Appendix B

Species List

U.S Fish & Wildlife Service

Information for Planning and Consultation (IPaC)

THE REHABILITATION OF THE ACEQUIA DE CHAMITA

BIOLOGICAL ANALYSIS

Prepared using IPaC

Generated by Rodrigo Sedeno (jorge.r.sedeno@usace.army.mil)

October 28, 2025

The purpose of this document is to assess the effects of the proposed project and determine whether the project may affect any federally threatened, endangered, proposed, or candidate species. If appropriate for the project, this document may be used as a biological assessment (BA), as it is prepared in accordance with legal requirements set forth under Section 7 of the Endangered Species Act (16 U.S.C. 1536 (c)).

In this document, any data provided by U.S. Fish and Wildlife Service is based on data as of October 27, 2025.

Prepared using IPaC version 6.128.17-rc2

THE REHABILITATION OF THE ACEQUIA DE CHAMITA BIOLOGICAL ASSESSMENT

TABLE OF CONTENTS

1 DESCRIPTION OF THE ACTION

1.1 PROJECT NAME

The Rehabilitation of the Acequia de Chamita

1.2 EXECUTIVE SUMMARY

The Project proposes the following work as the preferred plan (Proposed Action) which would rehabilitate the existing acequia and address the current problems/concerns, with the goal to resolve long-standing maintenance issues while enhancing overall system functionality, durability and safety. The Proposed Action would involve a full replacement of the existing conveyance infrastructure with more resilient, safe and hydraulically efficient components by removing the entire perforated 48-inch pipe (≈ 1, 100 linear ft), and in its place, install approximately 300 linear ft. of 48-inch non-perforated reinforced concrete pipe (RCP) in combination with approximately 800 linear ft of fiber-reinforced concrete-lined open irrigation channel. In addition, the existing conduit has a total of two manholes and one sluicing box between the upstream diversion and downstream sluicing structure. All existing manholes and sluicing boxes would be demolished, removed and replaced. Depending on their function and location, they would be replaced with either new gated sluicing boxes or gated turnout structures, ensuring consistent water delivery and better sediment management throughout the system. The proposed acequia modifications and improvements may be constructed over various phases based on priority needs. The total area of disturbance, (including the access, staging, and stockpile locations) is estimated at 3.4 ac. The duration of the proposed construction would be approximately (____) months and would begin (month & year?). Restoration of all disturbed areas, including grading and seeding would occur after construction. The vegetative seed mix would increase the likelihood of successful re-establishment, as well as providing improved wildlife habitat. The Proposed Action offers an approach that balances structural reliability with accessibility for routine maintenance and water flow visibility; key elements in traditional acequia systems. This comprehensive redesign would position the Acequia de Chamita for long-term resilience while honoring its traditional irrigation function and supporting the water needs of agricultural users downstream.

The Proposed Action for may have some temporary effects on special-status species, but these impacts are expected to be minimal or mitigable with proper measures. For species like the New Mexico meadow jumping mouse, Mexican spotted owl, and Southwestern willow flycatcher, any disturbances during construction (such as habitat disturbance or noise) can be minimized through timing restrictions and vegetation restoration, leading to a determination of "May Affect, Not likely to adversely affect." Similarly, for species such as the Monarch butterfly, Nokomis fritillary, and Suckley’s cuckoo bumble bee, the proposed rehabilitation could cause short-term disruptions but will likely result in long-term habitat improvement, resulting in the same determination. The Jemez Mountain salamander, however, is not expected to be affected as the project is outside its typical habitat. Overall, the Proposed Action is determined to have minimal adverse effects on the species, with appropriate mitigation strategies ensuring that impacts are temporary and limited.

1.3 EFFECT DETERMINATION SUMMARY

SPECIES (COMMON NAME)	SCIENTIFIC NAME	LISTING STATUS	PRESENT IN ACTION AREA	EFFECT DETERMINATION
Monarch Butterfly	Danaus plexippus	Proposed Threatened	Yes	NLAA
New Mexico Meadow Jumping Mouse	Zapus hudsonius luteus	Endangered	Yes	NLAA
Southwestern Willow Flycatcher	Empidonax traillii extimus	Endangered	Yes	NE
Suckley's Cuckoo Bumble Bee	Bombus suckleyi	Proposed Endangered	Yes	NE
Yellow-billed Cuckoo	Coccyzus americanus	Threatened	Yes	NE

1.4 PROJECT DESCRIPTION

1.4.1 LOCATION

LOCATION

Rio Arriba County, New Mexico

1.4.2 DESCRIPTION OF PROJECT HABITAT

The Chamita reach of the Rio Chama supports a diverse mosaic of vegetation communities influenced by perennial surface water from the river and sections of the acequia system, seasonal floodplain connectivity, and a varied geomorphic setting. Intact riparian gallery forest along portions of the reach is dominated by Rio Grande cottonwood (*Populus deltoides* var. *wislizeni*) and Goodding's willow (*Salix gooddingii*), with a mixed understory of native shrubs (e.g., New Mexico olive, coyote willow) and non-native species such as Russian olive (*Elaeagnus angustifolia*) and Siberian elm (*Ulmus pumila*). Wetland and moist-soil patches occur in localized areas with persistent saturation, such as near the Rio Chama Diversion Dam at the Arroyo de la Presa confluence, and where the acequia returns to the river where flows may deposit fine sediment over gravel substrates. The section where the acequia is currently buried in perforated pipe occupies a relatively high terrace with sandy and gravelly soils, an open canopy, sparse shrubby cover, and dominance by upland vegetation—most notably exotic Siberian elm, scattered prickly pear (*Opuntia* spp.), sagebrush (*Artemisia* spp.), and rabbitbrush (*Chrysothamnus* spp.), indicating a shift away from riparian conditions, likely due to a fluctuating water table insufficient to sustain phreatophytic vegetation. This upland-dominated corridor offers limited riparian habitat value and is periodically disturbed for maintenance to remove accumulated organic matter (roots, soil, vegetative debris) from the perforated pipe. Aquatic vegetation occurs primarily in low-velocity habitats such as side channels, backwaters, and reservoir inlets and bays. Common submerged and floating-leaved species include pondweeds (*Potamogeton pectinatus*, *P. crispus*), coontail (*Ceratophyllum demersum*), and water milfoil (*Myriophyllum sibiricum*) (Derrick, 1999). Duckweed (*Lemna minor*), watercress (*Nasturtium officinale*), and common water-plantain (*Alisma triviale*) occupy shallow margins, while emergent stands of bulrush (*Schoenoplectus acutus*), spikerush (*Eleocharis palustris*), and sedges (*Carex nebrascensis*, *C. praegracilis*) provide structural habitat and bank stability (During periods of low flow, periphyton and filamentous algae (e. g. genus *Cladophora* and *Spirogyra*), which can develop in depositional zones (NRCS, 2017). Collectively, these riparian and aquatic plant assemblages contribute to the Rio Chama's ecological integrity by supporting sediment retention, nutrient cycling, and habitat for native aquatic fauna. Overall, vegetation structure in the Chamita acequia corridor ranges from high-quality, hydrologically connected riparian patches to upland-dominated, hydrologically disconnected terraces, reflecting both natural variability and long-term infrastructure influences.

1.4.3 PROJECT PROPONENT INFORMATION

Provide information regarding who is proposing to conduct the project, and their contact information. Please provide details on whether there is a Federal nexus.

REQUESTING AGENCY

Department of Defense

Army Corps of Engineers

FULL NAME

Rodrigo Sedeno

STREET ADDRESS

4101 Jefferson Plaza NE

CITY	STATE	ZIP
Albuquerque	NM	87109

PHONE NUMBER	E-MAIL ADDRESS
5053423168	jorge.r.sedeno@usace.army.mil

LEAD AGENCY

Lead agency is the same as requesting agency

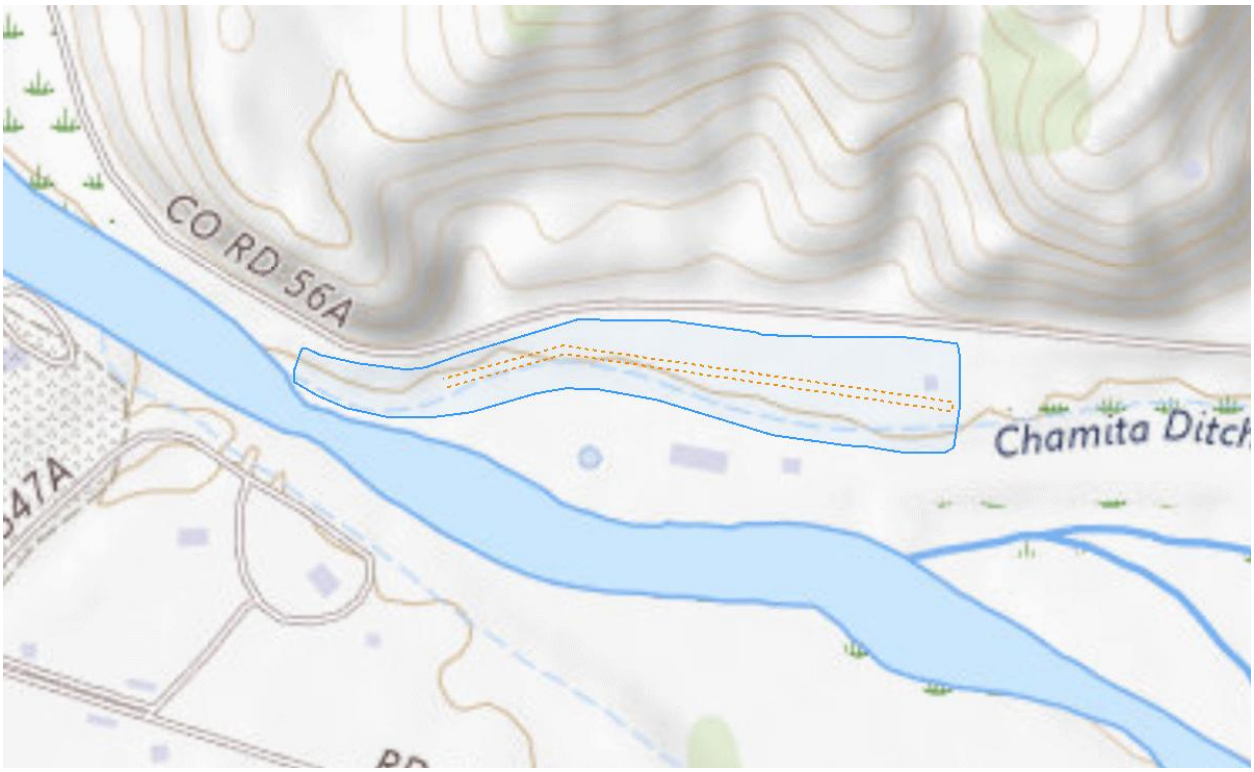
1.4.4 PROJECT PURPOSE

The Acequia de Chamita is slated for improvements aimed at increasing its operational efficiency, structural resilience, and safety. A key focus of the effort is to evaluate alternatives to the sections containing the existing 48-inch perforated PVC pipe, which has proven to be maintenance-intensive and operationally limiting. To reduce long-term maintenance demands while maintaining reliable downstream water delivery, the project team is exploring the replacement of the current subsurface system with an open, cement-lined channel. This design would improve accessibility and reduce clogging risks while also aligning with regional practices that emphasize gravity-fed systems, surface flow visibility, and multi-benefit infrastructure.

1.4.5 PROJECT TYPE AND DECONSTRUCTION

This project is a pipeline operation & maintenance project.

1.4.5.1 PROJECT MAP



LEGEND

Project footprint

Excavate: Excavate soils/sediments, replace above-ground pipeline segment, replace terrestrial subsurface pipeline segment, restore vegetation

1.4.5.2 EXCAVATE SOILS/SEDIMENTS

ACTIVITY START DATE
November 01, 2026

ACTIVITY END DATE
February 01, 2027

STRESSORS
- Increase in vehicle traffic

DESCRIPTION
The Proposed Action would involve a full replacement of the existing conveyance infrastructure with more resilient, safe and hydraulically efficient components by removing the entire perforated 48-inch pipe (≈ 1, 100 linear ft), and in its place, install approximately 300 linear ft. of 48-inch non-perforated reinforced concrete pipe (RCP) in combination with approximately 800 linear ft of fiber-reinforced concrete-lined open irrigation channel.

1.4.5.3 REPLACE ABOVE-GROUND PIPELINE SEGMENT

ACTIVITY START DATE
November 01, 2026

ACTIVITY END DATE
February 01, 2027

STRESSORS
This activity is not expected to have any impact on the environment.

DESCRIPTION
The Proposed Action would involve a full replacement of the existing conveyance infrastructure with more resilient, safe and hydraulically efficient components by removing the entire perforated 48-inch pipe (≈ 1, 100 linear ft), and in its place, install approximately 300 linear ft. of 48-inch non-perforated reinforced concrete pipe (RCP) in combination with approximately 800 linear ft of fiber-reinforced concrete-lined open irrigation channel.

1.4.5.4 REPLACE TERRESTRIAL SUBSURFACE PIPELINE SEGMENT

ACTIVITY START DATE
November 01, 2026

ACTIVITY END DATE
February 01, 2027

STRESSORS
This activity is not expected to have any impact on the environment.

DESCRIPTION
The Proposed Action would involve a full replacement of the existing conveyance infrastructure with more resilient, safe and hydraulically efficient components by removing the entire perforated 48-inch pipe (≈ 1, 100 linear ft), and in its place, install approximately 300 linear ft. of 48-inch non-perforated reinforced concrete pipe (RCP) in combination with approximately 800 linear ft of fiber-reinforced concrete-lined open irrigation channel.

1.4.5.5 RESTORE VEGETATION

ACTIVITY START DATE
November 01, 2026

ACTIVITY END DATE
February 01, 2027

STRESSORS
This activity is not expected to have any impact on the environment.

DESCRIPTION
The Proposed Action would involve a full replacement of the existing conveyance infrastructure with more resilient, safe and hydraulically efficient components by removing the entire perforated 48-inch pipe (≈ 1, 100 linear ft), and in its place, install approximately 300 linear ft. of 48-inch non-perforated reinforced concrete pipe (RCP) in combination with approximately 800 linear ft of fiber-reinforced concrete-lined open irrigation channel.

1.4.6 ANTICIPATED ENVIRONMENTAL STRESSORS

Describe the anticipated effects of your proposed project on the aspects of the land, air and water that will occur due to the activities above. These should be based on the

activity deconstructions done in the previous section and will be used to inform the action area.

1.4.6.1 ANIMAL FEATURES
Individuals from the Animalia kingdom, such as raptors, mollusks, and fish. This feature also includes byproducts and remains of animals (e.g., carrion, feathers, scat, etc.), and animal-related structures (e.g., dens, nests, hibernacula, etc.).

1.4.6.2 PLANT FEATURES
Individuals from the Plantae kingdom, such as trees, shrubs, herbs, grasses, ferns, and mosses. This feature also includes products of plants (e.g., nectar, flowers, seeds, etc.).

1.4.6.3 ENVIRONMENTAL QUALITY FEATURES
Abiotic attributes of the landscape (e.g., temperature, moisture, slope, aspect, etc.).

1.4.6.4 SOIL AND SEDIMENT
The topmost layer of earth on the landscape and its components (e.g., rock, sand, gravel, silt, etc.). This feature includes the physical characteristics of soil, such as depth, compaction, etc. Soil quality attributes (e.g, temperature, pH, etc.) should be placed in the Environmental Quality Features.

1.4.6.5 HUMAN ACTIVITIES
Human actions in the environment (e.g., fishing, hunting, farming, walking, etc.).

1.4.6.5.1 INCREASE IN VEHICLE TRAFFIC

ANTICIPATED MAGNITUDE
This stressor is not expected to occur; the following explanation has been provided:

This stressor was completely avoided by implementing a conservation measure.

CONSERVATION MEASURES
- Minimizing traffic

STRUCTURES AND ACTIVITIES
- Excavate soils/sediments

1.5 ACTION AREA

LEGEND

Project footprint

Stressor location

1.6 CONSERVATION MEASURES

1.6.1 MINIMIZING TRAFFIC

DESCRIPTION

This would be implemented by formulating a schedule of activities so that traffic occurs outside of the sensitive season.

STRESSORS

- Increase in vehicle traffic

DIRECT INTERACTIONS

- acoustic interference
- auditory disturbance
- disturbance

1.7 PRIOR CONSULTATION HISTORY

No history

1.8 OTHER AGENCY PARTNERS AND INTERESTED PARTIES

Rio Chama Acequia Association (Non-Federal sponsor)

Ohkay Owingeh Pueblo (stakeholder)

NM Department of Game and Fish (stakeholder)

NM interstate stream commission (stakeholder)

1.9 OTHER REPORTS AND HELPFUL INFORMATION

N/A

2 SPECIES EFFECTS ANALYSIS

This section describes, species by species, the effects of the proposed action on listed, proposed, and candidate species, and the habitat on which they depend. In this document, effects are broken down as direct interactions (something happening directly to the species) or indirect interactions (something happening to the environment on which a species depends that could then result in effects to the species).

These interactions encompass effects that occur both during project construction and those which could be ongoing after the project is finished. All effects, however, should be considered, including effects from direct and indirect interactions and cumulative effects.

2.1 MONARCH BUTTERFLY

2.1.1 STATUS OF THE SPECIES

This section should provide information on the species' background, its biology and life history that is relevant to the proposed project within the action area that will inform the effects analysis.

2.1.1.1 LEGAL STATUS

The Monarch Butterfly is federally listed as 'Proposed Threatened' and additional information regarding its legal status can be found on the ECOS species profile.

2.1.1.2 RECOVERY PLANS

Available recovery plans for the Monarch Butterfly can be found on the ECOS species profile.

2.1.1.3 LIFE HISTORY INFORMATION

For information on monarch conservation, visit https://www.fws.gov/initiative/pollinators/monarchs, http://www.mafwa.org/?page_id=2347, and, for the West, https://wafwa.org/committees-working-groups/monarch-working-group/.

Adult monarch butterflies are large and conspicuous, with bright orange wings surrounded by a black border and covered with black veins. The black border has a double row of white spots, present on the upper side of the wings. Adult monarchs are sexually dimorphic, with males having narrower wing venation and scent patches. The bright coloring of a monarch serves as a warning to predators that eating them can be toxic.

During the breeding season, monarchs lay their eggs on their obligate milkweed host plant (primarily Asclepias spp.), and larvae emerge after two to five days. Larvae develop through five larval instars (intervals between molts) over a period of 9 to 18 days, feeding on milkweed and sequestering toxic chemicals (cardenolides) as a defense against predators. The larva then pupates into a chrysalis before emerging 6 to 14 days later as an adult butterfly. There are multiple generations of monarchs produced during the breeding season, with most adult butterflies living approximately two to five weeks; overwintering adults enter into reproductive diapause (suspended reproduction) and live six to nine months.

In many regions where monarchs are present, monarchs breed year-round. Individual monarchs in temperate climates, such as eastern and western North America, undergo long-distance migration, and live for an extended period of time. In the fall, in both eastern and western North America, monarchs begin migrating to their respective overwintering sites. This migration can take monarchs distances of over 3,000 km and last for over two months. In early spring (February-March), surviving monarchs break diapause and mate at the overwintering sites before dispersing. The same individuals that undertook the initial southward migration begin flying back through the breeding grounds and their offspring start the cycle of generational migration over again.

IDENTIFIED RESOURCE NEEDS

Riparian vegetation

Frequent migrant and breeder in riparian areas with milkweed and nectar plants

2.1.1.4 CONSERVATION NEEDS

frequent migrant and breeder in riparian areas with milkweed and nectar plants

2.1.2 ENVIRONMENTAL BASELINE

*The environmental baseline describes the species' health **within the action area only** at the time of the consultation, and does not include the effects of the action under*

review. Unlike the species information provided above, the environmental baseline is at the scale of the Action area.

2.1.2.1 SPECIES PRESENCE AND USE
frequent migrant and breeder in riparian areas with milkweed and nectar plants

2.1.2.2 SPECIES CONSERVATION NEEDS WITHIN THE ACTION AREA
frequent migrant and breeder in riparian areas with milkweed and nectar plants

2.1.2.3 HABITAT CONDITION (GENERAL)
Habitat impaired

2.1.2.4 INFLUENCES
This flying insect is a wide-ranging pollinator whose populations depend on the availability of plants for breeding and nectar-rich flowering plants for foraging and migration. Within the Rio Chama riparian corridor, suitable habitat occurs in wet meadows, floodplain terraces, and riparian margins that support native milkweeds such as showy milkweed (*Asclepias speciosa*) and swamp milkweed (*Asclepias incarnata*), often in association with spikerush (*Eleocharis palustris*), scratch muhly (*Muhlenbergia asperifolia*), and sedges (*Carex* spp.) (Jepsen et al. 2015). Monarchs use these areas for oviposition and larval development from late May through early September, depending on elevation and temperature. Adult butterflies rely on a continuous sequence of nectar sources—including rabbitbrush (*Ericameria nauseosa*), goldenrod (*Solidago spp.*), sunflowers (*Helianthus spp.*), and alfalfa (*Medicago sativa*) to fuel migration (Pelton et al. 2019). The Rio Chama serves primarily as a migration corridor for monarchs moving between summer breeding grounds in the interior West and overwintering areas in central Mexico, though localized reproduction is possible where milkweed density is high. Key threats include habitat loss due to vegetation clearing or hydrologic alteration, pesticide use, and declines in native milkweed abundance

2.1.2.5 ADDITIONAL BASELINE INFORMATION
None

2.1.3 EFFECTS OF THE ACTION
This section considers and discusses all effects on the listed species that are caused by the proposed action and are reasonably certain to occur, including the effects of other activities that would not occur but for the proposed action.

2.1.3.1 INDIRECT INTERACTIONS

Provide a brief overview of what the applicable science has discovered regarding the species and its response to the stressors that each project activity may cause. This should include an explanation of the pathways and mechanisms that have potential to translate environmental change (impact) into response and effects to individuals.

2.1.3.2 DIRECT INTERACTIONS

DIRECT INTERACTION	CONSERVATION MEASURES	INDIVIDUALS IMPACTED	IMPACT EXPLANATION
Disturbance	Minimizing traffic	No	none

2.1.4 CUMULATIVE EFFECTS

none

2.1.5 DISCUSSION AND CONCLUSION

DETERMINATION: NLAA

COMPENSATION MEASURES

Temporary habitat disturbance and impacts (disruption of milkweed and nectar sources in riparian areas) can be minimized through strategic timing and restoration.

2.2 NEW MEXICO MEADOW JUMPING MOUSE

2.2.1 STATUS OF THE SPECIES

This section should provide information on the species' background, its biology and life history that is relevant to the proposed project within the action area that will inform the effects analysis.

2.2.1.1 LEGAL STATUS

The New Mexico Meadow Jumping Mouse is federally listed as 'Endangered' and additional information regarding its legal status can be found on the ECOS species profile.

2.2.1.2 RECOVERY PLANS

Available recovery plans for the New Mexico Meadow Jumping Mouse can be found on the ECOS species profile.

2.2.1.3 LIFE HISTORY INFORMATION

The New Mexico meadow jumping mouse (jumping mouse) is endemic to New Mexico, Arizona, and a small area of southern Colorado (Hafner et al. 1981, pp. 501-502; Jones 1999, p. 1). The jumping mouse is grayish-brown on the back, yellowish-brown on the sides, and white underneath (Van Pelt 1993, p 1). The species is about 7. 4 to 10 inches (187 to 255 mm) in total length, with elongated feet (1.2 inches (30.6 mm)) and an extremely long, bicolored tail (5.1 inches (130.6 mm)) (Van Pelt 1993, p. 1; Hafner et al. 1981, p. 509). The jumping mouse is a habitat specialist (Frey 2006d, p. 3). It nests in dry soils, but uses moist, streamside, dense riparian/wetland vegetation up to an elevation of about 8,000 feet (Frey 2006d, pp. 34-45). The jumping mouse appears to only utilize two riparian community types: 1) persistent emergent herbaceous wetlands (i.e., beaked sedge and reed canarygrass alliances); and 2) scrub-shrub wetlands (i.e., riparian areas along perennial streams that are composed of willows and alders) (Frey 2005, p. 53). It especially uses microhabitats of patches or stringers of tall dense sedges on moist soil along the edge of permanent water. Home ranges vary between 0.37 and 2.7 acres (0.15 and 1.1 hectares) and may overlap (Smith 1999, p. 4). The jumping mouse is generally nocturnal, but occasionally diurnal. It is active only during the growing season of the grasses and forbs on which it depends. During the growing season, the jumping mouse accumulates fat reserves by consuming seeds. Preparation for hibernation (weight gain, nest building) seems to be triggered by day length. The jumping mouse hibernates about 9 months out of the year, longer than most other mammals (Morrison 1990, p. 141; VanPelt 1993, p. 1; Frey 2005a, p. 59).

IDENTIFIED RESOURCE NEEDS

Riparian vegetation

Occupies dense riparian herbaceous zones with tall sedges and grasses adjacent to perennial streams; populations have been documented in tributary reaches with sustained summer flows. this is a riparian rodent subspecies that occupies a highly specialized riparian niche characterized by dense, tall herbaceous vegetation associated with perennial or seasonally persistent water. within the rio chama system, suitable habitat occurs along low-gradient stream and spring-fed reaches, oxbows, and irrigated floodplain pastures where hydrologic conditions maintain moist to saturated soils through the growing season (typically june–september). optimal vegetation structure includes a dense canopy of sedges and grasses exceeding 24 inches in height (commonly dominated by carex nebrascensis, carex praegracilis, juncus balticus, and poa pratensis) which can provide cover from predators and thermal protection during daylight hours. the subspecies relies on a multi-strata herbaceous community, often interspersed with coyote willow thickets, which stabilize soils and trap sediment to sustain moisture.

2.2.1.4 CONSERVATION NEEDS

conservation of the riparian habitat mosaic

2.2.2 ENVIRONMENTAL BASELINE

*The environmental baseline describes the species' health **within the action area only** at the time of the consultation, and does not include the effects of the action under review. Unlike the species information provided above, the environmental baseline is at the scale of the Action area.*

2.2.2.1 SPECIES PRESENCE AND USE

suitable riparian habitat does not occur within the project footprint and along perennial reaches upstream and downstream of the project footprint

2.2.2.2 SPECIES CONSERVATION NEEDS WITHIN THE ACTION AREA

Project area does not overlap with a conservation unit

2.2.2.3 HABITAT CONDITION (GENERAL)

The area has experienced degradation or alteration of these habitats (often driven by livestock grazing, mowing, bank stabilization, or hydrologic changes), can rapidly reduce habitat suitability by lowering vegetation height, compacting soils, or desiccating root zones

2.2.2.4 INFLUENCES

land use changes, particularly high degree of livestock grazing

2.2.2.5 ADDITIONAL BASELINE INFORMATION

The jumping mouse is primarily nocturnal and hibernates for up to nine months of the year (generally from late September through June), depending on climatic conditions and food availability. It requires an intact hydrologic regime that supports continuous soil moisture and plant growth during its short active period, as well as undisturbed ground cover for nesting and hibernation.

2.2.3 EFFECTS OF THE ACTION

This section considers and discusses all effects on the listed species that are caused by the proposed action and are reasonably certain to occur, including the effects of other activities that would not occur but for the proposed action.

2.2.3.1 INDIRECT INTERACTIONS

Provide a brief overview of what the applicable science has discovered regarding the species and its response to the stressors that each project activity may cause. This should include an explanation of the pathways and mechanisms that have potential to translate environmental change (impact) into response and effects to individuals.

2.2.3.2 DIRECT INTERACTIONS

DIRECT INTERACTION	CONSERVATION MEASURES	INDIVIDUALS IMPACTED	IMPACT EXPLANATION
Disturbance	Minimizing traffic	No	Disturbance would occur outside of suitable habitat

2.2.4 CUMULATIVE EFFECTS

N/A

2.2.5 DISCUSSION AND CONCLUSION

DETERMINATION: NLAA

COMPENSATION MEASURES

Temporary disturbance to riparian habitat, soil compaction, and vegetation loss during construction may affect, but not likely adversely affect this species.

2.3 SOUTHWESTERN WILLOW FLYCATCHER

2.3.1 STATUS OF THE SPECIES

This section should provide information on the species' background, its biology and life history that is relevant to the proposed project within the action area that will inform the effects analysis.

2.3.1.1 LEGAL STATUS

The Southwestern Willow Flycatcher is federally listed as 'Endangered' and additional information regarding its legal status can be found on the ECOS species profile.

2.3.1.2 RECOVERY PLANS

Available recovery plans for the Southwestern Willow Flycatcher can be found on the ECOS species profile.

2.3.1.3 LIFE HISTORY INFORMATION

Small; usually a little less than 6 inches in length, including tail. Conspicuous light-colored wingbars. Lacks the conspicuous pale eye-ring of many similar Empidonax species. Overall, body brownish-olive to gray-green above. Throat whitish, breast pale olive, and belly yellowish. Bill relatively large; lower mandible completely pale. Best identified by vocalizations. Call a liquid, sharply whistled whit! or a dry sprrit; song a sneezy witch-pew or fitz-bew. While perched, characteristically flicks tail slightly upward.

IDENTIFIED RESOURCE NEEDS

Arachnids

Order: araneae

Fruit

Species: ribes, rubus, and cornus and type: berries

Insects

Organic matter

Type: animal and plant materials

Riparian vegetation

Location: within the 100 year floodplain, proximity to water: close, species: gooddings willow, coyote willow, geyer's willow, arroyo willow, red willow, yewleaf willow, boxelder, tamarisk (saltcedar), and and russian olive

Vegetation

Proximity to water: close

Vegetation density

Percent cover: 75 - 100% canopy cover and understory: dense up to 4 meters

Vegetation structure

Multiple types

2.3.1.4 CONSERVATION NEEDS

Dense riparian forests

2.3.2 ENVIRONMENTAL BASELINE

*The environmental baseline describes the species' health **within the action area only** at the time of the consultation, and does not include the effects of the action under review. Unlike the species information provided above, the environmental baseline is at the scale of the Action area.*

2.3.2.1 SPECIES PRESENCE AND USE

suitable riparian habitat (breeding and nesting) does not occur within the project footprint and along perennial reaches upstream and downstream of the project footprint

2.3.2.2 SPECIES CONSERVATION NEEDS WITHIN THE ACTION AREA
Need to restore the riparian habitat mosaic

2.3.2.3 HABITAT CONDITION (GENERAL)
The species nests exclusively in dense thickets of native willows (*Salix exigua, S. gooddingii*), cottonwoods (*Populus deltoides ssp. wislizeni*), and occasionally non-native tamarisk (*Tamarix spp*), where canopy cover exceeds 70% and vegetation height typically ranges between 2–6 meters (6–20 feet).

these conditions are not present within the Project footprint.

2.3.2.4 INFLUENCES
Poor structure of the riparian forests

2.3.2.5 ADDITIONAL BASELINE INFORMATION
Breeds in dense willow–cottonwood stands and tamarisk thickets along low-gradient portions of the Rio Chama and its floodplain. This is a flycatcher subspecies that depends on dense riparian vegetation associated with perennial or seasonally flowing water throughout the Rio Chama system.

2.3.3 EFFECTS OF THE ACTION
This section considers and discusses all effects on the listed species that are caused by the proposed action and are reasonably certain to occur, including the effects of other activities that would not occur but for the proposed action.

2.3.3.1 INDIRECT INTERACTIONS
Provide a brief overview of what the applicable science has discovered regarding the species and its response to the stressors that each project activity may cause. This should include an explanation of the pathways and mechanisms that have potential to translate environmental change (impact) into response and effects to individuals.

2.3.3.2 DIRECT INTERACTIONS

DIRECT INTERACTION	CONSERVATION MEASURES	INDIVIDUALS IMPACTED	IMPACT EXPLANATION
Acoustic interference	Minimizing traffic	No	Species has not been observed in the area in decades. Additionally, suitable habitat does not occur within the Project area

DIRECT INTERACTION	CONSERVATION MEASURES	INDIVIDUALS IMPACTED	IMPACT EXPLANATION
Auditory disturbance	Minimizing traffic	No	Species and habitat is not present in the Project area, plus a schedule of activity would avoid the time of the season that this species may be present.
Disturbance	Minimizing traffic	No	species or habitat are not present in the Project area, and schedule of activities would occur outside of the season that this species is regionally present

2.3.4 CUMULATIVE EFFECTS

when the project concludes, there is a possibility that there would be positive cumulative effects, since the restored area may reflect suitable habitat.

2.3.5 DISCUSSION AND CONCLUSION

DETERMINATION: NE

2.4 SUCKLEY'S CUCKOO BUMBLE BEE

2.4.1 STATUS OF THE SPECIES

This section should provide information on the species' background, its biology and life history that is relevant to the proposed project within the action area that will inform the effects analysis.

2.4.1.1 LEGAL STATUS

The Suckley's Cuckoo Bumble Bee is federally listed as 'Proposed Endangered' and additional information regarding its legal status can be found on the ECOS species profile.

2.4.1.2 RECOVERY PLANS

Available recovery plans for the Suckley's Cuckoo Bumble Bee can be found on the ECOS species profile.

2.4.1.3 LIFE HISTORY INFORMATION

No description available

IDENTIFIED RESOURCE NEEDS

Riparian vegetation

Potential habitat occurs in riparian benches, wet meadows, and montane grasslands supporting flowering forbs such as lupine (lupinus argenteus), penstemon (penstemon barbatus), milkweed (asclepias speciosa), monarda (monarda fistulosa), and rabbitbrush (ericameria nauseosa). these areas provide nectar and pollen sources necessary for both B. suckleyi and its host species. because of its dependence on host populations, the species' persistence is closely tied to the health and diversity of native bumble bee communities, which are threatened B. habitat fragmentation, pesticide exposure, disease spillover from managed bees, and loss of floral diversity

2.4.1.4 CONSERVATION NEEDS

Conservation of the riparian habitat mosaic

2.4.2 ENVIRONMENTAL BASELINE

*The environmental baseline describes the species' health **within the action area only** at the time of the consultation, and does not include the effects of the action under review. Unlike the species information provided above, the environmental baseline is at the scale of the Action area.*

2.4.2.1 SPECIES PRESENCE AND USE

suitable riparian habitat including foraging and host bee habitat does not occur within the project footprint and along perennial reaches upstream and downstream of the project footprint

2.4.2.2 SPECIES CONSERVATION NEEDS WITHIN THE ACTION AREA

Requires the conservation of the riparian habitat mosaic

2.4.2.3 HABITAT CONDITION (GENERAL)

Habitat conditions in the Project area reflect a disturbed riparian zone, with sparse large trees and little to no understory, with some upland vegetation beginning to establish

2.4.2.4 INFLUENCES

The species is strongly associated with high-elevation meadows, riparian corridors, and open montane habitats where host species are abundant and a diverse, native flowering plant community provides continuous forage from May through September

2.4.2.5 ADDITIONAL BASELINE INFORMATION
Conditions within the project area does not reflect suitable habitat.

2.4.3 EFFECTS OF THE ACTION
This section considers and discusses all effects on the listed species that are caused by the proposed action and are reasonably certain to occur, including the effects of other activities that would not occur but for the proposed action.

2.4.3.1 INDIRECT INTERACTIONS
Provide a brief overview of what the applicable science has discovered regarding the species and its response to the stressors that each project activity may cause. This should include an explanation of the pathways and mechanisms that have potential to translate environmental change (impact) into response and effects to individuals.

2.4.3.2 DIRECT INTERACTIONS
No direct interactions leading to effects on species are expected to occur from the proposed project.
Justification:
Species and habitat do not occur in the Project area

2.4.4 CUMULATIVE EFFECTS
N/A

2.4.5 DISCUSSION AND CONCLUSION

DETERMINATION: NE

2.5 YELLOW-BILLED CUCKOO

2.5.1 STATUS OF THE SPECIES
This section should provide information on the species' background, its biology and life history that is relevant to the proposed project within the action area that will inform the effects analysis.

2.5.1.1 LEGAL STATUS
The Yellow-billed Cuckoo is federally listed as 'Threatened' and additional information regarding its legal status can be found on the ECOS species profile.

2.5.1.2 RECOVERY PLANS

Available recovery plans for the Yellow-billed Cuckoo can be found on the ECOS species profile.

2.5.1.3 LIFE HISTORY INFORMATION

Yellow-billed Cuckoos are fairly large, long, and slim birds. The mostly yellow bill is almost as long as the head, thick and slightly downcurved. They have a flat head, thin body, and very long tail. Wings appear pointed and swept back in flight. Yellow-billed Cuckoos are warm brown above and clean whitish below. Their blackish face mask is accompanied by a yellow eyering. In flight, the outer part of the wings flash rufous. From below, the tail has wide white bands and narrower black ones.

References cited in Species Profile

- Cornell Lab of Ornithology. 2015. Yellow-billed Cuckoo. All About Birds. http://www.allaboutbirds.org/guide/Yellow-billed_Cuckoo/id (http://www.allaboutbirds.org/guide/Yellow-billed_Cuckoo/id)
- Hughes, Janice M. 2015. Yellow-billed Cuckoo (Coccyzus americanus), The Birds of North America Online (A. Poole, Ed.). Ithaca: Cornell Lab of Ornithology; Retrieved from the Birds of North America Online: http://bna.birds.cornell.edu/bna/species/418 (http://bna.birds.cornell.edu/bna/species/418)
- Laymon, S. A. 1998. Yellow-billed Cuckoo (Coccycus americanus). In The Riparian Bird Conservation Plan:a strategy for reversing the decline of riparian-associated birds in California. California Partners in Flight. http://www.prbo.org/calpif/htmldocs/riparian_v-2.html (http://www.prbo.org/calpif/htmldocs/riparian_v-2.html)
- Partners in Flight. 2012. Species assessment database. http://rmbo.org/pifassessment/Database.aspx (http://rmbo.org/pifassessment/Database.aspx)
- USGS Patuxent Wildlife Research Center. 2012. North American Breeding Bird Survey 1966-2010 analysis. http://www.mbr-pwrc.usgs.gov/bbs/specl10.html (http://www.mbr-pwrc.usgs.gov/bbs/specl10.html)

IDENTIFIED RESOURCE NEEDS

Amphibians

Type: frogs

Canopy cover

Multiple types

Cicadas

Location: southwestern u.s.

Insects

Species: primarily katydids, grasshoppers, and caterpillars

Microclimate

Location: desert southwest and range: portions of the riparian canopy that are cooler and more humid than the surrounding area

Riparian vegetation

Multiple types

Upland vegetation

Location: adjacent to, but occasionally some distance from, riparian habitat

Vegetation structure

Density: high stem density, location: desert southwest, and type: small riparian trees

2.5.1.4 CONSERVATION NEEDS

Need to restore hydrologic regime of the riverine floodplain, and restoration of the riparian habitat mosaic

2.5.2 ENVIRONMENTAL BASELINE

*The environmental baseline describes the species' health **within the action area only** at the time of the consultation, and does not include the effects of the action under review. Unlike the species information provided above, the environmental baseline is at the scale of the Action area.*

2.5.2.1 SPECIES PRESENCE AND USE

potential breeding and nesting habitat does not occur within the Project footprint and along the upstream and downstream reaches of the Rio Chama

2.5.2.2 SPECIES CONSERVATION NEEDS WITHIN THE ACTION AREA

Management and conservation of this species emphasize maintaining natural floodplain hydrology, promoting regeneration of native riparian vegetation, reducing human disturbance during the breeding season, and restoring habitat continuity between riparian patches.

2.5.2.3 HABITAT CONDITION (GENERAL)

Habitat condition is poor, with some large trees and little to no understory structure. Upland vegetation such as cacti and shrubs are beginning to encroach into the riparian zone

2.5.2.4 INFLUENCES

Influenced by geomorphology, hydrology and vegetation structure

2.5.2.5 ADDITIONAL BASELINE INFORMATION

Project area habitat structure does not reflect suitable breeding and nesting habitat of the YBCU

2.5.3 EFFECTS OF THE ACTION

This section considers and discusses all effects on the listed species that are caused by the proposed action and are reasonably certain to occur, including the effects of other activities that would not occur but for the proposed action.

2.5.3.1 INDIRECT INTERACTIONS

Provide a brief overview of what the applicable science has discovered regarding the species and its response to the stressors that each project activity may cause. This should include an explanation of the pathways and mechanisms that have potential to translate environmental change (impact) into response and effects to individuals.

2.5.3.2 DIRECT INTERACTIONS

DIRECT INTERACTION	CONSERVATION MEASURES	INDIVIDUALS IMPACTED	IMPACT EXPLANATION
Acoustic interference	Minimizing traffic	No	Yellow-billed cuckoo presence and habitat do not occur in the project footprint.
Auditory disturbance	Minimizing traffic	No	Species presence and habitat presence do not occur in the Project area
Disturbance	Minimizing traffic	No	Species presence and habitat presence do not occur in the Project area

2.5.4 CUMULATIVE EFFECTS

N/A

2.5.5 DISCUSSION AND CONCLUSION

DETERMINATION: NE

3 CRITICAL HABITAT EFFECTS ANALYSIS

No critical habitats intersect with the project action area.

4 SUMMARY DISCUSSION AND CONCLUSION

4.1 SUMMARY DISCUSSION

Due to lack of preferred habitat and no known presence of these special status animal and plant species, there would be no effect from the No-Action alternative nor the Proposed Action.

4.2 CONCLUSION

No species presence and no suitable habitat occur within the Project area

Biota Information System of New Mexico
(BISON-M)

Species of Greatest Conservation Need and Federal or State Threatened/Endangered

Rio Arriba

Taxonomic Group	# Species	Taxonomic Group	# Species
Amphibians	2	Fish	1
Birds	11	Mammals	3

TOTAL SPECIES: 17

Common Name	Scientific Name	NMGF	US FWS	Critical Habitat	SGCN	Photo
Spotted Bat	Euderma maculatum	T			Y	View
Pacific Marten	Martes caurina	T			Y	View
New Mexico Jumping Mouse	Zapus hudsonius luteus	E	E	Y	Y	View
White-tailed Ptarmigan	Lagopus leucura	E			Y	View
Yellow-billed Cuckoo (western pop)	Coccyzus americanus occidentalis		T	Y	Y	View
Least Tern	Sternula antillarum	E			Y	View
Bald Eagle	Haliaeetus leucocephalus	T			Y	View
Common Black Hawk	Buteogallus anthracinus	T			Y	View
Mexican Spotted Owl	Strix occidentalis lucida		T	Y	Y	View
Boreal Owl	Aegolius funereus	T			Y	View
Peregrine Falcon	Falco peregrinus	T			Y	View
Southwestern Willow Flycatcher	Empidonax traillii extimus	E	E	Y	Y	View
Gray Vireo	Vireo vicinior	T			Y	View
Baird's Sparrow	Centronyx bairdii	T			Y	View
Jemez Mountains Salamander	Plethodon neomexicanus	E	E	Y	Y	View
Boreal Toad	Anaxyrus boreas boreas	E			Y	View
Roundtail Chub (upper basin populations)	Gila robusta	E			Y	View

PROJECT INFORMATION

Project Title: Rehabilitation of the Acequia de Chamita
Project Type: WATER MANAGEMENT, DIVERSIONS, IRRIGATION
Latitude/Longitude (DMS): 36.083856 / -106.122947
County(s): RIO ARRIBA
Project Description: The Project proposes the following work as the preferred plan (Proposed Action) which would rehabilitate the existing acequia and address the current problems/concerns, with the goal to resolve long-standing maintenance issues while enhancing overall system functionality, durability and safety. The Proposed Action would involve a full replacement of the existing conveyance infrastructure with more resilient, safe and hydraulically efficient components by removing the entire perforated 48-inch pipe (? 1, 100 linear ft), and in its place, install approximately 300 linear ft. of 48-inch non-perforated reinforced concrete pipe (RCP) in combination with approximately 800 linear ft of fiber-reinforced concrete-lined open irrigation channel. In addition, the existing conduit has a total of two manholes and one sluicing box between the upstream diversion and downstream sluicing structure. All existing manholes and sluicing boxes would be demolished, removed and replaced. Depending on their function and location, they would be replaced with either new gated sluicing boxes or gated turnout structures, ensuring consistent water delivery and better sediment management throughout the system. The proposed acequia modifications and improvements may be constructed over various phases based on priority needs. The total area of disturbance, (including the access, staging, and stockpile locations) is estimated at 3.4 ac. The duration of the proposed construction would be approximately 4 months and would begin in the winter season. Restoration of all disturbed areas, including grading and seeding would occur after construction. The vegetative seed mix would increase the likelihood of successful re-establishment, as well as providing improved wildlife habitat. The Proposed Action offers an approach that balances structural reliability with accessibility for routine maintenance and water flow visibility; key elements in traditional acequia systems. This comprehensive redesign would position the Acequia de Chamita for long-term resilience while honoring its traditional irrigation function and supporting the water needs of agricultural users downstream.

REQUESTOR INFORMATION

Project Organization:
Contact Name: Jorge Rodrigo Sedeno
Email Address: jorge.r.sedeno@usace.army.mil
Organization: U.S. Army Corps of Engineer-Albuquerque District Office
Address: 4101 Jefferson Plaza NE, Albuquerque NM 87121
Phone: 505-342-3168

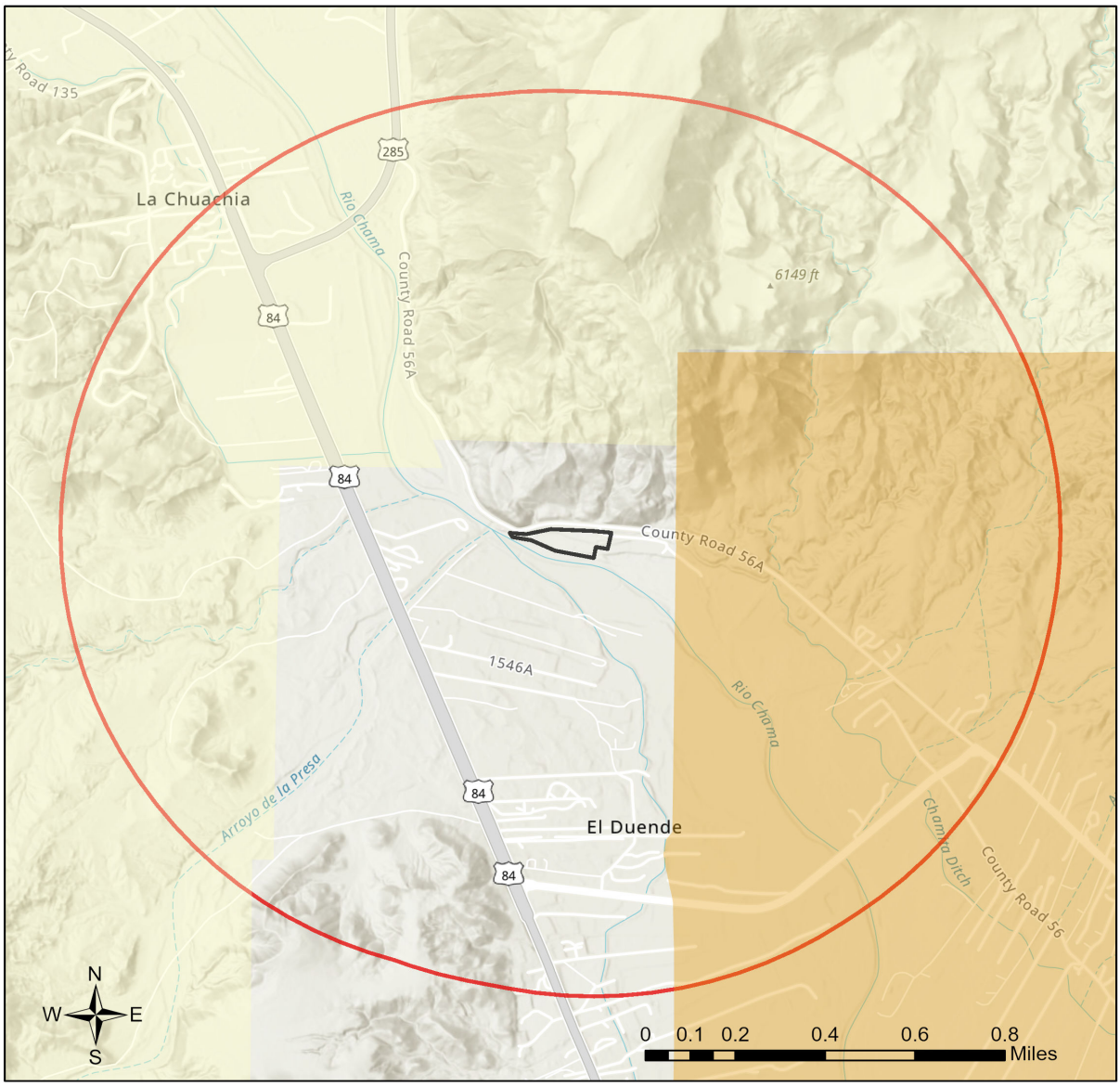
OVERALL STATUS

This report contains an initial list of recommendations regarding potential impacts to wildlife or wildlife habitats from the proposed project; see the Project Recommendations section below for further details. Your project proposal is being forwarded to a New Mexico Department of Game and Fish (Department) biologist for review to determine whether there are any additional recommendations regarding the proposed actions. A Department biologist will be in touch within 30 days if there are further recommendations regarding this project proposal.

About this report:

- This environmental review is based on the project description and location that was entered. The report must be updated if the project type, area, or operational components are modified.
- This is a preliminary environmental screening assessment and report. It is not a substitute for the potential wildlife knowledge gained by having a biologist conduct a field survey of the project area. Federal status and plant data are provided as a courtesy to users. The review is also not intended to replace consultation required under the federal Endangered Species Act (ESA), including impact analyses for federal resources from the U.S. Fish and Wildlife Service (USFWS) using their Information for Planning and Consultation tool.
- This report contains information on wildlife species protected under the ESA and the Wildlife Conservation Act (WCA), Species of Greatest Conservation Need (SGCN), and Species of Economic and Recreational Importance (SERI). Species listed under the ESA are protected from take at the federal level and under the WCA are protected from take at the state level. SGCN are identified in the State Wildlife Action Plan (SWAP) for New Mexico; all of these species are considered to be of conservation concern but not all of them are protected from take at the state or federal level. The harvest of all SERI is regulated at the state level. The Department has no authority to designate critical habitat for species listed under the WCA; only the USFWS can designate critical habitat for species listed under the ESA.
- The New Mexico Environmental Review Tool (ERT) utilizes species observation locations and species habitat suitability models, both of which are subject to ongoing change and refinement. Inclusion or omission of a species within a report cannot guarantee species presence or absence within your project area. To determine occurrence of any species listed in this report, or other wildlife that may be present within your project area, onsite surveys conducted by a qualified biologist during appropriate, species-specific survey timelines may be necessary.
- The Department encourages use of the ERT to modify proposed projects for avoidance, minimization, or mitigation of wildlife impacts. However, the ERT is not intended to be used in a repeatedly iterative fashion to adjust project attributes until a previously determined recommendation is generated. The ERT serves to assess impacts once project details are developed. The New Mexico Crucial Habitat Assessment Tool, the data layers from which are included in the ERT, is the appropriate system for advising early-stage project planning and design to avoid areas of anticipated wildlife concerns and associated regulatory requirements.

Rehabilitation of the Acequia de Chamita



- Buffered Project Boundary
- Project_Boundary
- Bureau of Land Management
- City Land
- County Land
- Department of Defense
- Department of Energy
- NM Department of Game & Fish
- NM State Forestry Division
- NM State Parks
- National Park Service
- Other Federal Agency
- Other Federal Agency
- State Land Office
- State of New Mexico
- Tribal Land
- U.S. Army Corps of Engineers
- U.S. Bureau of Reclamation
- U.S. Department of Agriculture
- U.S. Fish and Wildlife Service
- U.S. Forest Service
- U.S. Natural Resources Conservation Service

NHNM, USGS, USFS, US Census Bureau, NMDGF
Esri, NASA, NGA, USGS, FEMA
Texas Parks & Wildlife, Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, Bureau of Land Management, EPA, NPS, US Census Bureau, USDA, USFWS

Special Status Animal Species Potentially within 1 Miles of Project Area

Common Name	Scientific Name	USFWS (ESA)	NMDGF (WCA)	NMDGF SGCN/SERI	USFS	USFS SCC	BLM
Western Toad	Anaxyrus boreas	PS	E	SGCN	Sensitive Species	USFS R3 SCC	
Boreal Chorus Frog	Pseudacris maculata			SGCN			
Plains Leopard Frog	Lithobates blairi			SGCN			BLM WATCH
Northern Leopard Frog	Lithobates pipiens			SGCN	Sensitive Species	USFS R3 SCC	BLM SENSITIVE
Clark's Grebe	Aechmophorus clarkii			SGCN			
American Bittern	Botaurus lentiginosus			SGCN			BLM WATCH
Bald Eagle	Haliaeetus leucocephalus		T	SGCN	Sensitive Species		BLM SENSITIVE
Peregrine Falcon	Falco peregrinus		T	SGCN			BLM WATCH
Mountain Plover	Charadrius montanus			SGCN	Sensitive Species		BLM WATCH
Flammulated Owl	Psiloscops flammeolus			SGCN			BLM WATCH
Western Burrowing Owl	Athene cunicularia hypugaea			SGCN	Sensitive Species	USFS R3 SCC	BLM SENSITIVE
Common Nighthawk	Chordeiles minor			SGCN			
Lewis's Woodpecker	Melanerpes lewis			SGCN		USFS R3 SCC	BLM WATCH
Williamson's Sapsucker	Sphyrapicus thyroideus			SGCN			
Olive-Sided Flycatcher	Contopus cooperi			SGCN			
Southwestern Willow Flycatcher	Empidonax traillii extimus	LE	E	SGCN			
Bank Swallow	Riparia riparia			SGCN			
Pinyon Jay	Gymnorhinus cyanocephalus			SGCN		USFS R3 SCC	BLM SENSITIVE
Clark's Nutcracker	Nucifraga columbiana			SGCN			
Juniper Titmouse	Baeolophus ridgwayi			SGCN		USFS R3 SCC	BLM WATCH
Pygmy Nuthatch	Sitta pygmaea			SGCN			
Western Bluebird	Sialia mexicana			SGCN			
Mountain Bluebird	Sialia currucoides			SGCN			

Special Status Animal Species Potentially within 1 Miles of Project Area

Common Name	Scientific Name	USFWS (ESA)	NMDGF (WCA)	NMDGF SGCN/SERI	USFS	USFS SCC	BLM
Bendire's Thrasher	Toxostoma bendirei			SGCN		USFS R3 SCC	BLM SENSITIVE
Loggerhead Shrike	Lanius ludovicianus			SGCN		USFS R3 SCC	BLM WATCH
Gray Vireo	Vireo vicinior		T	SGCN	Sensitive Species	USFS R3 SCC	BLM WATCH
Virginia's Warbler	Leiothlypis virginiae			SGCN			BLM SENSITIVE
Black-Throated Gray Warbler	Setophaga nigrescens			SGCN			BLM WATCH
Grace's Warbler	Setophaga graciae			SGCN		USFS R3 SCC	BLM WATCH
Cassin's Finch	Haemorhous cassinii			SGCN			BLM WATCH
Evening Grosbeak	Coccothraustes vespertinus			SGCN			
Rainbow Trout	Oncorhynchus mykiss			SERI			
Brown Trout	Salmo trutta			SERI			
Rio Grande Chub	Gila pandora			SGCN	Sensitive Species	USFS R3 SCC	BLM SENSITIVE
Spotted Bat	Euderma maculatum		T	SGCN	Sensitive Species	USFS R3 SCC	BLM SENSITIVE
American Pika	Ochotona princeps			SGCN			
Gunnison's Prairie Dog	Cynomys gunnisoni			SGCN	Sensitive Species		BLM SENSITIVE
New Mexican Meadow Jumping Mouse	Zapus hudsonius luteus	LE	E	SGCN	Sensitive Species		BLM SENSITIVE
Black Bear	Ursus americanus			SERI			
Mountain Lion	Puma concolor			SERI			
Elk	Cervus canadensis			SERI			
Mule Deer	Odocoileus hemionus			SERI			
Desert Massasauga	Sistrurus catenatus edwardsii			SGCN			

Common Name hyperlink takes you to species account in bison-m.org; Scientific Name hyperlink takes you to information in NatureServe Explorer; ESA = Endangered Species Act, C = Candidate, LE = Listed Endangered, LT = Listed Threatened, XN = Non-essential Experimental Population, for other ESA codes see this website; WCA = Wildlife Conservation Act, E = Endangered, T = Threatened; SERI = Species of Economic and Recreational Importance; SGCN = Species of Greatest Conservation Need; USFS = U.S. Forest Service, Sensitive Species = A species likely to occur on USFS lands that is of concern for a potential reduction in population viability; SCC = Species of Conservation

Concern; BLM = Bureau of Land Management, BLM SENSITIVE = A species that occurs on BLM lands and whose viability is at risk, BLM WATCH = Species that may be added to the sensitive species list in future pending new information regarding species status.

Special Status Plant Species Potentially within 1 Miles of Project Area

Common Name	Scientific Name	USFWS (ESA)	NMAC	NMRPCS	USFS	USFS SCC	BLM
Santa Fe Milkvetch	Astragalus feensis			SS			BLM WATCH

NMAC = New Mexico Administrative Code, E = Endangered; NMRPCS = New Mexico Rare Plant Conservation Strategy, SS = NM Rare Plant Conservation Strategy Species; USFS = U.S. Forest Service, Sensitive Species = A species likely to occur on USFS lands that is of concern for a potential reduction in population viability; SCC = Species of Conservation Concern; BLM = Bureau of Land Management, BLM SENSITIVE = A species that occurs on BLM lands and whose viability is at risk, BLM WATCH = Species that may be added to the sensitive species list in future pending new information regarding species status.

Project Recommendations

Your proposed project activities may require a custom review for assessment of potential effects to wildlife. See the "OVERALL STATUS" section above to determine the likelihood that your project will be reviewed further based on its location. A Department biologist will confirm whether any additional conservation measures are needed. You should expect to receive any additional project recommendations within 30 days of your project submission. If the "OVERALL STATUS" section indicates that no further consultation with the Department is required based on its location, then you will only receive additional project feedback from the Department if a biologist deems it necessary.

For projects in aquatic habitats where beavers are present, the Department recommends implementing its Beavers in New Mexico: Coexistence and Relocation guidelines as needed to mitigate any local conflicts with beaver activities and for information on relocation procedures in situations where coexistence is not feasible.

Burrowing owl (*Athene cunicularia*) may occur within your project area. Burrowing owls are protected from take by the Migratory Bird Treaty Act and under New Mexico state statute. Before any ground disturbing activities occur, the Department recommends that a preliminary burrowing owl survey be conducted by a qualified biologist using the Department's Burrowing Owl Survey Protocol. Should burrowing owls be documented in the project area, please contact the Department or USFWS for further recommendations regarding relocation or avoidance of impacts.

Your project area intersects a Conservation Opportunity Area (COA) as identified in the SWAP for New Mexico. These areas contain high numbers of SGCN as identified in the SWAP and therefore represent areas where implementing conservation actions, including restoration projects intended to benefit wildlife, has higher potential to benefit a diversity of species. Within COAs, the Department encourages project proponents to consider (during project planning and design) and mitigate (during project implementation) potential adverse effects to non-federally listed SGCN and their habitats. State-listed and federally-listed species are protected from take by the New Mexico WCA and ESA, respectively, and migratory birds are protected from take by the Migratory Bird Treaty Act.

Prairie dog colonies may occur within the vicinity of your project area. Both black-tailed prairie dogs (*Cynomys ludovicianus*) and Gunnison's prairie dogs (*Cynomys gunnisoni*) are designated as New Mexico SGCN, and their colonies provide important habitat for other grassland wildlife. Wherever possible, occupied prairie dog colonies should be left undisturbed, and all project activities should be directed off the colony. Any burrows that are located on the project site should be surveyed by a qualified biologist to determine whether burrows are active or inactive and whether burrowing owls may be utilizing the site. Colonies within the range of the black-tailed prairie dog can be surveyed by a qualified biologist diurnally, year-round using binoculars. Colonies within the range of the Gunnison's prairie dog can be surveyed by a qualified biologist diurnally, using binoculars during the warmer months from April through October and by searching for fairly fresh scat and lack of cobwebs or debris at the mouths of burrows during the cold months (November through March). If ground-disturbing activities cannot be relocated off the prairie dog colony, or if project activities involve control of prairie dogs, the Department recommends live-trapping and relocation of prairie dogs. The Department can provide recommendations regarding suitability of potential translocation areas and procedures.

The proposed project occurs within or near a riparian area. Because riparian areas are important wildlife habitats, the project footprint should avoid removing any riparian vegetation or creating ground disturbance either directly within or affecting the riparian area, unless the project is intended to restore riparian habitat through non-native plant removal and replanting with native species. If your project involves removal of non-native riparian trees or planting of native riparian vegetation, please refer to the Department's habitat handbook guideline for Restoration and Management of Native and Non-native Trees in Southwestern Riparian Ecosystems. The New Mexico Riparian Habitat Map (NMRipMap) may also provide useful information on local riparian habitat composition and structure.

Your proposed project occurs within an area where springs or other important natural water features occur. This may result in the presence of a high use area for wildlife relative to the surrounding landscape. To ensure continued function of these important wildlife habitats, your project should consider measures to avoid the following.

- Altering surface or groundwater flow or hydrology,
- Disturbance to soil that modifies geomorphic properties or facilitates invasion of non-native vegetation.
- Affecting local surface or groundwater quality.
- Creating disturbance to wildlife utilizing these water features. Disturbance to wildlife can be reduced through practices including clustering infrastructure and activity wherever possible, avoiding large visual obstructions around water features, and limiting nighttime project operations or activities.

Department biologists are available for site-specific consultation regarding measures to assist with management and conservation of these habitat resources.

The current project area appears to contain one or more wetland types as classified by the New Mexico Environment Department's Wetland Map. Information on wetlands in your project area can also be viewed on the ERT's Create Project/Map page. This key can assist in interpreting Landscape Position, landform, water flow path, and waterbody type (LLWW) codes in the ERT's wetland data. Wetlands provide important habitat for numerous species of wildlife and pollinators and provide ecosystem services, such as water filtration and storage, to downstream users. The Department recommends avoiding disturbance of wetlands whenever possible, avoiding actions or infrastructure installment that may disrupt natural wetland hydrological processes, and reseeding or replanting areas where disturbance cannot be avoided with native wetland plant species appropriate to the local wetland type. For a list of native seed providers, please see the Department's habitat handbook guideline for Restoration and Management of Native and Non-native Trees in Southwestern Riparian Ecosystems. For projects involving filling wetlands under federal jurisdiction, please contact the Army Corps of Engineers for more information on permits required under the Clean Water Act.

Disclaimers regarding recommendations:

- The Department provides technical guidance to support the persistence of all protected species of native fish and wildlife, including game and nongame wildlife species. Species listed within this report include those that have been documented to occur within the project area, and others that may not have been documented but are projected to occur within the project vicinity.
- Recommendations are provided by the Department under the authority of § 17-1-5.1 New Mexico Statutes Annotated 1978, to provide "communication and consultation with federal and other state agencies, local governments and communities, private organizations and affected interests responsible for habitat, wilderness, recreation, water quality and environmental protection to ensure comprehensive conservation services for hunters, anglers and nonconsumptive wildlife users".
- The Department has no authority for management of plants or Important Plant Areas. The New Mexico Endangered Plant Program, under the Energy, Minerals, and Natural Resources Department's Forestry Division, identifies and develops conservation measures necessary to ensure the survival of plant species within New Mexico. Plant status information is provided within this report as a courtesy to users. Recommendations provided within the ERT may not be sufficient to preclude impacts to rare or sensitive plants, unless conservation measures are identified in coordination with the Endangered Plant Program.
- Additional coordination and/or consultation may also be necessary under the federal ESA or National Environmental Policy Act (NEPA). Further site-specific mitigation recommendations may be proposed during ESA consultation and/or NEPA analyses or through coordination with affected federal agencies.