,000 feet amsl in small to large perennial streams with swift shallow water over cobble and gravel. Recurrent flooding and natural hydrography are important.	Occurs in Apache, Cochise, Coconino, Gila, Graham, Greenlee, Pinal, and Yavapai Counties.	Unlikely to occur
Razorback sucker (*Xyrauchen texanus*)	ESA: E (Coconino, Gila, Graham, Greenlee, La Paz, Maricopa, Mohave, Pinal, Yavapai, and Yuma Counties) with designated critical habitat				Found in riverine and lacustrine areas, generally not in fast-moving water, and may use backwaters at elevations below 6,000 feet amsl.	Occurs in Coconino, Gila, Graham, Greenlee, La Paz, Maricopa, Mohave, Pinal, Yavapai, and Yuma Counties.	Unlikely to occur
Invertebrates							
Netwing midge (*Agathon arizonicus*)	TNF: S, SCC				Confined to areas in the immediate vicinity of rapidly flowing streams.	Disjunct populations present in Gila and Graham Counties. Recorded from Workman Creek in the Sierra Ancha Mountains, and from 6,000 to 9,300 feet amsl in the Pinaleño Mountains.	Unlikely to occur
Parker's cylloepus riffle beetle (*Cylloepus parkeri*)	TNF: S[†], SCC[‡]				Habitat consists of small, rocky streams between 2,800–4,000 feet amsl.	Known only from creeks in the Bloody Basin, Yavapai County, Arizona.	Unlikely to occur

Common Name (*Scientific Name*)	**Status***	**AGFD Records of Occurrence within 5 miles**	**Baseline Data Records of Occurrence**	**Other Records of Occurrence**	**Habitat Components (Elevation, Vegetation Association, Slope, Aspect, etc.)**	**Geographical Range in Arizona**	**Likelihood of Occurrence in Skunk Camp Analysis Area**
Monarch butterfly (*Danaus plexippus*)	ESA: PT TNF: SCC;			Boyce Thompson Arboretum (Western Monarch Milkweed Mapper 2023) Records for milkweed plants: West Plant Site; East Plant Site; Boyce Thompson Arboretum; Alternative 6 Co-located pipeline and Powerline (SEINet 2025)	Species is a migratory species found in a variety of habitats; monarch butterflies require milkweed (family Asclepiadaceae) for breeding. During fall migration in Arizona, monarch butterflies seek nectar from a variety of native plants and garden plants. Populations in Arizona can migrate either to California or Mexico for winter or may overwinter in the low deserts in California. In the Southwest, migrating monarch butterflies often occur near water sources (e.g., rivers, creeks, riparian corridors, roadside ditches, irrigated gardens). In the low deserts of Arizona, monarch butterflies breed in late August to early September; however, monarch butterfly reproduction in Arizona is more common in higher elevations and is less common in the Sonoran desertscrub (Morris et al. 2015).	Occurs throughout Arizona.	May occur
Mayfly (*Fallceon eatoni*)	TNF: SCC				Aquatic areas. Rediscovered in 2005 from a single specimen taken in the Salt River Canyon, Gila County (McCafferty 2006).	Occurs in Salt River Canyon, Gila County.	Unlikely to occur
Ancha Mountainsnail (*Oreohelix anchana*)	TNF: SCC				Limestone rock slide, talus.	Known from a single slide of limestone rocks on the northeastern slope of Center Mountain in the Sierra Ancha Mountains, Tonto National Forest, Gila County, Arizona (Gregg 1953).	Unlikely to occur
Verde Rim springsnail (*Pyrgulopsis glandulosa*)	TNF: SCC				Habitat is freshwater, benthic, desert springs at 5,280 feet amsl.	Nelson Place Spring complex, which consists of two springs 492 apart that form the headwaters of Sycamore Creek, Yavapai County, Arizona.	Unlikely to occur
Fossil springsnail (*Pyrgulopsis simplex*)	TNF: S, SCC				Habitat is present only at headsprings and upper section of the outflow; individuals generally found on rocks or aquatic macrophytes in moderate current.	The known distribution of this species is limited to an unnamed spring near Strawberry in Gila County and at Fossil Springs in Yavapai County.	Unlikely to occur
Phoenix talussnail (*Sonorella allynsmithi*)	TNF: SCC‡				Species prefers talus slopes in mid-elevation areas of the Sonoran Desert.	Occurs in Maricopa County, Arizona.	Unlikely to occur
Sierra Ancha talussnail (*Sonorella anchana*)	TNF: SCC				Habitat is terrestrial; individuals occur in rockslides and talus slopes.	Known from several close proximity localities in the Sierra Ancha Mountains: near Reynolds Creek, a rockslide northeast slope of Center Mountain, and on the southwest side of Center Mountain, Tonto National Forest, Gila County, Arizona.	Unlikely to occur

Common Name (*Scientific Name*)	Status*	AGFD Records of Occurrence within 5 miles	Baseline Data Records of Occurrence	Other Records of Occurrence	Habitat Components (Elevation, Vegetation Association, Slope, Aspect, etc.)	Geographical Range in Arizona	Likelihood of Occurrence in Skunk Camp Analysis Area
Richinbar talussnail (*Sonorella ashmuni*)	TNF: SCC				Loose talus slopes, rocky hillsides, and cracks and fissures in rock faces.	Known from Gila, Maricopa, and Yavapai Counties. Widely distributed within Tonto National Forest. Range extends from Richinbar Mine, southeast of Prescott to west of the Agua Fria River and to 3 miles east of Bubblebee, Arizona. Species also occurs along Seven Springs Road, near Locust Spring, near Roundtree Canyon, and on the northeast slope of Center Mountain in the Sierra Ancha Mountains.	Unlikely to occur
Milk Ranch talussnail (*Sonorella micromphala*)	TNF: SCC				Occurs in talus slopes and found in crevices one to several feet below the surface at elevations of 6,000 to 7,000 feet amsl.	Mogollon Rim in vicinity of Pine, Gila County, Arizona.	Unlikely to occur
Roosevelt talussnail (*Sonorella rooseveltiana*) (=*Myotophallus rooseveltianus*) + (*S.r. fragilis*)	TNF: SCC				Loose talus slopes, rocky hillsides, and cracks and fissures in rock faces.	Known from five locations on the Tonto National Forest. Occurrences in Gila County, west and southwest of Roosevelt Dam.	Unlikely to occur
A Caddisfly (*Wormaldia planae*)	TNF: S[†]				This species is primarily a neotropical species, with a limited distribution in Arizona (Muñoz-Quesada and Holzenthal 2008). Occurs in central Arizona, near Camp Verde, Beaver Creek, Sycamore Creek, and Fossil Creek. Typically occurs in mountainous regions, in cooler, spring-fed streams. Has been found in upper portions of slow-speed velocity streams with rocky substrate.	Occurs in Gila and Yavapai Counties.	Unlikely to occur
Mammals							
Sonoran pronghorn (*Antilocapra americana sonoriensis*)	ESA: ENE (La Paz, Maricopa, Pima, Pinal, Santa Cruz, and Yuma Counties)				Found in Sonoran desertscrub within broad, intermountain, alluvial valleys with creosote bush (*Larrea tridentata*)-bursage (*Ambrosia* spp.) and paloverde (*Parkinsonia* spp.)-mixed cacti associations at elevations between 2,000 and 4,000 feet amsl. The only extant U.S. population is in southwestern Arizona; however, reintroductions have occurred in La Paz County.	This species is found in La Paz, Maricopa, Pima, Pinal, Santa Cruz, and Yuma Counties.	Unlikely to occur

Common Name (*Scientific Name*)	Status*	AGFD Records of Occurrence within 5 miles	Baseline Data Records of Occurrence	Other Records of Occurrence	Habitat Components (Elevation, Vegetation Association, Slope, Aspect, etc.)	Geographical Range in Arizona	Likelihood of Occurrence in Skunk Camp Analysis Area
Mexican gray wolf (*Canis lupis baileyi*)	ESA: E (Apache and Greenlee Counties), EXPN TNF: ENE				Found in variety of vegetation types, except low deserts. Cover, water, and sufficient prey, such as deer and elk, are important. Reintroduction areas are typically rugged lands in coniferous forest. Elevational range of 3,000–12,000 feet amsl.	Occurs in Apache and Greenlee Counties, reintroductions are occurring in Apache County.	Unlikely to occur
Pale Townsend's big-eared bat (*Corynorhinus townsendii pallescens*)	TNF: S, SCC AGFD: SGCN 1B	Dripping Spring Wash (2004)	Tailings corridor, East Plant, Devil's Canyon, Queen Creek, Oak Creek (vicinity), near west vicinity (WestLand 2012c, 2018c)		This bat occurs in most of Arizona, except for the low-elevation deserts of the southwestern portion of the state. In summer, the species is found in caves and mines in elevations ranging from 550–7,520 feet amsl; in winter, the species is found in cold caves, lava tubes, and mines at higher elevations than summer.	Occurs throughout Arizona.	Known to occur
Spotted bat (*Euderma maculatum*)	TNF: S[†] AGFD: SGCN 1B				Habitat can vary widely from dry deserts to coniferous forests; species prefers to roost in crevices and cracks in cliff faces; elevational range of 110–8,670 feet amsl.	Occurs throughout Arizona.	May occur
Allen's lappet-browed or big-eared bat (*Idionycteris phyllotis*)	TNF: S, SCC				Found in ponderosa pine (*Pinus ponderosa*), pinyon-juniper (*Pinus* spp.-*Juniperus* spp.), Mexican woodland, and riparian areas with cottonwoods, sycamores, and willows; also have records of occurrence in desertscrub and white fir (*Abies concolor*) habitats; elevational range of 1,320–9,800 feet amsl.	Occurs throughout Arizona except for deserts in southwestern Arizona.	May occur
Western red bat (*Lasiurus blossevillii*)	TNF: S, SCC	Queen Creek: Whitlow Dam (1965), J K Mountain: Pinto Creek (2002)	East Plant, Devil's Canyon, Queen Creek, near west vicinity (WestLand 2012c)		Distribution in Arizona is from the southeast corner of the state northwest along the Mogollon Rim to near Flagstaff, with outlier records of occurrence in the Grand Canyon and at the Bill Williams River near its confluence with the Colorado River. Habitat consists of riparian and wooded areas. Species typically roosts in cottonwood trees; elevational range of 1,900–7,200 feet amsl.	Distribution in Arizona is from the southeast corner of the state northwest along the Mogollon Rim to near Flagstaff, with outlier records in Grand Canyon and at the Bill Williams River near its confluence with the Colorado River.	Known to occur
Western yellow bat (*Lasiurus xanthinus*)	AGFD: SGCN 1B (added in accordance with request from AGFD)				Species may be associated with palm trees (Arecaceae), sycamores, hackberries (*Celtis* spp.), and cottonwoods. Habitat consists of riparian and wooded areas; typically roosts in cottonwood trees; elevational range of 1,900–7,200 feet amsl.	Occurs throughout Arizona; historically found near Phoenix and Casa Grande.	May occur

Common Name (*Scientific Name*)	Status*	AGFD Records of Occurrence within 5 miles	Baseline Data Records of Occurrence	Other Records of Occurrence	Habitat Components (Elevation, Vegetation Association, Slope, Aspect, etc.)	Geographical Range in Arizona	Likelihood of Occurrence in Skunk Camp Analysis Area
Ocelot (*Leopardus* [*Felis*] *pardalis*)	ESA: E (Cochise, Gila, Graham, Maricopa, Pima, Pinal, and Santa Cruz Counties)	Devil's Canyon (2011)			Habitats preferred by ocelots are variable, from tropical semiarid deserts to brushy forests and semiarid deserts in the northern part of its range. Densely vegetated movement corridors and small, semi-isolated habitat patches are important for facilitating dispersal movements in fragmented habitats. The current distribution extends into southern Arizona; dispersing individuals range more widely, as evidenced by the 2010 roadkill (on U.S. Route 60) near Top-of-the-World, Gila County. Little is known about ocelot habitat use In Arizona and Sonora, Mexico. Current information is lacking to draw conclusions about ocelot populations in Arizona although more sightings have been substantiated recently in southern Arizona, in the vicinity of the United States–Mexico border. No information exists as to any established or breeding populations in Arizona. The individual killed near Top-of-the-World, between Superior and Globe along U.S. Route 60, is considered by some to be an extreme occurrence and well beyond its expected range.	Occurs in Cochise, Gila, Graham, Maricopa, Pima, Pinal, and Santa Cruz Counties.	Unlikely to occur
California leaf-nosed bat (*Macrotus californicus*)	TNF: SCC‡	Tortilla Mountains: Gila River (2000), Dripping Springs Mountains: Dripping Springs Wash (2000), Dripping Springs Mountains: Dripping Spring Wash vicinity (1993), Mineral Creek (1999)	Oak Flat (immediate vicinity), Near West (WestLand 2012c, 2018c)		Species prefers Sonoran desertscrub and roosts in mines, caves, and rockshelters that have large areas of ceiling and flying space; elevational range of 160–3,980 feet amsl.	Occurs south of the Mogollon Plateau and in Mohave County.	Known to occur
Fringed myotis (*Myotis thysanodes*)	TNF: SCC	Pinal Mountains: Pinto Creek (2016); JK Mountain: Pinto Creek (2000)	Apache Leap (WestLand 2012c)		Species ranges from desert to grasslands to woodland and is most frequently captured in oak-pinyon woodlands and other open, coniferous, middle-elevation forests; roosts in caves, mine tunnels, large snags, and buildings and under exfoliating bark; may hibernate in lower-elevation caves and mines; elevational range of 4,000 to 8,437 feet amsl.	Throughout Arizona but not known from northeast or southwest corners of state. In winter, the species' range shifts to the southernmost counties and Mohave County.	Known to occur
Jaguar (*Panthera onca*)	ESA: E (Cochise, Pima, and Santa Cruz Counties)				Variety of habitats; prefers lowland wet habitats but also occurs in drier habitats such as oak-pine woodlands; elevational range of sightings in Arizona from 5,200–5,700 feet amsl.	Occurs in Cochise, Pima, and Santa Cruz Counties.	Unlikely to occur
Brazilian free-tailed bat (*Tadarida brasiliensis*)	AGFD: SGCN 1B (added in accordance with request from AGFD)	Picketpost Mountain: Pott's Canyon (2017)	Oak Flat (immediate vicinity), Near West (WestLand 2012c, 2018c)		A species that is distributed across much of the southern United States with the largest concentrations residing in the western United States. Preferred habitat is the Upper and Lower Sonoran life zones and commonly roosts in caves, abandoned mines, under bridges, buildings, and hollow trees. Elevational range 450–8,475 feet amsl.	Occurs throughout Arizona during summer; only in the south half of Arizona during winter.	Known to occur

Common Name (*Scientific Name*)	Status*	AGFD Records of Occurrence within 5 miles	Baseline Data Records of Occurrence	Other Records of Occurrence	Habitat Components (Elevation, Vegetation Association, Slope, Aspect, etc.)	Geographical Range in Arizona	Likelihood of Occurrence in Skunk Camp Analysis Area
Reptiles							
Sonoran Desert tortoise (*Gopherus morafkai*)	TNF: S, SCC	Cottonwood Canyon (2007), Arnett Creek (2017), Telegraph Canyon (1990), Belmont Canyon (1990), Picketpost Mountain (1990), Raymert Wash (1990), Queen Creek (2016), Whitlow Ranch (2014), Whitlow Canyon (2014), Hewitt Canyon (2016), Gila River: southeast of Kearny (1995), Kane Spring Canyon (1990)	Tailings Area, Far West Parcel, Near West (WestLand 2013b, 2014)		Habitat includes desertscrub to semidesert grassland and interior chaparral; elevational range of 510–5,300 feet amsl.	Occurs in the southern and southwestern part of Arizona. The range of the species in Arizona is most of the southwest half of the state, below the Mogollon Rim, and north to Lake Mead.	Known to occur
Northern Mexican gartersnake (*Thamnophis eques megalops*)	ESA: T (all Arizona Counties except Maricopa and Yuma) with designated critical habitat TNF: S†				Inhabits streams, rivers, ciénegas, and ponds with dense shoreline vegetation from Sonoran desertscrub up into Petran montane conifer forest.	Occurs throughout Arizona except Maricopa and Yuma Counties.	Unlikely to occur
Narrow-headed gartersnake (*Thamnophis rufipunctatus*)	ESA: T (Apache, Coconino, Gila, Graham, Greenlee, Navajo, and Yavapai Counties) with designated critical habitat TNF: S†				Species prefers pinyon-juniper and pine-oak woodlands, ranging into ponderosa pine at elevations 2,440–8,080 feet amsl; species needs permanent water source.	Occurs in Apache, Coconino, Gila, Graham, Greenlee, Navajo, and Yavapai Counties.	Unlikely to occur
Bezy's night lizard (*Xantusia bezyi*)	TNF: S, SCC	Queen Creek Canyon (2008)			Species prefers rocky slopes in upland Sonoran desertscrub and chaparral vegetation types; elevational range of 2,400–5,800 feet amsl.	Occurs in Gila, Pinal, and Maricopa Counties.	Known to occur

Unless otherwise noted, range or habitat information is from AGFD (2025); Forest Service (2017); Kaufman (1996); NatureServe (2025); TNF (2000); U.S. Fish and Wildlife Service (2016).

Note: Occurrence evaluation is based on the proposed action mining component and its associated 5-mile analysis area.

Unless otherwise noted, occurrence information is from data obtained from AGFD on August 13, 2018, or from eBird (2025).

* Status definitions are as follows:

AGFD

SGCN 1B = Species of Greatest Conservation Need Tier 1B. Vulnerable species.

After publication of the FEIS in 2021, the AGFD updated its state wildlife action plan; however, SWCA Environmental Consultants made no related changes within the tables in this document. The AGFD statuses in this document are based on *Arizona's State Wildlife Action Plan: 2012–2022* (AGFD 2012).

Not all species with an SGCN status are addressed as part of these analyses; however, SWCA added Brazilian free-tailed bat (*Tadarida brasiliensis*) and western yellow bat (*Lasiurus xanthinus*) to the analysis at the request of the AGFD, which is a cooperating agency.

BGEPA = Bald and Golden Eagle Protection Act

This federal statute protects two eagle species.

ESA = Endangered Species Act

E = Endangered. Endangered species are those in imminent jeopardy of extinction. The ESA specifically prohibits the take of a species listed as endangered. *Take* is defined by the ESA as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to engage in any such conduct.

PT = Proposed Threatened. Any species the U.S. Fish and Wildlife Service has determined is likely to become endangered within the foreseeable future throughout all or a significant portion of its range and the agency has proposed a draft rule to list as threatened.

T = Threatened. Threatened species are those that are likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.

EXPN = A population of a species designated under Section 10(j) of the ESA that the U.S. Fish and Wildlife Service, based on review of the best available information, believes is not essential for the continued existence of the species. Regulatory restrictions are considerably reduced under an EXPN designation.

TNF = Tonto National Forest

ENE = Reintroduced populations designated as Experimental - Nonessential, under the ESA.

S = Sensitive. Under the *Tonto National Forest Land and Resource Management Plan* (Forest Service 1985), sensitive species are those identified by a regional forester for which population viability is a concern, as evidenced by 1) significant current or predicted downward trends in population number or density or 2) significant current or predicted downward trends in habitat capability that would reduce the species' existing distribution.

SCC = Species of conservation concern. The *Tonto National Forest Land Management Plan* (Forest Service 2023) defines SCC as species that are native to and known to occur in the TNF and for which there are substantial concerns about the species' ability to persist within the TNF. These species are listed on the most recently published list of Species of Conservation Concern for the Tonto National Forest (Forest Service 2021).

There is substantial overlap between SCC and S. SWCA Environmental Consultants (SWCA) evaluated S and draft SCC for the FEIS, which was published in 2021. After publication of the FEIS, the publication of *Tonto National Forest Land Management Plan* (Forest Service 2023) resulted in the need for revision of the FEIS and this table. SWCA deleted no species or statuses from the table and added only species newly designated as SCC.

† SWCA evaluated this species as an S during initial analysis and FEIS publication; however, the species was not included as an SCC in the *Tonto National Forest Land Management Plan* (Forest Service 2023).

‡ SWCA evaluated this species as a draft SCC during initial analysis and FEIS publication; however, the species was not included as an SCC in the *Tonto National Forest Land Management Plan* (Forest Service 2023).

Appendix 2 – Literature Review of Artificial Light Effects on Wildlife Species

Conserving energy at a cost to biodiversity? Impacts of LED lighting on bats (Stone et al. 2012)

Many studies have shown that artificial lights at night negatively affect bat roosting and foraging behavior; however, little is known about effects of light-emitting diode (LED) lights on bats compared with traditional street lighting. A study was conducted to expand knowledge on the effects of LED streetlights on several bat species. Results concluded that LED lights have a negative effect on slow-flying bat species but do not affect fast-flying bat species.

Impacts of artificial lighting on bats: a review of challenges and solutions (Stone et al. 2015)

Current trends of artificial lights and their effects on bat behavior are reviewed. Impacts of these effects are discussed and include spatial avoidance and habitat fragmentation, increased and reduced foraging opportunities, delayed emergence, spatial avoidance, or roost abandonment, reduced reproductive success, and increased arousal from hibernation. Solutions to minimize effects are discussed and include avoidance, variable lighting regimes, reducing intensity of light, and changing the light type.

Studies of Artificial Light, Seabird Fallout, and Habitat Suitability Concerning Newell's Shearwater and Hawaiian Petrel Conservation (Troy 2013)

A dissertation that included several large-scale geographic information system (GIS) studies on artificial light, seabird fallout, and habitat suitability of two endangered seabirds: Newell's shearwater (*Puffinus newelli*) and Hawaiian petrel (*Pterodroma sandwichensis*). Models are developed to hypothesize that few areas exist where no artificial light can be seen in first flights of the fledglings. Results are consistent with the hypothesis. Information provided by the studies may help with conservation methods.

Using observed seabird fallout records to infer patterns of attraction to artificial light (Troy et al. 2013)

Using previous Newell's shearwater fallout records, hypothetical models are created to make assumptions of flight paths with attraction to light, and a new study comparing recent findings with model assumptions. Results conclude that spatial patterns of fallout are consistent with amount of light the birds may view along flights, which follow model expectations.

High-intensity urban light installation dramatically alters nocturnal bird migration (Van Doren et al. 2017)

A study was conducted to quantify behavioral alterations of migratory birds affected by the nocturnal beams of New York City's National September 11 Memorial "Tribute in Light." Results concluded that an estimated >1 million birds were influenced during a study period of seven nights over seven years.

Additional studies involving the effects of powerful lights in urban areas on migratory birds and involving conservation efforts for such installations are recommended.

Anthropogenic light is associated with increased vocal activity by nocturnally migrating birds (Watson et al. 2016)

A study was conducted in the Great Lakes region, comparing the number of nocturnal flight calls produced by migrating birds over artificially lit areas versus nearby dark areas. Results concluded that more nocturnal flight calls were detected over sites with artificial light than over nearby dark sites.

Studying the Ecological Impacts of Light Pollution on Wildlife: Amphibians as Models (Wise 2009)

Several methods of research on the impact of light pollution on amphibians are examined and summarized. These methods include laboratory experiments, field experiments, and natural, observational studies. Results of the studies show that artificial lighting at night can have potentially negative effects on biological processes and activities of amphibians, and that future studies using a multilevel approach that includes all three methods are important to assess the impacts of these effects.

Ecological Consequences of Artificial Night Lighting (chapters cited by author[s])

PART I. MAMMALS

Chapter 2. Effects of Artificial Night Lighting on Terrestrial Mammals (Beier 2006)

Artificial night lighting can increase the risk of predation and decrease food consumption for small, herbivorous, nocturnal mammals. Circadian rhythm and melatonin production in mammals are likely affected by artificial night lighting; however, studies have also shown that natural moonlight also affects mammal species. Population-level effect studies is lacking. Increased artificial night lighting may also increase roadkill and disrupt mammalian dispersal movements and wildlife corridor use.

Chapter 3. Bats and Their Insect Prey at Streetlights (Rydell 2006)

Replacement of the light source of streetlights to a source (in this case, high-pressure sodium instead of mercury vapor) that does not attract insects as much is positive for insects and bats; however, this may result in a lower food intake for the bats and possibly lower reproductive success for some species of aerial-hawking bats. Evidence suggests that moth prey capture increases for some bat species at streetlights because the moth's evolved ultrasound hearing trait of sensing bats gets turned off under bright light. Therefore, the long process of coevolution of the predator-prey relationship between bats and moths seems to favor bats in this case.

PART II. BIRDS

Chapter 4. Effects of Artificial Night Lighting on Migrating Birds (Gauthreaux and Belser 2006)

Migrating birds are attracted to lights, especially when visibility and the ceiling are low. Effects from this can range from death or injury from collisions with structures, reducing energy stores due to delays or altered routes, and delayed arrival at breeding grounds.

PART III. REPTILES AND AMPHIBIANS

Chapter 8. Night Lights and Reptiles: Observed and Potential Effects (Perry and Fisher 2006)

The negative consequences of artificial lighting are well known for sea turtles; however, negative effects on other species are not as clearly identified and are more speculative. Potential negative impacts include an extended photoperiod, which can also be positive for some species like geckos. The chapter is clear, however, in stating, "We know little about effects of artificial lights on reptiles other than to sea turtles."

Chapter 9. Observed and Potential Effects of Artificial Night Lighting on Anuran Amphibians (Buchanan 2006)

Artificial light can affect the biology of anuran amphibians; however, these changes may be subtle or complex and not easily predictable. Less is known about the effects on the early life stages of anuran species. Possible effects include changes to predator-prey relationships, changes in reproduction, and competition.

PART IV. FISHES

Chapter 11. Artificial Night Lighting and Fishes (Nightingale et al. 2006)

Little effort has been directed to study the effects of artificial light on fish species; however, potential impacts include breakdowns in niche portioning, changes in migratory patterns, temporary blindness, alternations of predator-prey relations, and changes to foraging.

PART V. INVERTEBRATES

Chapter 12. Artificial Night Lighting and Insects: Attraction of Insects to Streetlamps in a Rural Setting in Germany (Gerhard Eisenbeis 2006)

One study in Germany found that effects from high-pressure sodium light sources reduce attraction of insects by 55% and of moths by 75%, compared with high-pressure mercury vapor light sources. Three main effects on insects from street lighting include a "fixation" or "captivity" effect, the "crash barrier" effect, and the "vacuum cleaner" effect. Although long-term monitoring is needed, all of these would likely have a population-level effect. K-strategist species, which are species that have life history strategies of having a low number of offspring, are most affected by artificial lighting.

Chapter 13. Effects of Artificial Night Lighting on Moths (Frank 2006)

Only minimal research has been done to examine the effects of artificial lighting on moths, and none has been done on the effect on moth populations; however, many studies have used lights to study moths. From that research, the following effects on moths from artificial lighting can affect almost every aspect of their life history: flight to light; flight activity; vision through temporary blindness or improved vision at a distance; deactivation of moths' defense mechanism to hear bats and avoid predation; increased predation by birds of moths resting near light sources in the morning; increased predation by sit-and-wait predators; effects on oviposition of gravid females; changes to dispersal and migration; circadian rhythm changes; and desiccation or death by incineration at light sources.

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