

Appendix D

Biological Resources Evaluation



**TDS Telecom
Winterhaven Last Mile Underserved Broadband Project
Imperial County, California**

Biological Resources Evaluation

Prepared by:
Tim Jordan, Senior Biologist

Prepared for:
TDS Telecommunications Corporation
Attn: Nate Stanislawski
525 Junction Road
Madison, Wisconsin, 53717

Submitted by:
Tierra Right of Way Services, Ltd.
1575 East River Road, Suite 201
Tucson, Arizona 85718

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ABSTRACT

Winterhaven Telephone Company d.b.a. TDS Telecom proposes to construct the Winterhaven Last Mile Underserved Broadband Project (the project), which will provide high-speed internet services to portions of the Fort Yuma-Quechan Indian Reservation, as well as portions of unincorporated Imperial County, California.

This Biological Resources Evaluation (BRE) has been prepared to provide a summary of existing biological conditions, the potential presence of special status species and resources, an initial evaluation of impacts of the project on biological resources, and feasible avoidance and minimization measures to reduce potential impacts to a level typically considered less than significant under the California Environmental Quality Act (CEQA). This report is useful for the preparation of the proposed project's CEQA Proponent's Environmental Assessment/Mitigated Negative Declaration and is in compliance with the National Environmental Policy Act (NEPA).

As discussed herein, the BRE determines to what extent the proposed project may potentially impact biological resources that are subject to provisions of CEQA and NEPA. Based on existing conditions and characteristics of the study area, Sonoran Desert Toad (*Incilius alvarius*), Lowland Leopard Frog (*Lithobates yavapaiensis*), Loggerhead Shrike (*Lanius ludovicianus*), Vermilion Flycatcher (*Pyrocephalus rubinus*), Yellow-headed Blackbird (*Xanthocephalus xanthocephalus*), Townsend's Big-eared Bat (*Corynorhinus townsendii*), and Yuma Hispid Cotton Rat (*Sigmodon hispidus eremicus*) are known to occur or have the potential to occur in the study area; therefore these species are evaluated for potential impacts.

It was determined that the proposed project would have no effect on species or critical habitats listed under the Endangered Species Act and that the project would have no impact on habitats meeting the criteria of sensitive natural communities as defined by the California Department of Fish and Wildlife (CDFW). In addition, it was determined that irrigation canals in the study area that may be Waters of the U.S. subject to U.S. Army Corps of Engineers, Regional Water Quality Control Board, and/or CDFW jurisdiction would not be impacted by the proposed project.

The BRE concludes that the proposed project would potentially impact special status species listed by CDFW and it may result in the spread of invasive plant species; however, implementation of the recommended avoidance and minimization measures will reduce these potential impacts to a less than significant level.

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1.0 INTRODUCTION

Winterhaven Telephone Company d.b.a. TDS Telecom (TDS) proposes to construct the Winterhaven Last Mile Underserved Broadband Project (the Project) which will provide high-speed internet services to portions of the Fort Yuma-Quechan Indian Reservation, as well as portions of unincorporated Imperial County, California.

This Biological Resource Evaluation (BRE) presents the results of a database search and a reconnaissance level biological survey of regionally-occurring special-status species and sensitive biological resources within the project area. The purpose of this report is to document the dominant plant and animal species observed at the time of the survey, to discuss the general habitat types present, and to evaluate the potential for the project site and vicinity to contain, or provide habitat for, Federal or State listed special status plant and animal species and sensitive natural communities. Additionally, this report provides standard recommended avoidance and minimization measures to reduce potential impacts to sensitive biological resources.

1.1 *Project Location*

The project area is located in southeastern Imperial County, California, just north of Yuma, Arizona, and the Colorado River. Baseline Road, which runs north-south, marks the boundary between the Fort Yuma-Quechan Reservation and private land; the Reservation is west of Baseline, and private land is to the east. The southern edge of the project area is roughly bounded by the Union Pacific Railroad (UPRR) tracks, the community of Winterhaven, and the Paradise Casino on Picacho Road. The Cocopah Canal runs along the eastern boundary of the project area, and the community of Bard is located at the northeastern limits of the project area. Stalnacker and Ross Roads along with the community of Ross Corner make up the approximate northern limits of the project area, and the western edge of the project area is near Arnold Road where the road approaches the UPRR. Specifically, the project area is located in portions of Section 2, Township 15 South, Range 24 East; Sections 11, 14, and 21–27, Township 16 South, Range 22 East; and Sections 4, 5, 7–9, 18, and 19 Township 16 South Range 23 East; San Bernardino Baseline and Meridian (SBB&M), as depicted on the Araz, Bard, Yuma East, and Yuma West, AZ/CA, 7.5-minute U.S. Geological Survey (USGS) topographic quadrangle maps (Figures 1 and 2).

1.2 *Project Description*

The proposed project involves the construction of a second-generation, very-high-bit-rate digital subscriber line (VDSL2) fiber-optic network capable of 25 Mbps/5 Mbps (download/upload) speeds. In total, approximately 24.65 km (15.31 miles) of new fiber-optic cable will be buried within protective conduit along existing roads in the project area and approximately 2.25 km (1.40 miles) of existing buried copper line will be used to connect a proposed DLC site on Arnold Road to the new system. A summary of the associated lengths to be installed on and off the Fort Yuma-Quechan Reservation can be found in Table 1. The buried line installation, which consists of the telecommunications cable and its protective conduit, will be performed using plowing construction techniques, and a directional boring machine will be used to install the line at canal and road crossings. Ancillary equipment to be installed includes 10 new equipment cabinets that will serve as connecting “nodes” for customers, splice boxes, and line markers. The equipment cabinets will be approximately 0.6 by 1.0 by 1.2 m (2.0 by 3.0 by 4.0 feet) in size and will be installed on top of buried concrete vaults within an approximately 6-m-square (20-foot-square) area. Splice boxes are small rectangular metal enclosures that will be installed between lengths of cable.

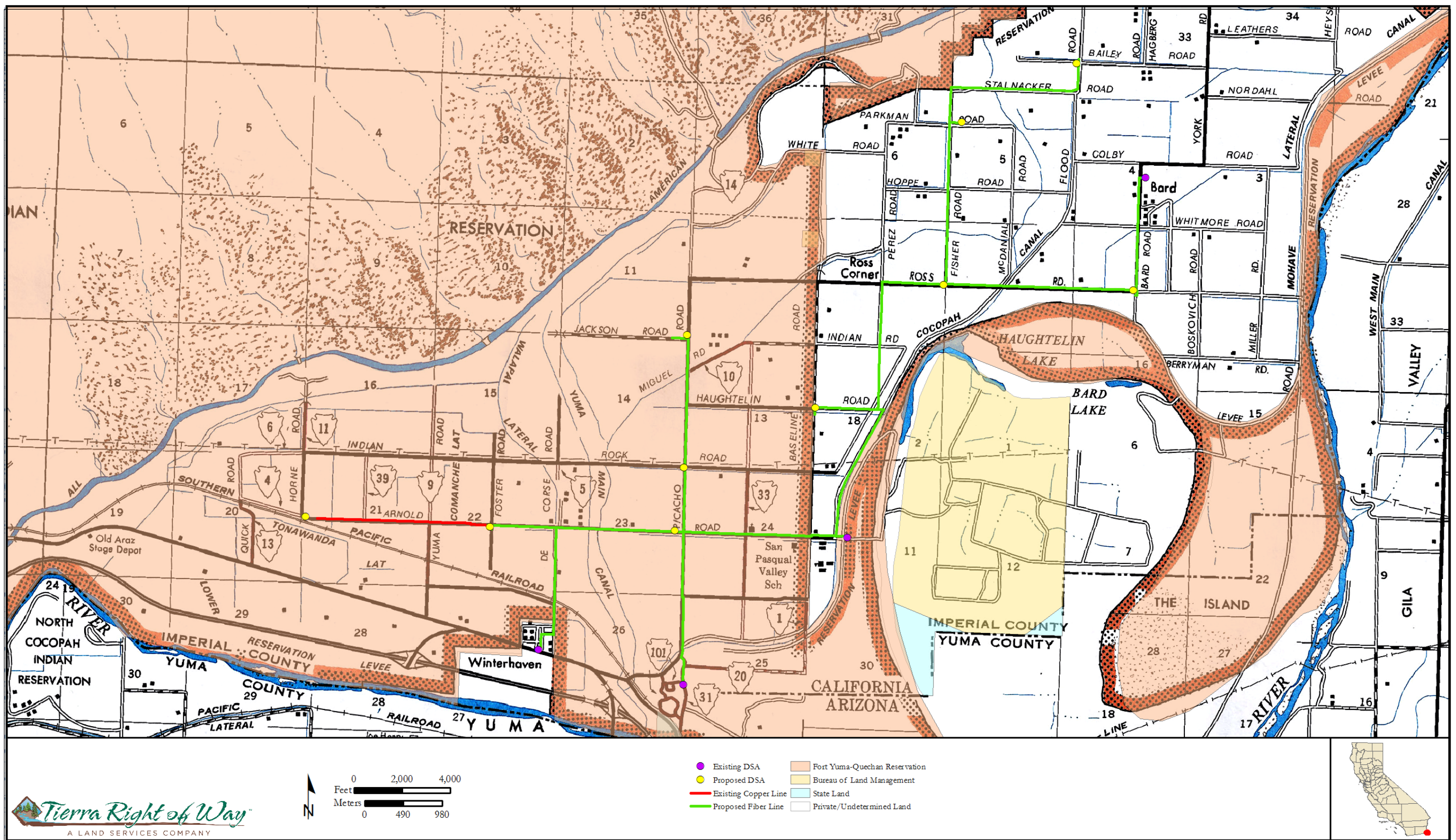


Figure 1. Project location.

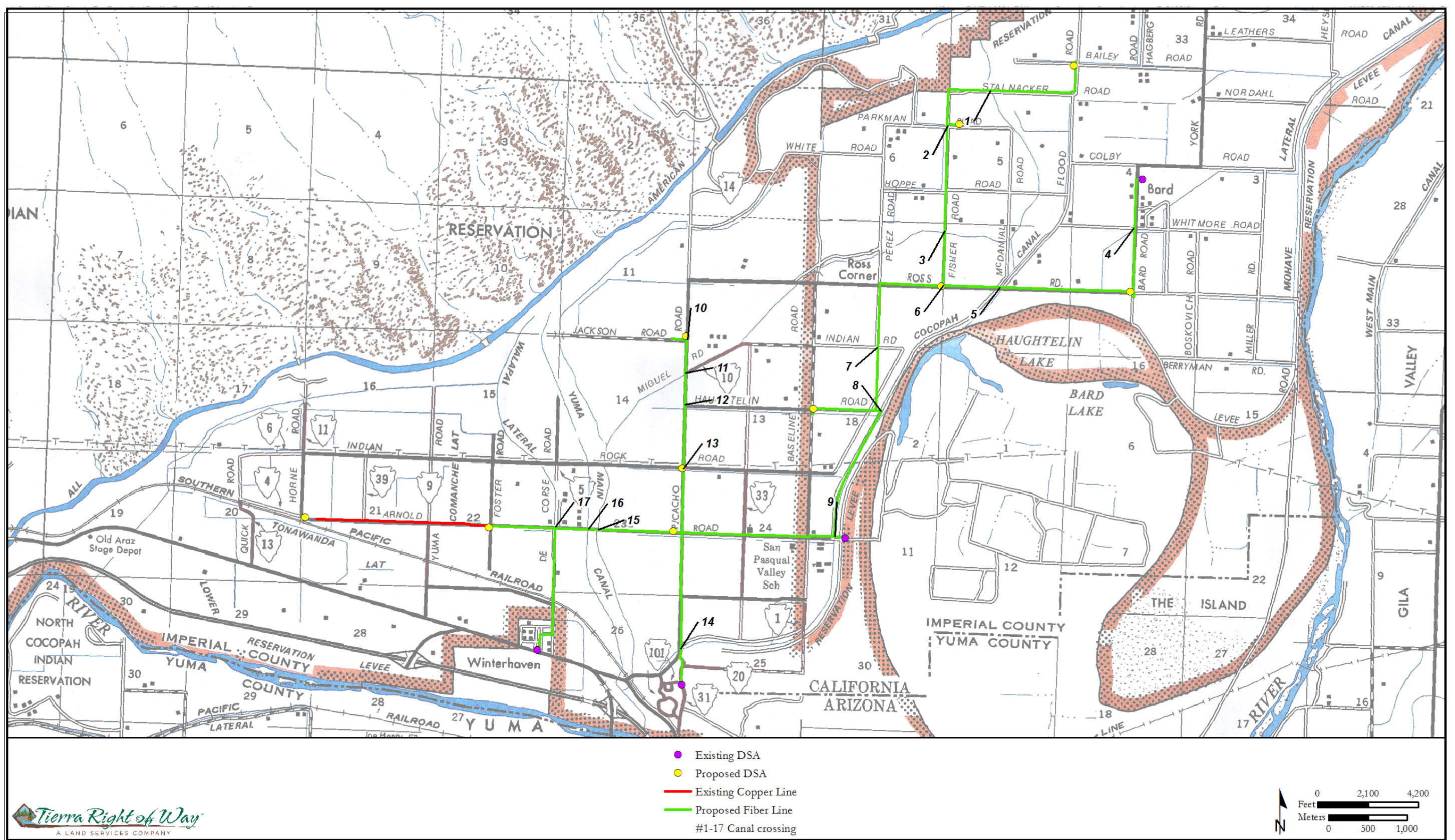


Figure 2. Project area.

Table 1. Cable Installation Lengths

Installation	Length (m)	Length (km)	Length (feet)	Length (miles)
On-Reservation	10,139	10.14	33,264	6.30
Off-Reservation	14,507	14.51	47,595	9.01
Total	24,646	24.65	80,859	15.31

Line markers, which will be installed at intervals of approximately 305 m (1,000 feet), are approximately 1.2 m (4.0 feet) tall and made of flexible fiberglass.

The line installation will be performed in two steps. First, a protective conduit for the fiber-optic cable will be installed by either plowing or directional boring construction methods. Second, the fiber-optic cable will be “blown” through the conduit using compressed air. The total combined ground disturbance associated with the project, including both the plowed and bored installations, would not exceed an area approximately 5.1 ha (12.5 acres) in size.

1.2.1 Plowed Conduit Installation

Plowed conduit is installed using a machine equipped with a specialized single ripper that loosens the soil along the installation path. Conduit is fed either from the plow machine or from a separate truck-mounted reel through a plow chute attached to the ripper and laid directly at a nominal depth of 1 m (3 feet). A compaction machine follows directly behind the plow machine, restoring the ground surface to its original contour. The installation path may be “pre-ripped” if necessary to loosen the soil in areas where subsurface rock or other buried obstructions may be present. Ground disturbance associated with the plowed installation will be limited to an approximately 2.4-m-wide (8.0-foot-wide) corridor.

1.2.2 Bored Conduit Installation

Directional boring is a method used to install underground utilities without the need for trenching. Typically it is used to install utility lines under waterways, roads, and other areas where the avoidance of surface disturbance is desirable (Figure 3). Directional boring machines are essentially horizontal drilling rigs and have a drill bit that is steerable. The drill bit is guided by the operator as it progresses along the desired boring path. After boring, the drill pipe is pulled out and conduit is threaded through the bore. In “drill and leave” installations, the drill pipe is left in place and serves as the conduit.

Two boring pits for bore ingress and egress would be required for each canal crossing installation—one on each side of the canal. These bore pits would be located at varying distances from the canals and roads. The depth of the bore would be a minimum of 1.5 m (5.0 feet) below the bottom of the canals and roads, and the bore lengths would be variable. The bores would be of sufficient diameter to accommodate the 5-cm (2-inch) conduit and would be drilled using drilling fluid “mud.” This mud is nontoxic, consisting of clay, bentonite, and water; and it would be disposed of accordingly.

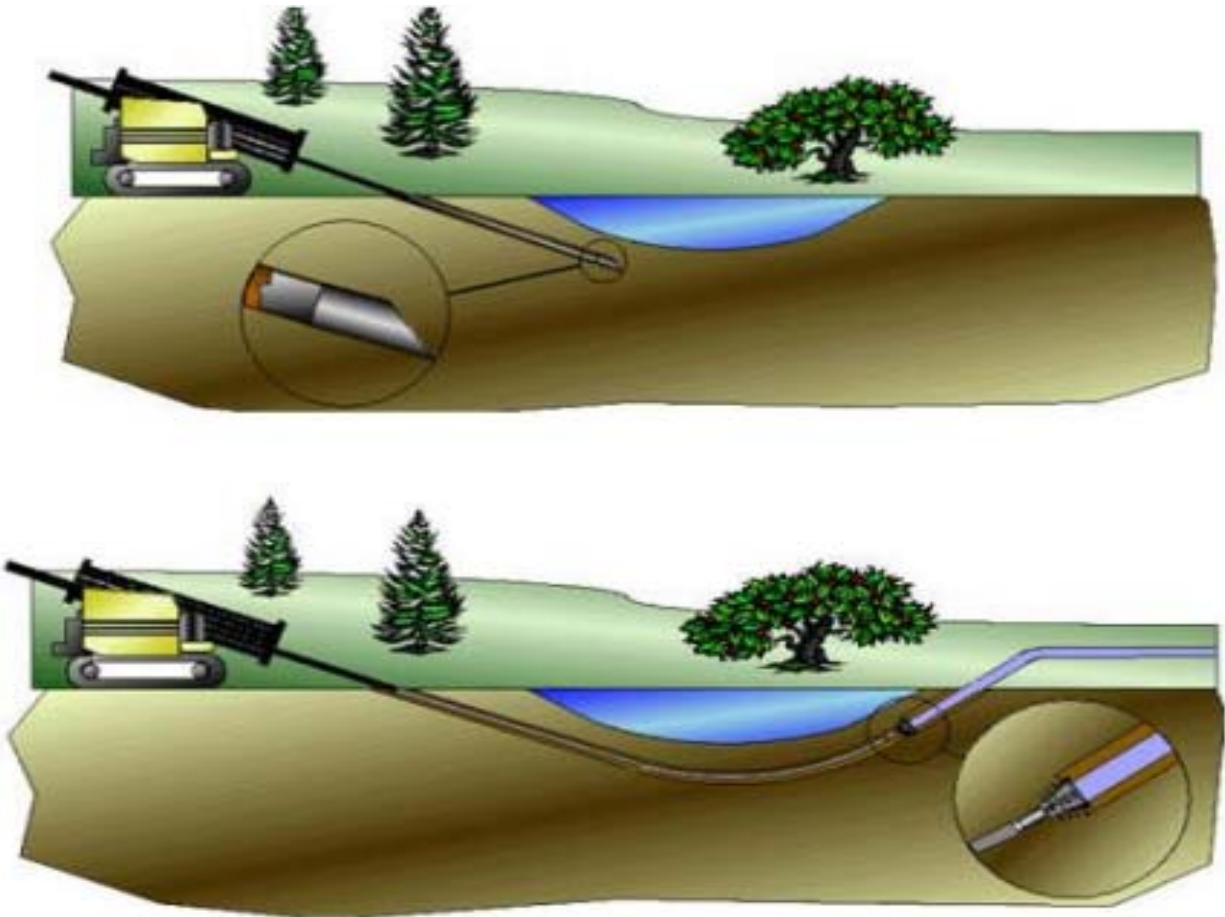


Figure 3. Example of a directional bore beneath a waterway.

Following the installation of the pipe beneath the canal or road, the bore pits would be filled in and compacted and the ground surface restored to its original contour. The locations of all canal bores associated with the project are summarized in Table 2. Ground disturbance associated with the bored conduit installations will occur within the same 2.4-m-wide (8.0-foot-wide) corridor as the plowed installations.

1.2.3 Project Schedule

The anticipated start date for the proposed project is mid-January, 2016 and construction would take approximately two months.

Table 2. Canal Bore Locations

Map No.	Canal Name	Location	Canal Width
1	Reservation Main Drain	Stahlnacker Road	20.5 m (67 feet)
2	Unnamed canal	Fisher and Parkman Roads	3.6 m (12 feet)
3	Reservation Main Drain	Fisher Road	19.6 m (64 feet)
4	Hopi Canal	Bard and Whitmore Roads	6.3 m (21 feet)
5	Cocopah Canal	Ross Road	9.0 m (30 feet)
6	Unnamed canal	Fisher and Ross Roads	5.3 m (17 feet)
7	Papago Canal	Perez Road	4.5 m (15 feet)
8	Pima Canal	Haughtelin and Perez Roads	4.5 m (15 feet)
9	Cocopah Canal	Flood and Arnold Roads	7.0 m (23 feet)
10	Navajo Canal	Picacho and Jackson Roads	7.3 m (24 feet)
11	Reservation Main Drain	Picacho Road	27.3 m (90 feet)
12	Pima Canal	Picacho and Haughtelin Roads	3.7 m (12 feet)
13	Pueblo Canal	Picacho and Indian Rock Roads	3.6 m (12 feet)
14	Cocopah Canal	Picacho Road	8.3 m (27 feet)
15	Reservation Main Drain	Arnold Road	27.3 m (90 feet)
16	Yuma Main Canal	Arnold Road	46.0 m (151 feet)
17	Walapai Canal	Arnold Road	2.4 m (8 feet)

1.3 *Applicable Environmental Regulations*

1.3.1 Federal Requirements for Species Protection

Endangered Species Act—The U.S. Fish and Wildlife Service (FWS) and the National Oceanographic and Atmospheric Administration’s National Marine Fisheries Service (NMFS) enforce the provisions stipulated within the Endangered Species Act (ESA) of 1973 (16 USC Section 1531 et seq.). Threatened and Endangered species on the Federal list (50 CFR Section 17.11 and 17.12) are protected from take, defined as direct or indirect harm, unless a Section 10 permit is granted to an entity other than a Federal agency or a Biological Opinion with incidental take provisions is rendered to a Federal lead agency via a Section 7 consultation. Pursuant to the requirements of the ESA, an agency reviewing a proposed project within its jurisdiction must determine whether any Federally listed species may be present in the project site and determine whether the proposed project will have a potentially significant impact upon such species. Under the ESA, habitat loss is considered to be an impact to a species. In addition, the agency is required to determine whether the project is likely to jeopardize the continued existence of any species that is proposed for listing under the ESA or to result in the destruction or adverse modification of critical habitat proposed or designated for such species (16 USC 1536[3], [4]). Therefore, project-related impacts to these species or their habitats would be considered significant and would require mitigation.

Executive Order 13186: Migratory Bird Treaty Act— The Migratory Bird Treaty Act (MBTA) of 1918 (United States Code, Title 16, Chapter 7, Subchapter II) prohibits the “pursuit, hunt, take, capture, kill, attempt to take, capture, or kill, possess, offer for sale, sell, offer to barter, barter, offer

to purchase, purchase, deliver for shipment, ship, export, import, cause to be shipped, exported, or imported, deliver for transportation, transport or cause to be transported, carry or cause to be carried, or receive for shipment, transportation, carriage, or export, any migratory bird, any part, nest, or eggs of any such bird, or any product, whether or not manufactured, which consists, or is composed in whole or part, of any such bird or any part, nest, or egg thereof.” The ensuing Executive Order 13186, signed January 10, 2001, by President Clinton “directs executive departments and agencies to take certain actions to further implement the (MBTA).” Such actions include the responsibility that Federal agencies “taking actions that have, or are likely to have, a measurable negative effect on migratory bird populations ... develop and implement, within 2 years, a Memorandum of Understanding with the Fish and Wildlife Service, that shall promote the conservation of migratory bird populations.”

Executive Order 11990: Protection of Wetlands—Executive Order 11990, signed May 24, 1997, directs Federal agencies to refrain from assisting in or giving financial support to projects that encroach on publicly or privately owned wetlands. It further requires that Federal agencies support a policy to minimize the destruction, loss, or degradation of wetlands. A project that encroaches on wetlands may not be undertaken unless the agency has determined that (1) there are no practicable alternatives to construction, (2) the project includes all practicable measures to minimize harm to wetlands affected, and (3) the impact will be minor.

Executive Order 13112: Invasive Species Prevention—On Feb 3, 1999, Executive Order 13112 was signed establishing the National Invasive Species Council. Executive Order 13112 required that each Federal agency whose actions may affect the status of invasive species will, to the extent practicable and permitted by law, (1) identify such actions; (2) subject to the availability of appropriations, and within Administration budgetary limits, use relevant programs and authorities to: (i) prevent the introduction of invasive species, (ii) detect and respond rapidly to and control populations of such species in a cost-effective and environmentally sound manner, (iii) monitor invasive species populations accurately and reliably, (iv) provide for restoration of native species and habitat conditions in ecosystems that have been invaded, (v) conduct research on invasive species and develop technologies to prevent introduction and provide for environmentally sound control of invasive species, and (vi) promote public education on invasive species and the means to address them; and (3) not authorize, fund, or carry out actions that it believes are likely to cause or promote the introduction or spread of invasive species in the United States or elsewhere unless, pursuant to guidelines that it has prescribed, the agency has determined and made public its determination that the benefits of such actions clearly outweigh the potential harm caused by invasive species; and that all feasible and prudent measures to minimize risk of harm will be taken in conjunction with the actions. In addition, it requires that Federal agencies will pursue the duties set forth in this section in consultation with the Invasive Species Council, consistent with the Invasive Species Management Plan and in cooperation with stakeholders, as appropriate, and, as approved by the Department of State, when Federal agencies are working with international organizations and foreign nations.

1.3.2 State Requirements for Species Protection

California Endangered Species Act/California Environmental Quality Act—The California Endangered Species Act (CESA) of 1970 (Fish and Game Code Section 2050 et seq., and CCR Title 14, Subsection 670.2, 670.51) prohibits the take (interpreted to mean the direct killing of a species) of species listed under CESA (14 CCR Subsection 670.2, 670.5). Under CESA, State agencies are required to consult with the California Department of Fish and Wildlife (CDFW) (formerly

California Department of Fish and Game [CDFG]) when preparing CEQA documents. Consultation ensures that proposed projects or actions do not have a negative effect on State listed species. During consultation, CDFW determines whether take would occur and identifies “reasonable and prudent alternatives” for the project and conservation of special-status species. CDFW can authorize take of a State-listed species under Sections 2080.1 and 2081(b) of CDFW code in those cases where it is demonstrated that the impacts are minimized and mitigated. Take authorized under Section 2081(b) must be minimized and fully mitigated. A CESA permit must be obtained if a project will result in take of listed species, either during construction or over the life of the project. Under CESA, CDFW is responsible for maintaining a list of Threatened and Endangered species designated under State law (CDFG Code 2070). CDFW also maintains lists of Species of Special Concern, which serve as “watch lists.” Pursuant to the requirements of CESA, a State or local agency reviewing a proposed project within its jurisdiction must determine whether any State-listed species may be present in the project area and determine whether the proposed project will have a potentially significant impact upon such species. Project-related impacts to species on the CESA list would be considered significant and would require mitigation. Impacts to Species of Concern and fully protected species would be considered significant under certain circumstances.

The California Environmental Quality Act (CEQA) of 1970 (Subsections 21000-21178) requires that CDFW be consulted during the CEQA review process regarding impacts of proposed projects on rare or Endangered species. These “special status” species are defined under CEQA Guidelines Subsection 15380(b) and (d) as those listed under the ESA and CESA, and species that are not currently protected by statute or regulation, but would be considered rare, Threatened, or Endangered under these criteria, or by the scientific community. Therefore, species that are considered rare or Endangered are addressed in this study regardless of whether they are afforded protection through any other statute or regulation. The California Native Plant Society (CNPS) inventories the native flora of California and ranks species according to rarity; plants on Lists 1A, 1B, and 2 are considered special status species under CEQA.

Although Threatened and Endangered species are protected by specific Federal and State statutes, CEQA Guidelines Section 15380(d) provides that a species not listed on the Federal or State list of protected species may be considered rare or Endangered if it can be shown to meet certain specified criteria. These criteria have been modeled after the definition in the ESA and the section of the California Fish and Game Code dealing with rare or Endangered plants and animals. Section 15380(d) allows a public agency to undertake a review to determine if a significant effect on species that have not yet been listed by either the U.S. Fish and Wildlife Service (USFWS) or CDFW (i.e., Candidate species) would occur. Thus, CEQA provides an agency with the ability to protect a species from the potential impacts of a project until the respective government agency has an opportunity to designate the species as protected, if warranted.

California Native Plant Protection Act—The California Native Plant Protection Act of 1977 (CDFG Code Section 1900-1913) requires all State agencies to use their authority to carry out programs to conserve Endangered and otherwise rare species of native plants. Provisions of the Act prohibit the taking of listed plants from the wild and require the project proponent to notify CDFW at least 10 days in advance of any change in land use, which allows CDFW to salvage listed plants that would otherwise be destroyed.

Nesting Birds—California Fish and Game Code Subsections 3503, 3503.5, and 3800 prohibit the possession, incidental take, or needless destruction of birds, their nests, and eggs. California Fish and Game Code Section 3511 lists birds that are “Fully Protected” as those that may not be taken or possessed except under specific permit.

1.3.3 Protection of Wetlands, Waters of the United States, and Waters of the State

Any person, firm, or agency planning to alter or work in Waters of the U.S. (WUS), including the discharge of dredged or fill material, must first obtain authorization from the U.S. Army Corps of Engineers (USACE) under Section 404 of the Clean Water Act (CWA; 33 U.S.C. 1344). Permits, licenses, variances, or similar authorization may also be required by other Federal, State, and local statutes. Section 10 of the Rivers and Harbors Act of 1899 prohibits the obstruction or alteration of navigable WUS without a permit from USACE (33 U.S.C. 403). The CDFW requires notification prior to commencement and possibly a Streambed Alteration Agreement pursuant to California Fish and Game Code Subsection 1601-1603, 5650F, if a proposed project would result in the alteration or degradation of a stream, river, or lake in California. The Regional Water Quality Control Board (RWQCB) may require State Water Quality Certification (CWA Section 401 permit) prior to the alteration of or discharge to WUS and the State.

WUS are defined as: all waters that are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters that are subject to the ebb and flow of the tide; all interstate waters including interstate wetlands; all other waters such as intrastate lakes, rivers, streams (including intermittent and ephemeral streams), mudflats, sand flats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes or natural ponds, where the use, degradation, or destruction of which could affect interstate commerce; impoundments of these waters; tributaries of these waters; or wetlands adjacent to these waters (33 CFR Part 328). With non-tidal waters, in the absence of adjacent wetlands, the extent of USACE jurisdiction extends to the ordinary high water mark (OHWM)—the line on the shore established by fluctuations of water and indicated by a clear, natural line impressed on the bank, shelving, changes in soil character, destruction of terrestrial vegetation, or the presence of litter and debris. Waters of the State are defined as “any surface water or groundwater, including saline waters, within the boundaries of the state (California Water Code Section 13050(e).”

Water quality in California is governed by the Porter-Cologne Water Quality Control Act (Porter-Cologne Act) (California Water Code § 13000 et. seq.) This Act delegates responsibility to the State Water Resource Control Board (SWRCB) for water rights and water quality protection and directs the nine statewide RWQCBs to develop and enforce water quality standards within their jurisdiction. The Porter-Cologne Act requires any entity discharging waste or proposing to discharge waste within any region that could affect the quality of the Waters of the State to file a report of waste discharge with the appropriate RWQCB. The appropriate RWQCB then must issue a permit, referred to as a waste discharge requirement (WDR). WDRs implement water quality control plans and take into consideration the beneficial uses to be protected, the water quality objectives reasonably required for that purpose, other waste discharges, and the need to prevent nuisances (California Water Code § 13263).

1.3.4 Lower Colorado River Multi-Species Conservation Program

The Lower Colorado River Multi-Species Conservation Program (LCR MSCP) was created to balance the use of the Colorado River water resources with the conservation of native species and

their habitats. The program works toward the recovery of species currently listed under the ESA. It also reduces the likelihood of additional species listings. Implemented over a 50-year period, the program accommodates current water diversions and power production and will optimize opportunities for future water and power development by providing ESA compliance through the implementation of a Habitat Conservation Plan (HCP) which was finalized in December 2004. The program area extends over 643.7 km (400 miles) of the lower Colorado River from Lake Mead to the southernmost border with Mexico and includes Lakes Mead, Mohave, and Havasu, as well as the historic 100-year floodplain where the proposed project is located, along the main stem of the lower Colorado River. The HCP calls for the creation of more than 3,278 ha (8,100 acres) of habitat for fish and wildlife species and the production of over 1.2 million native fish to augment existing populations. The plan will benefit at least 26 species, most of which are State or Federally listed Endangered, Threatened, or Sensitive species.

The Bureau of Reclamation (BOR) is the implementing agency for the LCR MSCP. Partnership involvement occurs primarily through the LCR MSCP Steering Committee (currently representing 57 entities, including State and Federal agencies, water and power users, municipalities, Native American Tribes, conservation organizations, and other interested parties), which provides input and oversight functions in support of LCR MSCP implementation. Program costs are evenly divided between the Federal government and non-Federal partners (Lower Colorado River Multi-Species Conservation Program 2013).

1.3.5 Imperial County General Plan

The Imperial County General Plan (GP), which applies to all public and private projects in unincorporated Imperial County, consists of 10 Elements entitled Land Use, Housing, Circulation and Scenic Highways, Noise, Seismic and Public Safety, Agricultural, Conservation and Open Space, Geothermal/Alternative Energy and Transmission, Water, and Parks & Recreation.

The Conservation and Open Space Element of the GP provides detailed plans and measures for the preservation and management of biological and cultural resources, soils, minerals, energy, regional aesthetics, air quality, and open space. The purpose of the Conservation and Open Space Element is to promote the protection, maintenance, and use of the County's natural resources with particular emphasis on scarce resources and to prevent wasteful exploitation, destruction, and neglect of the State's natural resources. Additionally, the purpose of this Element is to recognize that natural resources must be maintained for their ecological value for the direct benefit to the public, protect open space for the preservation of natural resources, the managed production of resources, outdoor recreation, and for public health and safety (Imperial County Planning and Development Services 2014). Recommended mitigation for invasive species control has been included in this report that will be consistent with the conservation objectives of the GP.

2.0 METHODOLOGY

Tierra Right of Way Services, Ltd. (Tierra), senior biologist, Tim Jordan, conducted a reconnaissance survey of the project area on July 15 and 16, 2014 (Table 3). Special status species (listed in Appendix A) were assessed for their potential to occur in the project area based on the existing characteristics that were observed. In addition to special status species and their habitats, the project corridors were assessed for general wildlife species, migratory birds, plant species and noxious weeds, sensitive natural communities, and the presence or absence of waterways.

Table 3. Field Survey Schedule

Date/Weather Conditions	Surveyor	Survey Time/Survey Purpose
7/15/2014; 100–101° F, calm, slight haze	Tim Jordan	1200–1430, general biological
7/16/2014; 82–104° F, calm to slight breeze, clear	Tim Jordan	0700–1230, general biological, canal location recording

For the purposes of this report, the entire area assessed during the reconnaissance survey includes the project corridor centerlines with an approximately 15.2-m (50.0-foot) buffer to either side, which is comprehensively referred to as the study area. All areas within the study area were visually assessed during the surveys.

Prior to the reconnaissance surveys, a comprehensive list of regionally occurring special-status species and sensitive natural communities was compiled from the list of reported occurrences in the CDFW's California Natural Diversity Database (CNDDDB) for the Araz, Bard, Imperial Reservoir, Laguna Dam, Little Picacho Peak, Picacho Peak, Yuma East, and Yuma West 7.5-minute USGS topographic quadrangles (CNDDDB 2014) (Figure 4) and a list of Natural Resources of Concern that includes Federally listed special-status species for Imperial County that was obtained from the FWS Information, Planning, and Conservation (IPAC) system. CNDDDB occurrence records include those that are mapped—meaning that occurrence data has been verified by CDFW—and unprocessed records that have not been verified. The CNDDDB and FWS lists are included in Appendix A. Habitats present in the study area were compared to the habitat requirements of these regionally occurring special-status species; this comparison was used to determine which of these species had the potential to occur in the study area. Those species with a potential to occur within the study area and/or be adversely affected by the proposed project are addressed in Section 4.3. Species whose range (geographic or elevation) does not include the study area or for which the study area does not provide suitable habitat, were excluded from further consideration. This analysis is included in Appendix B.

3.0 BIOLOGICAL RESOURCES IN THE PROJECT AREA

3.1 Environmental Setting

The project area is located in southeastern California on the lower Colorado River in an area primarily used for agricultural cultivation. Several irrigation canals operated by the BOR Imperial Irrigation District and Bard Water District either cross or run parallel to the project corridors. Elevations in the project area range from approximately 38–43 m (126–140 feet) above mean sea level (AMSL).

The Western Regional Climate Center (WRCC) recorded seasonal climatic data from 1993–2013 at the Yuma Quartermaster Depot, located just south of the project area (WRCC 2014). These data include average maximum temperature, average minimum temperature, average total precipitation, and average snowfall. The average annual maximum temperature within the project area is 90.1° F (32.2° C); the hottest month of the year is July with an average maximum temperature of 109.4° F (43.0° C). The average annual minimum temperature within the project area is 59.0° F (15.0° C), with December having the coldest average temperature of 43.4° F (6.3° C). The project area receives an average of 6.80 cm (2.67 inches) of precipitation annually; February has the highest average precipitation at 1.20 cm (0.48 inches). The project area receives no snowfall in the average year.

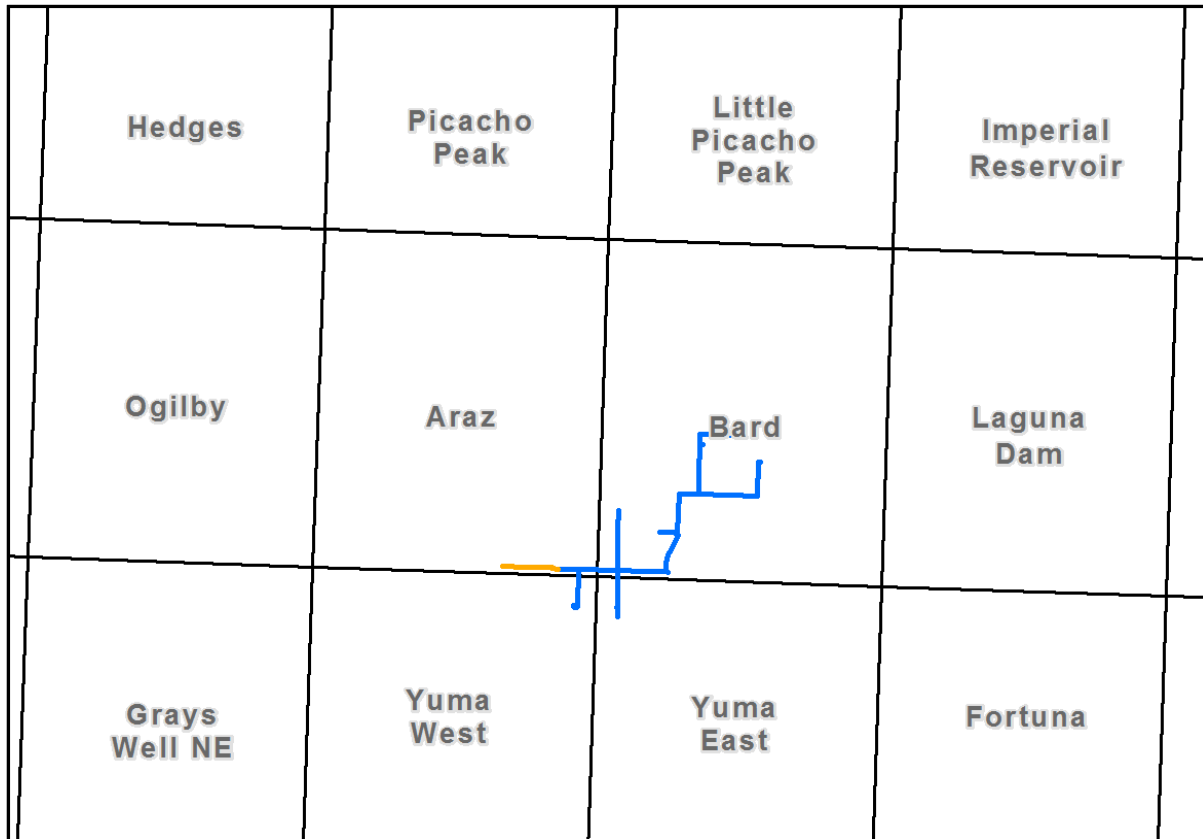


Figure 4. USGS topographic quadrangles in CNDDDB search.

3.2 *Habitat Types*

3.2.1 Terrestrial Habitat

The study area is located within the Colorado Desert, as classified in *A Manual of California Vegetation* (Sawyer and Keeler-Wolf 2009); however, the dominant type of terrestrial habitat present in the project area consists of agricultural land that is being actively cultivated to produce Sudangrass, wheat, cotton, alfalfa, dates, citrus, and other crops. The road shoulders where the proposed telecommunications line is to be installed are mostly devoid of vegetation as a result of blading activities associated with road maintenance and agricultural activities. Because of this previous disturbance, little-to-no native vegetation remains in the project area. Complete lists of plants and wildlife species identified in the study area at the time of the surveys can be found in Appendices C and D.

3.2.2 Aquatic Habitat

Aquatic habitat in the study area is limited to that associated with agricultural canals. There are no ponds or ephemeral or perennial waterways within the study area.

Grass Carp (*Ctenopharyngodon idella*), a fish species native to southeastern Russia and northwestern China, has been stocked in the Yuma Main Canal by the Yuma County Water User’s Association since October 2013 for vegetation control purposes.

3.2.3 Sensitive Natural Communities

Riparian Areas

No sensitive natural communities, as defined by CDFW, are present in the study area. However, the margins of unlined canals in the study area, especially the Reservation Main Drain, contain limited riparian vegetation consisting mostly of dense Common Reed (*Phragmites australis*) and invasive species such as Salt Cedar (*Tamarix ramosissima*) (see Photos 4 and 9 in Appendix E). This vegetation is mostly low-growing, is not structurally complex, and does not have a tree overstory.

Wetlands

Riverine wetlands may be present along the unlined canals that are crossed by the project corridors. These potential wetlands were not delineated during the field surveys because TDS will be boring beneath all of the canals crossed by the line installations with sufficient set backs from either the canal edges or the extent of associated vegetation, if present, thus avoiding any potential impacts to wetlands.

3.3 Special Status Species

Based on the assessment methodology outlined in Section 2.0, seven Special Status wildlife species are either known to occur or have the potential to occur in the study area (Table 4). Because of the previously disturbed nature of the study area and its lack of native vegetation, no Special Status plant species were expected to be found during the surveys, and none were identified.

3.3.1 Special Status Wildlife Species

Table 4. Special Status Species with the Potential to Occur in the Study Area

Scientific Name	Common Name	Status (FWS/State/CNPS)
Amphibians		
<i>Incilius alvarius</i>	Sonoran Desert Toad	-/SSC/-
<i>Lithobates yavapaiensis</i>	Lowland Leopard Frog	-/SSC/-
Birds		
<i>Lanius ludovicianus</i>	Loggerhead Shrike	-/SSC/-
<i>Pyrocephalus rubinus</i>	Vermilion Flycatcher	-/SSC/-
<i>Xanthocephalus xanthocephalus</i>	Yellow-headed Blackbird	-/SSC/-
Mammals		
<i>Corynorhinus townsendii</i>	Townsend's Big-eared Bat	-/CT, SSC/-
<i>Sigmodon hispidus eremicus</i>	Yuma Hispid Cotton Rat	-/SSC/-

Key: SSC = Species of Special Concern, CT = Candidate Threatened.

3.3.1.1 Sonoran Desert (Colorado River) Toad (*Incilius alvarius*)

Federal Status: None

State/CDFW Status: Species of Special Concern

Habitat/Biology: The Colorado River Toad is found in the lower Colorado River and in irrigated lowlands of the extreme southeast portion of Imperial County. In the main part of its range it can be found at elevations from sea level to 1,600 m (5,300 feet) AMSL. It can be found in a variety of desert and semi-arid habitats, including brushy desert with creosote bush, washes with mesquite, and semi-arid grasslands and woodlands. It is semi-aquatic and is usually found associated with large, somewhat permanent streams. It is occasionally found near small springs, temporary rain pools, and human-made canals and irrigation ditches. This species is active from March to July during periods of warm rainfall (CDFW 2014).

Critical Habitat Designation: Not applicable

CNDDDB Records: This species has mapped occurrences on the Araz and Bard USGS quadrangles.

Potential to Occur within the Study Area: No Sonoran Desert Toad individuals were identified during the biological survey. Sonoran Desert Toad has a moderate potential to occur along the unlined and vegetated canals crossed by the project corridors because they contain suitable cover, foraging, and general habitat for this species. It would be unlikely for this species to occur along the lined canals crossed by the project corridors and in the remaining portions of the study area located away from the canals because of the general lack of cover in these areas.

3.3.1.2 Lowland Leopard Frog (*Lithobates yavapaiensis*)

Federal Status: None

State/CDFW Status: Species of Special Concern

Habitat/Biology: Historically, the Lowland Leopard Frog ranged from northwestern Arizona through central and southeastern Arizona, southwestern New Mexico, and northern Sonora, Mexico. Populations were also known from southwestern Arizona and southeastern California along the lower Colorado River and in the Coachella Valley. This species inhabits aquatic systems in lower elevation desert grasslands up to mid-elevation pinyon-juniper woodland. They are habitat generalists and breed in a variety of natural and human-made aquatic systems. Natural systems include rivers, permanent streams and permanent pools in intermittent streams, beaver ponds, cienegas, wetlands, and springs; while human-made systems include earthen cattle tanks, livestock drinkers, canals, irrigation sloughs, wells, mine adits, abandoned swimming pools, and ornamental backyard ponds. Most historical localities are from small-to-medium-sized streams and rivers. In these stream and river habitats, Lowland Leopard Frogs are typically concentrated at springs, near debris piles, at heads of pools, and near deep pools associated with root masses (Arizona Game and Fish Department 2006).

Critical Habitat Designation: Not applicable

CNDDDB Records: This species has mapped occurrences on the Imperial Reservoir and Laguna USGS quadrangles.

Potential to Occur within the Study Area: No Lowland Leopard Frog individuals were identified during the biological survey. Lowland Leopard Frog has a moderate potential to occur along the unlined and vegetated canals crossed by the project corridors because they contain suitable cover, foraging, and general habitat for this species. It would be unlikely for this species to occur along the lined canals crossed by the project corridors and in the remaining portions of the study area located away from the canals because of the general lack of cover in these areas.

3.3.1.3 Loggerhead Shrike (*Lanius ludovicianus*)

Federal Status: None

State/CDFW Status: Species of Special Concern

Habitat/Biology: Loggerhead Shrike is a common resident and winter visitor in lowlands and foothills throughout California. It prefers open habitats with scattered shrubs, trees, posts, fences, utility lines, or other perches. Highest population density occurs in open-canopied valley foothill hardwood, valley foothill hardwood-conifer, valley foothill riparian, pinyon-juniper, juniper, desert riparian, and Joshua tree habitats. This species rarely occurs in heavily urbanized areas but is often found in open cropland. It sometimes uses edges of denser habitats (CDFW 2014).

Critical Habitat Designation: Not applicable

CNDDDB Records: This species has an unprocessed occurrence on the Laguna Dam USGS quadrangle.

Potential to Occur within the Study Area: No Loggerhead Shrike individuals were identified during the biological survey. Loggerhead Shrike has a low potential to occur in the study area because of the presence of scattered residences and commercial areas with their associated activity levels; however, the agricultural fields in and adjacent to the study area located away from these developed areas may provide suitable open habitat for this species.

3.3.1.4 Vermilion Flycatcher (*Pyrocephalus rubinus*)

Federal Status: None

State/CDFW Status: Species of Special Concern

Habitat/Biology: Vermilion Flycatcher is a rare, local, yearlong resident along the Colorado River, especially in vicinity of Blythe, Riverside County. Nesting individuals inhabit cottonwood, willow, mesquite, and other vegetation in desert riparian habitat adjacent to irrigated fields, irrigation ditches, pastures and other open, mesic areas in isolated patches throughout central southern California. Populations of this species have declined drastically in the Imperial and Coachella Valleys and along the Colorado River, primarily as a result of loss of habitat. Despite local extirpations in these two valleys, the overall breeding range of Vermilion Flycatcher has expanded in recent years to the north and west (CDFW 2014).

Critical Habitat Designation: Not applicable

CNDDDB Records: This species has mapped occurrences on the Yuma East and Laguna USGS quadrangles. It also has unprocessed and mapped occurrences on the Little Picacho Peak and Imperial Reservoir quadrangles.

Potential to Occur within the Study Area: No Vermilion Flycatcher individuals were identified during the biological survey. Vermilion Flycatcher has a low potential to nest in the study area because of the lack of well-developed riparian areas. This species has a moderate potential to occur in the irrigated fields and vegetated canals in and adjacent to the study area because these areas may provide suitable foraging habitat for this species.

3.3.1.5 Yellow-headed Blackbird (*Xanthocephalus xanthocephalus*)

Federal Status: None

State/CDFW Status: Species of Special Concern

Habitat/Biology: In California, the Yellow-headed Blackbird breeds commonly but locally east of the Cascade Range and Sierra Nevada, in the Imperial and Colorado River Valleys, in the Central Valley, and at selected locations in the coast ranges west of the Central Valley. This species nests in fresh emergent wetlands with dense vegetation and deep water, often along the borders of lakes or ponds. Individuals forage in emergent wetlands and moist, open areas, especially cropland and the muddy shores of lakes. Yellow-headed Blackbird has a restricted distribution in the Central Valley in winter, occurring mainly in the western portion. This species is fairly common in winter in the Imperial Valley and it occurs as a migrant and local breeder in desert and along the Orange County coast. Yellow-headed Blackbird has bred, at least irregularly, as high as 2,000 m (6,600 feet) AMSL in the San Bernardino Mountains (CDFW 2014).

Critical Habitat Designation: Not applicable

CNDDDB Records: This species has unprocessed occurrences on the Bard and Imperial Reservoir quadrangles.

Potential to Occur within the Study Area: No Yellow-headed Blackbird individuals were identified during the biological survey. There are no emergent wetlands in the study area suitable for nesting Yellow-headed Blackbirds; however, this species has a moderate potential to occur because the agricultural field in and adjacent to the study area may provide suitable foraging habitat.

3.3.1.6 Townsend's Big-eared Bat (*Corynorhinus townsendii*)

Federal Status: None

State/CDFW Status: Candidate Threatened, Species of Special Concern

Habitat/Biology: Townsend's Big-eared Bat is found throughout California, but the details of its distribution are not well-known. This species is found in all but subalpine and alpine habitats, and may be found at any season throughout its range. Once considered common, Townsend's Big-eared Bat is now considered uncommon in California. It is most abundant in mesic habitats. This species requires caves, mines, tunnels, buildings, or other human-made structures for roosting. It may use separate sites for night, day, hibernation, or maternity roosts. Hibernation roosts are cold but not

below freezing, and individuals may move within the hibernacula to find suitable temperatures. Maternity roosts are warmer than hibernation roosts.

Small moths are the principal food source for Townsend's Big-eared Bat, although beetles and a variety of soft-bodied insects are also consumed. This species captures prey in flight using echolocation or by gleaning from foliage. Flight is slow and maneuverable, and this bat is capable of hovering (CDFW 2014).

Critical Habitat Designation: Not applicable

CNDDDB Records: This species has mapped occurrences on the Bard, Yuma East, Yuma West, Imperial Reservoir, Little Picacho Peak, and Picacho Peak quadrangles.

Potential to Occur within the Study Area: No Townsend's Big-eared Bat individuals or potential roosting sites were identified in the study area during the biological survey. Townsend's Big-eared Bat has a moderate potential to occur in the study area while foraging because the vegetated areas, including agricultural fields, in and adjacent to the study area may provide suitable foraging habitat.

3.3.1.7 Yuma Hispid Cotton Rat (*Sigmodon hispidus eremicus*)

Federal Status: None

State/CDFW Status: Species of Special Concern

Habitat/Biology: In California, Yuma Hispid Cotton Rat occurs only along the Colorado River and in the Imperial Valley. Establishment of cotton rats in the Imperial Valley apparently was in response to agricultural irrigation practices. This species is most common in grassland and cropland habitats near water, including grass-forb understory vegetation in early successional stages of other habitats. Cotton rats also occur in overgrown clearings and herbaceous borders of fields and brushy areas (CDFW 2014). Grass height and density have been documented as important habitat components for hispid cotton rats; they utilize runways through dense herbaceous growth and nests are built of woven grass (BOR 2008).

Critical Habitat Designation: Not applicable

CNDDDB Records: This species has mapped occurrences on the Bard, Yuma West, Little Picacho Peak, and Laguna Dam quadrangles. It also has mapped and unprocessed occurrences on the Yuma East quadrangle.

Potential to Occur within the Study Area: No Yuma Hispid Cotton Rat individuals were identified in the study area during the biological survey. Yuma Hispid Cotton Rat has a moderate potential to occur in the study area along the unlined Reservation Main Drain because the dense vegetation present represents suitable cover and foraging habitat. It would be unlikely for this species to occur along the lined canals crossed by the project corridors and in the remaining portions of the study area located away from the canals because of the lack of dense cover vegetation in these areas.

3.3.2 Migratory Birds

The study area and areas adjacent to it were determined to contain suitable habitat for two migratory birds appearing on the American Bird Conservancy's *U.S. Watchlist of Birds of Conservation Concern*. Both of these species were identified in the CNDDDB search, which included mapped and unprocessed occurrences of Prairie Falcon (*Falco mexicanus*) on the Picacho Peak quadrangle and unprocessed occurrences of White-faced Ibis (*Plegadis chibi*) on the Bard quadrangle.

No bird nests were observed in the project corridors at the time of the surveys; this lack of nests was because the project corridors being essentially devoid of vegetation large enough to support bird nests. However, areas adjacent to the project corridors and the study area contain trees and other vegetation that may be utilized by migratory birds. A list of bird species appearing on the 2008 FWS Birds of Conservation Concern list for Bird Conservation Region 33, Sonoran and Mojave Deserts U.S. Portion Only, can be found in Table 5.

Table 5. Bird Conservation Region 33 Migratory Bird List

Least Bittern	Elf Owl
Bald Eagle	Burrowing Owl
Peregrine Falcon	Costa's Hummingbird
Prairie Falcon	Gila Woodpecker
Black Rail	Gilded Flicker
Snowy Plover	Bell's Vireo
Mountain Plover	Gray Vireo
Whimbrel	Bendire's Thrasher
Long-billed Curlew	LeConte's Thrasher
Marbled Godwit	Lucy's Warbler
Red Knot	Yellow Warbler
Gull-billed Tern	Rufous-winged Sparrow
Black Skimmer	Black-chinned Sparrow
Yellow-billed Cuckoo	Lawrence's Goldfinch

3.4 Invasive Species

Three invasive plant species appearing on the California Department of Food and Agriculture (CDFA) Noxious Weed Species List and/or the California Invasive Plant Council (CIPC) Invasive Plant Inventory list were identified in the study area. These invasive species include Russian Thistle (*Salsola kali*), Kariba Weed (*Salvinia molesta*), and Salt Cedar (*Tamarix ramosissima*) (See Appendix C).

With the exception of Russian Thistle and a few scattered dryland infestations of Salt Cedar, all of these invasive species were found associated with the irrigation canals crossed by the project corridors. The only aquatic invasive species identified, Kariba Weed, was found in the Reservation Main Drain at the proposed corridor crossings on Fisher, Picacho, and Stalnacker, Roads (crossings 7–9 indicated in Figure 2).

Two of the invasive species, Kariba Weed and Salt Cedar, have a High rating assigned by CIPC and the remaining species, Russian Thistle, has a Limited rating. The CIPC rating system is as follows:

High: These species have severe ecological impacts on physical processes, plant and animal communities, and vegetation structure. Their reproductive biology and other attributes are conducive to moderate-to-high rates of dispersal and establishment. Most are widely distributed ecologically.

Moderate: These species have substantial and apparent but generally not severe ecological impacts on physical processes, plant and animal communities, and vegetation structure. Their reproductive biology and other attributes are conducive to moderate-to-high rates of dispersal, though establishment is generally dependent upon ecological disturbance. Ecological amplitude and distribution may range from limited to widespread.

Limited: These species are invasive, but their ecological impacts are minor on a statewide level or there was not enough information to justify a higher score. Their reproductive biology and other attributes result in low-to-moderate rates of invasiveness. Ecological amplitude and distribution are generally limited, but these species may be locally persistent and problematic.

3.5 *Jurisdictional Waters*

There are no ephemeral drainages such as washes within or in the vicinity of the study area. There are several irrigation canals in the project area, and it was assumed that they flow at least intermittently and in some cases, perennially. An example of the latter would be the Yuma Main Canal and the Reservation Main Drain, two of the largest canals observed during the surveys. In total, the proposed fiber installations would cross irrigation canals at 17 locations.

The USACE and/or CDFW jurisdictional status of the canals in the project area was not determined conclusively because all of the canals would be avoided during the proposed telecommunications line installations (See the *Waterway Delineation and Assessment Report*, under separate cover). No dredge and fill operations will occur within the canals and no subsequent loss of WUS will take place because all canals in the project area will be bored beneath during the proposed installations. Likewise, a stream alteration permit from CDFW is unnecessary for the proposed installations because the canals and any potential wildlife habitat, either in the canals themselves or riparian habitat along the canal margins, will be avoided. A summary of the crossings, including the names of the canals, their locations, and corresponding identification numbers as indicated on Figure 2, can be found in Table 6.

Table 6. Irrigation Canal Crossings in the Study Area

Map No.	Canal Name	Location	Lined?
1	Reservation Main Drain	Stahlnacker Road	no
2	unnamed canal	Fisher and Parkman Roads	no
3	Reservation Main Drain	Fisher Road	no
4	Hopi Canal	Bard and Whitmore Road	no

Map No.	Canal Name	Location	Lined?
5	Cocopah Canal	Ross Road	yes
6	unnamed canal	Fisher and Ross Roads	yes
7	Papago Canal	Perez Road	no
8	Pima Canal	Haughtelin and Perez Roads	yes
9	Cocopah Canal	Flood Road	yes
10	Navajo Canal	Picacho and Jackson Roads	no
11	Reservation Main Drain	Picacho Road	no
12	Pima Canal	Picacho and Haughtelin Roads	yes
13	Pueblo Canal	Picacho and Indian Rock Roads	yes
14	Cocopah Canal	Picacho Road	no
15	Reservation Main Drain	Arnold Road	no
16	Yuma Main Canal	Arnold Road	no
17	Walapai Canal	Arnold Road	no

4.0 IMPACTS OF THE PROPOSED PROJECT

4.1 *Significance Criteria*

Per the regulatory requirements outlined in Section 1.3, including CEQA and NEPA statutes and guidelines, the proposed project will have a significant adverse impact on biological resources if it will:

- Have a substantial adverse effect, either directly through “take” or indirectly through habitat modifications, on any species identified as Threatened, Endangered, Candidate, or Proposed for Candidacy by FWS, or as Sensitive or as a Special-status Species in local or regional plans, policies, or regulations, or by FWS, CDFW, or CNPS;
- Have a substantial adverse effect on a species’ Critical Habitat as designated by USFWS;
- Result in the introduction or spread of an invasive species;
- Have a substantial adverse effect on any sensitive natural community identified in local or regional plans, policies, regulations, or by the FWS or CDFW;
- Have a substantial adverse effect on Federally protected wetlands or other WUS as defined by Sections 10 and 404 of the Clean Water Act, including special aquatic sites such as wetlands, through direct removal, filling, hydrologic disruption, or other means;
- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;
- Conflict with any local policies or ordinances protecting biological resources;
- Have a substantial adverse effect on habitat for commercially or recreationally important fisheries;
- Have a substantial adverse effect on waterfowl breeding or wintering habitat by reducing acreage or quality, or have a substantial adverse effect on the acreage or quality of migrant or wintering shorebird habitat; or,

-
- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan.

4.2 Effects of the Proposed Project

The proposed project will involve the installation of a buried telecommunications line in the previously disturbed road shoulders of existing roads. Following line installation, the only surface-level ancillary equipment that will be visible will be line markers, splice boxes, and ten equipment cabinets mounted on concrete pads. The majority of the ground disturbance associated with the installation would be temporary and would occur during plowing operations and at the bore pit locations used for the bored installations. The only permanent ground disturbance would occur at the new equipment cabinet locations. Impacts to wildlife and wildlife habitat from the proposed project would be temporary. Equipment noise and the presence of work crews may disturb wildlife in the areas surrounding the project corridors. Because the installations would occur along existing roads that carry regular vehicular traffic, any increases in noise and activity levels during construction would be minimal.

4.3 Impact Assessment and Recommended Avoidance and Minimization Measures

The following impact assessment is based on the criteria summarized in Section 4.1. For each impact identified, recommended avoidance, minimization, or mitigation measures are identified.

4.3.1 Special Status Species

Potential Impact #1: Construction of the proposed project has the potential to impact Sonoran Desert Toad and Lowland Leopard Frog.

Sonoran Desert Toad and Lowland Leopard Frog have the potential to occur along the irrigation canals in the study area. Implementation of the proposed project has the potential to impact these two species if individuals come into contact with construction equipment or personnel or individuals attempt to flee the construction area and are subject to increased chances of predation or other harm. With the implementation of avoidance and minimization measures listed below, impacts are expected to be reduced to a less than significant level.

Recommended Avoidance and Minimization Measures for Impact #1:

- All irrigation canals in the study area will be avoided during construction.
- Bore pits will be placed a minimum distance of 5 m (16 feet) beyond either the top of the canal bank or the maximum extent of any vegetation present along the canal's margin.

Potential Impact #2: Construction of the proposed project has the potential to impact Loggerhead Shrike, Yellow-headed Blackbird, and Townsend's Big-eared Bat.

Loggerhead Shrike and Yellow-headed Blackbird have the potential to occur in the agricultural fields adjacent to the study area. In addition to potentially occurring in the agricultural fields, Townsend's Big-eared Bat has the potential to occur in vegetated areas adjacent to the study area.

Recommended Avoidance and Minimization Measures for Impact #2:

-
- All agricultural fields will be avoided during construction.
 - It is extremely unlikely that any vegetation trimming will be necessary during project implementation; however, if trimming is required to facilitate the installations, it will be kept to the absolute minimum necessary.

Potential Impact #3: Construction of the proposed project has the potential to impact Vermilion Flycatcher and Yuma Hispid Cotton Rat.

Vermilion Flycatcher and Yuma Hispid Cotton Rat have the potential to occur in the agricultural fields adjacent to the study area and along the vegetated irrigation canals within the study area.

Recommended Avoidance and Minimization Measures for Impact #3:

- All agricultural fields will be avoided during construction.
- All irrigation canals in the study area will be avoided during construction.
- Bore pits will be placed a minimum distance of 5 m (16 feet) beyond either the top of the canal bank or the maximum extent of any vegetation present along the canal's margin.

4.3.2 Invasive Species

Potential Impact #4: Construction of the proposed project has the potential to result in the spread of invasive plant species.

Because of the presence of invasive plant species in the study area, implementation of the proposed project has the potential to result in further spread of existing noxious weeds. Invasive species could also be introduced into the study area by construction equipment, vehicles, personnel, or imported fill or other material. Further introduction of invasive plant species could adversely impact the irrigation canals in the project area and their associated riparian areas, where present. However, with the implementation of the avoidance and minimization measures listed below, impacts are expected to be reduced to a less than significant level.

Recommended Avoidance and Minimization Measures for Impact #4:

- All irrigation canals in the study area will be avoided during construction.
- Bore pits will be placed a minimum distance of 5 m (16 feet) beyond either the top of the canal bank or the maximum extent of any vegetation present along the canal's margin.
- All equipment and vehicles will be thoroughly cleaned to remove dirt and weed seeds prior to being transported or driven to or from the study area.

5.0 SUMMARY

This BRE has been prepared for the Winterhaven Last Mile Underserved Broadband Project in order to evaluate the potential for the proposed project to impact sensitive biological resources. Based on the results of the analysis conducted in preparation of this report, the proposed project has the potential to impact special-status species and result in the introduction or spread of invasive species. With the implementation of the proposed avoidance and minimization measures, all potential adverse impacts are expected to be reduced to a less than significant level.

6.0 REPORT PREPARERS AND CERTIFICATION

Tierra believes that the proposed project would not violate any of the regulatory requirements outlined in Section 1.3, provided that all recommended avoidance and minimization measures indicated in Section 1.4 are implemented during construction. Results and conclusions contained in this report are based on actual field reconnaissance and represent my best professional judgment, based on information provided by the project proponent, applicable agencies, and other sources.

Report Author:



Tim Jordan, Senior Biologist
Tierra Right of Way Services, Ltd.
1575 East River Road, Suite 201
Tucson, Arizona 85718
tjordan@tierra-row.com

11/17/2014

Date

Report QA/QC:



Tom Euler, Director
Tierra Right of Way Services, Ltd.
1575 East River Road, Suite 201
Tucson, Arizona 85718
teuler@tierra-row.com

11/17/2014

Date

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**APPENDIX A. REGIONALLY OCCURRING SPECIAL STATUS SPECIES
LISTS**

Table A.1. Regionally Occurring Special Status Species Lists

Element Type	Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status	CA Rare Plant Rank	Quad Code	Quad Name	Data Status	Taxonomic Sort
Animals - Amphibians	<i>Incilius alvarius</i>	Sonoran Desert Toad	AAABB01010	none	none	SSC	-	3211475	Bard	mapped	Animals - Amphibians - <i>Bufonidae</i> - <i>Incilius alvarius</i>
Animals - Amphibians	<i>Incilius alvarius</i>	Sonoran Desert Toad	AAABB01010	none	none	SSC	-	3211476	Araz	mapped	Animals - Amphibians - <i>Bufonidae</i> - <i>Incilius alvarius</i>
Animals - Amphibians	<i>Lithobates yavapaiensis</i>	Lowland (=Yavapai, San Sebastian, and San Felipe) Leopard Frog	AAABH01250	none	none	SSC	-	3211484	Imperial Reservoir	mapped	Animals - Amphibians - <i>Ranidae</i> - <i>Lithobates yavapaiensis</i>
Animals - Amphibians	<i>Lithobates yavapaiensis</i>	Lowland (=Yavapai, San Sebastian, and San Felipe) Leopard Frog	AAABH01250	none	none	SSC	-	3211474	Laguna Dam	mapped	Animals - Amphibians - <i>Ranidae</i> - <i>Lithobates yavapaiensis</i>
Animals - Birds	<i>Accipiter cooperii</i>	Cooper's Hawk	ABNKC12040	none	none	WL	-	3211474	Laguna Dam	mapped	Animals - Birds - <i>Accipitridae</i> - <i>Accipiter cooperii</i>
Animals - Birds	<i>Accipiter cooperii</i>	Cooper's Hawk	ABNKC12040	none	none	WL	-	3211484	Imperial Reservoir	unprocessed	Animals - Birds - <i>Accipitridae</i> - <i>Accipiter cooperii</i>
Animals - Birds	<i>Accipiter cooperii</i>	Cooper's Hawk	ABNKC12040	none	none	WL	-	3211475	Bard	mapped and unprocessed	Animals - Birds - <i>Accipitridae</i> - <i>Accipiter cooperii</i>
Animals - Birds	<i>Aquila chrysaetos</i>	Golden Eagle	ABNKC22010	none	none	FP; WL	-	3211485	Little Picacho Peak	unprocessed	Animals - Birds - <i>Accipitridae</i> - <i>Aquila chrysaetos</i>

Element Type	Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status	CA Rare Plant Rank	Quad Code	Quad Name	Data Status	Taxonomic Sort
Animals - Birds	<i>Haliaeetus leucocephalus</i>	Bald Eagle	ABNKC10010	delisted	Endangered	FP	-	3211485	Little Picacho Peak	unprocessed	Animals - Birds - Accipitridae - <i>Haliaeetus leucocephalus</i>
Animals - Birds	<i>Haliaeetus leucocephalus</i>	Bald Eagle	ABNKC10010	delisted	Endangered	FP	-	3211484	Imperial Reservoir	unprocessed	Animals - Birds - Accipitridae - <i>Haliaeetus leucocephalus</i>
Animals - Birds	<i>Pandion haliaetus</i>	Osprey	ABNKC01010	none	none	WL	-	3211475	Bard	unprocessed	Animals - Birds - Accipitridae - <i>Pandion haliaetus</i>
Animals - Birds	<i>Chaetura vauxi</i>	Vaux's Swift	ABNUA03020	none	none	SSC	-	3211475	Bard	unprocessed	Animals - Birds - Apodidae - <i>Chaetura vauxi</i>
Animals - Birds	<i>Chaetura vauxi</i>	Vaux's Swift	ABNUA03020	none	none	SSC	-	3211466	Yuma West	unprocessed	Animals - Birds - Apodidae - <i>Chaetura vauxi</i>
Animals - Birds	<i>Ardea herodias</i>	Great Blue Heron	ABNGA04010	none	none	-	-	3211475	Bard	mapped	Animals - Birds - Ardeidae - <i>Ardea herodias</i>
Animals - Birds	<i>Ardea herodias</i>	Great Blue Heron	ABNGA04010	none	none	-	-	3211484	Imperial Reservoir	unprocessed	Animals - Birds - Ardeidae - <i>Ardea herodias</i>
Animals - Birds	<i>Ardea herodias</i>	Great Blue Heron	ABNGA04010	none	none	-	-	3211485	Little Picacho Peak	unprocessed	Animals - Birds - Ardeidae - <i>Ardea herodias</i>
Animals - Birds	<i>Ixobrychus exilis</i>	Least Bittern	ABNGA02010	none	none	SSC	-	3211485	Little Picacho Peak	unprocessed	Animals - Birds - Ardeidae - <i>Ixobrychus exilis</i>
Animals - Birds	<i>Ixobrychus exilis</i>	Least Bittern	ABNGA02010	none	none	SSC	-	3211484	Imperial Reservoir	mapped and unprocessed	Animals - Birds - Ardeidae - <i>Ixobrychus exilis</i>
Animals - Birds	<i>Ixobrychus exilis</i>	Least Bittern	ABNGA02010	none	none	SSC	-	3211474	Laguna Dam	unprocessed	Animals - Birds - Ardeidae - <i>Ixobrychus exilis</i>

Element Type	Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status	CA Rare Plant Rank	Quad Code	Quad Name	Data Status	Taxonomic Sort
Animals - Birds	<i>Nycticorax nycticorax</i>	Black-Crowned Night Heron	ABNGA11010	none	none	-	-	3211466	Yuma West	unprocessed	Animals - Birds - Ardeidae - <i>Nycticorax nycticorax</i>
Animals - Birds	<i>Nycticorax nycticorax</i>	Black-Crowned Night Heron	ABNGA11010	none	none	-	-	3211484	Imperial Reservoir	unprocessed	Animals - Birds - Ardeidae - <i>Nycticorax nycticorax</i>
Animals - Birds	<i>Mycteria americana</i>	Wood Stork	ABNGF02010	none	none	SSC	-	3211484	Imperial Reservoir	unprocessed	Animals - Birds - Ciconiidae - <i>Mycteria americana</i>
Animals - Birds	<i>Coccyzus americanus occidentalis</i>	Western Yellow-Billed Cuckoo	ABNRB02022	Proposed Threatened	Endangered	-	-	3211484	Imperial Reservoir	mapped	Animals - Birds - Cuculidae - <i>Coccyzus americanus occidentalis</i>
Animals - Birds	<i>Coccyzus americanus occidentalis</i>	Western Yellow-Billed Cuckoo	ABNRB02022	Proposed Threatened	Endangered	-	-	3211475	Bard	mapped	Animals - Birds - Cuculidae - <i>Coccyzus americanus occidentalis</i>
Animals - Birds	<i>Coccyzus americanus occidentalis</i>	Western Yellow-Billed Cuckoo	ABNRB02022	Proposed Threatened	Endangered	-	-	3211465	Yuma East	unprocessed	Animals - Birds - Cuculidae - <i>Coccyzus americanus occidentalis</i>
Animals - Birds	<i>Coccyzus americanus occidentalis</i>	Western Yellow-Billed Cuckoo	ABNRB02022	Proposed Threatened	Endangered	-	-	3211466	Yuma West	mapped	Animals - Birds - Cuculidae - <i>Coccyzus americanus occidentalis</i>

Element Type	Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status	CA Rare Plant Rank	Quad Code	Quad Name	Data Status	Taxonomic Sort
Animals - Birds	<i>Coccyzus americanus occidentalis</i>	Western Yellow-Billed Cuckoo	ABNRB02022	Proposed Threatened	Endangered	-	-	3211474	Laguna Dam	mapped and unprocessed	Animals - Birds - Cuculidae - <i>Coccyzus americanus occidentalis</i>
Animals - Birds	<i>Coccyzus americanus occidentalis</i>	Western Yellow-Billed Cuckoo	ABNRB02022	Proposed Threatened	Endangered	-	-	3211485	Little Picacho Peak	mapped	Animals - Birds - Cuculidae - <i>Coccyzus americanus occidentalis</i>
Animals - Birds	<i>Melospiza aberti</i>	Abert's Towhee	ABPBX74050	none	none	-	-	3211484	Imperial Reservoir	unprocessed	Animals - Birds - Emberizidae - <i>Melospiza aberti</i>
Animals - Birds	<i>Melospiza aberti</i>	Abert's Towhee	ABPBX74050	none	none	-	-	3211466	Yuma West	unprocessed	Animals - Birds - Emberizidae - <i>Melospiza aberti</i>
Animals - Birds	<i>Melospiza aberti</i>	Abert's Towhee	ABPBX74050	none	none	-	-	3211475	Bard	unprocessed	Animals - Birds - Emberizidae - <i>Melospiza aberti</i>
Animals - Birds	<i>Spizella passerina</i>	Chipping Sparrow	ABPBX94020	none	none	-	-	3211475	Bard	unprocessed	Animals - Birds - Emberizidae - <i>Spizella passerina</i>
Animals - Birds	<i>Falco mexicanus</i>	Prairie Falcon	ABNKD06090	none	none	WL	-	3211486	Picacho Peak	mapped and unprocessed	Animals - Birds - Falconidae - <i>Falco mexicanus</i>
Animals - Birds	<i>Xanthocephalus xanthocephalus</i>	Yellow-Headed Blackbird	ABPBXB3010	none	none	SSC	-	3211484	Imperial Reservoir	unprocessed	Animals - Birds - Icteridae - <i>Xanthocephalus xanthocephalus</i>
Animals - Birds	<i>Xanthocephalus xanthocephalus</i>	Yellow-Headed Blackbird	ABPBXB3010	none	none	SSC	-	3211475	Bard	unprocessed	Animals - Birds - Icteridae - <i>Xanthocephalus xanthocephalus</i>

Element Type	Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status	CA Rare Plant Rank	Quad Code	Quad Name	Data Status	Taxonomic Sort
Animals - Birds	<i>Lanius ludovicianus</i>	Loggerhead Shrike	ABPBR01030	none	none	SSC	-	3211474	Laguna Dam	unprocessed	Animals - Birds - Laniidae - <i>Lanius ludovicianus</i>
Animals - Birds	<i>Toxostoma crissale</i>	Crissal Thrasher	ABPBK06090	none	none	SSC	-	3211474	Laguna Dam	mapped	Animals - Birds - Mimidae - <i>Toxostoma crissale</i>
Animals - Birds	<i>Toxostoma crissale</i>	Crissal Thrasher	ABPBK06090	none	none	SSC	-	3211466	Yuma West	unprocessed	Animals - Birds - Mimidae - <i>Toxostoma crissale</i>
Animals - Birds	<i>Toxostoma crissale</i>	Crissal Thrasher	ABPBK06090	none	none	SSC	-	3211475	Bard	mapped	Animals - Birds - Mimidae - <i>Toxostoma crissale</i>
Animals - Birds	<i>Toxostoma crissale</i>	Crissal Thrasher	ABPBK06090	none	none	SSC	-	3211484	Imperial Reservoir	mapped and unprocessed	Animals - Birds - Mimidae - <i>Toxostoma crissale</i>
Animals - Birds	<i>Toxostoma crissale</i>	Crissal Thrasher	ABPBK06090	none	none	SSC	-	3211485	Little Picacho Peak	mapped	Animals - Birds - Mimidae - <i>Toxostoma crissale</i>
Animals - Birds	<i>Toxostoma lecontei</i>	Le Conte's Thrasher	ABPBK06100	none	none	SSC	-	3211476	Araz	unprocessed	Animals - Birds - Mimidae - <i>Toxostoma lecontei</i>
Animals - Birds	<i>Toxostoma lecontei</i>	Le Conte's Thrasher	ABPBK06100	none	none	SSC	-	3211475	Bard	unprocessed	Animals - Birds - Mimidae - <i>Toxostoma lecontei</i>
Animals - Birds	<i>Dendroica occidentalis</i>	Hermit Warbler	ABPBX03090	none	none	-	-	3211475	Bard	unprocessed	Animals - Birds - Parulidae - <i>Dendroica occidentalis</i>
Animals - Birds	<i>Dendroica occidentalis</i>	Hermit Warbler	ABPBX03090	none	none	-	-	3211484	Imperial Reservoir	unprocessed	Animals - Birds - Parulidae - <i>Dendroica occidentalis</i>

Element Type	Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status	CA Rare Plant Rank	Quad Code	Quad Name	Data Status	Taxonomic Sort
Animals - Birds	<i>Dendroica occidentalis</i>	Hermit Warbler	ABPBX03090	none	none	-	-	3211466	Yuma West	unprocessed	Animals - Birds - Parulidae - <i>Dendroica occidentalis</i>
Animals - Birds	<i>Dendroica petechia brewsteri</i>	Yellow Warbler	ABPBX03018	none	none	SSC	-	3211474	Laguna Dam	unprocessed	Animals - Birds - Parulidae - <i>Dendroica petechia brewsteri</i>
Animals - Birds	<i>Dendroica petechia brewsteri</i>	Yellow Warbler	ABPBX03018	none	none	SSC	-	3211484	Imperial Reservoir	unprocessed	Animals - Birds - Parulidae - <i>Dendroica petechia brewsteri</i>
Animals - Birds	<i>Dendroica petechia sonorana</i>	Sonoran Yellow Warbler	ABPBX03017	none	none	SSC	-	3211484	Imperial Reservoir	unprocessed	Animals - Birds - Parulidae - <i>Dendroica petechia sonorana</i>
Animals - Birds	<i>Dendroica petechia sonorana</i>	Sonoran Yellow Warbler	ABPBX03017	none	none	SSC	-	3211475	Bard	mapped and unprocessed	Animals - Birds - Parulidae - <i>Dendroica petechia sonorana</i>
Animals - Birds	<i>Dendroica petechia sonorana</i>	Sonoran Yellow Warbler	ABPBX03017	none	none	SSC	-	3211474	Laguna Dam	mapped and unprocessed	Animals - Birds - Parulidae - <i>Dendroica petechia sonorana</i>
Animals - Birds	<i>Dendroica petechia sonorana</i>	Sonoran Yellow Warbler	ABPBX03017	none	none	SSC	-	3211466	Yuma West	unprocessed	Animals - Birds - Parulidae - <i>Dendroica petechia sonorana</i>
Animals - Birds	<i>Dendroica petechia sonorana</i>	Sonoran Yellow Warbler	ABPBX03017	none	none	SSC	-	3211465	Yuma East	unprocessed	Animals - Birds - Parulidae - <i>Dendroica petechia sonorana</i>

Element Type	Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status	CA Rare Plant Rank	Quad Code	Quad Name	Data Status	Taxonomic Sort
Animals - Birds	<i>Dendroica petechia sonorana</i>	Sonoran Yellow Warbler	ABPBX03017	none	none	SSC	-	3211485	Little Picacho Peak	unprocessed	Animals - Birds - Parulidae - <i>Dendroica petechia sonorana</i>
Animals - Birds	<i>Icteria virens</i>	Yellow-Breasted Chat	ABPBX24010	none	none	SSC	-	3211485	Little Picacho Peak	mapped and unprocessed	Animals - Birds - Parulidae - <i>Icteria virens</i>
Animals - Birds	<i>Icteria virens</i>	Yellow-Breasted Chat	ABPBX24010	none	none	SSC	-	3211465	Yuma East	unprocessed	Animals - Birds - Parulidae - <i>Icteria virens</i>
Animals - Birds	<i>Icteria virens</i>	Yellow-Breasted Chat	ABPBX24010	none	none	SSC	-	3211466	Yuma West	unprocessed	Animals - Birds - Parulidae - <i>Icteria virens</i>
Animals - Birds	<i>Icteria virens</i>	Yellow-Breasted Chat	ABPBX24010	none	none	SSC	-	3211474	Laguna Dam	mapped and unprocessed	Animals - Birds - Parulidae - <i>Icteria virens</i>
Animals - Birds	<i>Icteria virens</i>	Yellow-Breasted Chat	ABPBX24010	none	none	SSC	-	3211484	Imperial Reservoir	mapped and unprocessed	Animals - Birds - Parulidae - <i>Icteria virens</i>
Animals - Birds	<i>Icteria virens</i>	Yellow-Breasted Chat	ABPBX24010	none	none	SSC	-	3211475	Bard	mapped and unprocessed	Animals - Birds - Parulidae - <i>Icteria virens</i>
Animals - Birds	<i>Oreothlypis luciae</i>	Lucy's Warbler	ABPBX01090	none	none	SSC	-	3211484	Imperial Reservoir	unprocessed	Animals - Birds - Parulidae - <i>Oreothlypis luciae</i>
Animals - Birds	<i>Oreothlypis luciae</i>	Lucy's Warbler	ABPBX01090	none	none	SSC	-	3211474	Laguna Dam	unprocessed	Animals - Birds - Parulidae - <i>Oreothlypis luciae</i>
Animals - Birds	<i>Oreothlypis luciae</i>	Lucy's Warbler	ABPBX01090	none	none	SSC	-	3211465	Yuma East	unprocessed	Animals - Birds - Parulidae - <i>Oreothlypis luciae</i>
Animals - Birds	<i>Oreothlypis luciae</i>	Lucy's Warbler	ABPBX01090	none	none	SSC	-	3211485	Little Picacho Peak	unprocessed	Animals - Birds - Parulidae - <i>Oreothlypis luciae</i>

Element Type	Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status	CA Rare Plant Rank	Quad Code	Quad Name	Data Status	Taxonomic Sort
Animals - Birds	<i>Phalacrocorax auritus</i>	Double-Crested Cormorant	ABNFD01020	none	none	WL	-	3211484	Imperial Reservoir	unprocessed	Animals - Birds - <i>Phalacrocoracidae</i> - <i>Phalacrocorax auritus</i>
Animals - Birds	<i>Colaptes chrysoides</i>	Gilded Flicker	ABNYF10040	none	Endangered	-	-	3211484	Imperial Reservoir	mapped and unprocessed	Animals - Birds - <i>Picidae</i> - <i>Colaptes chrysoides</i>
Animals - Birds	<i>Colaptes chrysoides</i>	Gilded Flicker	ABNYF10040	none	Endangered	-	-	3211475	Bard	mapped	Animals - Birds - <i>Picidae</i> - <i>Colaptes chrysoides</i>
Animals - Birds	<i>Colaptes chrysoides</i>	Gilded Flicker	ABNYF10040	none	Endangered	-	-	3211465	Yuma East	mapped and unprocessed	Animals - Birds - <i>Picidae</i> - <i>Colaptes chrysoides</i>
Animals - Birds	<i>Colaptes chrysoides</i>	Gilded Flicker	ABNYF10040	none	Endangered	-	-	3211466	Yuma West	mapped	Animals - Birds - <i>Picidae</i> - <i>Colaptes chrysoides</i>
Animals - Birds	<i>Colaptes chrysoides</i>	Gilded Flicker	ABNYF10040	none	Endangered	-	-	3211474	Laguna Dam	mapped and unprocessed	Animals - Birds - <i>Picidae</i> - <i>Colaptes chrysoides</i>
Animals - Birds	<i>Colaptes chrysoides</i>	Gilded Flicker	ABNYF10040	none	Endangered	-	-	3211485	Little Picacho Peak	unprocessed	Animals - Birds - <i>Picidae</i> - <i>Colaptes chrysoides</i>
Animals - Birds	<i>Melanerpes lewis</i>	Lewis' Woodpecker	ABNYF04010	none	none	-	-	3211475	Bard	unprocessed	Animals - Birds - <i>Picidae</i> - <i>Melanerpes lewis</i>
Animals - Birds	<i>Melanerpes uropygialis</i>	Gila Woodpecker	ABNYF04150	none	Endangered	-	-	3211475	Bard	mapped	Animals - Birds - <i>Picidae</i> - <i>Melanerpes uropygialis</i>
Animals - Birds	<i>Melanerpes uropygialis</i>	Gila Woodpecker	ABNYF04150	none	Endangered	-	-	3211484	Imperial Reservoir	mapped and unprocessed	Animals - Birds - <i>Picidae</i> - <i>Melanerpes uropygialis</i>

Element Type	Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status	CA Rare Plant Rank	Quad Code	Quad Name	Data Status	Taxonomic Sort
Animals - Birds	<i>Melanerpes uropygialis</i>	Gila Woodpecker	ABNYF04150	none	Endangered	-	-	3211474	Laguna Dam	mapped and unprocessed	Animals - Birds - Picidae - <i>Melanerpes uropygialis</i>
Animals - Birds	<i>Melanerpes uropygialis</i>	Gila Woodpecker	ABNYF04150	none	Endangered	-	-	3211466	Yuma West	mapped	Animals - Birds - Picidae - <i>Melanerpes uropygialis</i>
Animals - Birds	<i>Melanerpes uropygialis</i>	Gila Woodpecker	ABNYF04150	none	Endangered	-	-	3211485	Little Picacho Peak	mapped	Animals - Birds - Picidae - <i>Melanerpes uropygialis</i>
Animals - Birds	<i>Laterallus jamaicensis coturniculus</i>	California Black Rail	ABNME03041	none	Threatened	FP	-	3211485	Little Picacho Peak	mapped	Animals - Birds - Rallidae - <i>Laterallus jamaicensis coturniculus</i>
Animals - Birds	<i>Laterallus jamaicensis coturniculus</i>	California Black Rail	ABNME03041	none	Threatened	FP	-	3211466	Yuma West	mapped	Animals - Birds - Rallidae - <i>Laterallus jamaicensis coturniculus</i>
Animals - Birds	<i>Laterallus jamaicensis coturniculus</i>	California Black Rail	ABNME03041	none	Threatened	FP	-	3211474	Laguna Dam	mapped and unprocessed	Animals - Birds - Rallidae - <i>Laterallus jamaicensis coturniculus</i>
Animals - Birds	<i>Laterallus jamaicensis coturniculus</i>	California Black Rail	ABNME03041	none	Threatened	FP	-	3211484	Imperial Reservoir	mapped and unprocessed	Animals - Birds - Rallidae - <i>Laterallus jamaicensis coturniculus</i>

Element Type	Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status	CA Rare Plant Rank	Quad Code	Quad Name	Data Status	Taxonomic Sort
Animals - Birds	<i>Laterallus jamaicensis coturniculus</i>	California Black Rail	ABNME03041	none	Threatened	FP	-	3211475	Bard	mapped	Animals - Birds - Rallidae - <i>Laterallus jamaicensis coturniculus</i>
Animals - Birds	<i>Rallus longirostris yumanensis</i>	Yuma Clapper Rail	ABNME0501A	Endangered	Threatened	FP	-	3211475	Bard	mapped	Animals - Birds - Rallidae - <i>Rallus longirostris yumanensis</i>
Animals - Birds	<i>Rallus longirostris yumanensis</i>	Yuma Clapper Rail	ABNME0501A	Endangered	Threatened	FP	-	3211484	Imperial Reservoir	mapped and unprocessed	Animals - Birds - Rallidae - <i>Rallus longirostris yumanensis</i>
Animals - Birds	<i>Rallus longirostris yumanensis</i>	Yuma Clapper Rail	ABNME0501A	Endangered	Threatened	FP	-	3211474	Laguna Dam	mapped	Animals - Birds - Rallidae - <i>Rallus longirostris yumanensis</i>
Animals - Birds	<i>Rallus longirostris yumanensis</i>	Yuma Clapper Rail	ABNME0501A	Endangered	Threatened	FP	-	3211466	Yuma West	mapped	Animals - Birds - Rallidae - <i>Rallus longirostris yumanensis</i>
Animals - Birds	<i>Rallus longirostris yumanensis</i>	Yuma Clapper Rail	ABNME0501A	Endangered	Threatened	FP	-	3211465	Yuma East	mapped and unprocessed	Animals - Birds - Rallidae - <i>Rallus longirostris yumanensis</i>
Animals - Birds	<i>Rallus longirostris yumanensis</i>	Yuma Clapper Rail	ABNME0501A	Endangered	Threatened	FP	-	3211485	Little Picacho Peak	mapped and unprocessed	Animals - Birds - Rallidae - <i>Rallus longirostris yumanensis</i>
Animals - Birds	<i>Micrathene whitneyi</i>	Elf Owl	ABNSB09010	none	Endangered	-	-	3211474	Laguna Dam	mapped	Animals - Birds - Strigidae - <i>Micrathene whitneyi</i>

Element Type	Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status	CA Rare Plant Rank	Quad Code	Quad Name	Data Status	Taxonomic Sort
Animals - Birds	<i>Micrathene whitneyi</i>	Elf Owl	ABNSB09010	none	Endangered	-	-	3211484	Imperial Reservoir	mapped	Animals - Birds - Strigidae - <i>Micrathene whitneyi</i>
Animals - Birds	<i>Micrathene whitneyi</i>	Elf Owl	ABNSB09010	none	Endangered	-	-	3211475	Bard	mapped	Animals - Birds - Strigidae - <i>Micrathene whitneyi</i>
Animals - Birds	<i>Polioptila melanura</i>	Black-Tailed Gnatcatcher	ABPBJ08030	none	none	-	-	3211475	Bard	mapped	Animals - Birds - Sylviidae - <i>Polioptila melanura</i>
Animals - Birds	<i>Polioptila melanura</i>	Black-Tailed Gnatcatcher	ABPBJ08030	none	none	-	-	3211484	Imperial Reservoir	mapped and unprocessed	Animals - Birds - Sylviidae - <i>Polioptila melanura</i>
Animals - Birds	<i>Polioptila melanura</i>	Black-Tailed Gnatcatcher	ABPBJ08030	none	none	-	-	3211474	Laguna Dam	mapped and unprocessed	Animals - Birds - Sylviidae - <i>Polioptila melanura</i>
Animals - Birds	<i>Polioptila melanura</i>	Black-Tailed Gnatcatcher	ABPBJ08030	none	none	-	-	3211466	Yuma West	unprocessed	Animals - Birds - Sylviidae - <i>Polioptila melanura</i>
Animals - Birds	<i>Piranga rubra</i>	Summer Tanager	ABPBX45030	none	none	SSC	-	3211466	Yuma West	unprocessed	Animals - Birds - Thraupidae - <i>Piranga rubra</i>
Animals - Birds	<i>Piranga rubra</i>	Summer Tanager	ABPBX45030	none	none	SSC	-	3211465	Yuma East	unprocessed	Animals - Birds - Thraupidae - <i>Piranga rubra</i>
Animals - Birds	<i>Piranga rubra</i>	Summer Tanager	ABPBX45030	none	none	SSC	-	3211474	Laguna Dam	mapped and unprocessed	Animals - Birds - Thraupidae - <i>Piranga rubra</i>

Element Type	Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status	CA Rare Plant Rank	Quad Code	Quad Name	Data Status	Taxonomic Sort
Animals - Birds	<i>Piranga rubra</i>	Summer Tanager	ABPBX45030	none	none	SSC	-	3211484	Imperial Reservoir	mapped and unprocessed	Animals - Birds - <i>Thraupidae</i> - <i>Piranga rubra</i>
Animals - Birds	<i>Piranga rubra</i>	Summer Tanager	ABPBX45030	none	none	SSC	-	3211475	Bard	mapped and unprocessed	Animals - Birds - <i>Thraupidae</i> - <i>Piranga rubra</i>
Animals - Birds	<i>Piranga rubra</i>	Summer Tanager	ABPBX45030	none	none	SSC	-	3211485	Little Picacho Peak	unprocessed	Animals - Birds - <i>Thraupidae</i> - <i>Piranga rubra</i>
Animals - Birds	<i>Plegadis chibi</i>	White-Faced Ibis	ABNGE02020	none	none	WL	-	3211475	Bard	unprocessed	Animals - Birds - <i>Threskiornithidae</i> - <i>Plegadis chibi</i>
Animals - Birds	<i>Calypte costae</i>	Costa's Hummingbird	ABNUC47020	none	none	-	-	3211466	Yuma West	unprocessed	Animals - Birds - <i>Trochilidae</i> - <i>Calypte costae</i>
Animals - Birds	<i>Contopus cooperi</i>	Olive-Sided Flycatcher	ABPAE32010	none	none	SSC	-	3211466	Yuma West	unprocessed	Animals - Birds - <i>Tyrannidae</i> - <i>Contopus cooperi</i>
Animals - Birds	<i>Empidonax traillii extimus</i>	Southwestern Willow Flycatcher	ABPAE33043	Endangered	Endangered	-	-	3211474	Laguna Dam	mapped	Animals - Birds - <i>Tyrannidae</i> - <i>Empidonax traillii extimus</i>
Animals - Birds	<i>Myiarchus tyrannulus</i>	Brown-Crested Flycatcher	ABPAE43080	none	none	WL	-	3211474	Laguna Dam	mapped and unprocessed	Animals - Birds - <i>Tyrannidae</i> - <i>Myiarchus tyrannulus</i>
Animals - Birds	<i>Myiarchus tyrannulus</i>	Brown-Crested Flycatcher	ABPAE43080	none	none	WL	-	3211465	Yuma East	unprocessed	Animals - Birds - <i>Tyrannidae</i> - <i>Myiarchus tyrannulus</i>
Animals - Birds	<i>Myiarchus tyrannulus</i>	Brown-Crested Flycatcher	ABPAE43080	none	none	WL	-	3211475	Bard	mapped	Animals - Birds - <i>Tyrannidae</i> - <i>Myiarchus tyrannulus</i>

Element Type	Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status	CA Rare Plant Rank	Quad Code	Quad Name	Data Status	Taxonomic Sort
Animals - Birds	<i>Myiarchus tyrannulus</i>	Brown-Crested Flycatcher	ABPAE43080	none	none	WL	-	3211484	Imperial Reservoir	mapped and unprocessed	Animals - Birds - Tyrannidae - <i>Myiarchus tyrannulus</i>
Animals - Birds	<i>Myiarchus tyrannulus</i>	Brown-Crested Flycatcher	ABPAE43080	none	none	WL	-	3211485	Little Picacho Peak	mapped and unprocessed	Animals - Birds - Tyrannidae - <i>Myiarchus tyrannulus</i>
Animals - Birds	<i>Pyrocephalus rubinus</i>	Vermilion Flycatcher	ABPAE36010	none	none	SSC	-	3211484	Imperial Reservoir	mapped and unprocessed	Animals - Birds - Tyrannidae - <i>Pyrocephalus rubinus</i>
Animals - Birds	<i>Pyrocephalus rubinus</i>	Vermilion Flycatcher	ABPAE36010	none	none	SSC	-	3211475	Bard	mapped and unprocessed	Animals - Birds - Tyrannidae - <i>Pyrocephalus rubinus</i>
Animals - Birds	<i>Pyrocephalus rubinus</i>	Vermilion Flycatcher	ABPAE36010	none	none	SSC	-	3211465	Yuma East	mapped	Animals - Birds - Tyrannidae - <i>Pyrocephalus rubinus</i>
Animals - Birds	<i>Pyrocephalus rubinus</i>	Vermilion Flycatcher	ABPAE36010	none	none	SSC	-	3211474	Laguna Dam	mapped	Animals - Birds - Tyrannidae - <i>Pyrocephalus rubinus</i>
Animals - Birds	<i>Vireo bellii arizonae</i>	Arizona Bell's Vireo	ABPBW01111	none	Endangered	-	-	3211474	Laguna Dam	mapped and unprocessed	Animals - Birds - Vireonidae - <i>Vireo bellii arizonae</i>
Animals - Birds	<i>Vireo bellii arizonae</i>	Arizona Bell's Vireo	ABPBW01111	none	Endangered	-	-	3211465	Yuma East	mapped and unprocessed	Animals - Birds - Vireonidae - <i>Vireo bellii arizonae</i>

Element Type	Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status	CA Rare Plant Rank	Quad Code	Quad Name	Data Status	Taxonomic Sort
Animals - Birds	<i>Vireo bellii arizonae</i>	Arizona Bell's Vireo	ABPBW01111	none	Endangered	-	-	3211466	Yuma West	mapped	Animals - Birds - <i>Vireonidae</i> - <i>Vireo bellii arizonae</i>
Animals - Birds	<i>Vireo bellii arizonae</i>	Arizona Bell's Vireo	ABPBW01111	none	Endangered	-	-	3211475	Bard	mapped	Animals - Birds - <i>Vireonidae</i> - <i>Vireo bellii arizonae</i>
Animals - Birds	<i>Vireo bellii arizonae</i>	Arizona Bell's Vireo	ABPBW01111	none	Endangered	-	-	3211484	Imperial Reservoir	mapped and unprocessed	Animals - Birds - <i>Vireonidae</i> - <i>Vireo bellii arizonae</i>
Animals - Birds	<i>Vireo bellii arizonae</i>	Arizona Bell's Vireo	ABPBW01111	none	Endangered	-	-	3211485	Little Picacho Peak	mapped and unprocessed	Animals - Birds - <i>Vireonidae</i> - <i>Vireo bellii arizonae</i>
Animals - Fish	<i>Xyrauchen texanus</i>	Razorback Sucker	AFCJC11010	Endangered	Endangered	FP	-	3211484	Imperial Reservoir	mapped	Animals - Fish - <i>Catostomidae</i> - <i>Xyrauchen texanus</i>
Animals - Fish	<i>Xyrauchen texanus</i>	Razorback Sucker	AFCJC11010	Endangered	Endangered	FP	-	3211475	Bard	mapped	Animals - Fish - <i>Catostomidae</i> - <i>Xyrauchen texanus</i>
Animals - Fish	<i>Xyrauchen texanus</i>	Razorback Sucker	AFCJC11010	Endangered	Endangered	FP	-	3211474	Laguna Dam	mapped	Animals - Fish - <i>Catostomidae</i> - <i>Xyrauchen texanus</i>
Animals - Fish	<i>Ptychocheilus lucius</i>	Colorado Pikeminnow	AFCJB35020	Endangered	Endangered	FP	-	3211474	Laguna Dam	mapped	Animals - Fish - <i>Cyprinidae</i> - <i>Ptychocheilus lucius</i>
Animals - Fish	<i>Ptychocheilus lucius</i>	Colorado Pikeminnow	AFCJB35020	Endangered	Endangered	FP	-	3211475	Bard	mapped	Animals - Fish - <i>Cyprinidae</i> - <i>Ptychocheilus lucius</i>

Element Type	Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status	CA Rare Plant Rank	Quad Code	Quad Name	Data Status	Taxonomic Sort
Animals - Mammals	<i>Ovis canadensis nelsoni</i>	Desert Bighorn Sheep	AMALE04013	none	none	FP	-	3211486	Picacho Peak	mapped and unprocessed	Animals - Mammals - Bovidae - <i>Ovis canadensis nelsoni</i>
Animals - Mammals	<i>Neotoma albigula venusta</i>	Colorado Valley Woodrat	AMAFF08031	none	none	-	-	3211484	Imperial Reservoir	mapped	Animals - Mammals - Muridae - <i>Neotoma albigula venusta</i>
Animals - Mammals	<i>Neotoma albigula venusta</i>	Colorado Valley Woodrat	AMAFF08031	none	none	-	-	3211485	Little Picacho Peak	mapped	Animals - Mammals - Muridae - <i>Neotoma albigula venusta</i>
Animals - Mammals	<i>Neotoma albigula venusta</i>	Colorado Valley Woodrat	AMAFF08031	none	none	-	-	3211475	Bard	mapped	Animals - Mammals - Muridae - <i>Neotoma albigula venusta</i>
Animals - Mammals	<i>Neotoma albigula venusta</i>	Colorado Valley Woodrat	AMAFF08031	none	none	-	-	3211466	Yuma West	mapped	Animals - Mammals - Muridae - <i>Neotoma albigula venusta</i>
Animals - Mammals	<i>Sigmodon hispidus eremicus</i>	Yuma Hispid Cotton Rat	AMAFF07013	none	none	SSC	-	3211474	Laguna Dam	mapped	Animals - Mammals - Muridae - <i>Sigmodon hispidus eremicus</i>
Animals - Mammals	<i>Sigmodon hispidus eremicus</i>	Yuma Hispid Cotton Rat	AMAFF07013	none	none	SSC	-	3211466	Yuma West	mapped	Animals - Mammals - Muridae - <i>Sigmodon hispidus eremicus</i>

Element Type	Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status	CA Rare Plant Rank	Quad Code	Quad Name	Data Status	Taxonomic Sort
Animals - Mammals	<i>Sigmodon hispidus eremicus</i>	Yuma Hispid Cotton Rat	AMAFF07013	none	none	SSC	-	3211465	Yuma East	mapped and unprocessed	Animals - Mammals - Muridae - <i>Sigmodon hispidus eremicus</i>
Animals - Mammals	<i>Sigmodon hispidus eremicus</i>	Yuma Hispid Cotton Rat	AMAFF07013	none	none	SSC	-	3211475	Bard	mapped	Animals - Mammals - Muridae - <i>Sigmodon hispidus eremicus</i>
Animals - Mammals	<i>Sigmodon hispidus eremicus</i>	Yuma Hispid Cotton Rat	AMAFF07013	none	none	SSC	-	3211485	Little Picacho Peak	mapped	Animals - Mammals - Muridae - <i>Sigmodon hispidus eremicus</i>
Animals - Mammals	<i>Taxidea taxus</i>	American Badger	AMAJF04010	none	none	SSC	-	3211485	Little Picacho Peak	mapped	Animals - Mammals - Mustelidae - <i>Taxidea taxus</i>
Animals - Mammals	<i>Taxidea taxus</i>	American Badger	AMAJF04010	none	none	SSC	-	3211484	Imperial Reservoir	mapped	Animals - Mammals - Mustelidae - <i>Taxidea taxus</i>
Animals - Mammals	<i>Taxidea taxus</i>	American Badger	AMAJF04010	none	none	SSC	-	3211476	Araz	mapped	Animals - Mammals - Mustelidae - <i>Taxidea taxus</i>
Animals - Mammals	<i>Taxidea taxus</i>	American Badger	AMAJF04010	none	none	SSC	-	3211475	Bard	mapped	Animals - Mammals - Mustelidae - <i>Taxidea taxus</i>

Element Type	Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status	CA Rare Plant Rank	Quad Code	Quad Name	Data Status	Taxonomic Sort
Animals - Mammals	<i>Macrotus californicus</i>	California Leaf-Nosed Bat	AMACB01010	none	none	SSC	-	3211475	Bard	mapped	Animals - Mammals - <i>Phyllostomidae</i> - <i>Macrotus californicus</i>
Animals - Mammals	<i>Macrotus californicus</i>	California Leaf-Nosed Bat	AMACB01010	none	none	SSC	-	3211484	Imperial Reservoir	unprocessed	Animals - Mammals - <i>Phyllostomidae</i> - <i>Macrotus californicus</i>
Animals - Mammals	<i>Corynorhinus townsendii</i>	Townsend's Big-Eared Bat	AMACC08010	none	Candidate Threatened	SSC	-	3211484	Imperial Reservoir	mapped	Animals - Mammals - <i>Vespertilionidae</i> - <i>Corynorhinus townsendii</i>
Animals - Mammals	<i>Corynorhinus townsendii</i>	Townsend's Big-Eared Bat	AMACC08010	none	Candidate Threatened	SSC	-	3211485	Little Picacho Peak	mapped	Animals - Mammals - <i>Vespertilionidae</i> - <i>Corynorhinus townsendii</i>
Animals - Mammals	<i>Corynorhinus townsendii</i>	Townsend's Big-Eared Bat	AMACC08010	none	Candidate Threatened	SSC	-	3211486	Picacho Peak	mapped	Animals - Mammals - <i>Vespertilionidae</i> - <i>Corynorhinus townsendii</i>
Animals - Mammals	<i>Corynorhinus townsendii</i>	Townsend's Big-Eared Bat	AMACC08010	none	Candidate Threatened	SSC	-	3211475	Bard	mapped	Animals - Mammals - <i>Vespertilionidae</i> - <i>Corynorhinus townsendii</i>
Animals - Mammals	<i>Corynorhinus townsendii</i>	Townsend's Big-Eared Bat	AMACC08010	none	Candidate Threatened	SSC	-	3211466	Yuma West	mapped	Animals - Mammals - <i>Vespertilionidae</i> - <i>Corynorhinus townsendii</i>

Element Type	Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status	CA Rare Plant Rank	Quad Code	Quad Name	Data Status	Taxonomic Sort
Animals - Mammals	<i>Corynorhinus townsendii</i>	Townsend's Big-Eared Bat	AMACC08010	none	Candidate Threatened	SSC	-	3211465	Yuma East	mapped	Animals - Mammals - <i>Vespertilionidae</i> - <i>Corynorhinus townsendii</i>
Animals - Mammals	<i>Myotis lucifugus</i>	Little Brown Bat	AMACC01010	none	none	-	-	3211475	Bard	unprocessed	Animals - Mammals - <i>Vespertilionidae</i> - <i>Myotis lucifugus</i>
Animals - Mammals	<i>Myotis occultus</i>	Arizona Myotis	AMACC01160	none	none	SSC	-	3211475	Bard	mapped	Animals - Mammals - <i>Vespertilionidae</i> - <i>Myotis occultus</i>
Animals - Mammals	<i>Myotis occultus</i>	Arizona Myotis	AMACC01160	none	none	SSC	-	3211465	Yuma East	mapped	Animals - Mammals - <i>Vespertilionidae</i> - <i>Myotis occultus</i>
Animals - Mammals	<i>Myotis yumanensis</i>	Yuma Myotis	AMACC01020	none	none	-	-	3211475	Bard	mapped	Animals - Mammals - <i>Vespertilionidae</i> - <i>Myotis yumanensis</i>
Animals - Reptiles	<i>Heloderma suspectum cinctum</i>	Banded Gila Monster	ARACE01011	none	none	SSC	-	3211484	Imperial Reservoir	mapped	Animals - Reptiles - <i>Helodermatidae</i> - <i>Heloderma suspectum cinctum</i>
Animals - Reptiles	<i>Kinosternon sonoriense</i>	Sonoran Mud Turtle	ARAAE01040	none	none	SSC	-	3211475	Bard	mapped	Animals - Reptiles - <i>Kinosternidae</i> - <i>Kinosternon sonoriense</i>

Element Type	Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status	CA Rare Plant Rank	Quad Code	Quad Name	Data Status	Taxonomic Sort
Animals - Reptiles	<i>Kinosternon sonoriense</i>	Sonoran Mud Turtle	ARAAE01040	none	none	SSC	-	3211465	Yuma East	mapped	Animals - Reptiles - Kinosternidae - Kinosternon sonoriense
Animals - Reptiles	<i>Kinosternon sonoriense</i>	Sonoran Mud Turtle	ARAAE01040	none	none	SSC	-	3211474	Laguna Dam	mapped	Animals - Reptiles - Kinosternidae - Kinosternon sonoriense
Animals - Reptiles	<i>Kinosternon sonoriense</i>	Sonoran Mud Turtle	ARAAE01040	none	none	SSC	-	3211466	Yuma West	mapped	Animals - Reptiles - Kinosternidae - Kinosternon sonoriense
Animals - Reptiles	<i>Phrynosoma mcallii</i>	Flat-Tailed Horned Lizard	ARACF12040	none	none	SSC	-	3211466	Yuma West	mapped	Animals - Reptiles - Phrynosomatidae - Phrynosoma mcallii
Animals - Reptiles	<i>Phrynosoma mcallii</i>	Flat-Tailed Horned Lizard	ARACF12040	none	none	SSC	-	3211465	Yuma East	mapped	Animals - Reptiles - Phrynosomatidae - Phrynosoma mcallii
Animals - Reptiles	<i>Phrynosoma mcallii</i>	Flat-Tailed Horned Lizard	ARACF12040	none	none	SSC	-	3211475	Bard	mapped	Animals - Reptiles - Phrynosomatidae - Phrynosoma mcallii
Animals - Reptiles	<i>Phrynosoma mcallii</i>	Flat-Tailed Horned Lizard	ARACF12040	none	none	SSC	-	3211476	Araz	mapped and unprocessed	Animals - Reptiles - Phrynosomatidae - Phrynosoma mcallii

Element Type	Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status	CA Rare Plant Rank	Quad Code	Quad Name	Data Status	Taxonomic Sort
Animals - Reptiles	<i>Gopherus agassizii</i>	Desert Tortoise	ARAAF01012	Threatened	Threatened	-	-	3211466	Yuma West	mapped	Animals - Reptiles - Testudinidae - <i>Gopherus agassizii</i>
Community - Terrestrial	<i>Sonoran Cottonwood Willow Riparian Forest</i>	Sonoran Cottonwood Willow Riparian Forest	CTT61810CA	none	none	-	-	3211466	Yuma West	mapped	Community - Terrestrial - <i>Sonoran Cottonwood Willow Riparian Forest</i>
Community - Terrestrial	<i>Sonoran Cottonwood Willow Riparian Forest</i>	Sonoran Cottonwood Willow Riparian Forest	CTT61810CA	none	none	-	-	3211474	Laguna Dam	mapped	Community - Terrestrial - <i>Sonoran Cottonwood Willow Riparian Forest</i>
Community - Terrestrial	<i>Sonoran Cottonwood Willow Riparian Forest</i>	Sonoran Cottonwood Willow Riparian Forest	CTT61810CA	none	none	-	-	3211475	Bard	mapped	Community - Terrestrial - <i>Sonoran Cottonwood Willow Riparian Forest</i>
Community - Terrestrial	<i>Sonoran Cottonwood Willow Riparian Forest</i>	Sonoran Cottonwood Willow Riparian Forest	CTT61810CA	none	none	-	-	3211484	Imperial Reservoir	mapped	Community - Terrestrial - <i>Sonoran Cottonwood Willow Riparian Forest</i>
Community - Terrestrial	<i>Sonoran Cottonwood Willow Riparian Forest</i>	Sonoran Cottonwood Willow Riparian Forest	CTT61810CA	none	none	-	-	3211485	Little Picacho Peak	mapped	Community - Terrestrial - <i>Sonoran Cottonwood Willow Riparian Forest</i>

Element Type	Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status	CA Rare Plant Rank	Quad Code	Quad Name	Data Status	Taxonomic Sort
Plants - Vascular	<i>Palafoxia arida</i> var. <i>gigantea</i>	Giant Spanish-Needle	PDAST6T012	none	none	-	1B.3	3211466	Yuma West	mapped	Plants - Vascular - Asteraceae - <i>Palafoxia arida</i> var. <i>gigantea</i>
Plants - Vascular	<i>Cryptantha holoptera</i>	Winged Cryptantha	PDBOR0A180	none	none	-	4.3	3211466	Yuma West	unprocessed	Plants - Vascular - Boraginaceae - <i>Cryptantha holoptera</i>
Plants - Vascular	<i>Cryptantha holoptera</i>	Winged Cryptantha	PDBOR0A180	none	none	-	4.3	3211474	Laguna Dam	unprocessed	Plants - Vascular - Boraginaceae - <i>Cryptantha holoptera</i>
Plants - Vascular	<i>Cryptantha holoptera</i>	Winged Cryptantha	PDBOR0A180	none	none	-	4.3	3211476	Araz	unprocessed	Plants - Vascular - Boraginaceae - <i>Cryptantha holoptera</i>
Plants - Vascular	<i>Cryptantha holoptera</i>	Winged Cryptantha	PDBOR0A180	none	none	-	4.3	3211485	Little Picacho Peak	unprocessed	Plants - Vascular - Boraginaceae - <i>Cryptantha holoptera</i>
Plants - Vascular	<i>Cryptantha holoptera</i>	Winged Cryptantha	PDBOR0A180	none	none	-	4.3	3211484	Imperial Reservoir	unprocessed	Plants - Vascular - Boraginaceae - <i>Cryptantha holoptera</i>
Plants - Vascular	<i>Cryptantha holoptera</i>	Winged Cryptantha	PDBOR0A180	none	none	-	4.3	3211486	Picacho Peak	unprocessed	Plants - Vascular - Boraginaceae - <i>Cryptantha holoptera</i>

Element Type	Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status	CA Rare Plant Rank	Quad Code	Quad Name	Data Status	Taxonomic Sort
Plants - Vascular	<i>Nama stenocarpum</i>	Mud Nama	PDHYD0A0H0	none	none	-	2B.2	3211466	Yuma West	mapped	Plants - Vascular - <i>Boraginaceae</i> - <i>Nama stenocarpum</i>
Plants - Vascular	<i>Nama stenocarpum</i>	Mud Nama	PDHYD0A0H0	none	none	-	2B.2	3211465	Yuma East	mapped	Plants - Vascular - <i>Boraginaceae</i> - <i>Nama stenocarpum</i>
Plants - Vascular	<i>Carnegiea gigantea</i>	Saguaro	PDCAC12010	none	none	-	2B.2	3211474	Laguna Dam	mapped and unprocessed	Plants - Vascular - <i>Cactaceae</i> - <i>Carnegiea gigantea</i>
Plants - Vascular	<i>Carnegiea gigantea</i>	Saguaro	PDCAC12010	none	none	-	2B.2	3211475	Bard	mapped	Plants - Vascular - <i>Cactaceae</i> - <i>Carnegiea gigantea</i>
Plants - Vascular	<i>Carnegiea gigantea</i>	Saguaro	PDCAC12010	none	none	-	2B.2	3211484	Imperial Reservoir	mapped	Plants - Vascular - <i>Cactaceae</i> - <i>Carnegiea gigantea</i>
Plants - Vascular	<i>Carnegiea gigantea</i>	Saguaro	PDCAC12010	none	none	-	2B.2	3211485	Little Picacho Peak	mapped	Plants - Vascular - <i>Cactaceae</i> - <i>Carnegiea gigantea</i>
Plants - Vascular	<i>Koeberlinia spinosa ssp. tenuispina</i>	Slender-Spined All-Thorn	PDCPP05012	none	none	-	2B.2	3211486	Picacho Peak	mapped	Plants - Vascular - <i>Capparaceae</i> - <i>Koeberlinia spinosa ssp. tenuispina</i>
Plants - Vascular	<i>Croton wigginsii</i>	Wiggins' Croton	PDEUP0H140	none	rare	-	2B.2	3211475	Bard	mapped	Plants - Vascular - <i>Euphorbiaceae</i> - <i>Croton wigginsii</i>

Element Type	Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status	CA Rare Plant Rank	Quad Code	Quad Name	Data Status	Taxonomic Sort
Plants - Vascular	<i>Croton wigginsii</i>	Wiggins' Croton	PDEUP0H140	none	rare	-	2B.2	3211476	Araz	mapped	Plants - Vascular - Euphorbiaceae - <i>Croton wigginsii</i>
Plants - Vascular	<i>Ditaxis claryana</i>	Glandular Ditaxis	PDEUP080L0	none	none	-	2B.2	3211486	Picacho Peak	mapped and unprocessed	Plants - Vascular - Euphorbiaceae - <i>Ditaxis claryana</i>
Plants - Vascular	<i>Ditaxis claryana</i>	Glandular Ditaxis	PDEUP080L0	none	none	-	2B.2	3211485	Little Picacho Peak	mapped	Plants - Vascular - Euphorbiaceae - <i>Ditaxis claryana</i>
Plants - Vascular	<i>Astragalus insularis var. harwoodii</i>	Harwood's Milk-Vetch	PDFAB0F491	none	none	-	2B.2	3211476	Araz	mapped	Plants - Vascular - Fabaceae - <i>Astragalus insularis var. harwoodii</i>
Plants - Vascular	<i>Astragalus insularis var. harwoodii</i>	Harwood's Milk-Vetch	PDFAB0F491	none	none	-	2B.2	3211466	Yuma West	mapped	Plants - Vascular - Fabaceae - <i>Astragalus insularis var. harwoodii</i>
Plants - Vascular	<i>Calliandra eriophylla</i>	Pink Fairy-Duster	PDFAB0N040	none	none	-	2B.3	3211486	Picacho Peak	mapped	Plants - Vascular - Fabaceae - <i>Calliandra eriophylla</i>
Plants - Vascular	<i>Juncus acutus ssp. leopoldii</i>	Southwestern Spiny Rush	PMJUN01051	none	none	-	4.2	3211484	Imperial Reservoir	unprocessed	Plants - Vascular - Juncaceae - <i>Juncus acutus ssp. leopoldii</i>

Element Type	Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status	CA Rare Plant Rank	Quad Code	Quad Name	Data Status	Taxonomic Sort
Plants - Vascular	<i>Horsfordia newberryi</i>	Newberry's Velvet-Mallow	PDMAL0J020	none	none	-	4.3	3211486	Picacho Peak	unprocessed	Plants - Vascular - <i>Malvaceae</i> - <i>Horsfordia newberryi</i>
Plants - Vascular	<i>Digitaria californica</i> var. <i>californica</i>	Arizona Cottontop	PMPOA27051	none	none	-	2B.3	3211475	Bard	mapped	Plants - Vascular - <i>Poaceae</i> - <i>Digitaria californica</i> var. <i>californica</i>
Plants - Vascular	<i>Panicum hirticaule</i> ssp. <i>hirticaule</i>	Roughstalk Witch Grass	PMPOA4K170	none	none	-	2B.1	3211466	Yuma West	mapped	Plants - Vascular - <i>Poaceae</i> - <i>Panicum hirticaule</i> ssp. <i>hirticaule</i>
Plants - Vascular	<i>Panicum hirticaule</i> ssp. <i>hirticaule</i>	Roughstalk Witch Grass	PMPOA4K170	none	none	-	2B.1	3211465	Yuma East	mapped	Plants - Vascular - <i>Poaceae</i> - <i>Panicum hirticaule</i> ssp. <i>hirticaule</i>
Plants - Vascular	<i>Colubrina californica</i>	Las Animas Colubrina	PDRHA05030	none	none	-	2B.3	3211486	Picacho Peak	mapped	Plants - Vascular - <i>Rhamnaceae</i> - <i>Colubrina californica</i>
Plants - Vascular	<i>Colubrina californica</i>	Las Animas Colubrina	PDRHA05030	none	none	-	2B.3	3211485	Little Picacho Peak	mapped	Plants - Vascular - <i>Rhamnaceae</i> - <i>Colubrina californica</i>
Plants - Vascular	<i>Condalia globosa</i> var. <i>pubescens</i>	Spiny Abrojo	PDRHA06031	none	none	-	4.2	3211485	Little Picacho Peak	unprocessed	Plants - Vascular - <i>Rhamnaceae</i> - <i>Condalia globosa</i> var. <i>pubescens</i>

Element Type	Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status	CA Rare Plant Rank	Quad Code	Quad Name	Data Status	Taxonomic Sort
Plants - Vascular	<i>Condalia globosa</i> var. <i>pubescens</i>	Spiny Abrojo	PDRHA06031	none	none	-	4.2	3211486	Picacho Peak	unprocessed	Plants - Vascular - <i>Rhamnaceae</i> - <i>Condalia globosa</i> var. <i>pubescens</i>
Plants - Vascular	<i>Condalia globosa</i> var. <i>pubescens</i>	Spiny Abrojo	PDRHA06031	none	none	-	4.2	3211475	Bard	unprocessed	Plants - Vascular - <i>Rhamnaceae</i> - <i>Condalia globosa</i> var. <i>pubescens</i>
Plants - Vascular	<i>Penstemon pseudospectabilis</i> ssp. <i>pseudospectabilis</i>	Desert Beardtongue	PDSCR1L562	none	none	-	2B.2	3211475	Bard	mapped	Plants - Vascular - <i>Scrophulariaceae</i> - <i>Penstemon pseudospectabilis</i> ssp. <i>pseudospectabilis</i>
Plants - Vascular	<i>Penstemon pseudospectabilis</i> ssp. <i>pseudospectabilis</i>	Desert Beardtongue	PDSCR1L562	none	none	-	2B.2	3211486	Picacho Peak	mapped	Plants - Vascular - <i>Scrophulariaceae</i> - <i>Penstemon pseudospectabilis</i> ssp. <i>pseudospectabilis</i>

**APPENDIX B. LISTED, PROPOSED SPECIES, AND CRITICAL
HABITAT POTENTIALLY OCCURRING OR KNOWN TO OCCUR IN
THE PROJECT REGION EXCLUDED FROM FURTHER
CONSIDERATION**

Table B.1. Listed, Proposed Species, and Critical Habitat Potentially Occurring or Known to Occur in the Project Region Excluded from Further Consideration

Scientific Name	Common Name	Status (FWS/State/CNPS)	Habitat ^a	Exclusion Justification
Birds				
<i>Accipiter cooperii</i>	Cooper's Hawk	-/WL/-	low-to-mid-elevation riparian areas, woodlands, and forests	no suitable riparian, woodland, or forest habitat present in study area
<i>Aquila chrysaetos</i>	Golden Eagle	-/FP,WL/-	open habitats, including tundra, grasslands and desert; nesting cliffs, with typical heights of at least 30 m (100 feet), are normally directly adjacent to foraging habitat of desert grasslands or desert scrub	no suitable cliff habitat for nesting or open desert habitat for foraging present in study area
<i>Chaetura vauxi</i>	Vaux's Swift	-/SSC/-	Redwood and Douglas-fir habitats with nest-sites in large hollow trees and snags, especially tall, burned-out stubs; a fairly common migrant throughout most of the state in April and May and August and September; a few individuals winter irregularly in southern coastal lowlands	no suitable habitat present in study area. may occur in the vicinity of the study area as a transient during migration, but not in the study area itself
<i>Coccyzus americanus occidentalis</i>	Western Yellow-billed Cuckoo	PT/E/-	dense cottonwood/willow stands in areas of standing water	no suitable riparian habitat present in study area
<i>Colaptes chrysoides</i>	Gilded Flicker	-/E/-	upper and lower Sonoran Desert with Saguaros	no suitable Sonoran desert habitat present in study area
<i>Contopus cooperi</i>	Olive-sided Flycatcher	-/SSC/-	forest and woodland habitats below 2,800 m (9,000 feet) throughout California exclusive of the deserts, the central valley, and other lowland valleys and basins; preferred nesting habitats include mixed conifer, montane hardwood-conifer, Douglas-fir, redwood, red fir, and lodgepole pine; arrives from South American wintering areas in mid-April (southern California) to early May (northern California), with transient individuals still moving north in early June; departs breeding areas in August; most have left the state by early October	no suitable habitat present in study area. may occur in the vicinity of the study area as a transient during migration, but not in the study area itself

Scientific Name	Common Name	Status (FWS/State/CNPS)	Habitat ^a	Exclusion Justification
<i>Dendroica petechia brewsteri</i>	Yellow Warbler	-/SSC/-	riparian areas with cottonwoods, willows, and alder	no suitable riparian habitat present in study area
<i>Dendroica petechia sonorana</i>	Sonoran Yellow Warbler	-/SSC/-	riparian areas including tamarisk thickets	no suitable riparian or tamarisk thicket habitat present in study area
<i>Empidonax traillii eximius</i>	Southwestern Willow Flycatcher	E/E/-	dense and layered willow, cottonwood, and tamarisk thickets and woodland along streams and rivers	no suitable riparian or tamarisk thicket habitat present in study area
<i>Haliaeetus leucocephalus</i>	Bald Eagle	-/E,FP/-	open areas, forest edges, and mountains near large lakes and rivers; requires tall trees for nesting	no suitable habitat in the vicinity of large waterbodies present in study area
<i>Icteria virens</i>	Yellow-breasted Chat	-/SSC/-	riparian thickets with willows and other brushy vegetation near watercourses	no suitable riparian habitat present in study area
<i>Ixobrychus exilis</i>	Least Bittern	-/SSC/-	densely vegetated emergent wetlands near sources of fresh water and desert riparian areas including tamarisk thickets	no suitable riparian or tamarisk thicket habitat present in study area
<i>Kinosternon sonoriense</i>	Sonoran Mud Turtle	-/SSC/-	rivers, streams, stock tanks, ponds, and reservoirs	no suitable aquatic habitat present in study area
<i>Laterallus jamaicensis coturniculus</i>	California Black Rail	-/T,FP/-	tidal salt marshes. Also occurs in brackish and fresh-water marshes, all at low elevations	no suitable marsh habitat present in study area
<i>Melanerpes uropygialis</i>	Gila Woodpecker	-/E/-	desert riparian and wash habitats. Cottonwoods and other desert riparian trees, shade trees, and date palms supply cover	no suitable riparian or wash habitat present in study area
<i>Micrathene whitneyi</i>	Elf Owl	-/E/-	desert riparian areas with cottonwood, sycamore, willow, or mesquite; absent from habitats dominated by tamarisk	no suitable riparian habitat present in study area
<i>Mycteria americana</i>	Wood Stork	-/SSC/-	breeds in Mexico, Central and South America, and along the southeastern U.S. coast; this species is a locally common post-breeding visitor to California, with several hundred birds occurring in Imperial County from late May to October in marshes at the south end of the Salton Sea	no suitable marsh habitat present in study area. may occur in the vicinity of the study area as a transient during migration, but not in the study area itself
<i>Myiarchus tyrannulus</i>	Brown-crested Flycatcher	-/WL/-	riparian areas with cottonwood, willow, or mesquite; desert scrub and tamarisk thickets often used for foraging	no suitable riparian, tamarisk thicket, or desertscrub habitat present in study area

Scientific Name	Common Name	Status (FWS/State/CNPS)	Habitat ^a	Exclusion Justification
<i>Oreothlypis luciae</i>	Lucy's Warbler	-/SSC/-	desert washes and riparian areas dominated by mesquite; also found in tamarisk and other thickets	no suitable wash, riparian, or tamarisk thicket habitat present in study area
<i>Pandion haliaetus</i>	Osprey	-/WL/-	riparian areas near large, fish-bearing bodies of water	no suitable riparian habitat near large bodies of water present in study area
<i>Phalacrocorax auritus</i>	Double-crested Cormorant	-/WL/-	large, open bodies of water including slow-moving rivers, lakes, and reservoirs	no suitable large waterbody habitat present in study area.
<i>Piranga rubra</i>	Summer Tanager	-/SSC/-	desert riparian areas dominated by cottonwoods and willows	no suitable riparian habitat present in study area
<i>Rallus longirostris yumanensis</i>	Yuma Clapper Rail	E/T,FP/-	freshwater and brackish marshes. Prefers dense cattails, bulrushes, and other aquatic vegetation; nests in riverine wetlands near upland, in shallow sites dominated by mature vegetation, often in the base of a shrub; prefers denser cover in winter than in summer	no suitable marsh habitat present in study area
<i>Toxostoma crissale</i>	Crissal Thrasher	-/SSC/-	dense vegetation along streams and washes with mesquite, willows, and arrowweed	no suitable riparian or desert wash habitat present in study area
<i>Toxostoma lecontei</i>	Le Conte's Thrasher	-/SSC/-	arid and sparsely vegetated desertscrub with saltbush and creosote scrub	no suitable desertscrub habitat present in study area
<i>Vireo bellii arizonae</i>	Arizona Bell's Vireo	-/E/-	riparian areas along the Colorado River from Needles to Blythe	no suitable riparian habitat present in study area
<i>Vireo bellii pusillus</i>	Least Bell's Vireo	E/E/-	riparian areas with willows	no suitable riparian habitat present in study area
Fish				
<i>Cyprinodon macularius</i>	Desert Pupfish	E/E/-	shallow waters of springs, small streams, and marshes. Often associated with areas of soft substrates and clear water	no suitable aquatic habitat present in study area
<i>Ptychocheilus lucius</i>	Colorado Pikeminnow	E/E,FP/-	large-to-medium-sized rivers (adults) and backwaters (juveniles)	no suitable aquatic habitat present in study area
<i>Xyrauchen texanus</i>	Razorback Sucker	E/E,FP/-	large to medium-sized rivers including backwaters	no suitable aquatic habitat present in study area
Invertebrates				

Scientific Name	Common Name	Status (FWS/State/CNPS)	Habitat ^a	Exclusion Justification
<i>Euphydryas editha quino</i>	Quino Checkerspot Butterfly	E/-/-	coastal sage scrub, open chaparral, juniper woodland, and grassland	no suitable scrub, chaparral, woodland, or grassland habitat present in study area
Mammals				
<i>Macrotus californicus</i>	California Leaf-nosed Bat	-/SSC/-	desert riparian, wash, scrub, alkali scrub, and succulent shrub	no suitable riparian, wash, or scrub habitat present in study area
<i>Myotis occultus</i>	Arizona Myotis	-/SSC/-	desert riparian areas	no suitable riparian habitat present in study area
<i>Ovis canadensis nelsoni</i>	Peninsular Bighorn Sheep	E/T,FP/-	arid, precipitous terrain with rocky ridges, slopes, cliffs, and rugged canyons; typical vegetation consists of low shrubs, grasses, and forbs	no suitable rocky cliff habitat present in study area
<i>Taxidea taxus</i>	American Badger	-/SSC/-	drier open stages of most shrub, forest, and herbaceous habitats, with friable soils	no suitable habitat present in study area and no individuals of or burrows attributable to this species observed during surveys
Plants				
<i>Astragalus insularis</i> var. <i>harwoodii</i>	Harwood's Milkvetch	-/-/2B.2	sandy or gravelly areas in Mojavean desertscrub including dunes	no suitable Mojavean desertscrub or dune habitat present in study area and no individuals of this species observed during surveys
<i>Astragalus magdalenae</i> v. <i>peirsonii</i>	Peirson's Milkvetch	T/E/1B.2	desert dunes	no suitable dune habitat present in study area and no individuals of this species observed during surveys
<i>Calliandra eriophylla</i>	Pink Fairy Duster	-/-/2B.3	sandy or rocky Sonoran desertscrub	no suitable Sonoran desertscrub habitat present in study area and no individuals of this species observed during surveys
<i>Carnegiea gigantea</i>	Saguaro	-/-/2B.2	rocky Sonoran desertscrub	no suitable Sonoran desertscrub habitat present in study area and no individuals of this species observed during surveys

Scientific Name	Common Name	Status (FWS/State/CNPS)	Habitat ^a	Exclusion Justification
<i>Colubrina californica</i>	Las Animas Colubrina	-/-/2B.3	Mojavean and Sonoran desertscrub	no suitable desertscrub habitat present in study area and no individuals of this species observed during surveys
<i>Condalia globosa</i> var. <i>pubescens</i>	Spiny Abrojo	-/-/4.2	Sonoran desertscrub	no suitable desertscrub habitat present in study area and no individuals of this species observed during surveys
<i>Croton wigginsii</i>	Wiggins' Croton	-/R/2B.2	sandy Sonoran desertscrub and desert dunes	no suitable desertscrub or dune habitat present in study area and no individuals of this species observed during surveys
<i>Cryptantha holoptera</i>	Winged Cryptantha	-/-/2B.3	Mojavean and Sonoran desertscrub	no suitable desertscrub habitat present in study area and no individuals of this species observed during surveys
<i>Digitaria californica</i> v. <i>californica</i>	Arizona Cottontop	-/-/2B.2	Mojavean and Sonoran desertscrub	no suitable desertscrub habitat present in study area and no individuals of this species observed during surveys
<i>Ditaxis claryana</i>	Glandular Ditaxis	-/-/2B.3	sandy Mohavean and Sonoran desertscrub	no suitable desertscrub habitat present in study area and no individuals of this species observed during surveys
<i>Horsfordia newberryi</i>	Newberry's Velvet Mallow	-/-/4.2	rocky Sonoran desertscrub	no suitable desertscrub habitat present in study area and no individuals of this species observed during surveys
<i>Juncus acutus</i> ssp. <i>leopoldii</i>	Southwestern Spiny Rush	-/-/2B.2	mesic coastal dunes, alkaline seeps, and coastal salt marshes and swamps	no suitable dune or marsh habitat present in study area and no individuals of this species observed during surveys

Scientific Name	Common Name	Status (FWS/State/CNPS)	Habitat ^a	Exclusion Justification
<i>Koerberlinia spinosa ssp. tenuispina</i>	Slender-spined Allthorn	-/-/4.3	riparian woodland and Sonoran desertscrub	no suitable riparian or desertscrub habitat present in study area and no individuals of this species observed during surveys
<i>Nama stenocarpum</i>	Mud Nama	-/-/2B.3	marshes and swamps on lake margins and riverbanks	no suitable marsh habitat present in study area and no individuals of this species observed during surveys
<i>Palafoxia arida v. gigantea</i>	Giant Spanish Needle	-/-/2B.2	desert dunes	no suitable dune habitat present in study area and no individuals of this species observed during surveys
<i>Panicum hirticaule ssp. hirticaule</i>	Roughstalk Witchgrass	-/-/2B.1	sandy, silty depressions in desert dunes and Mojavean and Sonoran desertscrub	no suitable dune or desertscrub habitat present in study area and no individuals of this species observed during surveys
<i>Penstemon pseudospectabilis ssp. pseudospectabilis</i>	Desert Beardtongue	-/-/4.2	sandy, sometimes rocky, washes in Mojavean and Sonoran desertscrub	no suitable desertscrub habitat present in study area and no individuals of this species observed during surveys
Reptiles				
<i>Gopherus agassizii</i>	Mohave Desert Tortoise	T/T/-	valleys, bajadas, and hills in Mojavean and Sonoran desertscrub with sandy loam to rocky soils	no suitable desertscrub habitat present in study area
<i>Heloderma suspectum cinctum</i>	Banded Gila Monster	-/SSC/-	Mojavean desertscrub, primarily in desert mountain ranges	no suitable desertscrub habitat present in study area
<i>Ptychosoma mcallii</i>	Flat-tailed Horned Lizard	-/SSC/-	desert and alkali scrub, washes, and succulent shrub areas with fine sand and sparse vegetation	no suitable desertscrub habitat present in study area

^aHabitat descriptions from California Department of Fish and Wildlife California Wildlife Habitat Relation System, California Native Plant Society Rare and Endangered Plant Inventory, and Arizona Game and Fish Department Heritage Data Management System online species abstracts and U.S. Fish and Wildlife Service Environmental Conservation Online System species profiles.

Key: FWS = U.S. Fish and Wildlife Service; CNPS = California Native Plant Society; E = Endangered; T = Threatened; C = Candidate; P = Proposed; SSC = Species of Special Concern; R = Rare; FP = Fully Protected; WL = Watchlist; 1B = Plants Rare, Threatened, or Endangered in California and Elsewhere; 2B = Plants Rare, Threatened, or Endangered in California, but More Common Elsewhere; 4 = Plants of Limited Distribution – A Watch List; .1 = Seriously Threatened in California; .2 = Moderately Threatened in California; .3 = Not Very Threatened in California.

APPENDIX C. PLANT SPECIES OBSERVED

Table C.1. Plant Species Observed

Family	Scientific Name	Common Name	Noxious Weed Rating
Amaranthaceae	<i>Amaranthus palmeri</i>	Carelessweed	-
Asteraceae	<i>Ambrosia dumosa</i>	White Bursage	-
Chenopodiaceae	<i>Atriplex canescens</i>	Fourwing Saltbush	-
Chenopodiaceae	<i>Chenopodium album</i>	Lambsquarters	-
Boraginaceae	<i>Cryptantha angustifolia</i>	Narrow-leaved Popcornflower	-
Poaceae	<i>Cynodon dactylon</i>	Bermuda Grass	-
Onagraceae	<i>Gaura coccinea</i>	Tall Gaura	-
Malvaceae	<i>Gossypium hirsutum</i>	Cotton	-
Asteraceae	<i>Helianthus annuum</i>	Common Sunflower	-
Asteraceae	<i>Lactuca serriola</i>	Prickly Lettuce	-
Malvaceae	<i>Malva parviflora</i>	Cheeseweed	-
Fabacea	<i>Medicago sativa</i>	Alfalfa	-
Fabacea	<i>Parkinsonia aculeata</i>	Mexican Palo Verde	-
Arecaceae	<i>Phoenix dactylifera</i>	Date Palm	-
Poaceae	<i>Phragmites australis</i>	Common Reed	-
Asteraceae	<i>Pluchea sericea</i>	Arrow Weed	-
Portulacaceae	<i>Portulaca oleraceae</i>	Portulaca	-
Fabacea	<i>Prosopis glandulosa</i>	Honey Mesquite	-
Chenopodiaceae	<i>Salsola kali</i>	Russian Thistle	limited (CIPC)
Salviniaceae	<i>Salvinia molesta</i>	Kariba Weed	high (CIPC)
Poaceae	<i>Sorghum bicolor</i>	Sudangrass	-
Tamaricaceae	<i>Tamarix ramosissima</i>	Salt Cedar	high (CIPC), listed (CDFA)
Typhaceae	<i>Typha latifolia</i>	Cattail	-

Key: CIPC = California Invasive Plant Council, CDFA = California Department of Food and Agriculture.

APPENDIX D. WILDLIFE SPECIES OBSERVED

Table D.1. Wildlife Species Observed.

Scientific Name	Common Name
<i>Ardea alba</i>	Great Egret
<i>Callipepla gambellii</i>	Gambel's Quail
<i>Canis latrans</i>	Coyote
<i>Columba livia</i>	Pigeon
<i>Quiscalus neomexicanus</i>	Grackle
<i>Riparia riparia</i>	Bank Swallow
<i>Zenaida asiatica</i>	White-winged Dove

APPENDIX E. REPRESENTATIVE SITE PHOTOGRAPHS



Photo E.1. First Avenue and E Street, view to north.



Photo E.2. Arnold Road and First Avenue, view to west.



Photo E.3. West end of project corridor on Arnold, view to east.



Photo E.4. Reservation Main Drain at Arnold Road, view to south.



Photo E.5. Arnold and Picacho Roads, view to east.



Photo E.6 Cocopah Canal at Arnold Road, view to north.



Photo E.7. Haughtelin and Perez Roads, view to north.



Photo E.8. Ross and Fisher Roads, view to west.



Photo E.9. Reservation Main Drain at Stalnacker Road, view to north. Note Kariba Weed in canal.



Photo E.10. North end of project corridor on Bard Road, view to south.



Photo E.11. Cocopah Canal at Picacho Road, view to east.



Photo E.12. Pima Canal at Picacho Road, view to east.