
TECHNICAL SUPPLEMENT 6: BIOLOGICAL ASSESSMENT

Albuquerque Rapid Transit Project

Prepared for:



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1.0 Introduction

The City of Albuquerque Transit Department (ABQ RIDE), in cooperation with the Federal Transit Administration (FTA), is proposing a Bus Rapid Transit (BRT) project along Central Avenue in Albuquerque, New Mexico. This project is referred to as the Albuquerque Rapid Transit (ART) Project. While the elements of BRT systems are highly variable and depend on the needs of each specific area, the primary features proposed for the ART include: (1) modern articulated rapid vehicles; (2) rapid vehicle lanes (lanes reserved for buses only), as described below; (3) rapid vehicle stations, as described below, spaced at approximately ½ to 1 mile intervals and with off-board fare collection; and, (4) modifications to the traffic signal system to provide rapid vehicle priority.

The project vicinity is shown on the U.S. Geological Survey (USGS) Albuquerque, New Mexico (N3500-W10600) 1:100,000 scale map. PLSS coordinates for the project area are:

T10N, R04E, Section 19, 20, 29, 28, 27, 26
T10N, R03E, Section 21, 22, 23, 24
T10N, R03E, Unplatted Albuquerque Grant
T10N, R02E, Unplatted Town of Atrisco Grant

UTM Zone 13 (NAD83) coordinates for the Beginning of Project (BOP) and End of Project (EOP) are as follows:

BOP: 337257E; 3881387N
EOP: 363560E; 3881521N

A biological evaluation was conducted as part of the overall environmental documentation for the proposed project work. The purpose of this Biological Evaluation is to (1) document the findings of the biological survey of the project area, taking into consideration the Action Area, (2) detail the natural resources and wildlife species observed during the survey, (3) evaluate the impacts to these resources and species as a result of the proposed project, and (4) make recommendations, as needed, to minimize and/or mitigate impacts consistent with federal, state, tribal, and local laws.

2.0 Project Description

The proposed project would extend from 98th Street on the west side of the Albuquerque metropolitan area to Tramway Boulevard on the east side (See Figure 1). The overall route length is approximately 15 miles and generally follows the alignment of Central Avenue, except through Downtown Albuquerque. In the Downtown area, the route would split with westbound service located on Copper Avenue between 10th Street and 1st Street, and eastbound service following Gold Avenue from 1st Street to 8th Street.

The major design and operational features of the proposed project include:

- Construction of two dedicated rapid vehicle lanes within the existing operational right-of-way of Central Avenue from Coors Boulevard east to Louisiana Boulevard (approximately 8.75 miles). In general, the rapid vehicle lanes will occupy the existing median of the street and will include one westbound lane and one eastbound lane. This concept will be used in all locations except as follows:

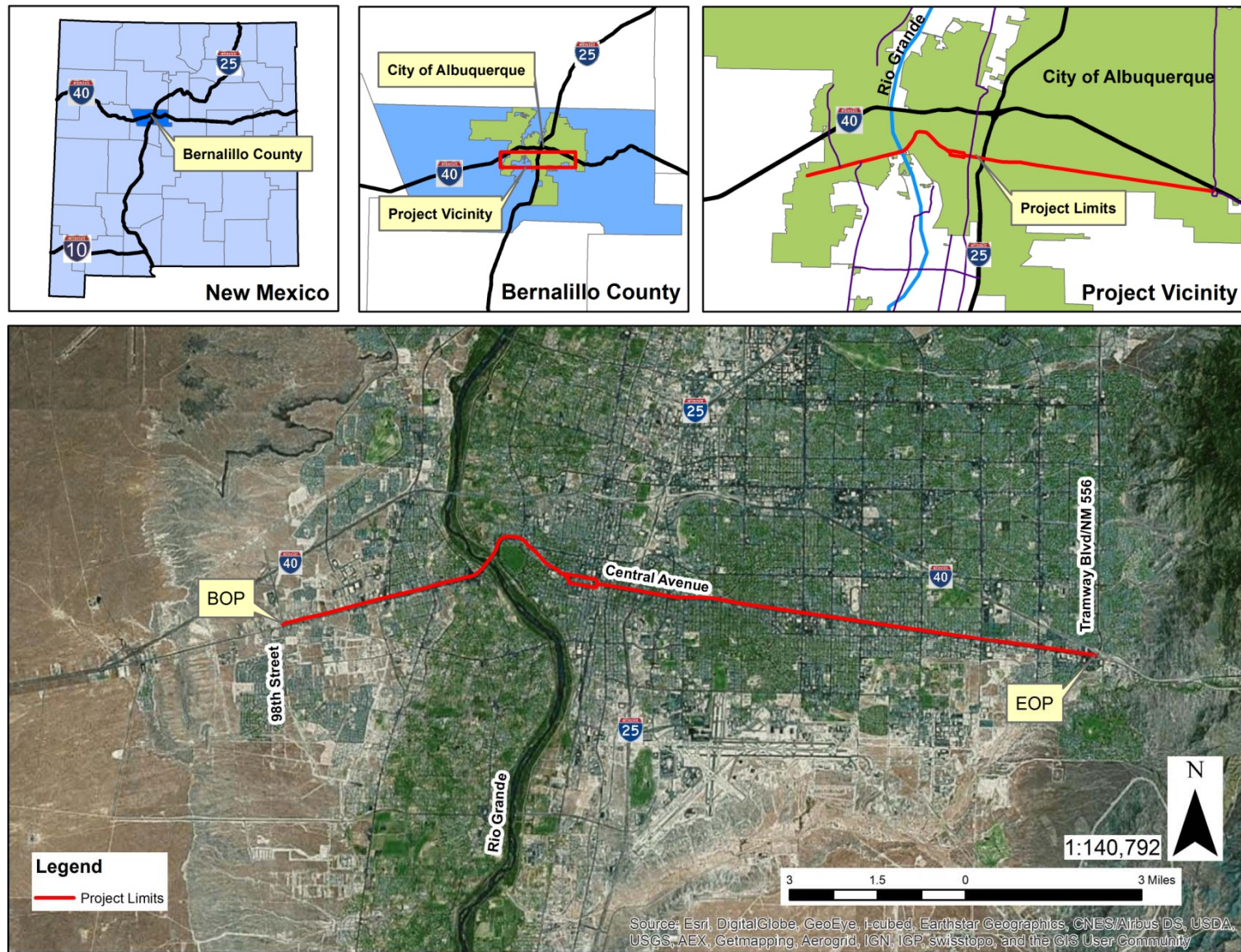


Figure 1 Project Vicinity

- From San Pasquale Avenue to 10th Street (0.75 miles), the rapid vehicles will operate in a single reversible lane with the rapid vehicle operating in the off-peak direction traveling in mixed flow traffic lanes.
- In the Albuquerque Downtown area, the rapid vehicles will operate in mixed flow traffic on Copper Avenue (westbound from 1st Street to 10th Street), Gold Avenue (eastbound from 8th Street to 1st Street), and Central Avenue from Broadway Boulevard to 1st Street. No major reconstruction to the streets will occur in this area.
- Rapid vehicles will operate in the inside traffic lane in mixed flow from 98th Street to Coors Boulevard, and from Louisiana Boulevard to Tramway Boulevard. Queue jumps will be provided at signalized intersections in these segments.
- Construction of stations within the roadway median and/or street curbside. Stations will consist of concrete platforms approximately 65 feet long and 10 to 14 feet wide. The platforms will be elevated 6 to 14 inches above the pavement to allow for level boarding from the ART station to the rapid vehicle. Stations will also include a ticket vending machine and an overhead canopy to shield passengers from sun and precipitation. Other passenger amenities such as benches, an information kiosk, trash receptacles, and security lighting may also be provided.
- Rapid vehicles will operate at approximate 5 to 10 minute headways depending on time of day. Hours of operation have not been determined but are likely to be from 5:00 am until midnight.

3.0 Project Area Setting

The 15 mile Project Area extends from 98th Street east to Tramway Boulevard within the City of Albuquerque. The proposed project work is confined to the operational right-of-way of Central Avenue, with the exception of some curbside stations (downtown area only), which may extend approximately 6 feet beyond the sidewalks. For the purposes of this evaluation, the project area is located within the existing roadway right-of-way between 98th Street and Tramway Boulevard.

The vast majority of the project area, from Coors Boulevard east to Tramway Boulevard, is within a highly developed area of Albuquerque. The lands adjacent to Central Avenue in this area consist of typical urban development including sidewalks, one to three story buildings, parking lots, and urban landscaping. Consequently, very little natural vegetation and habitat exists within this part of the corridor. One exception is the area between the levees of the Rio Grande where a 0.3 mile swath of riparian and aquatic habitat exists. The area between 98th Street and Unser Boulevard is less developed and retains some native vegetation and habitat. This area consists of vacant lands interspersed with trucking, warehousing, and manufacturing facilities. However, no new project construction will occur in this area.

East of Coors Boulevard to the terminus at Tramway Boulevard, the project corridor passes through the most intensely developed areas of the city, including downtown, the university district, and the older more established neighborhoods of the city. These areas are heavily traveled by automobiles and public transit. Land uses fronting the corridor are generally commercial and public/institutional uses with most, but not all, residential uses located off of the Central Avenue corridor. Several notable sites within the project area include the Rio Grande Valley State Park, Albuquerque BioPark, Downtown Albuquerque, the University of New Mexico campus, and the New Mexico State Fairgrounds. The proposed Central Avenue ART corridor is also lined with cultural and historic resources associated with historic Route 66.



Photos: West Central, 98th Street to Unser Boulevard



Photos: Rio Grande and West of Old Town



Photos: Downtown Albuquerque, East of Downtown (EDO), across from University of New Mexico campus, and Nob Hill.



Photos: East of Nob Hill, Highland neighborhood, and eastern project limits.

4.0 Methods

The biological evaluation included (1) a pre-field survey, (2) field survey, (3) ordinary high-water mark (OHWM) determination for those areas to be impacted by project work, (4) and a special status species analysis and evaluation.

A pre-field survey was conducted which included multiple database searches for U.S. Fish and Wildlife Service (USFWS) threatened, endangered, as well as candidate and proposed species for listing in Bernalillo County, New Mexico. A list of rare plant species and noxious weed lists were reviewed as well. Current species lists were obtained from the following:

- Southwest Region Ecological Services Field Office (USFWS, 2014)
- New Mexico Department of Game and Fish (NMDGF) Biota Information System New Mexico (BISON-M, 2014)
- New Mexico Rare Plant Council (NMRPTC, 2014)
- U.S. Department of Agriculture (USDA) PLANTS database (USDA, 2014)
- New Mexico Department of Agriculture (NMDA) 2009 Noxious Weed List Memo (NMDA, 2009)

The potential for wetland habitat within the corridor was investigated using several sources. These include a review of ephemeral drainage crossings within the project area and review of the National Wetlands Inventory (NWI). Other data sources and methods included the Environmental Protection Agency (EPA) *My Waters Mapper*, Federal Emergency Management (FEMA) data maps, and U.S. Geological Survey (USGS) National Hydrographic dataset maps.

The biological survey focused on those areas determined to potentially provide natural resources and wildlife habitat that may be impacted by the proposed project. The field investigation included the project corridor between 98th Street and Unser Boulevard as well as the Rio Grande and associated habitat between the two river drains, as shown in Figure 2. A pedestrian survey of the project area was conducted within the existing ROW between the roadway shoulder and the edge of ROW on both the north and south side, including medians, from 98th Street to Unser Boulevard. The pedestrian survey of the Rio Grande was conducted between the east and west river levees and associated riverside drains at the Central Avenue Bridge.

The field survey was conducted on June 27, 2014 by Lesley Maurer, Parsons Brinckerhoff biologist. All plant and wildlife species and signs of wildlife presence observed in the survey area were recorded. All bridges and culverts were investigated for signs of bird, bat, and other use by animals and the drainages within the project area were investigated for OHWM indicators, as described in Lichvar and McColley's *Field Guide to the Identification of the OHWM in the Arid West Region of the Western U.S.* (2008). The habitat was evaluated and analyzed for all federal and state special status species with the potential to occur in the Action Area.

The USFWS defines the Action Area as "all areas to be affected directly or indirectly by the federal action" (50 Code of Federal Regulations 402.02). For the purposes of this project, the Action Area is defined as a 500-foot buffer zone around the project area to encompass potential direct and indirect project impacts related to species and critical habitat. Dust, exhaust fumes, noise, and other disturbances from construction work have the potential to extend 500 feet outward from the project area. For this project, a 500 foot buffer area north and south of Central Avenue was assessed. This buffer is adequate to consider impacts from construction activities and the operation of the bus system.

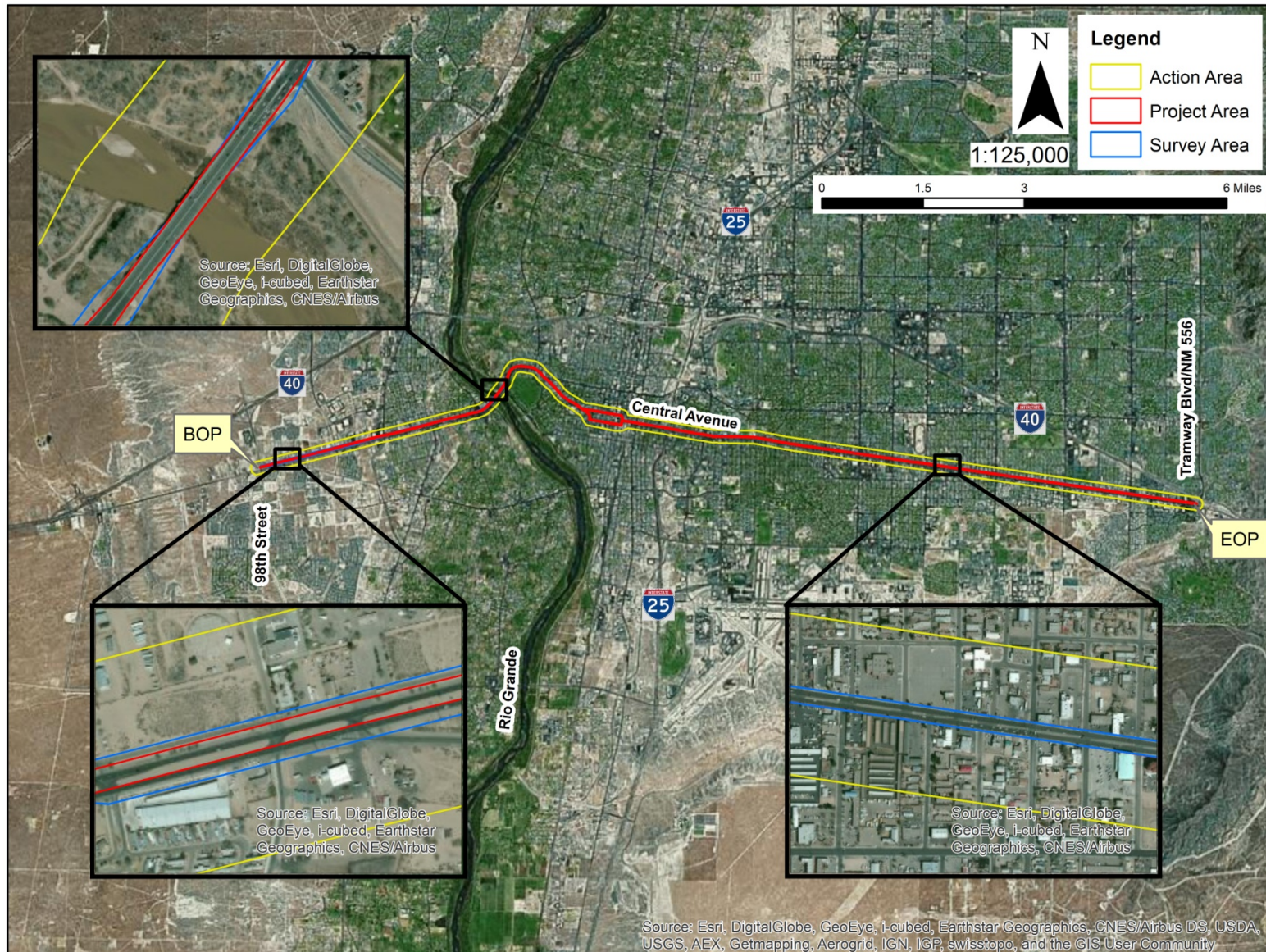


Figure 2 Survey and Action Areas

5.0 General Environmental Setting

The proposed project area is located within Rio Grande Rift west of the Sandia Mountains and east of the Albuquerque volcanoes (Chronic 1987). The basin is filled with thick sediments of mostly Quaternary and some Tertiary age, with a few areas of volcanic rocks and lava-capped mesas (Omerick and Griffith 2009). The project area is located east and west of the Rio Grande on river terrace composed of Miocene and Pliocene sediments of the Santa Fe group (Chronic 1987). The elevation at the western limits of the project area gently slopes downward from 5,700 feet above sea level to an elevation of 4,960 feet in the river valley, and gradually rises to 5,650 feet at the eastern limits of the project area.

According to the U.S. Department of Agriculture, Natural Resource Conservation Service (NRCS) Soils Survey, approximately 45% of the soils within the project area consist of Cut and fill land, Madurez-Wink association, and Tijeras gravelly fine sandy loam. Cut and fill land make up approximately 15% of the soils in the urbanized project area. Madurez-Wink association soils make up approximately 18% of the soils in the project area and are gently sloping, formed on fan piedmonts and alluvial fans, comprised of alluvium derived from igneous and sedimentary rock. Tijeras gravelly fine sandy loam, 1 to 15 percent slopes, are comprised of alluvium derived from igneous and sedimentary rock, found on alluvial fans and fan remnants. The remaining 55% of the soils in the corridor are made up of several types: Agua loam, Agua silty clay loam, Bluepoint loamy fine sand, Bluepoint-Kokan association, Brazito fine sandy loam, Brazito silty clay loam, Brazito complex, Embudo gravelly fine sandy loam, Embudo-Tijeras complex, Gila loam, Glendale clay loam, Madurez loam fine sand, Pajarito loamy fine sand, Torrifluents, Vinton sandy loam, Vinton and Brazito soils, and Wink-Embudo complex. All soils within the project area are well to excessively-drained soils with the exception of the Brazito and Torrifluents, which are poorly drained to somewhat poorly drained soils (NRCS 2014).

The climate in this region is semi-arid. Based on climate summaries for Albuquerque from January 1914 to December 2005, the annual average maximum temperature is 69.9 degrees F with average monthly maximum temperatures ranging from 47.2 to 91.7 degrees F (WRCC 2014). The warmest months are June, July, and August. The average annual minimum temperature is 43.1 degrees F, with the coldest months being December and January. The mean annual precipitation is 8.67 inches, most of which occurs between July and September, and average annual snowfall is 9.6 inches (WRCC, 2014). It is noted that the area is currently experiencing severe to extreme drought conditions with less than average precipitation this year (National Drought Monitor, 2014).

The project corridor crosses over the Rio Grande which flows through the city limits from north to south, within the Rio Grande – Albuquerque watershed and the Santa Fe Group aquifer. The average depth to groundwater is 93 feet below the ground surface near the western limits of the project corridor, 15 feet in the vicinity of the Rio Grande floodplain, 92 feet in the area just east of the river, and 215 feet near the eastern limits of the project corridor (New Mexico Office of the State Engineer 2014). The Arenal Canal, Isleta Drain, Atrisco Ditch and Atrisco Riverside Drain are located parallel to and just west of the river, and the Albuquerque Riverside Drain and Alameda Drain are located just east of the river channel. Several drainages are located within the roadway medians within the project area which could be determined to be jurisdictional waters of the US (WUS) by the USACE. The Federal Emergency Management Agency (FEMA) Digital Flood Insurance Rate Map (DFIRM) shows Zone AE, AH, and AO 100-year floodplains within the project area, many of which are confined to the street. Riverine,

freshwater emergent and forested shrub wetlands are mapped on the National Wetlands Inventory (NWI) within the Rio Grande channel banks and floodplain (USFWS NWI, 2014). Floodplain and wetland maps are included in Appendix B.

The project area is located in the Albuquerque Basin and Rio Grande Floodplain ecoregions. The Albuquerque Basin is generally comprised of sand scrub and desert grassland vegetation communities. Native vegetation of this ecoregion includes black grama, sand dropseed, mesa dropseed, blue grama, galleta, sand sage, alkali sacaton, threeawns, and scattered yucca (Omerick and Griffith 2009). The Rio Grande Floodplain, historically riparian woodland and shrubland, has been converted to light agricultural and urban /suburban uses. The bosque cottonwood, willow, and native olives trees have been widely replaced by invasive saltcedar and Russian olive (Omerick and Griffith 2009). The vegetation within the project area is generally classified as Urban and Cultivated (Dick-Peddie, 1993).

6.0 SURVEY RESULTS

6.1 Fauna

During the field survey, several live species were observed in the survey area including ants, grasshoppers, New Mexico Whiptail lizard (*Aspidozelis neomexicana*), cliff swallow (*Petrochelidon pyrrhonota*), great egret (*Ardea alba*), house sparrow (*Passer domesticus*), and desert cottontail rabbit (*Sylvilagus audubonii*). Dozens of cliff swallow nests were observed on both the north and south-sides of the Central Avenue Bridge over the Rio Grande.

Other mammals recorded in the project area based on indicators include domestic dog (*Canis lupus familiaris*) and small rodent or ground squirrel evidenced by burrows throughout the western less developed portions of the project area. Several drainages within the project area provide wildlife crossing areas for smaller mammals as evidenced by tracks.

A complete list of fauna observed during the field survey is included in the Appendix C.



Small rodent burrows, western project limits.



Small mammal tracks, western project limits.



Cliff swallow nests, north side of Central Avenue Bridge.



Cliff swallow nests, south side of Central Avenue Bridge.

6.2 Flora

The plant species observed in the western limits of the project area are common to disturbed sand scrub-land vegetation communities. The ROW was generally covered with shrubs, few forbs, very few grasses, and approximately 30-40% bare ground. Dominant shrub species observed during the field survey were broom snakeweed (*Gutierrezia sarothrae*), fourwing saltbush (*Atriplex canescens*), Russian thistle (*Salsola tragus*), and sand sagebrush (*Artemisia fillifolia*). Common forbs included copper globemallow (*Sphaeralcea angustifolia*), desert marigold (*Baileya multiradiata*), gypsum scorpion weed (*Phacelia integrifolia*), silverleaf nightshade (*Solanum elaeagnifolium*), and spectaclepod (*Dimorphocarpa wislizenii*). Generally, the project area was devoid of grasses. Dominant grasses in this portion of the project area included bermuda grass (*Cynodon dactylon*) and coastal sandbur (*Cenchrus spinifex*).

The vegetation in the un-landscaped medians in the western limits of the project area were dominated by fourwing saltbush (*Atriplex canescens*), sand sagebrush (*Artemisia fillifolia*), desert marigold (*Baileya multiradiata*), gypsum scorpion weed (*Phacelia integrifolia*), silverleaf nightshade (*Solanum elaeagnifolium*), and spectaclepod (*Dimorphocarpa wislizenii*).

Vegetation observed along the Rio Grande, adjacent to the Central Avenue Bridge included species characteristic of the Middle Rio Grande cottonwood woodland such as coyote willow (*Salix exigua*), Goodding's willow (*Salix gooddingii*), horseweed (*Conyza* sp.), Rio Grande cottonwood (*Populus deltoides* spp. *wislizenii*), Russian olive (*Elaeagnus angustifolia*), salt cedar (*Tamarix chinensis*), sporobolus spp., willow baccharis (*Baccharis salicifolia*), and wolfberry (*Lycium* spp.). Vegetation along the associated river drain included cattail (*Typha* spp.), parrot's feather (*Myriophyllum aquaticum*), Rio Grande cottonwood (*Populus deltoides* spp. *wislizenii*), and sedges and rushes.

The remainder of the corridor, east of Unser Boulevard to the project termini at Tramway is characteristic of a developed urban roadway. Medians and carriage ways are intermittently landscaped with trees, shrubs, some herbaceous plants, as well as rock-scaping.

No Class A noxious weeds were observed in the project area. One Class B noxious weed, tree of heaven (*Ailanthus altissima*), was observed near the footings of the Central Bridge over the Rio Grande within the Survey Area. Two Class C noxious weeds, Siberian elm (*Ulmus pumila*) and salt cedar (*Tamarix chinensis*), were observed within the ROW in the western limits of project area, and salt cedar was also observed on the southwest bank of the Rio Grande near the bridge overpass. No other listed noxious weeds were observed in the project area.

No rare plants were observed in the project area at the time of the survey. A complete list of flora observed during the field survey is included in Appendix C.



Photos: Survey Area Flora

7.0 Listed Species and Critical Habitat

7.1 Listed Species Eliminated from Further Consideration

Special status species were eliminated from further consideration if it was determined that the project location was outside of the known range or lacked the required or associated habitats for the species to occur in the area. These determinations were based on the range and habitat information provided by USFWS (2014), BISON-M (2014), or NMRPTC (2014). A complete list of species with no potential to occur within the project or action area is included in Appendix D.

7.2 Listed Species Evaluated Further

This section includes a list of species protected by regulatory authority that were evaluated further for potential habitat within the Action Area as well as an assessment of the potential effects to each as a result of the project activities. A complete list of species with the potential to occur within Bernalillo County is included in Appendix A. There were no special status species present at the time of the survey and there are no listed species with the potential to occur within the Project Area as defined; however the Action Area provides potentially suitable habitat for the federally listed species included in Table 7.2.

The direct and indirect effects to these species were considered. Interrelated, interdependent, and cumulative effects are discussed in Section 8. Effect determinations were made based on referenced species information included in the Biota Information System of New Mexico (BISON-M) database, the habitat conditions observed during the field survey, as well as key considerations described below:

- *Proposed Project Area and Work* – The proposed project work would take place within existing paved roadway lanes. Un-landscaped medians would potentially be impacted by the project; however these areas do not provide habitat for listed species. There is no potentially suitable habitat for special status species located within the Project Area.
- *No Work in the River or Associated Habitat*– The project activities would not take place outside of the existing roadway. Those species associated with the riverine, riparian or bosque habitats of the Rio Grande would not be impacted as a result of the proposed BRT guideway construction and associated activities.
- *Existing Conditions* – The Project and Action Areas have intense levels of vehicle and transit use as well as surrounding land uses and development.

No direct impacts to other special status species (not Federally threatened, endangered, or proposed) are expected as a result of the proposed project activities. Indirect impacts may consist of temporary, short-term avoidance of the project area during construction; however, species would be expected to return to their pre-construction behavior upon completion of the project. Other special status species not impacted by the proposed project include:

- Burrowing Owl (*Athene cunicularia*)
- Common black hawk (*Buteogallus anthracinus anthracinus*)
- Black tern (*Chlidonias niger*)
- Broad-billed hummingbird (*Cynanthus latirostris magicus*)
- Bald eagle (*Haliaeetus leucocephalus*)
- Brown pelican (*Pelecanus occidentalis carolinensis*)
- Neotropic cormorant (*Phalacrocorax brasilianus*)
- Bell's vireo (*Vireo bellii*)

Table 7.2 Federally Listed Species with Potentially Suitable Habitat in the Action Area

| Species | Status | Habitat Association within the Action Area | Effect Determination and Rationale |
|---|----------------------------|--|---|
| Listed Plants | | | |
| No listed plants with potential to occur in project or Action Area. | | | |
| Listed Invertebrates | | | |
| No listed invertebrates with potential to occur in project or Action Area. | | | |
| Listed Fish | | | |
| Rio Grande Silvery Minnow (<i>Hybognathus amarus</i>) | Federal: E-CH/ State: E | Middle Rio Grande reach designated critical habitat, located within the Action Area. | No Effect: There would be no impact to riverine habitat. Direct, indirect, interrelated or interdependent effects are not likely to occur from the proposed work which is confined to the existing roadway. |
| Listed Amphibians | | | |
| No listed invertebrates with potential to occur in project or Action Area. | | | |
| Listed Reptiles | | | |
| No listed invertebrates with potential to occur in project or Action Area. | | | |
| Listed Birds | | | |
| Yellow-billed cuckoo (<i>Coccyzus americanus</i>) | Federal: P | Breeds in riparian woodlands with dense, understory vegetation-most commonly associated with cottonwood. | No Effect: There would be no impact to riparian habitat. Direct, indirect, interrelated or interdependent effects are not likely to occur from the proposed work which is confined to the existing roadway. |
| Southwestern willow flycatcher (<i>Empidonax traillii extimus</i>) | Federal: E-CH State: E | Breeds in dense riparian habitats along rivers, streams or wetlands, typically dominated by cottonwood with understory of small trees and tall shrubs. | No Effect: There would be no impact to riparian habitat. Direct, indirect, interrelated or interdependent effects are not likely to occur from the proposed work which is confined to the existing roadway. |
| Listed Mammals | | | |
| New Mexico Meadow jumping mouse (<i>Zapus hudsonius</i>) | Federal: P State: E | Generally found in riparian habitat, herbaceous wetlands, especially dominated by sedges adjacent to running water. | No Effect: There would be no impact to riparian or wetland habitat. Direct, indirect, interrelated or interdependent effects are not likely to occur from the proposed work which is confined to the existing roadway. |
| E–Endangered, T–Threatened, P–Proposed, E-CH (Endangered with Critical Habitat) | | | |

7.3 Critical Habitat Analysis

Within Bernalillo County, there is critical habitat for the Mexican spotted owl (*Strix occidentalis*), Rio Grande silvery minnow (*Hybognathus amarus*), and the Southwestern willow flycatcher (*Empidonax traillii extimus*). Designated critical habitat for the Rio Grande silvery minnow is located within the defined Action Area, see Figure 3.

Critical habitat for the Mexican spotted owl is located northeast of the project area on the border between Bernalillo and Sandoval Counties, approximately 9.5 miles (15.3 km) north from the eastern limits of the project area. Due to absence of breeding, nesting, roosting, or foraging habitat in the project area or terrestrial Action Area, Mexican spotted owl designated critical habitat would not be directly or indirectly affected by this project.

Critical habitat for the Southwestern willow flycatcher is located along the middle Rio Grande, south of the project and action area, beginning in Valencia County, approximately 17.5 miles south of the project area, and extending south through Socorro and Sierra Counties (USFWS, Critical Habitat Portal, 2014). While designated critical habitat would not be directly or indirectly affected by this project, the riparian buffer along the river has the potential to provide suitable Southwestern willow flycatcher habitat in the Action Area. Given the proposed project area and activities, the suitable habitat would not be impacted by the project.

The critical habitat for the Rio Grande silvery minnow is located along the Rio Grande river channel within the project Action Area (USFWS, Critical Habitat Portal, 2014). Given that the proposed project activities would take place within the existing roadway on the bridge deck, it would be unlikely that direct or indirect effects to the Rio Grande silvery minnow critical habitat would occur. Stormwater pollution and prevention (SWPP) practices are recommended to prevent potential indirect effects to minnow habitat.

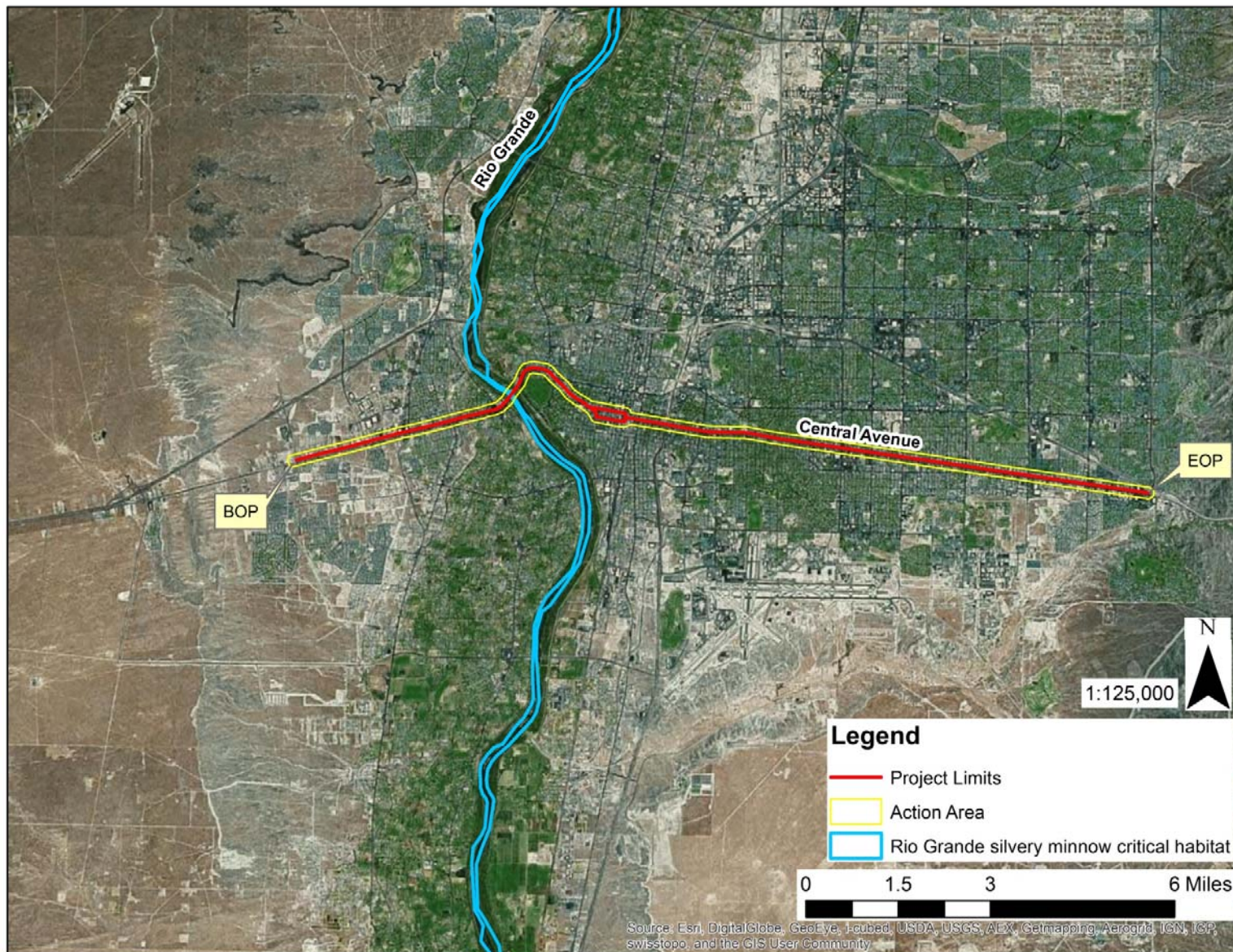


Figure 3 Critical Habitat

8.0 ANALYSIS OF EFFECTS

8.1 Direct Effects

Direct effects are effects caused by the action and occur at the same time and place as the action (CEQ 40 CFR 1508.8). Direct effects to non-listed species include.

- Construction of a median guideway in the western portion of the project corridor would result in 3.23 acres of permanent habitat loss in the vegetated medians for small rodents, reptiles and rabbits.
- Small rodent and reptile individuals may be killed during construction or earthmoving activities.
- Direct effects to vegetation could include short-term impacts such as trampling or removal of vegetation.
- Potential for spreading or introducing noxious weed species in disturbed areas.
- Short-term displacement and changes to wildlife movement along the corridor from increased noise and activities during construction.
- Short term impacts from construction noise, dust and fumes.
- Foraging birds may temporarily avoid the area during construction activities.

8.2 Indirect Effects

Indirect effects are effects to species caused by the action and are later in time and farther removed in distance from the action, but are still reasonably foreseeable (CEQ 40 CFR 1508.8). The improvements to public transit as a result of the Central BRT project may result in beneficial indirect effects from reduced traffic congestion which could reduce noise and air pollution from vehicles. Overall, indirect effects would likely be negligible.

8.3 Interrelated and Interdependent Effects

Interrelated and interdependent actions may include BRT station development and future development of facilities associated with the proposed Central Avenue BRT corridor, such as park and ride lots. These activities would occur within a developed corridor and are not unlike the existing land uses and development. All areas under consideration for parking are currently paved; therefore these activities are not likely to impact listed species or habitat.

8.4 Cumulative Effects

There are currently no known future State or private actions within the defined Action Area that are considered reasonably certain to occur.

9.0 Recommended Mitigation Measures

Recommended best practices include:

- Water quality protection measures are recommended to prevent potential indirect effect to the minnow. In addition to the SWPP practices, it is recommended that construction staging, storage and maintenance activities, as well as refueling take place outside of floodplains and that heavy construction equipment be cleaned prior to work in or near the bridge.
- All applicable criteria for the USEPA Construction General Permit should be followed, including the development of a SWPPP.
- If the USACE deems the drainages within the medians in the project area to be jurisdictional waters of the US (WUS), the project proponent should obtain the appropriate 404 permit for any dredging or filling that may occur within WUS in the project area.
- Class B and C noxious weed species were observed in the Action Area. It is recommended that contractors implement best management practices to reduce the spread of noxious weeds, such as washing all equipment prior to bringing equipment on site at commencement of construction, and washing equipment at completion of construction prior to leaving the site.
- Revegetation of disturbed areas with weed-free seed consisting of all or a majority of native species is recommended upon construction completion.

10.0 Conclusion

The project involves the construction of median BRT guideways and the reconfiguration of mixed-flow lanes within the existing roadway on Central Avenue between 98th Street and Tramway Boulevard. Construction includes two dedicated bus lanes within the existing operational right-of-way of Central Avenue and the bus lanes will generally occupy the existing inside lanes of the street (one westbound and one eastbound) with the exceptions noted in Section 2. Construction of bus stations will occur within the roadway median and/or street curbside. Stations would consist of concrete platforms approximately 65 feet long and 10 to 14 feet wide. The platforms would be elevated 6 to 14 inches above the bus lane. In addition to the platform, stations would include a ticket vending machine and an overhead canopy to shield passengers from sun and precipitation. Other passenger amenities such as benches, an information kiosk, trash receptacles, and security lighting may also be provided.

No special status species were found in the project area, but potentially suitable habitat was found for 4 federally listed species in the Action Area as shown in Table 7.2. The proposed project activities would have no effect on federally listed species or designated critical habitat as discussed in Sections 7.2 and 7.3. Based on this finding, no formal USFWS consultation is necessary.

For other special status species not protected under the Endangered Species Act, direct and indirect impacts may include temporary avoidance/displacement during construction activities. Any possible impacts are expected to be of low intensity and short duration.

Migratory birds would avoid areas where construction is occurring resulting in short-term impacts. There would be no expected reduction in potential nesting and foraging habitat for those bird species more tolerant of high levels of disturbance from the construction activities. Cliff swallow, observed nesting under the Central Avenue bridge at the time of the survey, are not likely to change their

behavior during construction given their tolerance for the existing levels of noise, traffic, and disturbances on the roadway.

Small rodent and reptile individuals may be killed during construction or earthmoving activities within the vegetated medians. Construction of a median guideway in the western portion of the project corridor would result in 3.23 acres of permanent habitat loss.

The project corridor crosses the Rio Grande; however these waters and associated floodplains and wetlands are not located within the Project Area but are included in the Action Area as defined. The proposed project is not expected to impact these resources however water quality protection measures should be implemented to prevent potential indirect effects.

No springs, seeps, fens, or other areas of potential jurisdictional wetlands occur within the Project Area. Several arroyos that flow from north to south under the roadway will not be impacted by project activities; however the medians in the western portion of the project corridor convey stormwater flows via culverts and drop inlets that would be impacted by the project. While these drainages do not appear to be jurisdictional, the USACE determination on the jurisdiction over these waters was not made prior to the biological survey. If the USACE determines these waters are jurisdictional WUS, a Section 404 permit will be required to dredge or place any fill within these drainages.

No Class A noxious weeds were observed in the project area; however Class B noxious weed species, tree of heaven, was found in the Survey Area as well as Class C noxious weed species, salt cedar. Any construction activities in the area could result in the spread of existing noxious weed populations or the introduction of new noxious weed species to disturbed areas.

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12.0 Appendices

Appendix A



United States Department of Interior
Fish and Wildlife Service

Project name: Central BRT

Endangered Species Act Species List

There are a total of 6 threatened, endangered, or candidate species on your species list. Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. Critical habitats listed under the **Has Critical Habitat** column may or may not lie within your project area. See the **Critical habitats within your project area** section further below for critical habitat that lies within your project. Please contact the designated FWS office if you have questions.

| Birds | Status | Has Critical Habitat | Condition(s) |
|--|------------------------|----------------------|--------------|
| Mexican Spotted owl (<i>Strix occidentalis lucida</i>) Population: Entire | Threatened | Final designated | |
| Southwestern Willow flycatcher (<i>Empidonax traillii extimus</i>) Population: Entire | Endangered | Final designated | |
| Sprague's Pipit (<i>Anthus spragueii</i>) | Candidate | | |
| Yellow-Billed Cuckoo (<i>Coccyzus americanus</i>) Population: Western U.S. DPS | Proposed Threatened | | |
| Fishes | | | |
| Rio Grande Silvery minnow (<i>Hybognathus amarus</i>) Population: Entire, except where listed as an experimental population | Endangered | Final designated | |
| Mammals | | | |
| New Mexico meadow jumping mouse (<i>Zapus hudsonius luteus</i>) | Endangered | Proposed | |

<http://ecos.fws.gov/ipac>, 07/14/2014 01:27 PM



United States Department of Interior
Fish and Wildlife Service

Project name: Central BRT

Critical habitats that lie within your project area

The following critical habitats lie fully or partially within your project area.

| Birds | Critical Habitat Type |
|--|-----------------------|
| Mexican Spotted owl (<i>Strix occidentalis lucida</i>) Population: Entire | Final designated |
| Fishes | |
| Rio Grande Silvery minnow (<i>Hybognathus amarus</i>) Population: Entire, except where listed as an experimental population | Final designated |
| Mammals | |
| New Mexico meadow jumping mouse (<i>Zapus hudsonius luteus</i>) | Proposed |

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Report County Federal/State Species Status for

Bernalillo

39 species returned.

| Taxonomic Group | # Species | Taxonomic Group | # Species |
|-----------------|-----------|-----------------|-----------|
| Fish | 2 | Mammals | 14 |
| Birds | 22 | Molluscs | 1 |

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| Species ID | SpeciesLink | Common Name | Scientific Name | Habitat Map | Photo | Status |
|------------|--|------------------------------------|----------------------------------|-------------|----------|---|
| 010140 | Rio Grande Chub | Rio Grande Chub | Gila pandora | Yes | | State NM: Sensitive taxa (informal) |
| 010310 | Rio Grande Silvery Minnow | Rio Grande Silvery Minnow | Hybognathus amarus | Yes | | Federal: Critical Hab. Designated (NM) Federal: Endangered State NM: Endangered |
| 040040 | Common Black-Hawk | Common Black-Hawk | Buteogallus anthracinus | Yes | | Federal: FWS Species of Concern (no longer maintained) State NM: Threatened |
| 040195 | Neotropic Cormorant | Neotropic Cormorant | Phalacrocorax brasilianus | Yes | | State NM: Threatened |
| 040250 | Yellow-billed Cuckoo (western pop) | Yellow-billed Cuckoo (western pop) | Coccyzus americanus occidentalis | | | Federal: Proposed State NM: Sensitive taxa (informal) |
| 040370 | Bald Eagle | Bald Eagle | Haliaeetus leucocephalus | Yes | | State NM: Threatened |
| 040380 | Aplomado Falcon | Aplomado Falcon | Falco femoralis | Yes | | Federal: Endangered State NM: Endangered |
| 040384 | Peregrine Falcon | Peregrine Falcon | Falco peregrinus anatum | Yes | | Federal: FWS Species of Concern (no longer maintained) State NM: Threatened |
| 040385 | Arctic Peregrine Falcon | Arctic Peregrine Falcon | Falco peregrinus tundrius | Yes | no photo | Federal: FWS Species of Concern (no longer maintained) State NM: Threatened |
| 040521 | Southwestern Willow Flycatcher | Southwestern Willow Flycatcher | Empidonax traillii extimus | Yes | | Federal: Critical Hab. Designated (NM) Federal: Endangered State NM: Endangered |
| 040610 | Northern Goshawk | Northern Goshawk | Accipiter gentilis | | no photo | Federal: FWS Species of Concern (no longer maintained) State NM: Sensitive taxa (informal) |
| 040905 | Broad-billed Hummingbird | Broad-billed Hummingbird | Cyananthus latirostris | Yes | | State NM: Threatened |
| 040955 | White-eared Hummingbird | White-eared Hummingbird | Hylocharis leucotis | Yes | | State NM: Threatened |
| 041320 | Burrowing Owl | Burrowing Owl | Athene cunicularia | Yes | | Federal: FWS Species of Concern (no longer maintained) |
| 041375 | Mexican Spotted Owl | Mexican Spotted Owl | Strix occidentalis lucida | Yes | | Federal: Critical Hab. Designated (NM) Federal: Threatened |

| | | | | | | |
|--------|--|---|-----------------------------|-----|---|---|
| | | | | |  | State NM: Sensitive taxa (informal) |
| 041400 | Brown Pelican | Brown Pelican | Pelecanus occidentalis | Yes |  | State NM: Endangered |
| 041475 | Sprague's Pipit | Sprague's Pipit | Anthus spragueii | Yes | no photo | Federal: Candidate |
| 041500 | Mountain Plover | Mountain Plover | Charadrius montanus | Yes |  | State NM: Sensitive taxa (informal) |
| 041750 | Loggerhead Shrike | Loggerhead Shrike | Lanius ludovicianus | |  | State NM: Sensitive taxa (informal) |
| 041785 | Baird's Sparrow | Baird's Sparrow | Ammodramus bairdii | Yes |  | Federal: FWS Species of Concern (no longer maintained) State NM: Threatened |
| 041990 | Black Swift | Black Swift | Cypseloides niger | Yes |  | State NM: Sensitive taxa (informal) |
| 042050 | Black Tern | Black Tern | Chlidonias niger | |  | Federal: FWS Species of Concern (no longer maintained) |
| 042190 | Bell's Vireo | Bell's Vireo | Vireo bellii | |  | Federal: FWS Species of Concern (no longer maintained) State NM: Threatened |
| 042200 | Gray Vireo | Gray Vireo | Vireo vicinior | Yes |  | State NM: Threatened |
| 050025 | Pale Townsend's Big-eared Bat | Pale Townsend's Big-eared Bat | Corynorhinus townsendii | Yes | no photo | Federal: FWS Species of Concern (no longer maintained) State NM: Sensitive taxa (informal) |
| 050032 | Arizona Myotis | Arizona Myotis | Myotis occultus | Yes | no photo | State NM: Sensitive taxa (informal) |
| 050037 | Big Free-tailed Bat | Big Free-tailed Bat | Nyctinomops macrotis | Yes | no photo | State NM: Sensitive taxa (informal) |
| 050047 | Fringed Myotis | Fringed Myotis | Myotis thysanodes | Yes | no photo | State NM: Sensitive taxa (informal) |
| 050059 | Long-legged Myotis | Long-legged Myotis | Myotis volans | Yes | no photo | State NM: Sensitive taxa (informal) |
| 050093 | Western Small-footed Myotis | Western Small-footed Myotis | Myotis ciliolabrum | Yes |  | State NM: Sensitive taxa (informal) |
| 050095 | Spotted Bat | Spotted Bat | Euderma maculatum | Yes |  | State NM: Threatened |
| 050103 | Yuma Myotis | Yuma Myotis | Myotis yumanensis | Yes |  | State NM: Sensitive taxa (informal) |
| 050205 | Gunnison's prairie dog (prairie subspecies) | Gunnison's prairie dog (prairie subspecies) | Cynomys gunnisoni zuniensis | Yes |  | State NM: Sensitive taxa (informal) |
| 050240 | Red Fox | Red Fox | Vulpes vulpes | |  | State NM: Sensitive taxa (informal) |
| 050410 | Meadow Jumping Mouse | Meadow Jumping Mouse | Zapus hudsonius luteus | Yes |  | Federal: Proposed State NM: Endangered |
| 050670 | Ringtail | Ringtail | Bassariscus astutus | |  | State NM: Sensitive taxa (informal) |
| 050735 | Common Hog-nosed Skunk | Common Hog-nosed Skunk | Conepatus leuconotus | Yes | no photo | State NM: Sensitive taxa (informal) |
| 050747 | Western Spotted Skunk | Western Spotted Skunk | Spilogale gracilis | Yes | no photo | State NM: Sensitive taxa (informal) |
| 060076 | Socorro Mountainsnail | Socorro Mountainsnail | Oreohelix neomexicana | | no photo | State NM: Sensitive taxa (informal) |

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Results of County Search

| BERNALILLO | |
|-------------------------------|---|
| Scientific name | County-NM |
| <i>Astragalus feensis</i> | Bernalillo, Hidalgo, Sandoval, Santa Fe, Torrance |
| <i>Dalea scariosa</i> | Bernalillo, Sandoval, Socorro, Valencia |
| <i>Heuchera pulchella</i> | Bernalillo, Sandoval, Torrance |
| <i>Mentzelia todiltoensis</i> | Bernalillo, Cibola, Santa Fe, Socorro |
| <i>Silene plankii</i> | Bernalillo, Doña Ana, Sandoval, Sierra, Socorro, Torrance |

Photo credits in header *Peniocereus greggii* var. *greggii* © T. Todsén,
Lepidospartum burgessii © M. Howard, *Argemone pleiacantha* ssp. *pinnatisecta* © R. Sivinski
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Appendix B

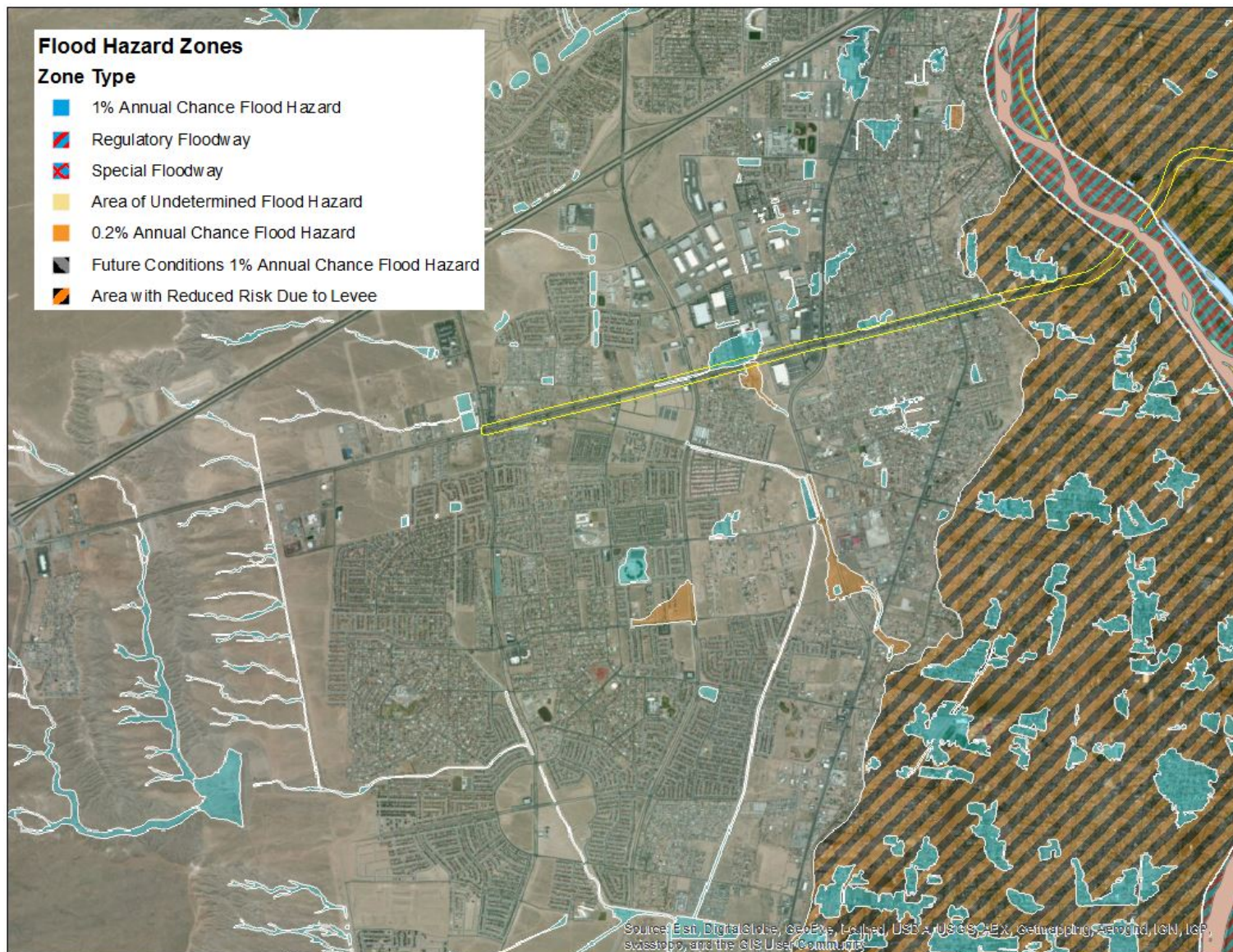


Figure B-1 Floodplains, Western Project Limits (FEMA, DFIRM)

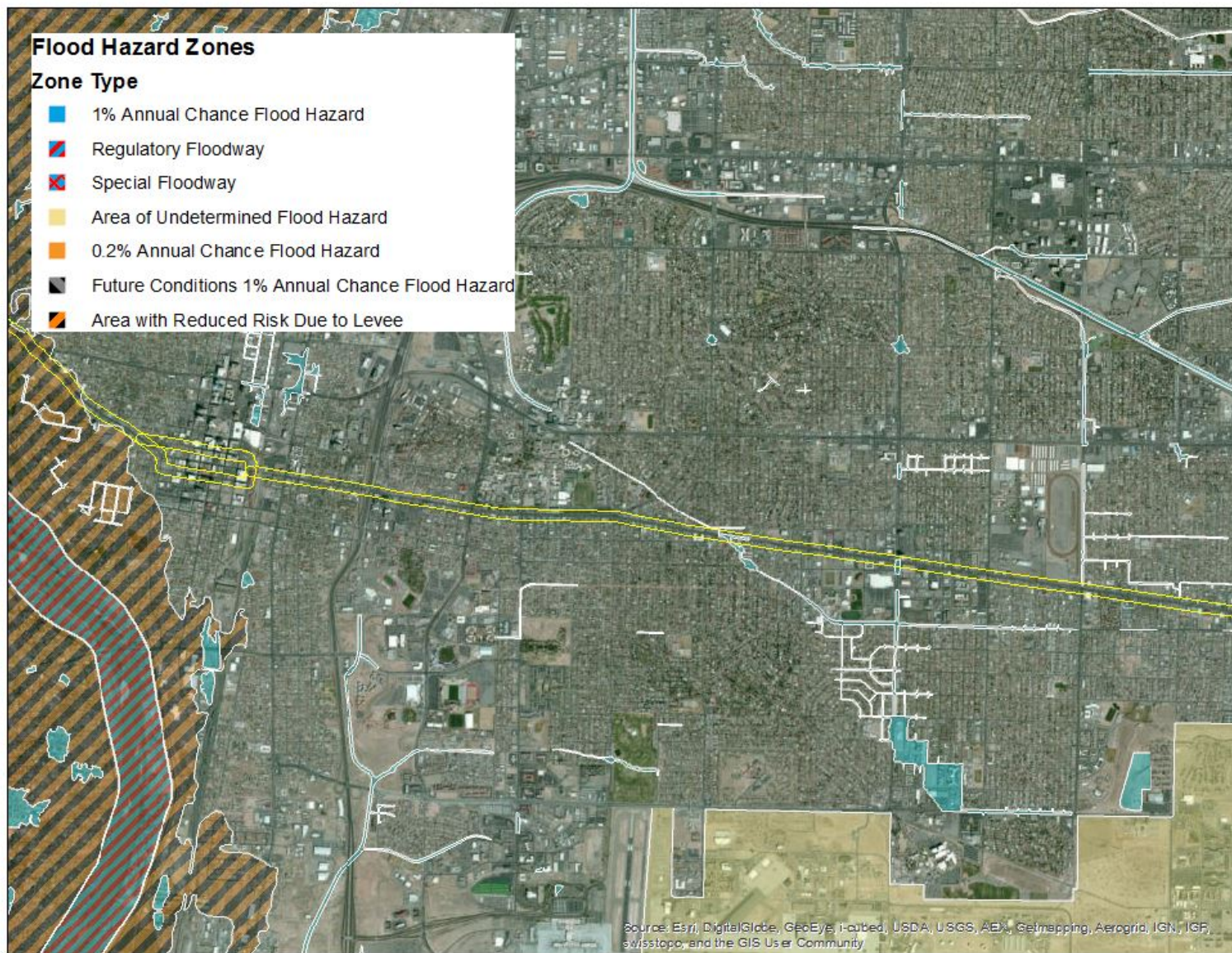


Figure B-2 Floodplains, Central Project Limits (FEMA, DFIRM)

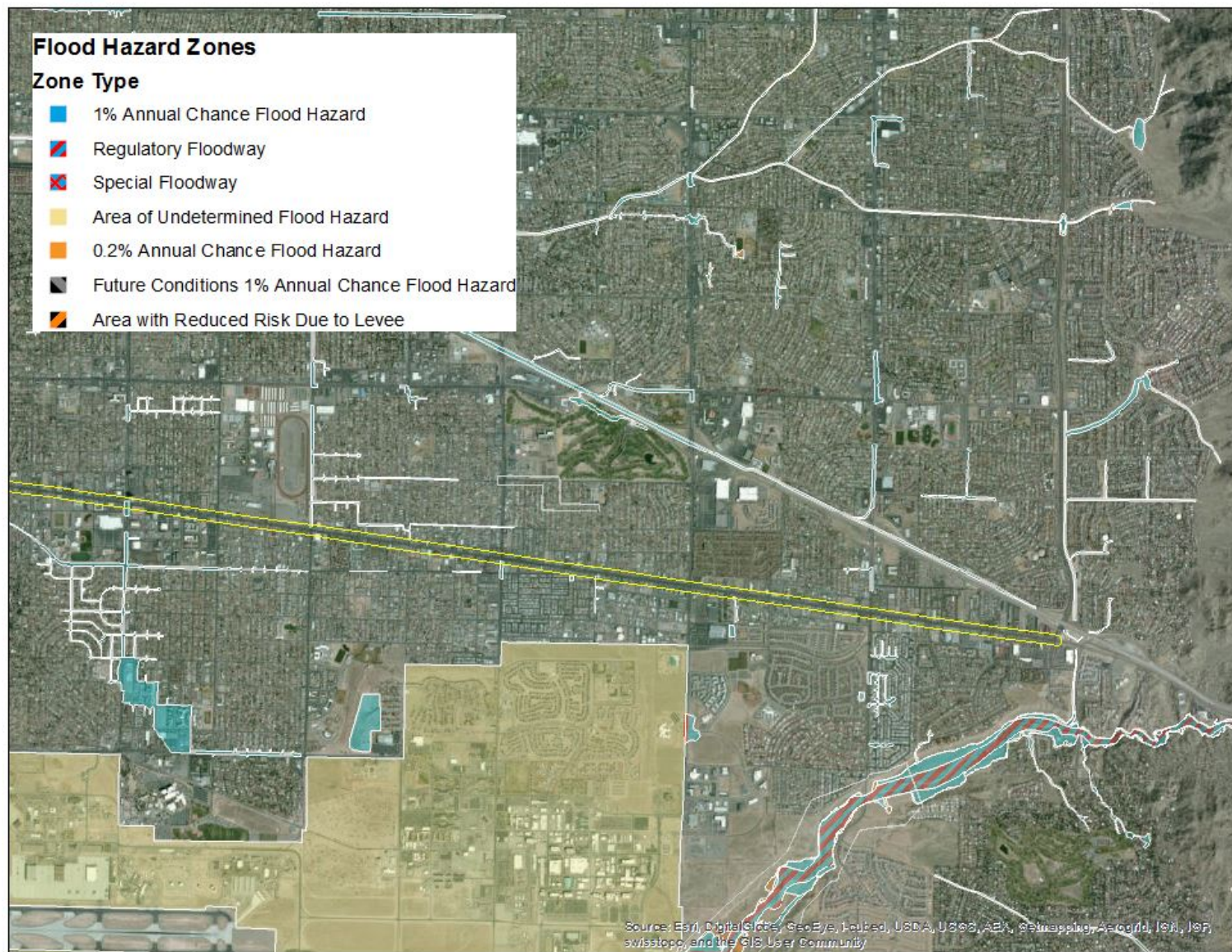


Figure B-3 Floodplains, Eastern Project Limits (FEMA, DFIRM)

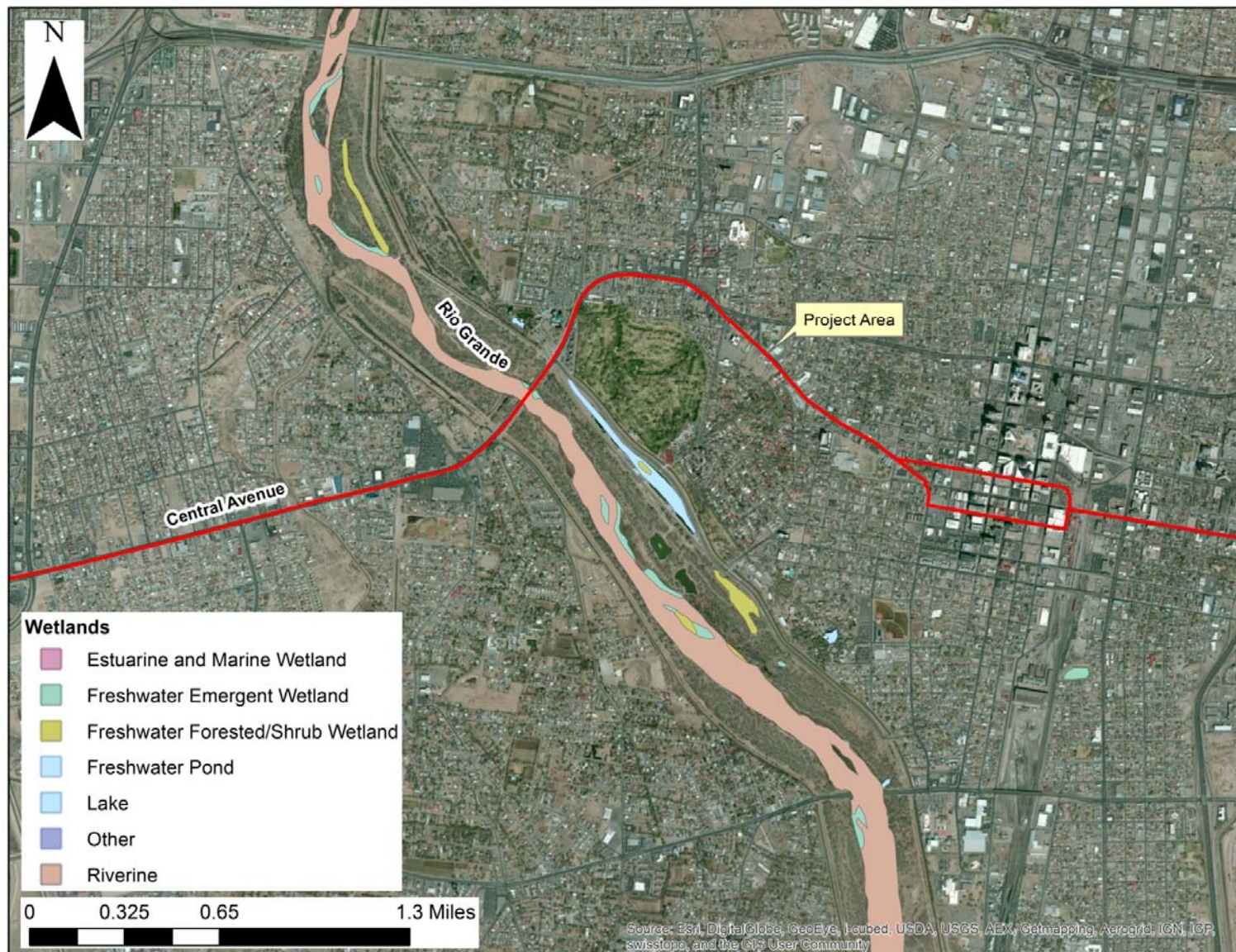


Figure B-4, Wetlands (NWI)

Appendix C

Table C-1 Complete Inventory of Fauna Observed in the Survey Area

| Common Name | Scientific Name | Indicator | Abundance |
|-------------------------------|---------------------------------|-----------------|-----------|
| Invertebrates Observed | | | |
| Ants | (sp.) | Live individual | Common |
| Grasshopper | (sp.) | Live individual | Abundant |
| Fish Observed | | | |
| None observed. | | | |
| Amphibians Observed | | | |
| None observed. | | | |
| Reptiles Observed | | | |
| New Mexico Whiptail | <i>Aspidoscelis neomexicana</i> | Live animal | Common |
| Birds Observed | | | |
| Cliff swallow | <i>Petrochelidon pyrrhonota</i> | Live individual | Few |
| Great egret | <i>Ardea alba</i> | Live individual | Rare |
| House sparrow | <i>Passer domesticus</i> | Live individual | Few |
| Mammals | | | |
| Desert cottontail | <i>Sylvilagus audubonii</i> | Live animal | Common |
| Domestic dog | <i>Canis lupus familiaris</i> | Sign/Tracks | Few |
| Ground squirrel | (sp.) | Burrows | Common |
| Rodent | (sp.) | Burrows | Common |

Table C-2 Complete Inventory of Flora Observed in the Survey Area

| Common Name | Scientific Name | Abundance | Comments |
|-----------------------|---|-----------|----------------------|
| Trees | | | |
| Coyote willow | <i>Salix exigua</i> | Few | |
| Goodding's willow | <i>Salix gooddingii</i> | Few | |
| Rio Grande cottonwood | <i>Populus deltoides</i> spp. wislizenii | Few | |
| Russian olive | <i>Elaeagnus angustifolia</i> | Few | |
| Salt cedar | <i>Tamarix chinensis</i> | Few | Class C Noxious Weed |
| Siberian Elm | <i>Ulmus pumila</i> | Few | Class C Noxious Weed |
| Tree of heaven | <i>Ailanthus altissima</i> | Few | Class B Noxious Weed |
| Shrubs | | | |
| Apache plume | <i>Fallugia paradoxa</i> | Few | |
| Broom snakeweed | <i>Gutierrezia sarothrae</i> | Abundant | |
| Desert willow | <i>Chilopsis linearis</i> | Few | |

| Common Name | Scientific Name | Abundance | Comments |
|------------------------|----------------------------------|-----------|----------|
| Fourwing saltbush | <i>Atriplex canescens</i> | Abundant | |
| Russian thistle | <i>Salsola tragus</i> | Abundant | |
| Sand Sagebrush | <i>Artemisia fillifolia</i> | Abundant | |
| Willow baccharis | <i>Baccharis salicifolia</i> | Few | |
| Wolfberry | <i>Lycium spp.</i> | Few | |
| Cacti | | | |
| Soaptree yucca | <i>Yucca elata</i> | Few | |
| Forbs | | | |
| Adonis blazing star | <i>Mentzelia multiflora</i> | Few | |
| Blue or pale trumpets | <i>Ipomopsis longiflora</i> | Common | |
| Cattail | <i>Typha spp.</i> | Few | |
| Cocklebur | <i>Xanthium strumarium</i> | Few | |
| Copper globemallow | <i>Sphaeralcea angustifolia</i> | Common | |
| Desert marigold | <i>Baileya multiradiata</i> | Common | |
| Field bindweed | <i>Convolvulus arvensis</i> | Few | |
| Flixweed | <i>Descurainia sophia</i> | Few | |
| Foxtail prairie clover | <i>Dalea leporina</i> | Few | |
| Gypsum scorpion weed | <i>Phacelia integrifolia</i> | Common | |
| Hog potato | <i>Hoffmanseggia sp.</i> | Few | |
| Horsetail milkweed | <i>Asclepias subverticillata</i> | Few | |
| Horseweed | <i>Conyza sp.</i> | Common | |
| Mexican devilweed | <i>Chloracantha spinosa</i> | Few | |
| Parrot's feather | <i>Myriophyllum aquaticum</i> | Few | |
| Rushes | <i>Juncus sp.</i> | Few | |
| Sandbells | <i>Nama hispidum</i> | Few | |
| Sedges | <i>Carex sp.</i> | Few | |
| Showy milkweed | <i>Asclepias speciosa</i> | Few | |
| Silverleaf nightshade | <i>Solanum elaeagnifolium</i> | Common | |
| Skeleton weed | <i>Lygodesmia juncea</i> | Few | |
| Spectaclepod | <i>Dimorphocarpa wislizenii</i> | Common | |
| Velvetweed | <i>Gaura mollis</i> | Few | |
| Grasses | | | |
| Bermuda Grass | <i>Cynodon dactylon</i> | Common | |

| Common Name | Scientific Name | Abundance | Comments |
|---------------------|---------------------------|-----------|----------|
| Cheatgrass | <i>Bromus sp.</i> | Few | |
| Coastal sandbur | <i>Cenchrus spinifex</i> | Common | |
| Lovegrass | <i>Eragrostis sp.</i> | Few | |
| Sacaton sp. | <i>Sporobolus sp.</i> | Few | |
| Galleta | <i>Pleuraphis jamesii</i> | Few | |
| Purple three-awn | <i>Aristida purpurea</i> | Few | |
| Showy windmillgrass | <i>Chloris virgata</i> | Few | |

Appendix D

Table D-1 Listed Species with No Potential to Occur within the Project or Action Areas

| Species Category | Species | Status | Habitat Associations | Rationale for Elimination from Further Consideration |
|---|--|------------------------|--|---|
| Listed Plants Eliminated from Further Consideration | Santa Fe milkvetch (<i>Astragalus feensis</i>) | NMRP-Listed Rare Plant | Sandy benches and gravelly hillsides in piñon-juniper woodland or plains-mesa grassland; 1,550-1,830m (5,100-6,000ft). | No piñon-juniper woodlands or plains-mesa grassland in the project or action area. |
| | La Jolla prairie clover (<i>Dalea scariosa</i>) | NMRP-Listed Rare Plant | Open sandy clay banks and bluffs, often along roadsides at about 1,450-1,500m (4,750-4,900ft). Often found along recently disturbed road right-of-ways (early successional). | No open sandy clay banks or bluffs in the project or action area at these elevations. |
| | Sandia alumroot (<i>Huechera pulchella</i>) | NMRP-Listed Rare Plant | Perennial herb grows on limestone cliffs in lower and upper montane coniferous forest 2,450-3,260m (8,000-10,700ft) | No montane coniferous forest in the project or action area. |
| | Todilto stickleaf (<i>Mentzelia todiltoensis</i>) | NMRP-Listed Rare Plant | Perennial herb found on gypsum outcrops in the Todilto Formation 1,700-1,910m (5,600-5,480 ft). | Project or action area is not within the Todilto Formation. |
| | Plank's campion, Plank's catchfly (<i>Silene plankii</i>) | NMRP-Listed Rare Plant | Low perennial found on igneous cliffs and rocky outcrops; 1,500-2,800m (5,000-9,200ft). | No igneous cliffs or rocky outcrops occur in the project or action area. |
| Listed Invertebrates Eliminated from Further Consideration | No listed invertebrates for Bernalillo County. | | | |
| Listed Amphibians Eliminated from Further Consideration | No listed amphibians for Bernalillo County. | | | |
| Listed Reptiles Eliminated from Further Consideration | No listed reptiles for Bernalillo County. | | | |

| Species Category | Species | Status | Habitat Associations | Rationale for Elimination from Further Consideration |
|---|---|---|---|--|
| Further Consideration | | | | |
| Listed Birds Eliminated from Further Consideration | Northern goshawk (<i>Accipiter gentilis</i>) | Federal Species of Concern | Found in closed-canopied coniferous mountain forests and high mesas. | No coniferous mountain forests occur in the project or action area. |
| | Baird's sparrow (<i>Ammodramus bairdii</i>) | Federal Species of Concern; State Threatened; BLM Sensitive | Breed in shortgrass prairies; found in a variety of habitats from desert grasslands to mountain meadows; found in grasslands at lower elevations (2,800-5,500 ft) | No dense, expansive grasslands in the project or action area. |
| | Sprague's Pipit (<i>Anthus spraguelyi</i>) | Federal Candidate | Inhabit grasslands prairies at lower elevations (2,800-5,500ft). Nest in ground hallows overarched by grass. | No low elevation grassland prairie in the project or action area. |
| | Aplomado Falcon (<i>Falco femoralis</i>) | Federal Endangered; State Endangered | Found in open terrain with scattered trees and low ground cover at elevations of 2,800-5,500ft. Require suitable nesting platforms, particularly mesquite and yucca (USFWS, 1987). | No suitable nesting habitat in or near the project or terrestrial action area. |
| | American peregrine falcon (<i>Falco peregrinus anatum</i>) | Federal Species of Concern; State Threatened | Occurs in all New Mexico mountain ranges. Found in Douglas-fir, ponderosa pine, white pine, lodgepole pine, fir-spruce, aspen (hardwoods), chaparral, and piñon-juniper forest types. | No evergreen forests occur in the project or terrestrial action area. |
| | Arctic peregrine falcon (<i>Falco peregrinus tundrius</i>) | Federal Species of Concern; State Threatened | Nests in cliffs in forested habitats that are near large "gulfs" of air for foraging on the | No cliffs in forested habitats occur in the project or |

| Species Category | Species | Status | Habitat Associations | Rationale for Elimination from Further Consideration |
|--|---|--|--|--|
| | | | wing. | terrestrial action area. |
| | White-eared hummingbird (<i>Hylocharis leucotis borealis</i>) | State Threatened | Transient in areas of desert scrub/rocky slopes, juniper Savannah, piñon/juniper woodland, and ponderosa/oak forests near Rocky Mountain forest:Ponderosa pine-Douglas fir forest regions. | No forested habitat, woodland, or juniper savannah occur in the project or terrestrial action area. |
| | Mexican spotted owl (<i>Strix occidentalis lucida</i>) | Federal Critical Habitat Designated (NM); Federal Threatened | Breeding range is limited to forests. Primary habitat consists of mixed conifer dominated by Douglas fir, pine or true fir, and pine-oak forests. Secondary habitat includes steep, narrow canyons with cliffs and perennial water source. | The project or terrestrial action area does not contain mixed conifer forests or steep narrow canyons. |
| | Gray Vireo (<i>Vireo vicinior</i>) | State Threatened | Breeds in open woodlands/shrublands featuring evergreen trees and various shrubs. Junipers are a dominant element in their occurrence. | Project or terrestrial action area does not have open woodland or shrubland with evergreen species or juniper. |
| Listed Mammals Eliminated from Further Consideration | Pale Townsend's big-eared bat (<i>Corynorhinus townsendii</i>) | Federal Species of Concern | Occupies semi-desert shrublands, piñon-juniper woodlands, forested habitat and heavily vegetated stream corridors. Forages along forest edge and stream edge habitat. Strongly correlated with caves or cave-like roosting habitat and in old mines and does not | Project or action area lacks suitable roosting habitat. |

| Species Category | Species | Status | Habitat Associations | Rationale for Elimination from Further Consideration |
|------------------|---|------------------|--|---|
| | | | forage far from roosts. | |
| | Spotted bat (<i>Euderma maculatum</i>) | State Threatened | Frequently reported near rocky cliffs over perennial water, but individuals range from low deserts to evergreen forests. Rocky cliffs are necessary for roosting, as is access to water. | Project or action area does not contain rocky cliffs or perennial water source. |