Yucca Loma Road/Yates Road/Green Tree Boulevard
Transportation Improvement Project

Biological Assessment for the Southwestern Willow Flycatcher

Town of Apple Valley, City of Victorville, County of San Bernardino:

08 - SBD - STPL-5453(011)

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STATE OF CALIFORNIA
Department of Transportation
Town of Apple Valley, City of Victorville, County of San Bernardino

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Summary of Findings, Conclusions and Determinations

This Biological Assessment (BA) is a review and evaluation of the potential impacts to federally listed species and designated Critical Habitat for those species as a result of the proposed project. The project purpose is to establish an alternate route between the City of Victorville and the Town of Apple Valley in San Bernardino County, California. The project is designed to reduce traffic volume and congestion on the existing routes connecting the City of Victorville and the Town of Apple Valley (Bear Valley Road to the south and State Route 18 [SR-18] to the north), as well as increase residential, commercial, and industrial development in both the City of Victorville and the Town of Apple Valley.

The proposed project will include the widening of Yucca Loma Road from the intersection at Apple Valley Road west to its terminus at the Mojave River, the construction of a new bridge crossing over the Mojave River that connects to the eastern end of Yates Road, the widening of Yates Road from Fortuna Road to Park Road, and the addition of curbs and sidewalks along Yates Road from Park Road to Ridgecrest Road. The project also includes the eastern extension of Green Tree Boulevard from its existing intersection with Hesperia Road to a new connection at the intersection of Ridgecrest Road/Yates Road. A new four-lane bridge will be constructed over the Burlington Northern Santa Fe (BNSF) Railroad. Two alternatives in the western portion of the project area are proposed; the Green Tree South alignment, Alternative A, is centered on the existing property Section Line boundary and impacts four single family residential parcels located between the railroad right-of-way and Hesperia Road. Alternative B, the Green Tree North alignment, shifts the roadway at the western end of the project approximately 150 ft to the north, avoiding the four single family residential parcels. Alternative B is the preferred alternative for this project and will be the project footprint referred to throughout the rest of this document. New access roads would maintain access to the four parcels. Both Green Tree Boulevard alignment alternatives require the construction of a new bridge over the BNSF Railroad which will also be striped for four lanes and include sidewalks. Various utility relocations and realignments will be necessary throughout the project.

An analysis was conducted to assess the biological constraints of the proposed project, the results of which determined that there are several protected environmental resources that may be impacted by the construction of the proposed project. The temporary and permanent impacts of the proposed project are summarized in the Natural Environment Study (NES) prepared for the project in March 2009.

The boundary of the biological study area (BSA), which was determined by the Project Engineer, was defined as the area within which project impacts (e.g., cut slopes, fill areas, temporary access roads, construction staging areas, and etc.) could potentially occur. The BSA encompasses approximately 182.5 acres of desert scrub, desert riparian, streambeds, and disturbed/developed areas. For the purpose of evaluating the biological resources within the BSA, 100% of the BSA was surveyed and additional areas outside of the BSA were also surveyed as required by focused survey protocols for listed wildlife species (i.e. desert tortoise [*Gopherus agassizii*] and burrowing owl [*Athene cunicularia*]).

The proposed project bisects a portion of the Mohave Management Unit of designated Critical Habitat for the federally-listed (endangered) and state-listed (endangered) southwestern willow flycatcher (*Empidonax traillii extimus*). Construction of the proposed bridge over the Mojave River will impact disturbed riparian habitat within the Critical Habitat Unit. Of the approximately 19.8 acres of southwestern willow flycatcher habitat within the BSA, approximately 0.4 acre of suitable southwestern willow flycatcher within the designated Critical Habitat will be impacted by the proposed project. Because the proposed project will impact designated Critical Habitat, a Section 7 Consultation with USFWS will be required. Compensatory mitigation will likely be required to mitigate for the temporary and permanent impacts to southwestern willow flycatcher habitat.

Compensatory mitigation for impacts to riparian areas that fall under the jurisdiction of the U.S. Army Corps of Engineers (ACOE) and the California Department of Fish and Game (CDFG) will be required as a part of the permits for this project. The impacts to the jurisdictional areas overlap with the designated Critical Habitat within the project boundary in the vicinity of the Mojave River. Because compensatory mitigation will be required by the 404 permit and the Streambed Alteration Agreement, the project will actually benefit the southwestern willow flycatcher by restoring suitable habitat in areas where the habitat has been severely degraded. The area identified for habitat enhancement is along the north side of Yates Road, from the western edge of the Mojave River west for approximately 3,200 feet. Two potential mitigation areas are proposed that total approximately 13.794 acres. These two areas have been identified for enhancement and restoration because they are located within the Critical Habitat Unit and because the habitat is severly degraded. These areas provide a good opportunity to improve habitat within this portion of the Critical Habitat Unit so they are proposed to be cleared of exotic invasive vegetation and then replanted with plant species characteristic of the Mojave riparian forest plant community.

Coordination and negotiations with USFWS will be conducted to avoid, minimize, and mitigate the impacts to Critical Habitat for the southwestern willow flycatcher.

Table of Contents

List of Figures

List of Tables

List of Abbreviated Terms

°	degrees
ACOE	Army Corps of Engineers
amsl	above mean sea level
BA	Biological Assessment
BMP	Best Management Practice
BNSF	Burlington Northern Santa Fe
BO	Biological Opinion
BSA	Biological Study Area
CAL-IPC	California Invasive Plant Council
Caltrans	California Department of Transportation
CDFG [Department]	California Department of Fish and Game
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CSC	California Species of Concern
District	Flood Control District
Dokken	Dokken Engineering
ECORP	ECORP Consulting, Inc.
ESA(s)	Environmentally Sensitive Area(s)
F	Fahrenheit
FESA	Federal Endangered Species Act
FMP	Floodplain Maintenance Plan
ft	foot/feet
GEC	Gonzales Environmental Consulting
in	inch(es)
LRWQCB	Lahontan Regional Water Quality Control Board
MBTA	Migratory Bird Treaty Act
mi	mile(s)
NEPA	National Environmental Policy Act
NES	Natural Environment Study
OHV	off-highway vehicle
PCE(s)	Primary Constituent Element(s)
SER	Standard Environmental Reference
sp(p)	species (singular and plural)
SR	State Route
U.S.	United States
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
ZOI	zone of influence

Chapter 1. Introduction

The purpose of this biological assessment (BA) is to provide technical information and to review the proposed project in sufficient detail to determine to what extent the proposed project may affect threatened, endangered, or proposed species. The BA is prepared in accordance with legal requirements found in Section 7 (a)(2) of the Federal Endangered Species Act (FESA) (16 U.S. C 1536(c)) and with Federal Highway Administration and California Department of Transportation (Caltrans) regulation, policy and guidance. The document presents technical information upon which later decisions regarding project impacts are developed.

An alternate route connecting the City of Victorville and the Town of Apple Valley located in the County of San Bernardino, California, is proposed with regard to a Mojave River bridge crossing connecting Yucca Loma Road in Apple Valley and Yates Road in Victorville. Expansion of Yates Road/Ridgecrest Road and extension of Green Tree Boulevard are included in this proposed project. The purpose of this project is to reduce traffic volume and congestion on the existing routes connecting the City of Victorville and the Town of Apple Valley (Bear Valley Road to the south and State Route 18 [SR-18] to the north), as well as increase residential, commercial, and industrial development in both the City of Victorville and the Town of Apple Valley.

Critical Habitat for the federally and state-listed (endangered) southwestern willow flycatcher (*Empidonax traillii extimus*) is present within the desert riparian habitat in the project area. Both temporary and permanent impacts to habitat acreage are expected to occur. This BA addresses avoidance and minimization efforts and compensatory mitigation required for the proposed project as well as projected cumulative effects on the southwestern willow flycatcher.

1.1. Project History

Currently, direct road connection across the Mojave River between the City of Victorville and the Town of Apple Valley is limited to Bear Valley Road and State Route 18 This route becomes very congested at peak travel times, causing delays in local transit. The purpose of the proposed project is to create an alternate route connecting the City and the Town over the Mojave River. The construction of this alternate route will increase the traffic volume that Yucca Loma Road, Yates Road, and Green Tree Boulevard will accommodate, improve efficiency in the current transportation system in both the City and the Town, and allow increases in residential, commercial, and industrial development in both the City and the Town.

The proposed project complies with the General Plans for both the City of Victorville and the Town of Apple Valley, as well as the General Plan for the Desert Region of San Bernardino County. The General Plans for the City of Victorville and the Town of Apple Valley both address the issue of building an all-weather crossing that connects the Town of Apple Valley and the City of Victorville. In addition, both General Plans note that the project will be undertaken jointly by the Town of Apple Valley and City of Victorville. The General Plan for the Desert Region of the County of San Bernardino supports effective local transportation systems and the improvement in providing adequate traffic movement while preserving the character of the desert region. The Mojave River bridge crossing, Yates Road Expansion, and Green Tree Boulevard extension are presented in the Major Roads and Freeways section of the County's General Plan.

1.2. Project Description

The proposed project will provide a new route across the Mojave River between the Town of Apple Valley, County of San Bernardino, and City of Victorville (Figure 1). The eastern limit of the project is at the intersection of Yucca Loma Road and Apple Valley Road. The western limit is at the intersection of Green Tree Boulevard and Hesperia Road.

The project will widen Yucca Loma Road from two to four lanes from Apple Valley Road to its current terminus east of Kasanka Trail. A new bridge crossing of the Mojave River will be constructed extending the roadway to Yates Road. This bridge will be built wide enough for an ultimate build out use of six lanes but will be striped for four lanes. The bridge will also have shoulders and sidewalks. Space for sidewalks will be allowed on both sides of Yucca Loma Road; however, it is anticipated that sidewalk will only be built on one side of the street as part of this project. A new signal with crosswalks is planned at Havasu Road.

Yates Road will be widened from two lanes to four lanes. From Fortuna Lane to Park Road actual roadway widening is necessary. From Park Road to Ridgecrest Road, Yates Road is currently built wide enough for four lanes, but has been striped and used for two lanes of traffic. Pavement rehabilitation and restriping is needed in this area. Yates Road as it connects to Ridgecrest Road will be realigned to the east to allow connection to an extension of Green Tree Boulevard. A pedestrian path is planned along the north side of Yates Road, connecting from the bridge over the Mojave River to Ridgecrest Road and Green Tree Boulevard.

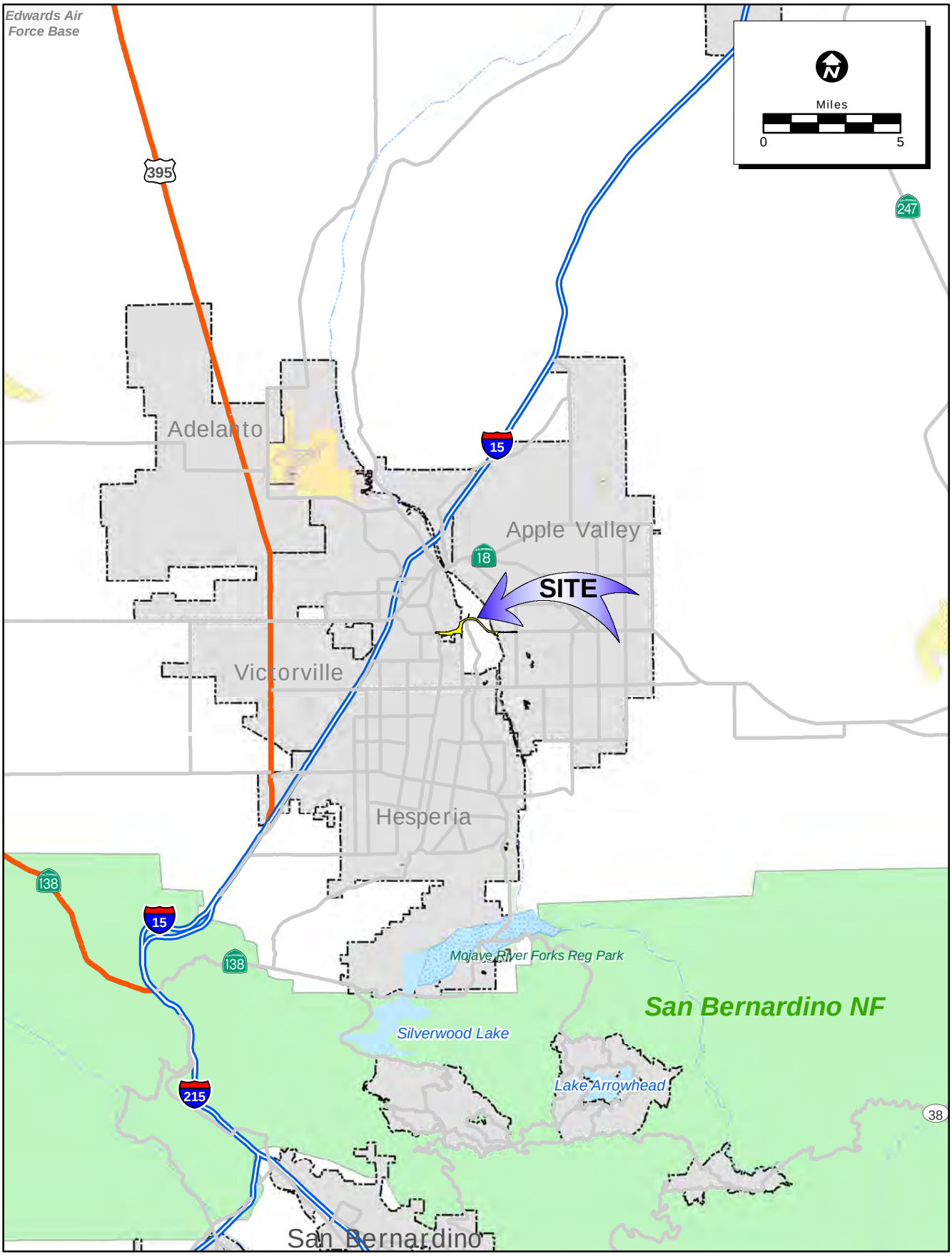

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Figure 1. Vicinity Map

2007-173 Yucca Loma Bridge

Ridgecrest Road will be realigned, at its current width, from approximately 500 feet (ft) south of Chinquapin Drive to a new intersection of Yates Road and the extension of Green Tree Boulevard. Signals are planned at the new intersection and sidewalks will connect the three streets.

Green Tree Boulevard will be extended with four through travel lanes from the new Ridgecrest Road/Yates Road intersection to Hesperia Road by following one of two alternate alignments. The Green Tree South alignment, Alternative A, is centered on the existing property Section Line boundary and impacts four single family residential parcels located between the railroad right-of-way and Hesperia Road. Alternative B, the Green Tree North alignment, shifts the roadway approximately 150 ft to the north, avoiding the four single family residential parcels. Alternative B is the preferred alternative for this project and will be the project footprint referred to throughout the rest of this document. New access roads would maintain access to the four parcels. Grading would allow for sidewalk to be built on both sides of the roadway; however, construction of sidewalks is anticipated to occur as development in the area occurs. Both Green Tree Boulevard alignment alternatives require the construction of a new bridge over the BNSF Railroad which will also be striped for four lanes and include sidewalks. Various utility relocations and realignments will be necessary throughout the project.

The project impact area in which all construction activities will occur is illustrated in Figure 2. The project area is not located within the state highway system and lies within the SE ¼ of the Victorville, SW ¼ of the Apple Valley North, and NE ¼ of the Hesperia United States Geological Survey (USGS) 7.5 minute quadrangles, between the elevations of 2,760 to 2,780 ft above mean sea level (amsl). Since the project is located in three different jurisdictions, it is anticipated construction will occur under multiple construction contracts and during different construction seasons. Construction may begin as early as 2010. Construction work will only be conducted during daylight hours. The project will not result in a change in current traffic patterns; therefore, road detours are not required. The proposed project is balanced with regard to borrow and export and therefore, the borrow and disposal sites are minimal and will be selected at environmentally compliant locations by the contractor prior to ground breaking construction. Although utility plans have not yet been finalized, all utility relocations and construction will occur within the project footprint.

As part of the project, two areas have been identified for enhancement and restoration of Mojave riparian forest vegetation. These areas, totaling approximately 13.794 acres, are located along the north side of Yates Road, from the western edge of the Mojave River, west for approximately 3,200 feet. The goals for the enhancement of these areas include removing an old diversion wall that parallels

Yates Road and restoring the natural hydrology. Much of the riparian vegetation in this area has died as a result of historic diversions in the Mojave River. Once the hydrology is restored, then the areas will be revegetated with native plants and the area will be restored to a functional riparian community.

One of these areas consists of an old debris basin that has become very degraded by off-road vehicle use, trash dumping, and other human-caused disturbances. The historic vegetation was Mojave riparian forest but now it is degraded by invasive exotic plant species and weeds with remnants of the riparian plant community. This basin area, which encompasses an area of approximately 1.99 acres, will be partially impacted by the widening of Yates Road (1.09 acres of impact). The enhancement plan will include grading to restore the hydrology in the basin after the widening of Yates Road is completed. The function of the basin will be restored as a result of the re-grading and replanting with native vegetation.

The second area comprises approximately 12.69 acres. This larger area has also been very disturbed by off-highway vehicle activities, trash dumping, and other human disturbances. Much of the vegetation in this area is comprised of disturbed rabbitbrush scrub but there are also smaller patches of disturbed Mojave riparian forest present as well. However, the patches of Mojave riparian forest primarily consist of very old, mostly dead, and widely-spaced trees. This area will be enhanced by removing non-native and weedy species and then it will be planted with native plants that are characteristic of the Mojave riparian forest plant community. This will ultimately increase the quality and number of acres of habitat available for the southwestern willow flycatcher.

A number of avoidance and minimization measures have been incorporated into the project description for the purpose of avoiding and minimizing impacts to sensitive resources. Environmentally Sensitive Areas (ESAs) will be identified by a qualified biologist prior to construction and will include southwestern willow flycatcher Critical Habitat located outside the project footprint. Southwestern willow flycatcher habitat includes all desert riparian habitats present on the site (Mojave riparian forest and southern willow scrub).

1.2.1. Project Avoidance and Minimization Efforts

The project has been designed to avoid and minimize impacts to southwestern willow flycatcher Critical Habitat to the maximum extent possible. The measures that have been included in the project design include designating temporary work areas (such as construction staging areas and access roads) and staking these boundaries to contain construction activities. A biological monitor will be present on the site during fencing of ESAs, vegetation removal, and periodically during the nesting season for

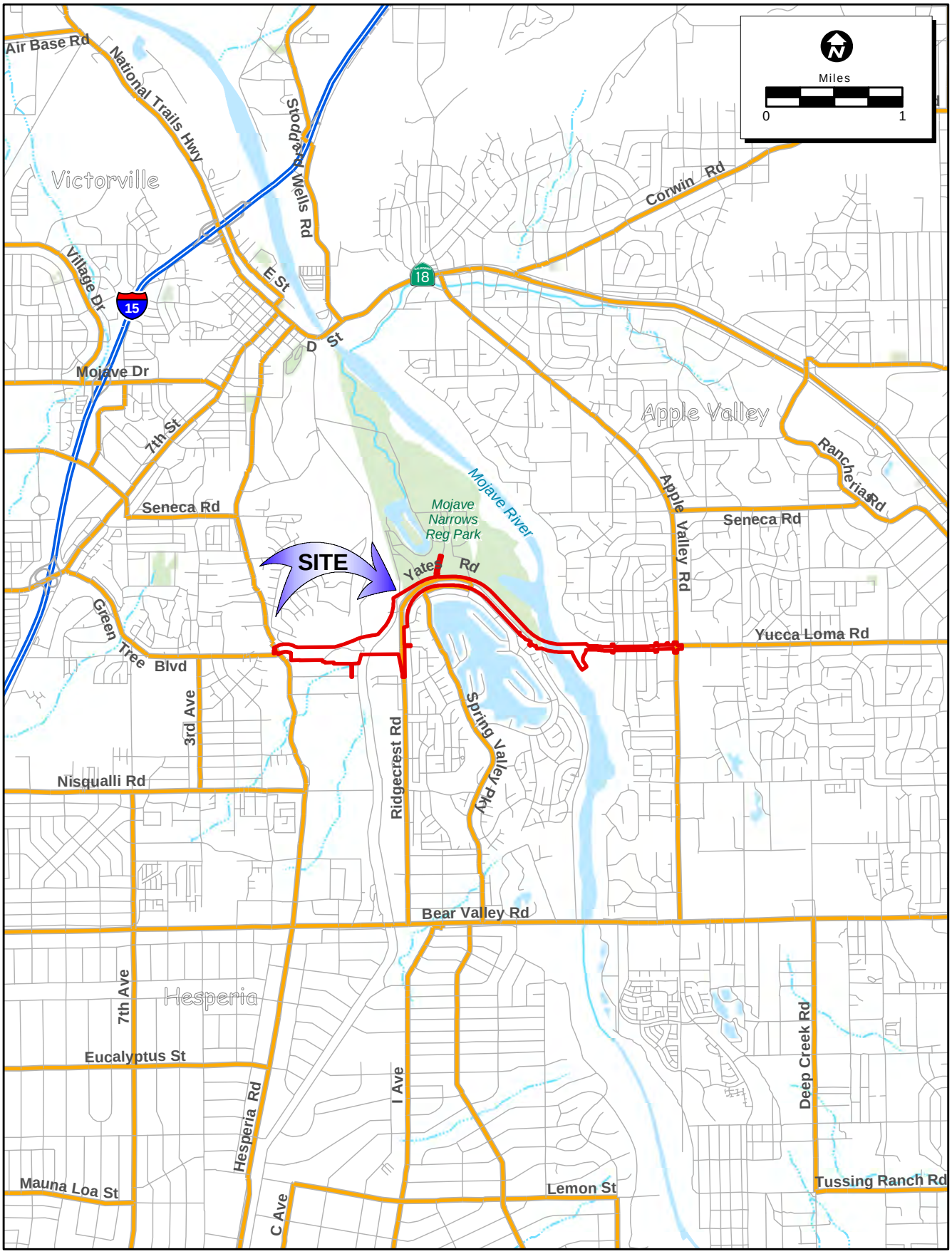

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Figure 2. Locality Map

2007-173 Yucca Loma Bridge

the duration of construction activities if construction is to occur within the breeding season (March 1 through August 31). A pre-construction survey will be conducted to determine the presence of any sensitive biological resources prior to the start of construction. Lastly, project personnel will be educated regarding the southwestern willow flycatcher and the sensitive biological resources present on the site. Detailed project avoidance and minimization efforts can be found in Section 4.2.1.4.

1.2.2. Project Impacts to Southwestern Willow Flycatcher

Impacts to designated Critical Habitat for the southwestern willow flycatcher resulting from project construction are expected to occur in the form of permanent and temporary direct and indirect impacts. Approximately 19.80 acres of southwestern willow flycatcher Critical Habitat occur within the BSA. Permanent direct impacts resulting from the construction of the bridge over the Mojave River include the loss of approximately 0.42 acre of Mojave riparian forest. Approximately 0.47 acre of Mojave riparian forest may be temporarily affected by the project, including the areas immediately adjacent to the bridge construction (100 ft buffer on either side of bridge construction) and the areas where the road widening along Yates Road (20 ft buffer on either side of road construction) will occur. Additionally, the enhancement of the areas north of Yates Road will include activities associated with removing exotic plants species and some minimal grading to remove old flood control structures. These activities will occur within designated Critical Habitat for the southwestern willow flycatcher but the activities will have minimal impacts to existing riparian plants. The restoration of these areas will restore higher quality habitat for the flycatcher.

Indirect impacts to designated Critical Habitat for the southwestern willow flycatcher could potentially occur during construction of the bridge over the Mojave River. Temporary impacts may include increased noise levels, increased human activity and visual disturbance, increased dust, and ground disturbance. Once the bridge construction is completed, the impacts associated with increased human activities, visual disturbances, increased dust, and ground disturbance are expected to either be eliminated completely or reduced to low or infrequent levels. After construction is complete, when the bridge becomes actively used, there will be ongoing indirect impacts associated with traffic and traffic noise and potential disturbances from night lighting on the bridge.

Project impacts are described in detail in Section 4.2.1.5.

1.2.3. Summary of Consultation to Date

Consultation presented in this section includes discussions with agencies pertaining to the technical studies performed in the BSA and in support of permitting activities related to impacts to areas that fall under the jurisdiction of the California Department of Fish and Game (CDFG) and U.S. Army Corps of Engineers (ACOE).

United States Fish and Wildlife Service

Kate Eschelbach, USFWS Wildlife Biologist, attended the project kick off meeting July 25, 2007. She provided a map showing the location of designated Critical Habitat for the southwestern willow flycatcher on July 26, 2007. She was also coordinated with during June 2008, as Dokken began geotechnical borings within the Mojave River (because it is designated Critical Habitat for the southwestern willow flycatcher). Ms. Eschelbach agreed that a draft BA would be necessary for the project and the impacts to designated Critical Habitat.

California Department of Fish and Game

Tonya Moore, CDFG Environmental Specialist, attended the project kick off meeting on July 25, 2007.

A Section 1602 Notification was sent to CDFG Region 6 on April 7, 2006 to inform the Department of geotechnical investigations necessary for design of the Yucca Loma Road Bridge. The project received written permission from Chris Hayes, CDFG Deputy Regional Manager, to enter CDFG lands for these activities. A 1602 Notification will be submitted to CDFG for obtaining a Lake and Streambed Alteration Agreement (Section 1600 of State of California Fish and Game Code).

Ms. Moore was also contacted on August 11, 2008 regarding potential Mohave ground squirrel habitat and to give her an update on the project. A Mohave ground squirrel habitat evaluation was submitted to CDFG, attention Tonya Moore, October 10, 2008.

A meeting with Ms. Moore and Eric Weiss of CDFG, Scott Quinnell of Caltrans, Brad Miller and Mark Abbott from the Town of Apple Valley, and representatives from ECORP and Dokken occurred on February 9, 2009. The meeting was held in order to discuss impacts associated with the project on CDFG jurisdictional features, Mohave ground squirrel, and southwestern willow flycatcher Critical Habitat.

Army Corps of Engineers

A preliminary jurisdictional delineation report for the project was submitted to Shannon Pankratz at the ACOE on March 30, 2009. In compliance with the Clean Water Act, the Town of Apple Valley will apply for a Nationwide Permit (Section 404) through the ACOE. A 401 Water Quality Certification through the Lahontan Regional Water Quality Control Board (LRWQCB) will accompany the Section 404 Nationwide Permit.

Regional Water Quality Control Board

On April 7, 2008, Mike Plaziak of the LRWQCB, was sent a General 401 Water Quality Certification Order to notify the LWQCB of geotechnical investigations required for design of the Yucca Loma Road Bridge. These project activities were approved by the LRWQCB in June 2008.

A meeting was held on January 28, 2009 with Mary Dellavalle and Cindy Mitton of LRWQCB, Brad Miller and Mark Abbott from the Town of Apple Valley, and representatives from Dokken to introduce the project and to discuss potential project features that may be of interest to LRWQCB and mitigation ideas.

1.3. Document Preparation History

This BA was prepared by Dokken Engineering, Inc. (Dokken) and ECORP Consulting, Inc. (ECORP) in late 2008/early 2009. Preparation of this document followed the preparation of the Natural Environment Study (NES) for the project. Basic preparers for the BA are as follows:

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Chapter 2. Study Methods

2.1. Listed and Proposed Species Potentially in the Biological Study Area

2.1.1. Plant Species

A literature review and a search of the California Natural Diversity Database (CNDDB) (CNDDB 2008) and the California Native Plant Society (CNPS) Online Rare Plant Inventory (CNPS 2008) were conducted of the Victorville, Hesperia, and Apple Valley South USGS 7.5' quadrangles and the surrounding 7 quads (Adelanto, Apple Valley North, Baldy Mesa, Fairview Valley, Fifteenmile Valley, Helendale, and Turtle Valley) to determine the potential for listed species or species proposed for listing under the FESA to occur in the project area. The literature review and database searches did not identify any listed plant species, or plants species that have been proposed for listing, as potentially occurring in the project area. The project area either does not support habitat where listed desert plant species are expected to occur, or the ranges of these species do not include the project area.

2.1.2. Wildlife Species

Based on results of the literature search (CNDDB 2008), the results from other local biological studies, and the input provided by agency staff and independent biologists who are familiar with the project region, the State and Federal listed animal species in Table 1 were found to have potential to occur in the project region or within the project vicinity.

Additional California Species of Concern (CSC) may occur in the project region based on habitat assessments and current literature search results (CNDDB 2008). Some of these species are birds that are also protected under the Migratory Bird Treaty Act of 1918 (MBTA) (USFWS 1918), or as fully protected species under CDFG Fish and Game Code sections Section 3503 and 3503.5.

Table 1: Federally Listed Wildlife Species Documented Within the Project Region

Scientific Name **Common Name**	**Status**	**Potential of Occurrence and Habitat Preferences**
FISHES		
Gila bicolor mohavensis Mohave tui chub	Fed: END CA: END	**Presumed Absent**: Habitat not present on the site – no suitable permanent water sources in the project area. Found only in a few isolated ponds in the Mojave River Watershed.
AMPHIBIANS		
Rana aurora draytonii California red-legged frog	Fed: THR CA: CSC	**Presumed Absent**: Habitat not present on the site – no suitable permanent water sources in the project area. Found in lowlands and foothills in or near deep permanent water sources with dense or shrubby riparian vegetation.
REPTILES		
Gopherus agassizi Mojave desert tortoise	Fed: THR CA: THR	**Presumed Absent**: Habitat is present, however tortoises and sign were not observed during focused 2008 surveys. Prefers creosote bush scrub, arid sandy washes and canyon bottoms.
BIRDS		
Coccyzus americanus occidentalis western yellow-billed cuckoo	Fed: FC CA: END	**Low**: Marginal habitat is present for this species and the record is historical. Found in very dense riparian habitat of larger river systems.
Empidonax traillii extimus southwestern willow flycatcher	Fed: END CA: END	**Species Present, Not Breeding**: Habitat is present, migratory individuals observed during 2007 and 2008 focused surveys. One recent record exists for this species nearby. Inhabits riparian woodland habitats. Project is located in Critical Habitat
Vireo bellii pusillus least Bell's vireo	Fed: END CA: END	**Presumed Absent**: Species not detected during focused surveys in 2006 and 2008. The species has been observed in the Mojave Narrows Regional Park adjacent to the project area during surveys this year and in previous years. Nests in low riparian habitat in the vicinity of water or dry river bottoms below 2,000 ft amsl.

Federal Designations
(FESA, USFWS)
END: Federally listed, endangered
THR: Federally listed, threatened
FC: Candidate for federal listing

State Designations:
(CESA, CDFG)
END: State-listed, endangered
THR: State-listed, threatened
CSC: California Species of Concern

Potential for Occurrence Criteria:
Present: Species was observed on site during a site visit or focused survey.
High: Habitat for the species occurs on site and a known occurrence has been recorded within 5 mi of the site.
Moderate: Either habitat (including soils and elevation factors) for the species occurs on site and a known occurrence occurs within the database search, but not within 5 mi of the site; or a known occurrence occurs within 5 mi of the site and marginal or limited amounts of habitat occurs on site.
Low: Limited habitat for the species occurs on site and a known occurrence occurs within the database search, but not within 5 mi of the site, or suitable habitat strongly associated with the species occurs on site, but no records were found within the database search.
Presumed Absent: Focused surveys were performed on the project site and the species was not observed, or species was found within the database search, but habitat do not exist on site or the known geographic range of the species does not include the survey area.

Source: California Natural Diversity Data Base (CNDDB, 2008) Adelanto, Apple Valley North, Apple Valley South, Baldy Mesa, Fairview Valley, Fifteenmile Valley, Helendale, Hesperia, Turtle Valley, Victorville 7.5 minute USGS quads.

2.2. Studies Required

In order to comply with the provisions of various State and Federal environmental statutes and executive orders, the potential impacts to natural resources of the region were investigated and documented. Dokken provided ECORP with a digital version of the maps showing the project footprint and the area of potential impacts. Using the project area boundaries, a list of sensitive species and habitats within the project region was developed based on information compiled by USFWS, CDFG, the CNDDB, the CNPS, and other current publications. The project site was field reviewed to identify habitat types, potential wetlands, potential for rare species, sensitive water quality receptors, and potential problem areas for the study.

The biological study area (BSA) was determined based on maps provided by Dokken and includes approximately 182.531 acres of desert scrub, desert riparian, streambeds, and disturbed/developed areas. The entire BSA was surveyed during the focused wildlife and plant surveys conducted in spring 2008, and in some cases, additional buffer areas surrounding the BSA required survey coverage according to certain survey protocols (sensitive plants, burrowing owl, and desert tortoise surveys).

Focused protocol surveys were conducted for sensitive plant species within the BSA to determine if any listed plants were present. In addition, focused surveys were also conducted for the federally and state-listed (endangered) least Bell's vireo (*Vireo bellii pusillus*), the federally and state-listed (endangered) southwestern willow flycatcher, and the federally and state-listed (threatened) desert tortoise (*Gopherus agassizii*). A focused survey protocol has not been established for the federal candidate and state-listed (threatened) western yellow-billed cuckoo but the nesting period for this species does overlap the survey periods for the least Bell's vireo and southwestern willow flycatcher. Therefore, it was determined that the focused surveys for the vireo and the flycatcher would be adequate to detect the cuckoo if it was present. The results of the literature review determined that suitable habitat for the California red-legged

frog and the Mohave tui chub is not present in the BSA, so focused surveys were not conducted for these two species. Additional focused surveys were also conducted for the CSC burrowing owl (*Athene cunicularia*). A habitat evaluation for the state-listed threatened Mohave ground squirrel (*Spermophilus mohavensis*) and a jurisdictional delineation were also conducted. ECORP biologists surveyed 100% coverage of the site during the focused surveys. Several surveys required an additional buffer area to be surveyed for 100% coverage as well, such as sensitive plants (100 ft buffer), burrowing owl (500 ft), and desert tortoise (5 concentric transect lines around the project boundaries at 100, 300, 600, 1,200, and 2,400 ft).

Southwestern willow flycatcher survey dates and personnel are found in Section 2.3 (*Personnel and Survey Dates)* and survey results for southwestern willow flycatcher are found in Section 4.2.1.2 (*Southwestern Willow Flycatcher Survey Results)*. Appendix A contains the focused survey report for the southwestern willow flycatcher, which was prepared by Gonzales Environmental Consulting, and the data sheets from the focused surveys for both the least Bell's vireo and the desert tortoise.

2.2.1. Federal Endangered Species Act Summary

The FESA of 1973 (16 U.S.C. section 1531 et seq.) provides for the conservation of endangered and threatened species listed pursuant to section 4 of the Act (16 U.S.C. section 1533) and the ecosystems upon which they depend. Two sections of this law mandate protection for species in this category: ESA § 9: *It is unlawful for anyone to "take" a listed animal. Take may be direct, e.g., harming or killing species, and indirect, e.g., by significantly modifying its habitat in such a way that it causes harm to the species* (USFWS 1973). The second part, Section 7 of the Act (16 U.S.C. section 1536) requires Federal agencies to ensure that actions they authorize, fund or carry out are not likely to jeopardize the continued existence of threatened or endangered species or result in the destruction or adverse modification of Critical Habitat for these species. The USFWS administers this federal program.

2.3. Personnel and Survey Dates

Southwestern Willow Flycatcher

Six presence/absence surveys for the southwestern willow flycatcher were conducted in suitable habitat areas within the BSA on May 29, June 10, 11, 21 and 29, and July 15, 2008. The surveys were conducted by Ms. Teresa Gonzales, of Gonzales Environmental Consulting (GEC), who utilized the protocol guidelines detailed in *A Southwestern Willow Flycatcher Natural History Summary and Survey Protocol* (Sogge, et.al. 1997). Ms. Gonzales, who holds a federal 10(a)(1)(A) permit for this

species (Permit # TE-060175-1), has extensive experience with the calls, vocalizations, and plumage characteristics of the southwestern willow flycatcher.

A previous set of focused protocol surveys were also conducted in suitable habitat in the project area during 2006. These surveys were conducted between May 31 and July 11, 2006 by Mr. Brian Leatherman, who holds a federal 10(a)(1)(A) Permit (TE 827493-4) for the southwestern willow flycatcher.

Detailed survey results and natural history of the southwestern willow flycatcher are provided in Section 4.2.1.

Least Bell's Vireo Surveys

Least Bell's vireo presence/absence surveys were conducted by qualified biologists familiar with least Bell's vireo adult and juvenile songs, calls, and plumage characteristics. ECORP biologists Sophia Chiang, Kristen Mobraaten, Mari (Schroeder) Quillman, Scott Taylor, and Christine Tischer conducted eight focused surveys on April 14 and 25, May 6 and 20, June 4 and 18, and July 3 and 15, 2008 using the 1992 USFWS Least Bell's Vireo Survey Guidelines and the 2001 Modifications to the Survey Guidelines (USFWS 1992b, 2001).

Least Bell's vireo protocol surveys were also conducted by ECORP biologists Brian Leatherman, Mari (Schroeder) Quillman, and Christine Tischer on the project site between May 17 and July 31, 2006.

Desert Tortoise Surveys

Desert tortoise presence/absence surveys were conducted by qualified biologists that have attended the Desert Tortoise Surveying, Monitoring, and Handling Techniques Workshop presented by the Desert Tortoise Council (Desert Tortoise Council 2008). The biologists have extensive experience in identifying tortoises, scat, shelter sites, carcasses, and other tortoise sign. ECORP biologists Brad Haley, Kristen Mobraaten, Danica Schaffer-Smith, and Barbara Stein conducted the protocol zone-of-influence (ZOI) survey on June 9 and 10, 2008 using the 1992 USFWS Desert Tortoise Survey Protocols (USFWS 1992a).

2.4. Agency Coordination and Professional Contacts

This section will be expanded based on the informal consultation with the USFWS.

2.5. Limitations That May Influence Results

The results of the focused surveys were not subject to any limitations. The surveys were all conducted during the correct survey seasons and during appropriate survey conditions. Standard presence/absence surveys were used in adherence with the accepted protocol guidelines.

Chapter 3. Results: Environmental Setting

The project is located in the Physiographic Province of the Mojave Desert in the southwestern portion of San Bernardino County. The proposed project area occurs in the western portion of the Mojave Desert and receives low levels of precipitation while experiencing high levels of evaporation. High temperatures, low rainfall, and low humidity are present during the summer, with temperatures regularly exceeding 100º Fahrenheit (F). Winter temperatures are cold and can be below freezing. This area of the western Mojave Desert receives on average about 6 inches (in) of precipitation per year (Weather Underground 2008). The region receives the majority of its precipitation during the winter period in the form of rain and irregular snowstorms; however, snowstorms are more prevalent at the higher elevations.

The region is bound on the west and south by the Tehachapi, San Gabriel, and San Bernardino Mountains, which block many of the moisture bearing westerly winds from the coast forming a “rain shadow”. Due to the lack of significant moisture in the desert during most of the year, soils are typically poorly developed and very thin. In addition, the soil texture in this region is sandy and does not hold water well. The combination of cold winter temperatures, low precipitation levels, low soil moisture content, lack of protective vegetation cover, and poor soil nutrient levels create a harsh and unique environment for many plant species to become established and grow.

3.1. Description of Existing Biological and Physical Conditions

3.1.1. Biological Study Area

The proposed project is located in the City of Victorville, Town of Apple Valley, and San Bernardino County, California. The project crosses the Mojave River in the eastern end of the study area. Residential development borders the Yucca Loma Road portion of the project and borders the Yates Road portion on the south side. To the north of Yates Road, the project area lies adjacent to the Mojave Narrows Regional Park, which is owned and operated by San Bernardino County Department of Regional Parks and the California Wildlife Conservation Board. West of the park, the project crosses the BNSF Railroad line and west of the railroad, the project area passes between scattered residential developments.

The BSA is located within the project impact area boundaries (as described above) provided by Dokken, and includes approximately 182.531 acres of desert scrub, desert riparian, streambeds, and disturbed/developed areas (Figure 3). During the focused wildlife and plant surveys, the biologists surveyed 100% of the BSA, as well as additional

buffer areas surrounding the BSA, when required by protocol (sensitive plants, burrowing owl, and desert tortoise surveys).

The BSA is located downstream of the Lower Narrows section of the Mojave River. The project spans the Mojave River channel, which is an intermittent stream that currently contains scattered patches of desert riparian vegetation. The vegetation along the channel and particularly the dense riparian vegetation in the Mojave Narrows Regional Park provides a valuable resource for the regional wildlife. Representative site photos are presented in Figure 4.

3.1.2. Physical Conditions

Geology

The Mojave Desert Province, a geologically defined region in which Victorville and Apple Valley are located, is characterized by dry lakes (playas), alluvial fans, and low mountains. The playas consist of deposits of saturated alluvium and impervious clay and remnants of numerous ancient lakes that were in the region during the Pleistocene Era. A general warming trend that began toward the end of the Pleistocene resulted in the gradual "drying up" of the lakes. Prior to the Pleistocene Era, the Mojave River was a south-flowing river. The "collision" between the North American and Pacific Plates resulted in a geologic up-lifting and creation of the San Bernardino Mountain chain which resulted in a flow reversal of the Mojave River.

Topography

The project area lies between the elevations of 2,760 and 3,000 ft amsl. In the western part of the project area, the site's topography is comprised of a fairly broad valley floor that is juxtaposed between two areas with fairly steep, rolling hills. The project area circumvents the Spring Valley Lake residential development, following Yates Road, and eventually crosses the Mojave River. This portion of the project area is comprised of mostly flatter areas, formed partially as a result of former agricultural activities, and gentle slopes associated with the Mojave River floodplain. The Mojave River floodplain, which is a state and federal jurisdictional waterbody, is broad and has been partially leveed to direct flood flows out of developed zones (Figure 5).

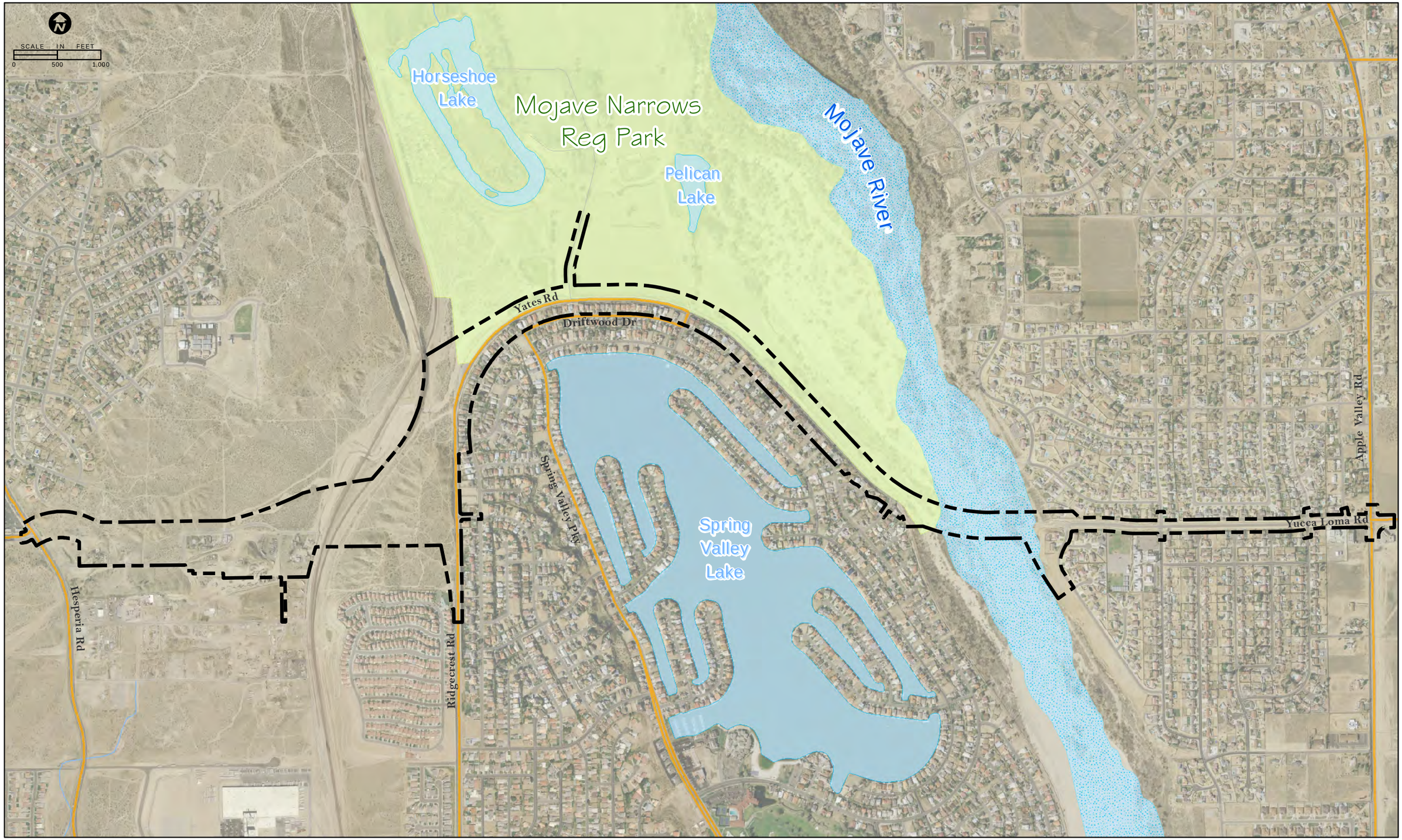

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Photo: DigitalGlobe March 2008
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Figure 3. Biological Study Area

2007-173 Yucca Loma Bridge

Looking west from the terminus of Yucca Loma Road

Looking north along Yates Road

Figure 4. Representative Site Photos

North of Yates Road, west of Mojave Narrows Regional Park entrance

Looking west along Yates Road/Ridgecrest Road

Figure 4. Representative Site Photos, Continued

Looking east along Coad Road, west of BNSF railroad tracks

Looking west along Coad Road, adjacent to BNSF railroad tracks

Figure 4. Representative Site Photos, Continued

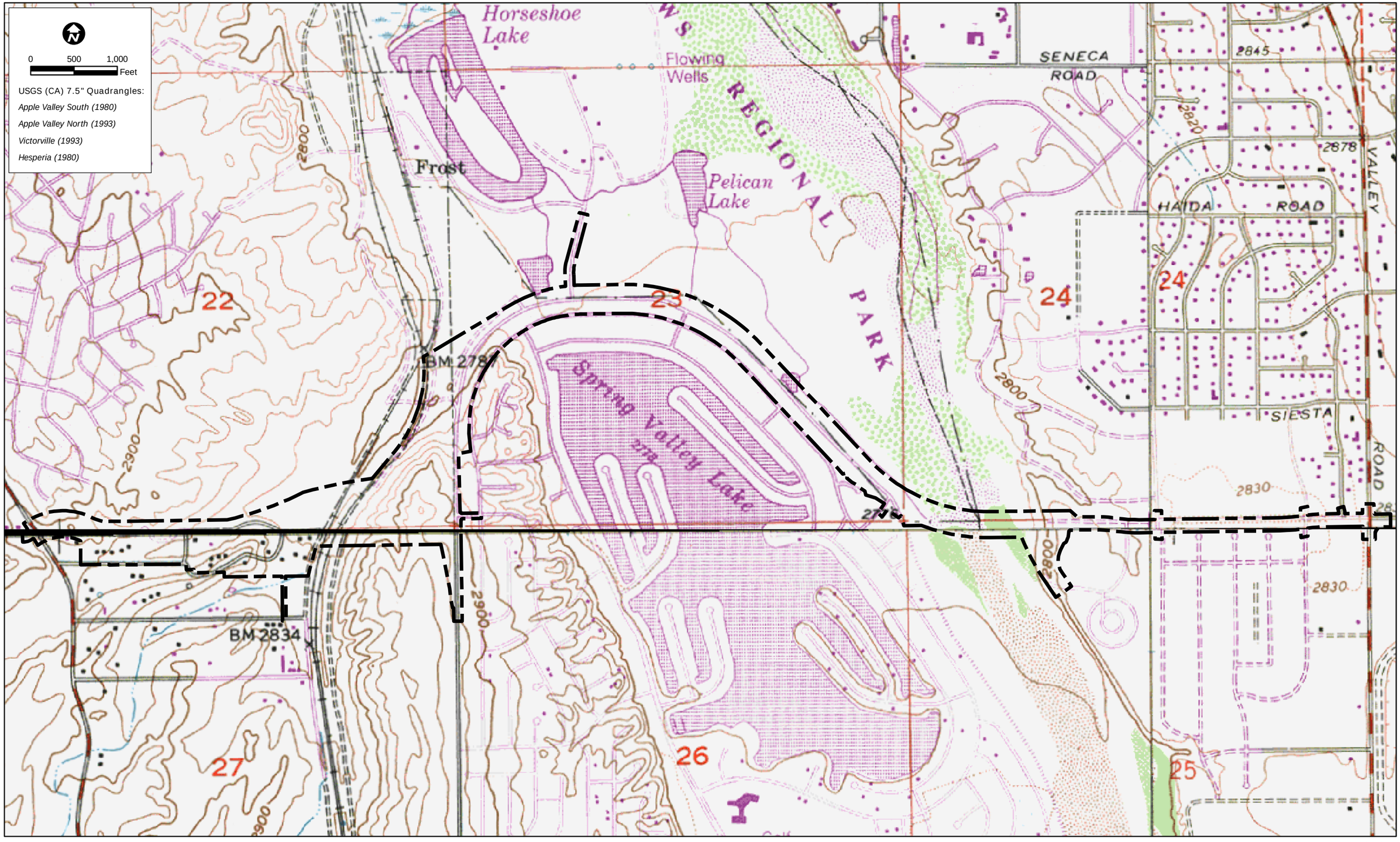

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Figure 5. Topographical Map of the Project Area

2007-173 Yucca Loma Bridge

Soils

Soils within the project area consist of Bryman, Cajon, Haplaroids, Helendale, Kimberlina, Riverwash, Victorville, and Villa Series, as shown in Figure 6 (USDA 1992). Generally, the majority of these soils are loamy fine sands, particularly within the bottomlands that support drainage courses. The drainage courses in the western part of the site support Cajon sand, while the Mojave River supports a combination of Villa loamy sand and Riverwash. All of these alluvial soils are very deep, and moderately well drained. Four of the recorded soil types are considered hydric soil types: Villa Loamy sand, Victorville Sandy loam, Riverwash, and Bryman Loamy Fine Sand (0-2 percent slopes). These soil types all occur in the immediate vicinity of the Mojave River, except for the Bryman series, which occurs as an inclusion along Yucca Loma Road, to the east of the Mojave River. All of the hydric soil types are a result of former or current floodplain action, or are remnants of alluvial fans. The Riverwash soils are the most definitively hydric in character, exhibiting field characteristics and typically remaining flooded for long durations during the growing season.

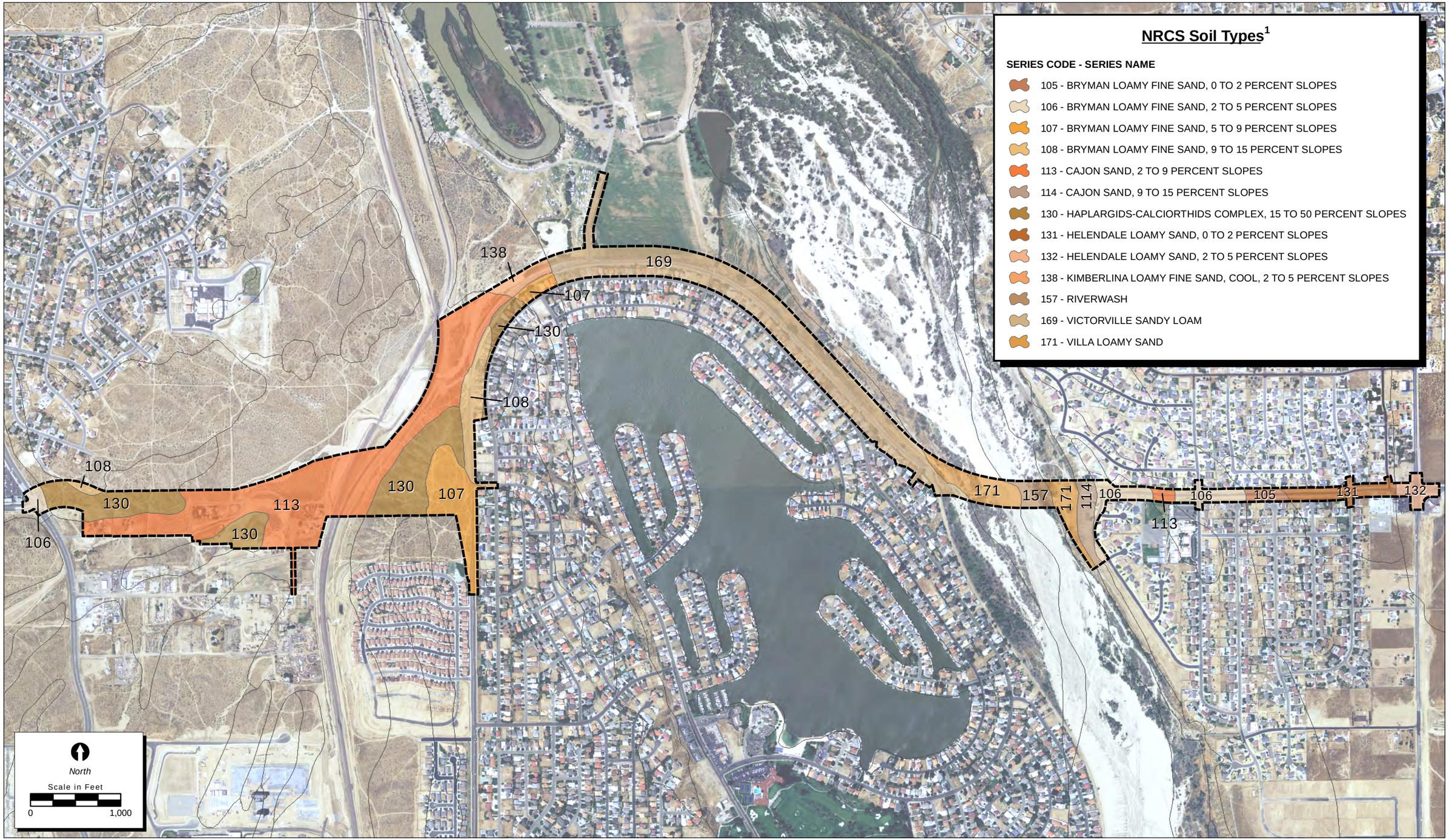
Hydrological Resources

Two freshwater marshes, two ephemeral streams, and one intermittent stream (the Mojave River) were evaluated for jurisdictional status during the jurisdictional delineation conducted on the site in 2008 (ECORP 2008a). It was determined that these wetlands and waters are protected under the Federal Clean Water Act as regulated by ACOE, under Section 1600 of the CDFG code and under the State Water Resources Control Board regulated by the LRWQCB. Therefore, it will be necessary to obtain a Section 404 Nationwide Permit from the ACOE, a Section 1600 Permit from CDFG, and a Section 401 permit from the LRWQCB.

3.1.3. Biological Conditions in the Biological Study Area

3.1.3.1. VEGETATION COMMUNITIES

Eight vegetation communities have been mapped within the BSA (Figure 7). All habitats present within this area are considered disturbed due to the prevalence of human activity within these habitats. Disturbances on the site include trash dumping, off-highway vehicle (OHV) activity, and unauthorized camping.



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[1] NRCS SSURGO Soils Data

Figure 6. Soil Map

2007-173 Yucca Loma Bridge

Creosote Bush Scrub

Creosote bush scrub is typically found in areas of well-drained secondary soils with very low available water holding capacity on slopes, fans, and valleys rather than upland sites with thin residual soils or sites with high soil salinity. This community type is widespread and is the most common type found in the Mojave Desert below about 4,000 ft. Characteristic species indicative of this habitat type include creosote bush (*Larrea tridentata*), white bursage (*Ambrosia dumosa*), spiny senna (*Senna armata*), Mormon tea (*Ephedra nevadensis*), cheesebush (*Hymenoclea salsola*), box thorn (*Lycium* spp.), brittlebush (*Encelia farinosa*, *Encelia actoni, Encelia virgensis*), silver cholla (*Opuntia echinocarpa*), Mojave yucca (*Yucca shidigera*), and beavertail (*Opuntia basilaris*). The creosote bush scrub community is most common in the western portion of the BSA, covering approximately 14.081 acres.

Atriplex Scrub

Atriplex scrub typically occurs on fine-textured, poorly drained soils with high alkalinity and/or salinity. It usually surrounds playas on slightly higher ground. This community is usually dominated by a single species of saltbush (*Atriplex* spp.). This habitat is prevalent in scattered areas throughout the BSA, covering approximately 16.859 acres. Associated species in this community include white bursage and desert tomato (*Lycium andersonii*).

Rabbitbrush Scrub

Rabbitbrush scrub is a disturbance-maintained shrub community dominated by rabbitbrush (*Ericameria nauseosus*). It is typically composed of evenly spaced meter-high shrubs that flower in late summer or fall. This community may be associated with natural or anthropogenic disturbances such as fire, grazing, soil tilling, or flooding/scouring. Rabbitbrush scrub may intergrade with other communities such as creosote bush scrub or desert saltbush scrub. This community is present throughout the BSA but it is more concentrated in areas exposed to disturbance, such as along the north side of Yates Road and near the BNSF railroad. Approximately 10.779 acres of rabbitbrush scrub are present in the BSA.

Desert Willow Scrub

Desert willow scrub is a moisture-loving community associated with wash and drainage habitats in desert regions. This vegetation community is dominated by desert willow (*Chilopsis linearis*) and is often found in small clumps around ephemeral and intermittent drainages. Approximately 0.014 acre of this vegetation community is present in the BSA.

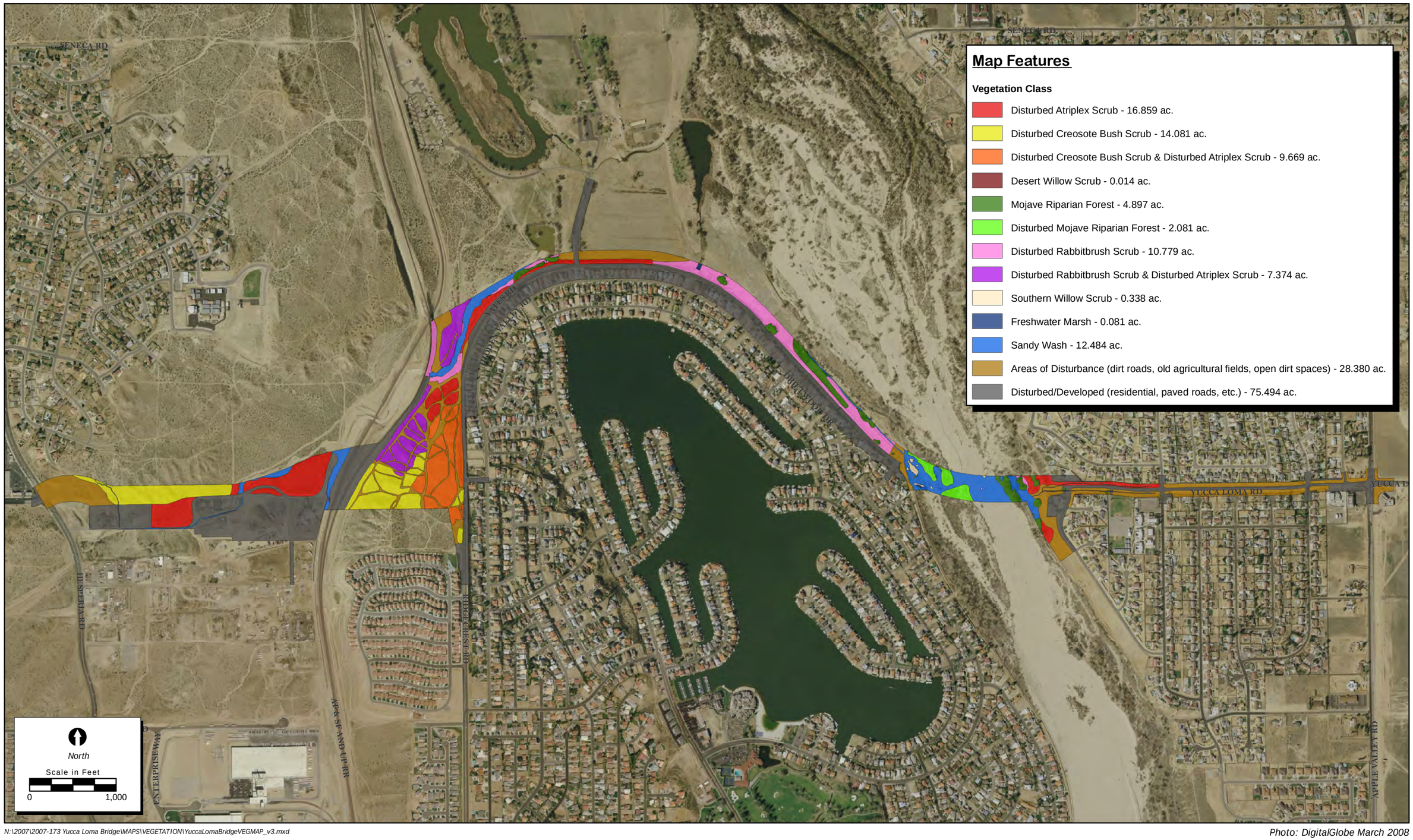

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Photo: DigitalGlobe March 2008
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Figure 7. Vegetation Communities

2007-173 Yucca Loma Bridge

Mojave Riparian Forest

Mojave riparian forest is a subset of desert riparian habitat and is characterized as containing an open, broad-leafed winter deciduous forest with Fremont's cottonwood (*Populus fremontii*) and black willow (*Salix gooddingii*) as dominant canopy species, with scattered white alder (*Alnus rhombifolia*). Understory species may include wild rose (*Rosa woodsii*), sandbar willow (*Salix exidua*), cattail (*Typha latifolia*), bulrush (*Scirpus* spp.), seep monkey flower (*Mimulus guttatus*), and mulefat (*Baccharis salicifolia*). This vegetation community is present in the Mojave River area in the eastern portion of the BSA. Approximately 4.897 acres of Mojave riparian forest is present in the BSA, while an additional 2.081 acres of Mojave riparian forest is considered disturbed due to exposure from continual human influenced disturbances, such as OHV use and trash dumping.

Freshwater Marsh

Freshwater marsh is typically a permanently-flooded wetland community that is dominated by emergent monocot species. Canopies of rushes (*Typha* sp.*, Scirpus* sp.) up to 16 ft tall often form a completely closed canopy. Freshwater marsh areas have deep, peaty soils which accumulate due to prolonged saturation. Freshwater marsh occurs east of the agricultural area that lies adjacent to the Regional Park on the north side of Yates Road, as well as just southeast of the terminus of Yates Road. This plant community is dominated by broad-leafed cattail and covers approximately 0.081 acres in the BSA.

Southern Willow Scrub

Southern willow scrub is a riparian community characterized by dense, broad-leafed, winter-deciduous thickets typically dominated by several species of willows. This community often exhibits some larger trees, which typically include cottonwood and sycamore trees. Approximately 0.338 acres of southern willow scrub occur within the BSA.

Disturbed / Developed Areas

Disturbed habitat occurs as a result of past disturbance or compaction of the soil, and is characterized as scarified habitat that contains little to no vegetation resulting from blading or other vegetation removal and soil compaction from vehicles or other heavy machinery or objects. Ruderal areas show evidence of past mechanical disturbance and now weedy and non-native plant species have been able to populate these areas. Ruderal areas occur throughout portions of the biological survey area and are dominated by black mustard (*Brassica nigra*), Cheatgrass (*Bromus tectorum*), foxtail chess (*Bromus madritensis* ssp. *rubens*), red-stemmed filaree (*Erodium cicutarium*), and foxtail fescue (*Vulpia myuros*). Developed areas include residential development, paved roads, and

structures. Approximately 75.494 acres of the BSA are considered disturbed and/or developed. An additional 28.380 acres of disturbed open spaces, such as dirt roads and lots, are present within the BSA.

3.1.3.2. COMMON PLANT SPECIES

A complete list of all plant species observed in the BSA during the biological surveys is included in the Plant Species Compendium Appendix B. Common native plant species observed most frequently within the project area include various tree species such as willow (*Salix* spp.), cottonwood, mulefat, and shrub species including creosote, four winged saltbush (*Atriplex canescens*), cheesebush, rabbitbrush, gray horsebrush (*Tetradymia canescens*), and buckwheat (*Eriogonum fasciculatum*). Herbaceous plant species prevalent within the BSA include white tidy tips (*Layia glandulosa*), desert dandelion (*Malacothrix glabrata*), Fremont's pincushion (*Chaenactis fremontii*), scale bud (*Anisicoma acaulisi*), Wallace's woolly daisy (*Eriophyllum wallacei*), and broad-flowered gilia (*Gilia latiflora*). The only native grasses in the survey area are ricegrass (*Achnatherum hymenoides*) and saltgrass (*Distichlis spicata*).

3.1.3.3. COMMON ANIMAL SPECIES

A complete list of all animal species observed during the surveys in the BSA is included in the Animal Species Compendium Appendix C. The most abundant vertebrate groups found in the project area are rodents and other small mammals and small passerines (songbirds). Invertebrate species such as insects and spiders were also abundant, but were not a focus of this study effort.

Resident species are defined as those wildlife species that spend their entire life cycle within a single habitat or habitat complex onsite. Characteristic resident mammal species include kangaroo rat species (*Dipodomys* sp.), white-tailed antelope ground squirrel (*Ammospermophilus leucurus)*, and desert woodrat (*Neotoma lepida*). Desert cottontail (*Sylvilagus audubonii*) and black-tailed jackrabbit (*Lepus californicus*) are also common. Reptiles observed in the BSA are represented by a variety of lizard species, including side-blotched lizard (*Uta stansburiana*), western whiptail (*Aspidoscelis tigris*), and desert spiny (*Sceloporus magister*). Snakes include coachwhip (*Masticophis flagellum*), gopher snake (*Pituophis melanoleucus*), and Mojave green rattlesnake (*Crotalus scutulatus*).

Resident bird species typically found in the BSA include common raven (*Corvus corax*), house finch (*Carpodacus mexicanus*), mourning dove (*Zenaida macroura*), horned lark (*Eremophila alpestris*), Anna's hummingbird (*Calypte annae*), California quail (*Calipepla californicus*), and greater roadrunner (*Geococcyx californianus*). A variety of migratory bird species also utilize the habitat communities in the survey area, either during the summer breeding season or as wintering habitat. Common migratory species associated with the vegetation communities include ash-throated flycatcher (*Myiarchus cinerascens*),

sage sparrow (*Amphispiza bellii*), yellow-rumped (Audubon's) warbler (*Denroica coronata audoboni*), and ruby-crowned kinglet (*Regulus calendula*).

The low vegetation cover and abundant prey base available within the open desert scrub habitat also provides foraging opportunities for a variety of raptors and mammalian predators, including red-tailed hawk (*Buteo jamaicensis*), red-shouldered hawk (*Buteo lineatus*), barn owl (*Tyto alba*), burrowing owl, coyote (*Canis latrans*), gray fox (*Urocyon cinerecargenteus*), desert kit fox (*Vulpes macrotis*), and bobcat (*Felis rufus*). These predatory species are typically associated with a mosaic of habitat types within a contiguous geographical area and may require other habitat features, such as trees and cliffs, to fulfill habitat requirements throughout their life cycles.

3.1.3.4. INVASIVE SPECIES

In February 1999, Executive Order 13112 was signed, requiring federal agencies to work on preventing and controlling the introduction and spread of invasive species. Transportation corridors provide opportunities for the movement of invasive species through the landscape. Invasive species can be transported via commercial and non-commercial vehicles, including construction equipment. Invasive plants can be moved from site to site during spraying and mowing operations. Non-native seed can inadvertently be introduced into corridors on equipment during construction and through the use of mulch, imported soil or gravel, and sod. Tamarisk (*Tamarisk* sp.) and giant reed (*Arundo donax*) are the only species in the project area considered to be severely invasive by the California Invasive Plant Council (CAL-IPC) (CAL-IPC 2008). The CAL-IPC Inventory categorizes plants as High, Moderate, or Limited, reflecting the level of each species' negative ecological impact in California. Species in the project area with a B, or moderate, rating include slender oat (*Avena barbata*), ripgut (*Bromus diandrus*), red brome, cheatgrass, and wild barley (*Hordeum marinum*). Erosion control measures for this project will need to be designed to prevent the spread of invasive plant species. Landscaping designs for this project will not contain invasive species in the plant selections or seed mixtures.

3.1.3.5. MIGRATION CORRIDORS

Migration corridors within the BSA are in the form of drainages present within the project site and the Mojave River. Drainages make good wildlife migration corridors because they usually provide a clear path along the drainage bottom and provide adequate vegetation cover as animals move through the area. The linear nature of these drainages also allows animals to move long distances between areas while being afforded some cover.

There are two ephemeral stream features located within the BSA, one in the eastern portion and one in the western portion. The western-most ephemeral stream crosses through the BSA in four separate locations while the eastern-most ephemeral stream follows the survey area boundary for a distance and then crosses through the BSA

adjacent to the Mojave River. Both of these streams are contiguous with habitats north and south of the project area.

The Mojave River is the only intermittent stream in the project area and it supports enough cover and habitat in the BSA to be considered part of the regional corridor that includes the areas up and downstream of the project area. The prevalence of tracks in the river channel indicate that the Mojave River is commonly used by wildlife to access habitat areas located adjacent to the channel. In addition, the Mojave River is also contiguous with larger areas of habitat to the north and south of the BSA and it provides a corridor for wildlife to move between these habitat areas.

3.1.3.6. IMPORTANT NATURAL COMMUNITIES

Southwestern Willow Flycatcher Critical Habitat

The project area bisects the Mohave Management Unit of the southwestern willow flycatcher Critical Habitat (USFWS 2005). The Mohave Management Unit is comprised of southwestern willow flycatcher habitat present along 13 mi of Deep Creek, 12 mi of Holcomb Creek, and 10 mi of the Mojave River in San Bernardino County near the City of Victorville. Three nesting sites for this species have been recorded since 1995 along the reach of the Mojave River where Critical Habitat has been designated (USFWS 2005). All three areas also provide habitat for dispersal and migration, in addition to providing areas for population growth and species recovery.

Though the habitat for southwestern willow flycatcher located in the Mojave River is designated Critical Habitat, it is of poor quality in comparison to habitat within close proximity to the project site. The desert riparian habitat within the boundaries of the designated Critical Habitat in the vicinity of where the bridge will be constructed over the river and where Yates Road will be widened is very disturbed due to OHV use in the Mojave River, trash dumping, target shooting, and unauthorized camping activity. Large cottonwood trees located within the Critical Habitat area where the bridge will be constructed are widely spaced with little to no dense riparian shrub understory. The riparian habitat located just downstream from the project site in the Mojave Narrows Regional Park provides much higher quality and less disturbed habitat for southwestern willow flycatchers. The cottonwoods located in the park are closer together and there is a substantial understory of willow and other riparian shrubs, providing adequate shelter and nesting habitat.

Mojave Narrows Regional Park

The project area runs just south of the Mojave Narrows Regional Park, an 850-acre park operated by San Bernardino County Department of Regional Parks and is owned by the California Wildlife Conservation Board (WEMO 2005). This area is a unique part of the

historic Mojave River floodplain where groundwater is pushed to the surface from underlying bedrock, creating an oasis amidst the desert. The area is also fed by a permanent stream and in conjunction with the surface water present, extensive stands of riparian forest grow and persist, providing 450 acres of habitat to 17 sensitive species (WEMO 2005).

3.1.3.7. AQUATIC RESOURCES

The jurisdictional delineation conducted on the site in 2008 determined that one intermittent stream (the Mojave River), two ephemeral streams, and two freshwater marshes were preliminarily identified as jurisdictional features of ACOE and CDFG. A total of 2.847 acres of intermittent stream, 3.608 acres of ephemeral stream, and 0.082 acre of freshwater marsh were mapped within the BSA.

The smaller of the two ephemeral streams in the BSA is located in the eastern portion of the project site and runs parallel with the Mojave River. This drainage appears to have been partially channelized, and seems to have previously supported higher flows, owing to its width and amount of bottom scour. Current indicators recorded in the field show that the OHWM for this ephemeral stream is an average of approximately 4 ft in width.

The largest ephemeral stream in the BSA begins just south of the intersection of Hesperia Road and Coad Road, in the western part of the study area that traverses the entire project area, weaving in and out of the project limits, and joined by other ephemeral tributaries along the way. Flows within this drainage and its tributaries are strong during flood events, as exemplified by high sediment loads observed and deeply incised banks in the main stream and its largest tributary. The largest tributary, which runs parallel to the railroad tracks, has also been channelized. The ephemeral stream varies in width from about 6 ft at the western end of the survey area to approximately 80 ft in width just as it enters into the Mojave River floodplain.

Both of the freshwater marsh areas in the BSA are within the Mojave River floodplain and are the result of water releases from the development and irrigation associated with the Spring Valley Lake residential development. The western-most freshwater marsh area, northeast of the Yates Road-Park Road intersection, forms downstream of a 12 ft box culvert where water from Spring Valley Lake is apparently released into the Mojave River. The second patch of freshwater marsh occurs east of the eastern terminus of Yates Road, where residential irrigation is allowed to drain through a 2 ft corrugated steel pipe and pool in a low area before percolating into the Mojave River floodplain.

Chapter 4. Results: Biological Resources, Discussion of Impacts and Mitigation

Protocol focused surveys for the southwestern willow flycatcher were negative for breeding individuals, however, migratory individuals were observed utilizing the desert riparian habitat. Protocol focused wildlife surveys for least Bell's vireo and desert tortoise were negative. Details of natural history and survey results for southwestern willow flycatcher are found below in Section 4.2 titled *Federally Listed Wildlife Species*.

4.1. Federally Listed or Proposed Plant Species

Federally listed plant species do not occur on or in areas located immediately adjacent to the project site.

4.2. Federally Listed Wildlife Species

The results of the focused surveys determined that the only federally listed wildlife species potentially present in the BSA was the southwestern willow flycatcher. The migratory willow flycatchers observed did not stay throughout the breeding season so the birds were determined to only be passing through the area. However, because the portion of the project that includes the construction of the bridge over the Mojave River and a portion of the area where Yates Road will be widened are within designated Critical Habitat for this species, the BA will cover the potential impacts and mitigation for this species. The least Bell's vireo, western yellow-billed cuckoo, and desert tortoise were not found during the focused surveys so they were determined to be absent from the project area. Therefore, the BA will not focus on the impacts to these species or provide any mitigation for these species. It is important to note, though, that the mitigations for the southwestern willow flycatcher Critical Habitat will also benefit the least Bell's vireo and western yellow-billed cuckoo if those species utilize the area in the future.

4.2.1. Southwestern Willow Flycatcher

4.2.1.1. CURRENT STATUS AND ECOLOGY

The southwestern willow flycatcher was listed as endangered by the state of California in 1991 and was listed as endangered by the federal government in March 1995 (CDFG 2008). Critical Habitat was designated on October 19, 2005 and includes stream segments located in five Recovery and 15 Management Units.

The southwestern willow flycatcher is a migratory passerine that breeds in the southwestern United States and winters in Mexico, Central America, and potentially in northern areas of South America (Sogge, et. al. 1997). The southwestern willow flycatcher is one of four subspecies found in North America and is difficult to distinguish from the other subspecies except for its distinct “fitz-bew” song. This subspecies of willow flycatcher is light gray in color with white wing bars and is generally paler in overall color than its counterparts. Subtle differences between the southwestern subspecies and other subspecies exist in bill length, wing to tail ratio, and other morphological features.

Southwestern willow flycatchers breed in riparian habitats characterized by dense vegetation within close proximity to open water or saturated soil. Vegetation structure and size of the riparian stand, rather than vegetation species, is more indicative of flycatcher breeding habitat. Flycatchers have not been known to breed in linear habitats less than 33 ft wide, however, this size and shape of habitat appears to be suitable for migratory use (Sogge, et. al 1997).

Four distinct habitat structures are associated with southwestern willow flycatcher breeding habitat (Sogge, et. al. 1997). The first consists of dense, monotypic stands of willow species approximately 10 to 23 ft high. The second consists of dense, monotypic stands of riparian-associated exotic species such as tamarisk (*Tamarix* spp.) or Russian olive (*Elaeagnus angustifolia*) ranging from 13 to 33 ft in height. The third type of breeding habitat for southwestern willow flycatchers is dominated by native broadleaf riparian tree and shrub species such as cottonwood (*Populus* spp.), alder (*Acnus* spp.), and boxelder (*Acer negundo*). This type of habitat typically ranges from 10 to 49 ft in height. Lastly, the fourth breeding habitat type consists of a mixture of native and exotic shrub and tree species.

Migration and wintering habitats utilized by southwestern willow flycatchers vary in type, size, climate, and vegetation density. Often, migrant and wintering flycatchers are found in humid to semi-arid non-riparian habitats and riparian habitats that are generally not suitable for breeding. Willow flycatchers have also been observed in partially open areas such as savannah edges, pastures, and scrubby fields as well as patches of dense woody shrubs adjacent to saturated soils or open/standing water.

These insectivorous songbirds construct open cup nests anywhere from 2 to 29 ft above ground in the described habitat types above. Females will usually lay 3 to 4 eggs in her first clutch and the eggs are then incubated for 12 to 13 days. When the young hatch, both the male and female flycatchers participate in feeding the young. The young then fledge from the nest approximately 12 to 15 days after hatching but will stay in the natal area at least 14 days after fledging and may return to the nest several times immediately after fledging. Second clutches within the same breeding season are only common if the first clutch was unsuccessful; however clutch size is reduced with following nest attempts.

Southwestern willow flycatchers are primarily threatened by breeding habitat loss, fragmentation, and modification due to recreational, urban, and agricultural development. Large scale losses of riparian habitats, especially already-scarce breeding habitats, have occurred throughout much of the flycatcher's historic range (Sogge, et.al 1997). Cottonwood-willow riparian habitat is naturally a very dynamic community, constantly changing due to natural disturbances such as drought, floods, and fire. In addition to the natural disturbances, human-induced influences also contribute to the degradation of these habitats in the form of water flow manipulation (dams, reservoirs, groundwater pumping, etc.), urban and agricultural development, introduction of exotic species, and illegal activities (OHV use, trash dumping, etc.).

Surface water diversion, grazing livestock, and invasion of exotic plant species within breeding habitats also contribute to habitat loss. The widespread and substantial loss of southwestern willow flycatchers throughout breeding habitats can also be attributed to nest brood parasitism by brown headed cowbirds. In southern California, willow flycatcher populations occurring at scattered locations along streams have changed little over the past 15 years, however, habitat in this region continues to decrease (Sogge, et.al 1997).

4.2.1.2. SOUTHWESTERN WILLOW FLYCATCHER SURVEY RESULTS

Six protocol presence/absence southwestern willow flycatcher surveys were conducted throughout suitable riparian habitat in the project site between May 29 and July 15, 2008 by federal 10(a)(1)(A) permitted biologist Teresa Gonzales of Gonzales Environmental Consulting. Surveys were conducted in accordance with protocol guidelines detailed in *A Southwestern Willow Flycatcher Natural History Summary and Survey Protocol* (Sogge, et. al. 1997). The survey results indicate that the Mojave riparian forest in the survey area does provide suitable migratory habitat but no birds were observed nesting in the survey area.

One observation of of a willow flycatcher was documented in July of 1990, approximately 1.5 mi upstream from the project site in the Mojave River (CNDDB 2008). It was unknown by the surveyor whether the individual observed was breeding or a migrant passing through. In 2006, ECORP conducted protocol presence/absence southwestern willow flycatcher surveys in the biological survey area and two migrant willow flycatchers were

observed in the habitat immediately adjacent to the Mojave River. Based on the fact that the birds were not observed during the later surveys, it was determined that this species does not use the habitat in the vicinity of the project site for breeding purposes. The Mojave Narrows Regional Park, located just upstream of the project site, is the only recorded area within the Mohave Management Unit of southwestern willow flycatcher Critical Habitat that is used for breeding by this species (WEMO 2005). The habitat in the park is of much higher quality than the habitat in the project area, which has been degraded by human activities.

4.2.1.3. SOUTHWESTERN WILLOW FLYCATCHER CRITICAL HABITAT

Critical Habitat for the southwestern willow flycatcher was designated by the USFWS in October 2005 (USFWS 2005). The portion of the project site crossing the Mojave River falls within the Basin and Mohave Recovery Unit, Mohave Management Unit (Figure 8). This Critical Habitat unit follows a 10 mi section of the Mojave River, a 12 mi section of Holcombe Creek, and a 13 mi section of Deep Creek (USFWS 2005). All management units comprising the Basin and Mohave Recovery Unit (including the Mohave Management Unit) were chosen because of their presence in arid lands of southern California, and because of the presence of dominant native vegetation species in each of these riparian habitats.

Primary Constituent Elements

Primary Constituent Elements (PCEs) described for southwestern willow flycatcher Critical Habitat are based on the biological and ecological needs of the species. These elements include, but are not limited to, breeding sites, the biological needs of the animal (reproductive, dietary, and habitat needs), physiological requirements (water, air, light, etc.), and space required for normal behavior of the animal and/or for individual and population growth. Specifically, two PCEs were identified for southwestern willow flycatcher in the Federal Register Final Rule of the Designation of Critical Habitat for the Southwestern Willow Flycatcher (USFWS 2005). These include riparian habitat and insect prey populations. These PCEs are described in detail below.

Riparian Habitat

Riparian habitat located in “dynamic successional riverine environments” is imperative to the survival of southwestern willow flycatcher because the flycatcher utilizes riparian habitat during all life stages, including foraging, migration, nesting, shelter, and dispersal (USFWS 2005). Several factors contribute to this PCE for flycatcher Critical Habitat. Trees and shrubs are an important factor and usually include several willow species, tamarisk, and cottonwoods and must be dense and ranging in height from 6 to 98 ft. Researchers have found that southwestern willow flycatchers do not appear to have a preference between native and non-native tree and shrub species; however, density of

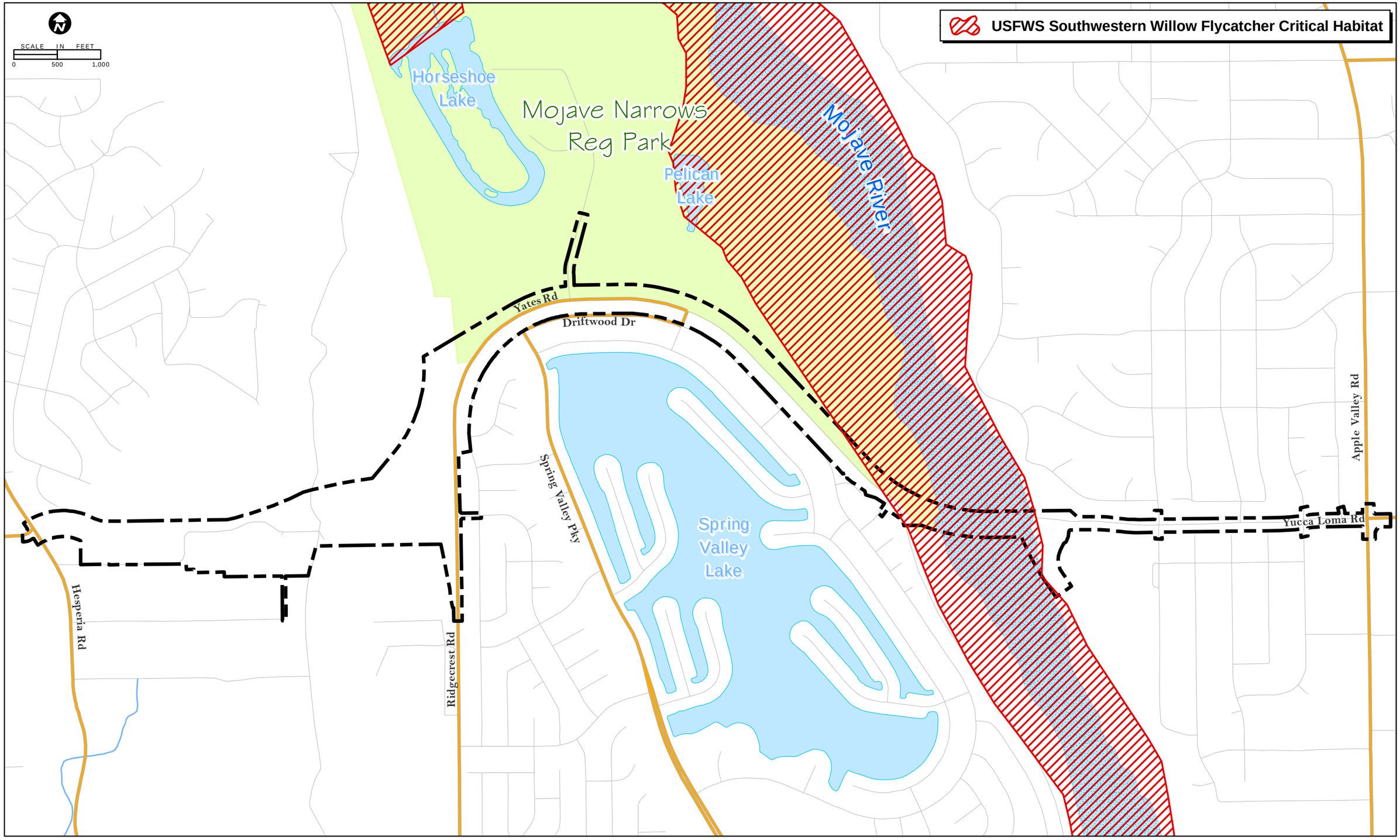

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Figure 8. Southwestern Willow Flycatcher Critical Habitat Area in the Project Region

2007-173 Yucca Loma Bridge

these stands is a limiting factor (USFWS 2005). Shorter stands of dense riparian habitat are utilized at higher elevations, while taller stands are found in lower elevations. Dense areas of vegetation interspersed with smaller openings of sparser vegetation and/or open water or marsh are utilized by southwestern willow flycatchers from ground level to approximately 13 ft above the ground. A dense tree or shrub canopy is imperative for breeding sites (areas with 50 to 100 percent coverage).

Insect Prey Populations

Invertebrate prey comprises the majority of the southwestern willow flycatcher's diet and this prey base must be plentiful for the success of the flycatcher as a species. An insect generalist, the flycatcher consumes several different types of species, ranging from beetles (Coleoptera), to butterflies and moths (Lepidoptera), wasps and bees (Heteroptera), and dragonflies (Anisoptera). Prey availability can be influenced by quality of vegetation present in the habitat, presence of and proximity to water, and microclimate features such as humidity and temperature.

Critical Habitat in the BSA

The PCEs of southwestern willow flycatcher habitat located within the project area include the mature cottonwood trees and the smaller stands of dense willows. The habitat elements present on the site do not fit the PCE description of southwestern willow flycatcher breeding habitat, because the cottonwood trees are very sparsely distributed and there are essentially no dense stands of willows and cottonwoods. A few small patches of willows are present but they are not dense and they are not of sufficient size to support the breeding activities of this species. Breeding flycatchers have not been observed in the habitat in the project area. The habitat present on the site appears to be suitable for migratory purposes, as migrants have been observed on the site during 2006 and 2008 focused surveys (ECORP 2006, GEC 2008).

Though the habitat located in the Mojave River is designated Critical Habitat for the southwestern willow flycatcher, it is of poor quality in comparison to habitat located downstream of the survey area in Mojave Narrows Regional Park. The habitat in the survey area is very disturbed due to OHV use in the Mojave River, trash dumping, target shooting, and unauthorized camping activity. The large cottonwood trees that are present in the survey area and along the Mojave River are widely spaced with little to no dense riparian shrub understory. The habitat appears to be stressed and many of the trees on the west side of the river channel area are dead. This may be due to lack of sufficient groundwater availability and the fact that the Mojave River does not exhibit surface flows on a regular basis in the survey area. Habitat located just downstream from the survey area, in the Mojave Narrows Regional Park, is much denser and provides much higher quality and less disturbed habitat for southwestern willow flycatchers. The cottonwoods

located in the park are denser and have a substantial understory of willow and other riparian shrubs, which provide adequate shelter and nesting habitat for the southwestern willow flycatcher.

An inventory of insect and invertebrate prey species was not conducted. However, it is assumed that an adequate amount of prey is available within the BSA because migrating willow flycatchers were observed in the BSA during surveys in 2006 and 2008 (ECORP 2006, 2008).

Critical Habitat in the BSA

The proposed mitigation areas, which are located to the west of the current terminus of Yates Road at the Mojave River, consist mostly of disturbed areas that support sparse and disturbed rabbitbrush scrub, as well as some scattered disturbed Mojave riparian forest. A substantial amount of human disturbances (off-highway vehicle use, trash dumping, and illegal camping) have degraded the habitat in these areas. In addition, hydrologic changes upstream have modified the flow of the Mojave River in this area and, as a result, many of the large cottonwood and willow trees have died. The disturbed Mojave riparian forest in the proposed mitigation areas combined with the sparse distribution of overstory trees and the small patches of shrubby willows do not contain the PCEs necessary to support the breeding activities of the southwestern willow flycatcher. The remnant habitat patches likely do contain an adequate prey base but without the proper distribution and structure of the habitat, this area does not currently contain the PCEs for the southwestern willow flycatcher.

4.2.1.4. SOUTHWESTERN WILLOW FLYCATCHER AVOIDANCE AND MINIMIZATION EFFORTS

Southwestern willow flycatcher Critical Habitat will be protected through the implementation of best management practices (BMPs). The BMPs will include the identification of ESA areas and off-limits areas, monitoring by a qualified biologist, and timing of construction (or using avoidance with a buffer zone) to avoid and minimize potential impacts to any nesting birds that may be present in or adjacent to the project area.

The project has been designed to avoid and minimize impacts to southwestern willow flycatcher Critical Habitat to the maximum extent possible. The measures that have been included in the project design include:

- Sensitive areas outside of the proposed construction zone will be designated as an ESA and avoided to minimize the potential impacts to the flycatcher and any nesting birds protected by the Migratory Bird Treaty Act (MBTA). These areas will be fenced off clearly by use of obvious exclusion fencing while the project is being constructed.

An approved biologist, knowledgeable about the habitat needs for the southwestern willow flycatcher, will oversee the placement and design of this fencing.

- Removal of trees and other vegetation will primarily be conducted during the late fall through late winter months, when southwestern willow flycatcher and other birds that may utilize the habitat for breeding purposes, would not be present. When possible, trees will be trimmed rather than cut down to conserve existing riparian habitat.

- A pre-construction breeding bird survey shall be conducted within 7 days prior to construction activities. This action will be dependent on the timing of the habitat removal.

- If construction activities occur during the breeding season, a biological monitor will be present to monitor the activities of the southwestern willow flycatcher and other nesting birds to ensure that construction noise and activities are not adversely affecting them. If an active nest is identified during construction, then the biological monitor will determine if the noise and/or construction activities are adversely affecting the nesting behavior. If so, then a buffer shall be established around any active nest to limit the impacts of noise and construction activities that must occur during the breeding season (March 1 through August 31). A qualified biologist will determine (through coordination with the Town of Apple Valley, USFWS, and CDFG) the extent of an appropriate buffer. Noise readings will be conducted prior to construction to establish the potential boundary where noise levels do not exceed the 60 dBA threshold. If a nest is located within the area of the 60 dBA boundary, additional measures will be taken, including the use of a sound wall or sound reducing curtain to reduce noise levels around construction activities, or to stop the offending construction activity until juveniles have fledged.

- Prior to the initiation of construction activities, all project personnel shall be educated regarding the wildlife species issues for the project area. Construction personnel are to remain outside of the ESA zones. If a southwestern willow flycatcher or an active nest or breeding territory is identified, a qualified biologist will determine (through coordination with the Town of Apple Valley, USFWS, and CDFG) the extent of an appropriate buffer. The buffer distance will depend on the level of noise or construction disturbance and other topographical or artificial barriers.

- The lighting on the new bridge over the Mojave River and along the widened roads is recommended to consist of directional lighting that focuses the light away from the natural habitat areas located adjacent to the project components.

4.2.1.5. PROJECT IMPACTS TO SOUTHWESTERN WILLOW FLYCATCHER

Direct Impacts

Permanent Habitat Loss

Construction of a new bridge over the Mojave River and road widening along Yates Road will result in permanent impacts to Critical Habitat for the southwestern willow flycatcher habitat. Approximately 0.419 acre of Mojave riparian forest, 0.585 acre of disturbed riparian forest, 0.227 acre of southern willow scrub, and 2.237 acres of unvegetated wash will be permanently impacted as a result of the proposed project. Each vegetation community is described below in relation to southwestern willow flycatcher Critical Habitat.

The Mojave riparian forest present in the designated Critical Habitat consists mostly of the few large cottonwood trees and a small patch of willows/mulefat on the east side of the Mojave River channel. These trees are widely spaced and the patches are very small and fragmented from one another. Mojave riparian forest is also present in the very small, fragmented patch along the north side of Yates Road near Fortuna Road. Both areas of Mojave riparian forest do not represent nesting habitat for the southwestern willow flycatcher.

Disturbed Mojave riparian forest includes the disturbed and dead riparian forest on the west side of the Mojave River channel, which does not represent nesting or foraging habitat for the southwestern willow flycatcher. Disturbed Mojave riparian forest does not contain the PCEs of Critical Habitat because the vegetation is dead and does not provide dense habitat for nesting or foraging (USFWS 2005).

Southern willow scrub present in the BSA consists of the few very small patches right near the terminus of Yates Road. These are very small patches that consist of short willows and the patches are surrounded by mostly dead vegetation. These areas do not contain the PCEs of southwestern willow flycatcher Critical Habitat (USFWS 2005).

The unvegetated streambed of the Mojave River does not contain PCEs required for flycatcher Critical Habitat because no vegetation is present (USFWS 2005).

The project is expected to only have a permanent impact on 0.419 acre of riparian habitat (Mojave riparian habitat) that would be considered suitable for the southwestern willow flycatcher. The habitat that will be impacted does not contain the PCEs required for breeding habitat, but it does contain a small amount of foraging habitat (USFWS 2005). However, it is disjunct from areas that represent suitable breeding habitat that are located downstream in the Mojave Narrows Regional Park.

Permanent impacts in the Mojave River will consist of bridge construction, bridge piling locations, and sloping on either side of the river, connecting the bridge to Yucca Loma

Road in the east and Yates Road in the west. Road widening, which is proposed to occur along Yates Road, will result in permanent loss of large cottonwood trees and patches of desert riparian located alongside the road. The permanent impacts to southwestern willow flycatcher habitat are presented below in Table 2.

Temporary Habitat Loss

Construction of a new bridge over the Mojave River and road widening along Yates Road will result in temporary impacts to Critical Habitat for the southwestern willow flycatcher habitat. Approximately 0.470 acre of Mojave riparian forest, 0.644 acre of disturbed riparian forest, 0.019 acre of southern willow scrub, and 2.107 acres of unvegetated wash will be temporarily impacted as a result of the proposed project. For a description of each vegetation community in relation to southwestern willow flycatcher Critical Habitat, please refer to the Permanent Impacts paragraphs of this section above.

Based on the determination stated above that Mojave riparian forest is the only vegetation community that provides suitable habitat for southwestern willow flycatcher present in the BSA, it is expected that only 0.470 acre of southwestern willow flycatcher Critical Habitat will be temporarily impacted.

The temporary impact areas include those areas located immediately adjacent to the bridge construction (100 ft buffer on either side of bridge construction) and road widening along Yates Road (20 ft buffer on either side of road construction). These areas may be subject to use for vehicle and equipment staging areas, access roads, and other construction-related activities. Once construction on the bridge and road expansion is completed, these adjacent areas will be restored as part of the revegetation plan for the project. Because these areas will be restored in accordance with the Mojave River Floodplain Maintenance Plan after the project completion, the loss of the 0.470 acre of Mojave riparian forest will only be a temporary loss of habitat. In addition, large riparian trees will be trimmed to the extent possible rather than cut down to preserve existing habitat. The temporary impacts to southwestern willow flycatcher habitat are listed below in Table 2.

A graphic representation of the areas where permanent and temporary impacts will occur in southwestern willow flycatcher Critical Habitat is shown on Figure 9.

Table 2: Impacts of Proposed Project on Critical Habitat for the Southwestern Willow Flycatcher

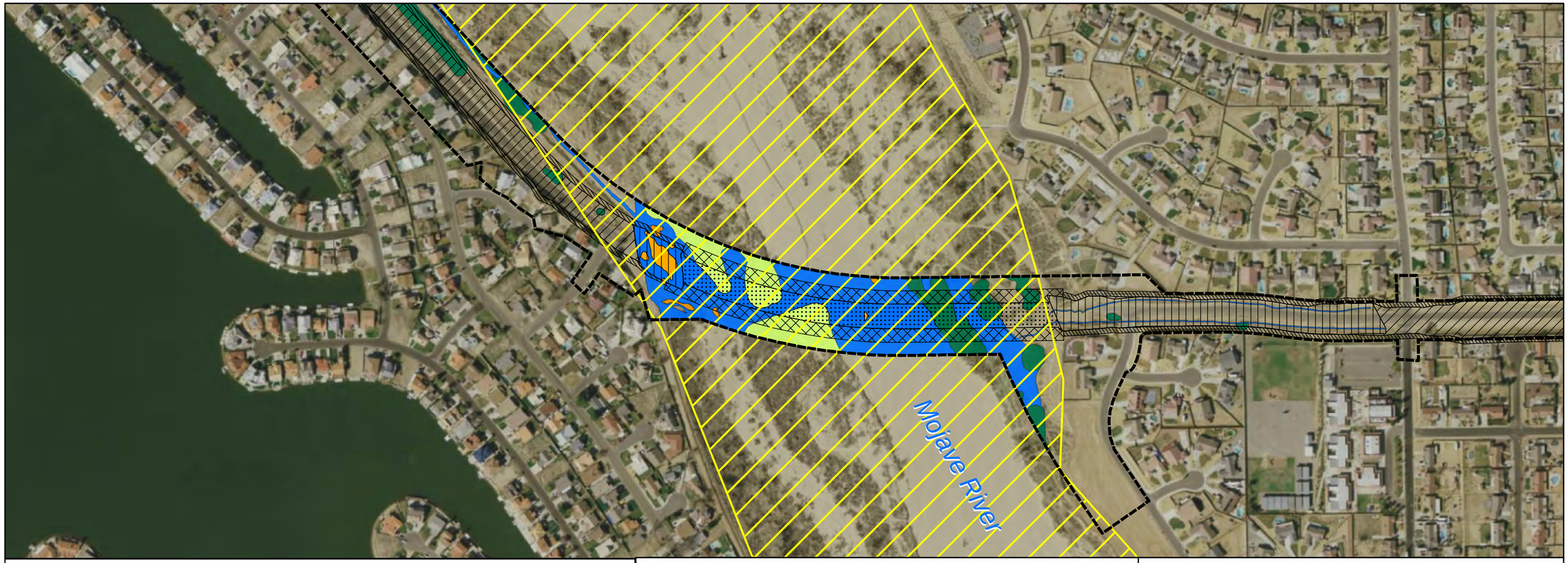
Classification	Habitat Acreage within Critical Habitat	Permanent Impacts (acres)	Temporary Impacts (acres)	Total Area of Impact (acres)
*Mojave River/Unvegetated Streambed	12.484	2.237	2.108	4.345
Mojave Riparian Forest	4.897	0.419	0.470	0.889
*Disturbed Mojave Riparian Forest	2.081	0.585	0.644	1.229
*Southern Willow Scrub	0.338	0.227	0.019	0.246
Total	**19.800**	**3.468**	**3.241**	**6.709**
***Note: These communities do not provide the PCEs required by the southwestern willow flycatcher**				

Indirect Impacts

Noise from Construction Activities

Noise from activities associated with the Mojave River bridge construction and Yates Road expansion has the potential to indirectly impact breeding birds in adjacent areas. If southwestern willow flycatchers were to establish breeding territories in areas adjacent to the construction zones, then they may be subject to impacts from construction noise. The noise impacts have the potential to reduce the success of breeding birds or to discourage birds from establishing breeding territories in areas affected by increased noise levels. Throughout the duration of bridge construction and road widening near the Critical Habitat, BMPs will be utilized to reduce noise impacts related to construction. Noise impacts from the project will be limited to the duration of construction activities and is considered a temporary impact.

Noise pollution from increased traffic volume once the project is complete will be an initial temporary impact on southwestern willow flycatchers (and other breeding birds) that may establish breeding territories in areas adjacent to the bridge and the widened road. It is anticipated that the habitat surrounding the new bridge will be fully utilized once the wildlife becomes accustomed to the increased noise from traffic and human activity. In addition, a natural infiltration of wildlife, namely riparian bird species, will occur as the riparian habitat becomes re-established.



VEGETATION ACREAGE

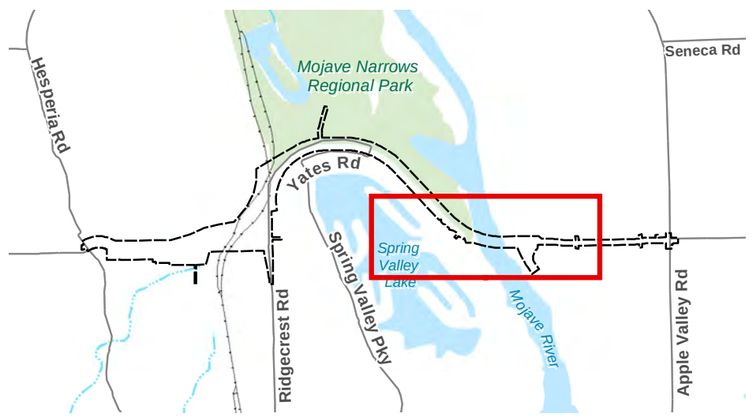
CLASSIFICATION	EXISTING ACREAGE IN THE BIOLOGICAL STUDY AREA	PERMANENT IMPACTS IN CRITICAL HABITAT	TEMPORARY IMPACTS IN CRITICAL HABITAT
Mojave Riparian Forest	4.897	0.419	0.470
Disturbed Mojave Riparian Forest	2.081	0.585	0.644
Southern Willow Scrub	0.338	0.227	0.019
Sandy Wash	12.484	2.237	2.108
TOTAL:	19.800	3.468	3.241

North

Scale in Feet

0 400

OVERALL PROJECT EXTENTS



MAP FEATURES

- Biological Study Area
- Permanent Road and Bridge Impact Area
- Permanent Bridge Column Impact Area
- Permanent Sloping Impact Area
- Temporary Road Impact Area
- Temporary Bridge Impact Area
- USFWS Southwestern Willow Flycatcher Critical Habitat

Photo: DigitalGlobe March 2008

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GIS Specialist: ECK
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Figure 9. Impacts to Southwestern Willow Flycatcher Critical Habitat

2007-173 Yucca Loma Bridge

Increased Human Activity and Visual Disturbance

Increased human activity and visual disturbances associated with project construction are considered temporary impacts because they will be limited to the duration of construction in the area. Increased human activity and disturbances associated with construction may discourage breeding southwestern willow flycatchers and other nesting bird species from establishing breeding territories in the areas immediately adjacent to construction zones.

Increased Dust

Fugitive dust is a likely result of construction in the project area. This impact is considered a temporary impact because it will not be an issue once construction is completed. Because the project area is in an area that is subject to frequent windy conditions, the additional dust created by the project will likely be a minimal temporary impact.

Ground Disturbance

Ground disturbance (vibrations) resulting from the use of heavy equipment and large vehicles utilized during the construction phase of the project may result in a temporary impact to southwestern willow flycatchers if they utilize the areas adjacent to the construction zones. This is likely more of a nuisance that the birds may tolerate rather than an impact that will deter them from utilizing the habitats adjacent to the construction zones.

Light Disturbance

Disturbance from stray night lighting in Critical Habitat areas located adjacent to the new bridge and the areas where road widening occurred may result in indirect impacts. Light disturbance from traffic on the bridge and from light poles on the bridge and along the roadway may have the potential to increase predation levels on wildlife in adjacent areas, including areas within Critical Habitat for the southwestern willow flycatcher. Night lighting may increase the predation rate on riparian birds and artificial lighting has been reported to cause migrating birds to lose spatial orientation and temporary loss of vision (Rich and Longcore, eds. 2006).

4.2.1.6. MODIFICATIONS TO THE PROJECT TO MITIGATE EFFECTS

The following measures have not been approved. These have been proposed to offset the impacts to designated Critical Habitat for the southwestern willow flycatcher.

The temporary and permanent impacts to southwestern willow flycatcher habitat are listed below in Table 3. The project will result in the temporary loss of 0.470 acre and the permanent loss of 0.419 acre of Mojave riparian forest. Because the project would result in impacts to potential habitat for the southwestern willow flycatcher in designated Critical

Habitat, enhancement of degraded habitat was incorporated into the project description. An old basin comprising approximately 1.99 acres, located north of Yates Road and just south of the Critical Habitat boundary, has been targeted for enhancement and restoration activities. The southern half of this basin, labeled as Mitigation Area A on Figure 10, will be affected by the widening of Yates Road. As part of the project, the basin will be reconstructed after the road widening has been completed and the other half of the basin will be enhanced to improve the quality and to increase the quantity of riparian habitat available for the southwestern willow flycatcher and other riparian nesting birds.

The areas surrounding the basin on the west, north, and east (Mitigation Area B), which encompass approximately 12.697 acres of disturbed Mojave riparian forest and disturbed rabbitbrush scrub, has also been targeted for enhancement (Figure 11). This area is heavily disturbed by human activities (trash dumping, off-highway vehicle use, and unauthorized camping). Mitigation Area B has been targeted for enhancement because most of it (11.154 acres) is within designated Critical Habitat. The trash, remnants of camp sites, dirt trails, and invasive plant species will be removed. This area will then be enhanced by planting additional willows and cottonwoods that will help to re-create the Mojave riparian forest community. To ensure the long term survival of this enhancement area, the construction activities associated with bridge and road widening will eliminate an old diversion structure that has separated this area from the historic flows paths in the Mojave River. Restoring the hydrology through this area will not only benefit the habitat but it will help to sustain the habitat in the future.

The proposed project will only result in temporary and permanent impacts to approximately 0.889 acres of Mojave riparian forest that provides the PCEs of Critical Habitat for the southwestern willow flycatcher. But, in order to improve habitat areas adjacent to the bridge and road widening project components, the project will result in the enhancement of a 13.794 acres area for the purpose of improving and creating additional habitat for the southwestern willow flycatcher and other riparian birds.

	Mitigation Area A Acreage	Mitigation Area B Acreage	Area of Overlap Acreage
INSIDE SWWF CRITICAL HABITAT	0.010	11.154	0.010
OUTSIDE SWWF CRITICAL HABITAT	1.985	1.542	0.889
Total:	1.996	12.697	0.899

Total Mitigation Area: 1.996 (Area A) + 12.697 (Area B) - 0.899 (overlap) = 13.794 acres

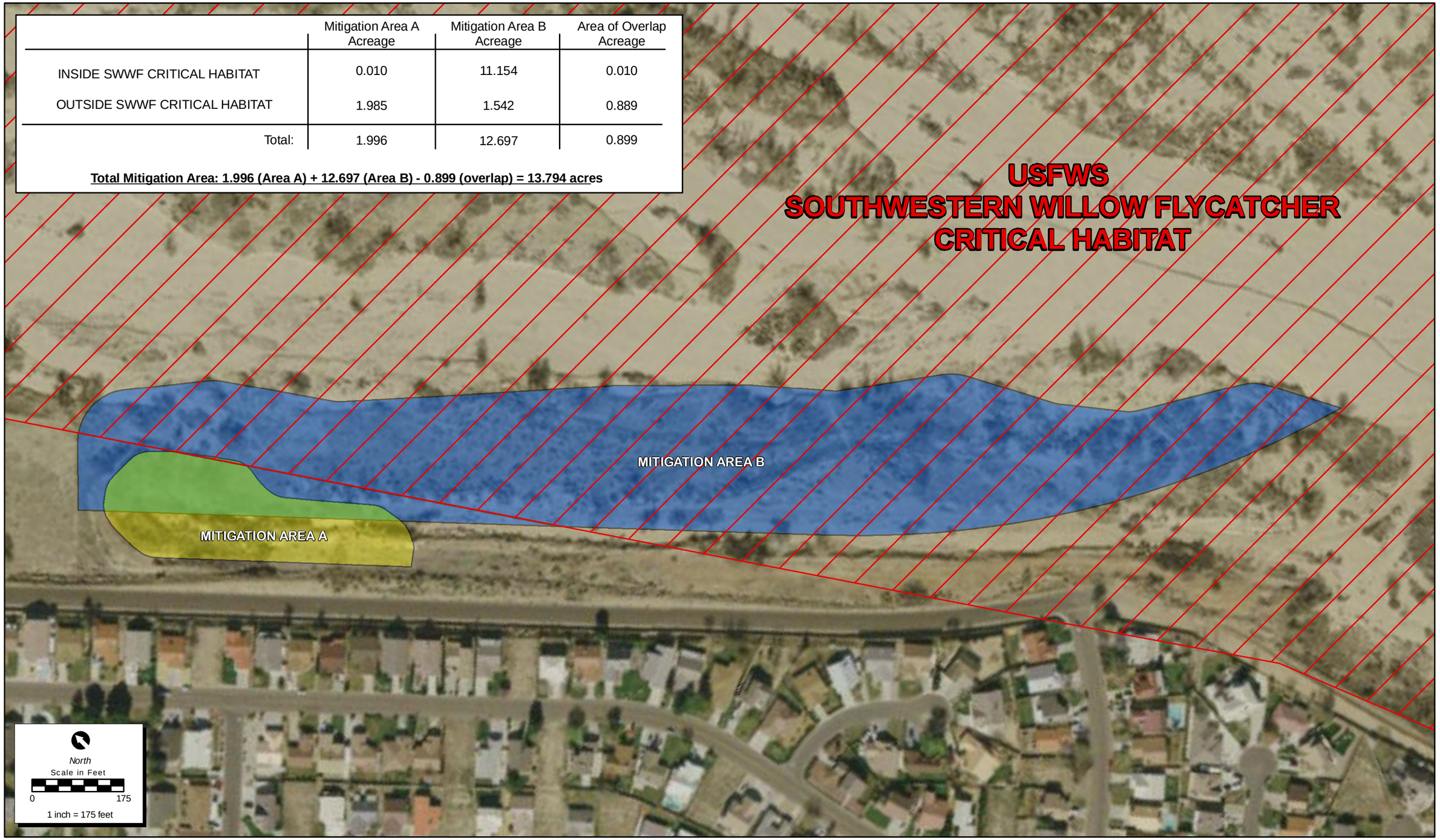

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Figure 10. Mitigation Areas & SWWF Critical Habitat

2007-173 Yucca Loma Bridge

Vegetation Class	Mitigation Area A Acreage	Mitigation Area B Acreage	Area of Overlap Acreage
Mojave Riparian Forest (MRF)	1.154	0.147	0.147
Disturbed Mojave Riparian Forest (DMRF)	0.557	4.926	0.557
Disturbed Rabbitbrush Scrub (DRS)	0.000	5.412	0.000
Sandy Wash (WASH)	0.285	2.212	0.195
Total:	1.996	12.697	0.899

Total Mitigation Area: 1.996 (Area A) + 12.697 (Area B) - 0.899 (overlap) = 13.794 acres

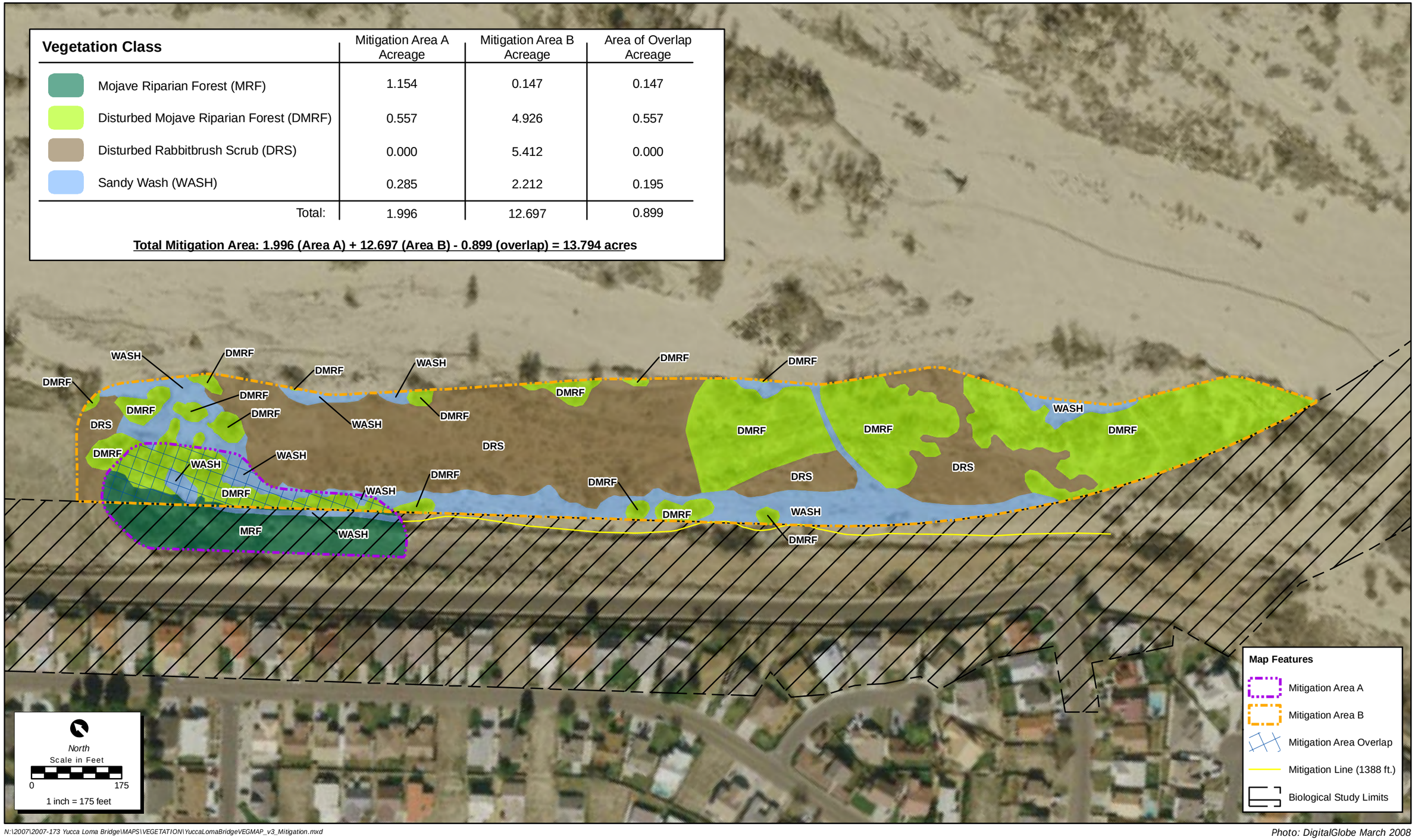

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Photo: DigitalGlobe March 2008
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Figure 11. Mitigation Areas

2007-173 Yucca Loma Bridge

Table 3: Proposed Project Impacts and Enhancement Area Acreages

Vegetation Community	Permanent Impacts (acres)	Temporary Impacts (acres)	Total Impacts (acres)	Total Enhancement Acreage Mitigation Area A (Southern Half)	Total Enhancement Acreage Mitigation Area B	Total Enhancement Acreage
Mojave Riparian Forest	0.419	0.470	0.889	1.007	0.147	1.154
Disturbed Mojave Riparian Forest	0.585	0.644	1.229	0.000	4.926	
******Disturbed Rabbitbrush Scrub	---	---	---	0.000	5.412	5.412
*****Mojave River/ Un-vegetated Streambed	2.237	2.108	4.345	0.090	2.212	2.302
*****Southern Willow Scrub	0.227	0.019	0.246	0.000	0.000	0.000
Total	**3.468**	**3.241**	**6.709**	**1.097**	**12.697**	**13.794**

***Note: These communities do not provide the PCEs of southwestern willow flycatcher Critical Habitat**

****Note: This community by itself is not considered riparian habitat nor does it provide the PCEs of Critical Habitat but it does exist as an understory vegetation type adjacent to Mojave Riparian Forest**

4.2.1.7. CUMULATIVE EFFECTS TO SOUTHWESTERN WILLOW FLYCATCHER

For the purposes of this cumulative effects discussion, the definition of a cumulative impact/effect as defined by National Environmental Policy Act (NEPA), California Environmental Quality Act (CEQA), FESA, and CESA will be used per Caltrans' Standard Environmental Reference (SER). Cumulative effects are defined in Caltrans' SER as follows:

NEPA: A cumulative impact is defined in the NEPA Regulations as "the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions." Cumulative impacts

can result from individually minor, yet collectively significant, actions taking place over a period of time.

CEQA: An environmental document must discuss the cumulative impacts of a project when the project's incremental effect is cumulatively considerable. "Cumulatively considerable" means that the incremental effects of an individual project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.

FESA: When considering cumulative effects to federally listed species, Section 7 of the Federal Endangered Species Act considers cumulative effects to include the effects of future State, tribal, local or private actions that are reasonably certain to occur in the action area. Future federal actions that are unrelated to the proposed action are not considered because they require separate consultation.

CESA: Impacts requiring minimization efforts or mitigation are defined by CESA as "all impacts on the species that result from any act that would cause the proposed taking" (Section 2081(b)(2)). In addition, CESA addresses cumulative impacts in Section 2081(c)(3), where it states that CDFG will allow the issuance of take permits as long as the taking of the species does not adversely impact its ability to survive and reproduce with regard to population status, known threats and "reasonably foreseeable impacts on the species from other related projects and activities."

Regional Plans

Regional plans and an adjudication were reviewed to complete the cumulative effects analysis of the proposed project's cumulative impacts on Mojave River natural resources. The proposed project is set for a construction start date of 2010; therefore, long term plans were used for this analysis as opposed to a project by project approach.

Mojave River Floodplain Maintenance Plan

The Mojave River channel in the project area is also under management by a Floodplain Maintenance Plan (FMP) administered by the ACOE, which authorizes the continuation of the maintenance schedule identified in the Interim Mojave River FMP for twenty years. The interim plan was developed by the San Bernardino County Transportation/Flood Control District (District), the ACOE, the USFWS, and CDFG. A final comprehensive maintenance plan was issued in June 1997. A programmatic Biological Opinion (BO) for the FMP was approved by the USFWS to provide for the incidental take of a number of federally listed species (USFWS 1999); however, southwestern willow flycatcher was not included in this BO since Critical Habitat had not been designated at the time the document was written. The final approval of the FMP and the BO resulted in a Regional

General Permit issued by the ACOE to San Bernardino County Flood Control District for selective maintenance.

The Victorville reach, which encompasses the proposed Mojave River bridge in the BSA, is one of four critical reaches of the Mojave River that require manipulation to ensure adequate channel capacity to convey anticipated storm flows or to prevent flows from directly impinging on bridges and levees. This reach requires significant and repeated vegetation and sediment clearing, because high groundwater levels support extensive riparian habitats and the channel, levees, and bridge were designed with the assumption that no vegetation would be present to restrict storm flows. Subsequent development adjacent to the river necessitates a higher level of flood protection.

City of Victorville General Plan

The proposed project is located in the City of Victorville on the Mojave River. The General Plan for the City of Victorville was prepared pursuant to state mandates which require every city and county within the state to adopt a comprehensive, long-term general plan for the physical development of the community and lands located outside its boundary, which in the planning agency's judgment, bears a relation to its planning. Additionally, it establishes a comprehensive document which can improve coordination of community development activities among all units of government (City of Victorville 1997).

The City of Victorville General Plan and its associated land use maps were reviewed to determine what type of development is planned in the vicinity of the project area. Land use types within and adjacent to the project area include: heavy industrial, light industrial, very low density residential, low density residential, medium density residential, high density residential, commercial, public/institutional, office professional, and open space. The General Plan has a planning horizon of 2015, which means that the goals, policies, and implementation measures of the General Plan are focused on that year. However, the planning process continues as the General Plan is amended and the City of Victorville continues to grow. The majority of the growth expected in the vicinity of the project area is residential, with some scattered commercial and industrial development.

Cumulative effects projected to occur in the project area include loss of habitat from increased OHV recreation, urban development, grazing, camping and shooting, utility construction, road/highway improvements, and other activities associated with human disturbance of the environment. More local cumulative effects on riparian habitat include an increase in noise due to additional traffic.

Because desert riparian habitat is a limited ecological resource, impacts to desert riparian habitat throughout the region affect the overall distribution, quality, and existence of the habitat type. The proposed project's impact to designated Critical Habitat for the

southwestern willow flycatcher consists of approximately 1.308 acres of Mojave riparian forest habitat. The proposed project's contribution to the loss of sensitive vegetation communities within Critical Habitat for the southwestern willow flycatcher is not considered cumulatively considerable due to the mitigation measures proposed to off-set project impacts.

Town of Apple Valley General Plan

The Town of Apple Valley's General Plan and zoning map were also reviewed to determine what type of development is planned in the vicinity of the project area. The surrounding properties are zoned as open space conservation (along the river), residential single family, residential multi-family, general commercial, office professional, residential low density, and regional commercial (Town of Apple Valley 2006). Cumulative effects on riparian habitat, and in particular, desert riparian habitat, include those described under the City of Victorville General Plan discussion in addition to runoff from residential and commercial development. However, the proposed project's contribution to the loss of desert riparian vegetation within designated Critical Habitat for the southwestern willow flycatcher is not considered cumulatively considerable due to the mitigation measures proposed to off-set project impacts.

County of San Bernardino General Plan

The County's General Plan and associated Land Use Plan were reviewed to determine the types of land uses and zoning designations in the vicinity of the project area that are under County jurisdiction. Land uses include: neighborhood commercial, rural living, regional industrial, single residential, institutional, and open space (Mojave Narrows Regional Park) (County of San Bernardino 2002). As with existing land uses and/or land uses that are planned under the City of Victorville and Town of Apple Valley General Plans, development in the County areas has similar cumulative effects. The proposed project's contribution to this impact is considered less than significant and not considerable with the implementation of mitigation measures for the protection of desert riparian vegetation and designated Critical Habitat.

Proposed Project

Cumulative effects projected to occur in the project area include ongoing impacts to designated Critical Habitat as a result of OHV recreation, camping, and shooting and other activities associated with human disturbance of the environment. The Critical Habitat located where the bridge will be constructed and where the road will be widened is not currently protected from human disturbances. Therefore, these impacts are likely going to continue for the long term with or without the project.

Because designated Critical Habitat for the southwestern willow flycatcher is a resource, impacts to desert riparian habitat within the Critical Habitat has the potential to result in a reduction of habitat for this species. However, the habitat that will be affected by the project is of poor quality and lacks the PCEs to support the breeding activities of the southwestern willow flycatcher. The proposed project includes the enhancement of a 13.794 acres area, 11.154 acres of which are within Critical Habitat, that will improve existing habitat and create additional habitat areas for the southwestern willow flycatcher. This will in an increase in the number of acres of available breeding habitat and an increase in the quality of habitat for the southwestern willow flycatcher. Therefore, the project will have positive cumulative effects on Critical Habitat for the southwestern willow flycatcher.

Chapter 5. Conclusions and Determination

5.1. Conclusions

The potential effects on Critical Habitat resulting from the proposed project is not likely to adversely affect the southwestern willow flycatcher or designated Critical Habitat. The approximately 6.709 acres of Critical Habitat expected to be impacted by the project is substantially degraded due to OHV use, trash dumping, and illegal camping and does not provide suitable breeding or nesting habitat for the willow flycatcher. In addition, of the 6.709 acres of Critical Habitat, approximately 4.345 acres consist of unvegetated sandy wash and very disturbed desert riparian habitat that does not support the Critical Habitat PCEs required for the southwestern willow flycatcher. Only 0.889 acre of Mojave riparian forest in the Critical Habitat is expected to be impacted by the proposed project. In addition, results from focused protocol southwestern willow flycatcher surveys that have been conducted on the site (ECORP 2006, GEC 2008) have concluded that the Critical Habitat present in the BSA is only utilized by migrating individuals. Higher quality habitat is present downstream of the BSA in the Mojave Narrows Regional Park.

The project will likely not have an adverse effect on the ability for willow flycatchers to utilize this section of Critical Habitat despite the loss of approximately 0.889 acre of impacted Critical Habitat (Mojave riparian forest) in the BSA. Most of the habitat present in the BSA will remain intact after construction is completed and the 0.889 acre of impacted habitat will be revegetated and/or restored within the vicinity of the project area in accordance with the Mojave River FMP. It is expected that the Critical Habitat present in the BSA will continue to be utilized by the willow flycatcher for migration purposes, as this section of habitat has been used in the past.

The proposed project includes the enhancement and restoration of approximately 13.794 acres of disturbed Mojave riparian forest, open wash, and disturbed rabbitbrush scrub areas located within Critical Habitat. This will greatly increase the quality and quantity of potential breeding habitat available for the southwestern willow flycatcher. In addition, it will serve to reduce the potential impacts associated with the temporary and permanent loss of 0.889 acre of Mojave riparian forest that will result from the bridge construction and road widening.

5.2. Determination

The proposed project is not likely to adversely affect the southwestern willow flycatcher or designated Critical Habitat for this species for a number of reasons, including:

- The desert riparian habitat within the Critical Habitat boundaries is of low quality due to human-induced disturbances (OHV use, trash dumping, illegal camping) that are expected to continue with or without the project;

- The desert riparian habitat that will be permanently and temporarily affected by the proposed project does not fit the description of "A dense tree or shrub canopy is imperative for breeding sites (areas with 50 to 100 percent coverage)." The cottonwood trees, small patches of willows, and scrub species within the designated Critical Habitat where the project will be constructed exhibits a density far less than 50 percent.

- The project will only permanently remove 0.419 acre and temporarily remove 0.470 acre of desert riparian vegetation within the designated Critical Habitat boundaries. This temporary and permanent loss of vegetation within Critical Habitat will be offset by the enhancement and restoration of approximately 13.794 acres of disturbed Mojave riparian scrub, desert wash, and disturbed rabbitbrush scrub within the Critical Habitat Unit. .

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Appendix A Focused Surveys Results

Southwestern Willow Flycatcher Report

HABITAT ASSESSMENT & FOCUSED SURVEYS FOR
Southwestern willow flycatcher
Yucca Loma
Town of Apple Valley
San Bernardino County, California
Victorville Quadrangle
Township 5N, Range 4W, portions of Sections 23, 24 and 25

Prepared For:

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

215 North 5th Street
Redlands, CA 92374

Prepared By and Principal Investigator:

GONZALES
ENVIRONMENTAL CONSULTING, LLC

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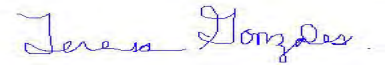
La Quinta, CA 92253
(760) 777-1621

Report Date: July 24, 2008

TABLE OF CONTENTS

CERTIFICATION: I hereby certify that the statements furnished above and in the attached exhibits present data and information required for this biological evaluation, and that the facts, statements, and information presented are true and correct to the best of my knowledge and belief.

Date: July 24, 2008

Signed: 

USFWS Certification: I certify that the information in this survey report and attached exhibits fully and accurately represents my work.

Permit #: TE060175-1 Signed: 

SUMMARY

The Town of Apple Valley proposes the placement of a bridge across the Mojave River to connect the western end of Yucca Loma Road with the eastern end of Yates Road in the City of Victorville, San Bernardino County, California.

The project site is located south of Mojave Narrows Regional Park, east and west of the Mojave River in San Bernardino County, California. Elevation within the study area ranges from approximately 2,760 feet to 2,800 feet.

The site supports native vegetation communities, including Mojave riparian forest, and rubber rabbitbush scrub. It also supports agriculture, ruderal, developed, and disturbed areas.

In May, June and July 2008 Teresa Gonzales, Principal Biologist for Gonzales Environmental Consulting, LLC (GEC), conducted focused surveys for southwestern willow flycatcher on the proposed project site. One migrant southwestern willow flycatcher was found during our surveys of the area. The site is within the Basin and Mojave Recovery Unit, Mojave Management Unit for the southwestern willow flycatcher.

I. PROJECT DESCRIPTION

This report summarizes the findings of focused surveys to determine presence or absence of southwestern willow flycatcher (*Empidonax traillii extimus*) on the Yucca Loma project site.

The Town of Apple Valley is proposing to construct a bridge over the Mojave River that will connect the terminus of Yucca Loma Road on the east side of the river channel to Yates Road, which is located on the west side of the river channel (Figure 1.) The survey area for the bridge corridor is approximately 1,950 feet long and included a buffer of approximately 300 feet wide (150 feet off center in both directions). An additional area, located along the northern shoulder of Yates Road was included in the survey area in anticipation of the potential future widening of Yates Road. Approximately 4,930 feet of the northern shoulder of Yates Road, extending from the northwest corner of the intersection of Yates Road and Park Road (the entrance to Mojave Narrows Park), east to the intersection of Yates Road and Fortuna Lane may potentially be widened. As part of the widening project, fill may be required along the existing northern Yates Road shoulder (ECORP).

STUDY AREA

The site is located within San Bernardino Meridian in Sections 23, 24, and 25, Township 5 South, and Range 4 West in San Bernardino County, California (Figure 2). This location is shown on the Victorville, California 7.5-minute U.S. Geological Survey (USGS) quadrangle (Victorville 1982); page 4386 (blocks 2H and 2J) and page 4387 (blocks 1A, 2A, 3A, and 3B) of the current San Bernardino County Street Guide and Directory (Thomas Brothers Maps Design 2007). The approximate center of the site is located at 34.3025.04°N, 117.1603.29°W.

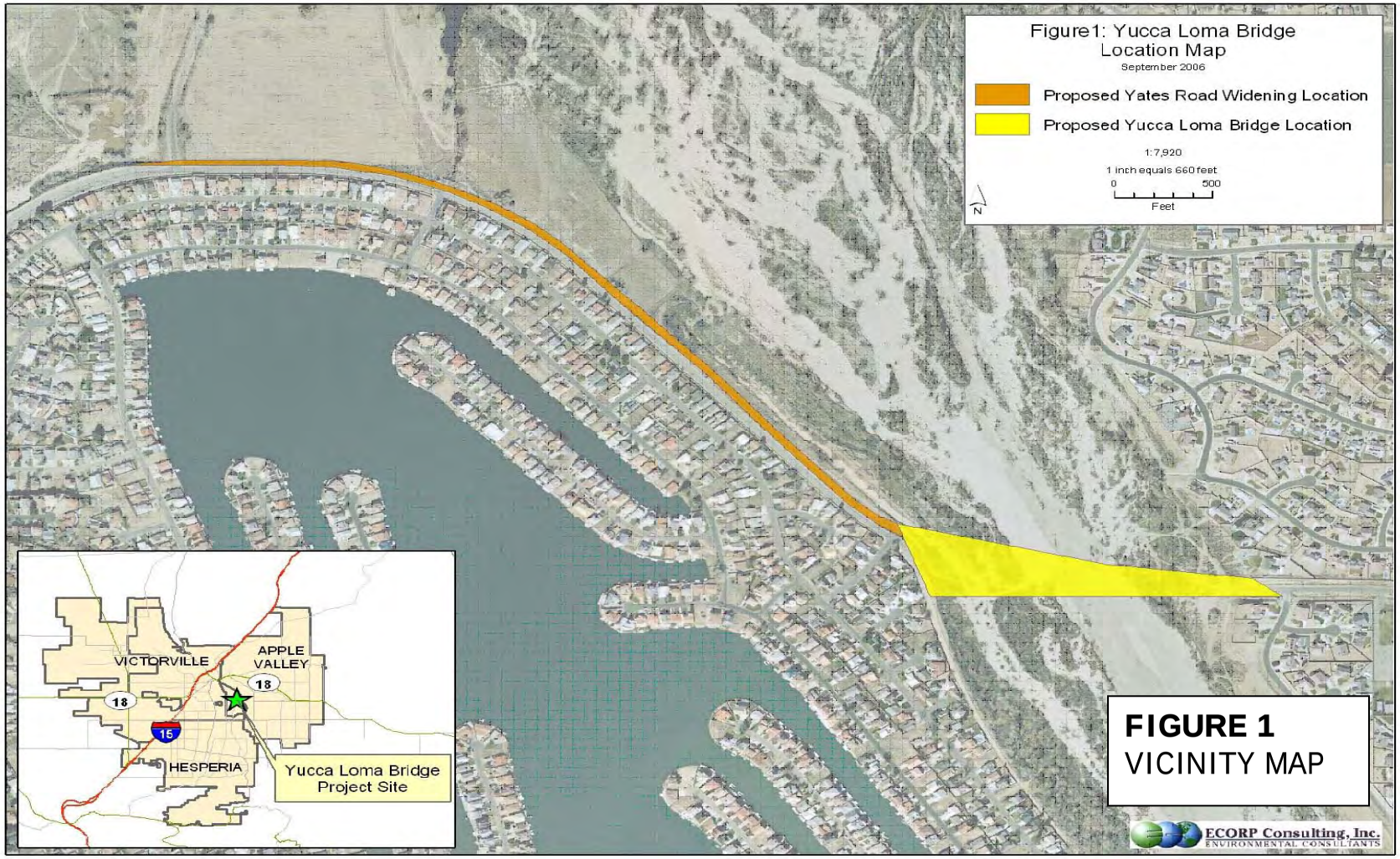


Exhibit courtesy of ECORP Consulting, Inc.

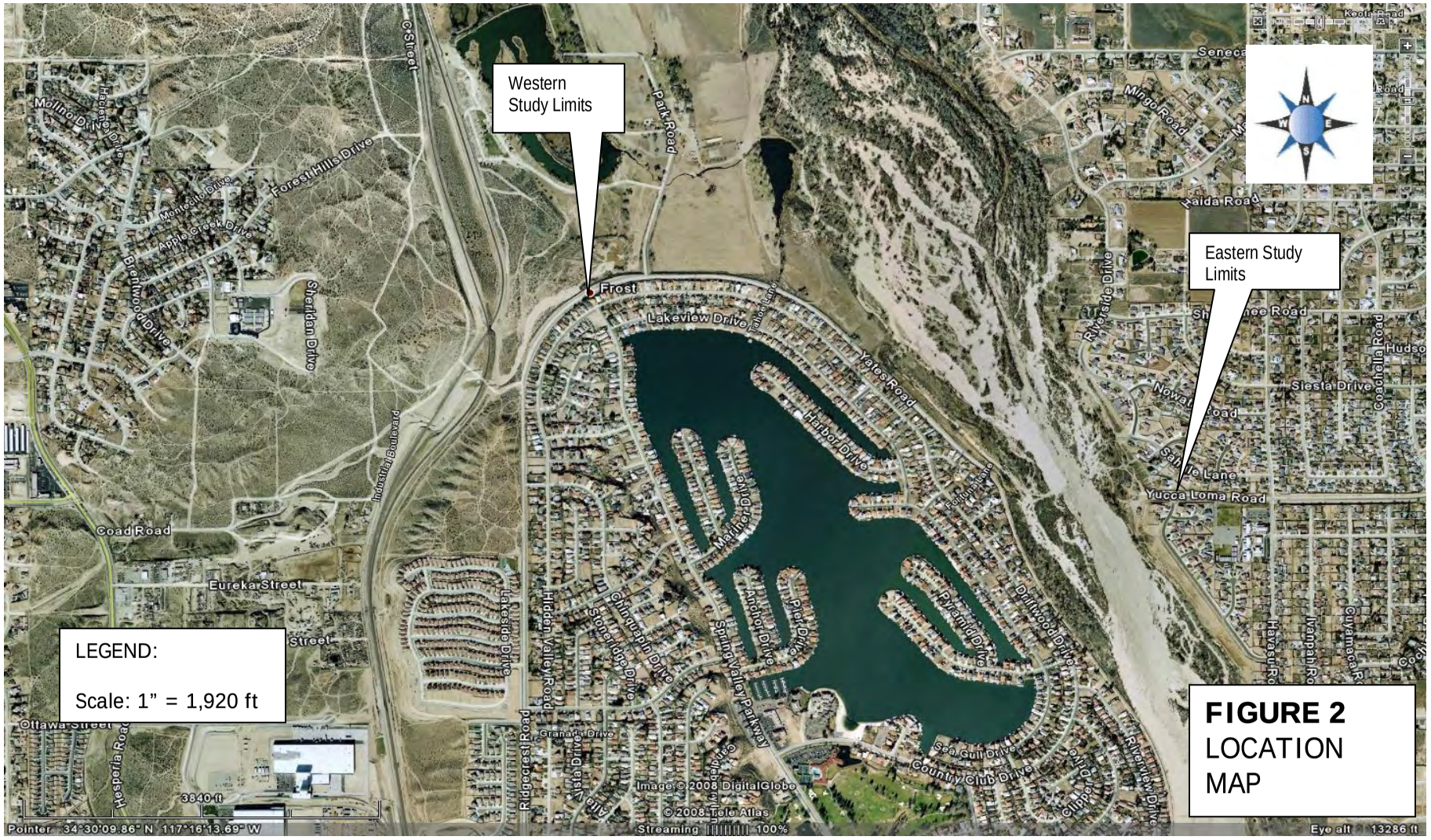
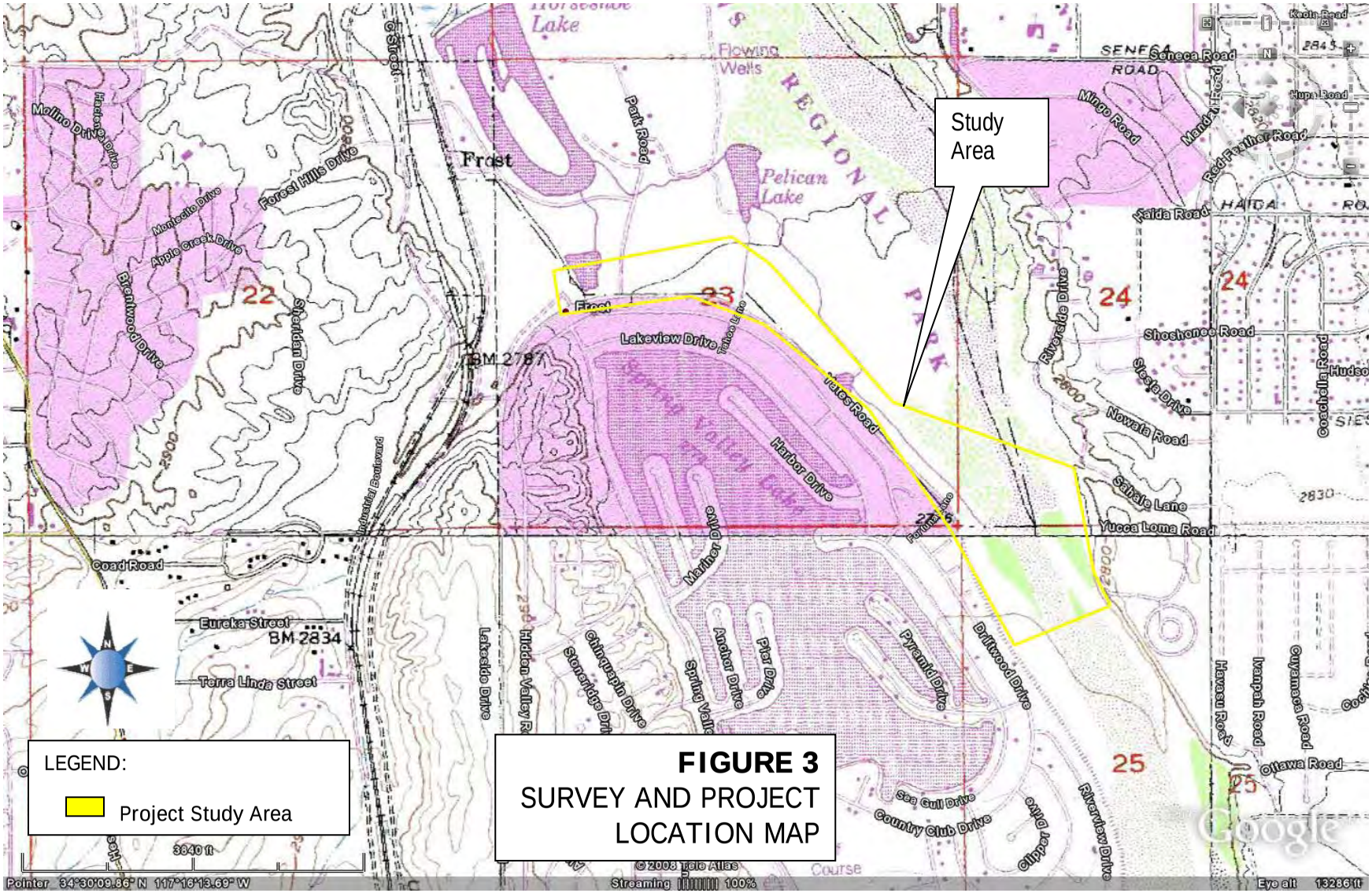


FIGURE 2
LOCATION
MAP

Please note that this is an approximate locality map, and should not be used for calculations



Please note that this is an approximate locality map, and should not be used for calculations

This report was authorized via subcontract with ECORP Consulting, Inc. Teresa Gonzales was the biologist for this project. Field surveys were conducted on May 29, June 10, 21, 29 and July 15, 2008.

II. STUDY AREA CONDITIONS

The following sections summarize the study area conditions. For purposes of this report, the term study area includes the proposed project construction limits and a surrounding 1,300-foot buffer (Figure 3).

Physical Conditions

Elevations in the project area vary from approximately 2,760 feet to 2,800 feet. The site is in a horseshoe shape with the Mojave River forming the eastern edge, which represents a water body that is utilized by an abundance of wildlife species. The river and river edges, and portions of the uplands, support a mix of vegetation communities (Mojave riparian forest, rubber rabbitbush scrub, agriculture, ruderal, developed, and disturbed areas) that typically support a diversity of wildlife species, particularly birds. To the north of the site is Mojave Narrows Regional Park. This area supports both riparian and open habitats, but also periodically supports open water areas. To the south and east of the site are residential areas. To the west of the site, the lands consist of a mix of developed and undeveloped areas. Portions of the undeveloped areas support desert scrub habitats.

The biological conditions in the areas that were surveyed for this biological resources assessment vary somewhat depending upon the level and amount of water present in the river. When water is present, the aquatic areas and marsh habitat provide important foraging, cover, and nesting opportunities for wildlife. When the river dries out, the result is the die back of aquatic habitat, marsh vegetation, and the riparian vegetation that has not yet established roots that reach the water table. The Mojave riparian forest habitat near the edge of the river is patchy and disjunct.

Definitions

Vegetation Communities

Vegetation habitats or communities are assemblages of plant species that usually coexist in the same area. The classification of vegetation communities is based upon the life form of the dominant species within the community and the associated flora. The nomenclature for vegetation communities follows Holland's Preliminary Descriptions of the Terrestrial Natural Communities of California (1986), as modified by Oberbauer (1996).

Wildlife Habitats

Wildlife habitats differ from vegetation communities in that a wildlife habitat may contain several vegetation communities that are similar in structure but different in the plant species composition, location, and soil substrate. This distinction becomes an important factor when assessing the sensitivity of a particular wildlife habitat to impacts. In addition, the interaction of various wildlife species occurs between many different wildlife habitats. This becomes more evident where these habitats overlap in areas known as ecotones. These ecotones support a combination of species from two or more adjoining habitats that generally increases the number and diversity of species within these areas. Wildlife habitats encountered on the project site approximate the vegetation communities discussed is this report.

Vegetation

The project site is comprised of disturbed Mojave Riparian Forest at the Mojave River crossing area of the proposed Yucca Loma Bridge. Rubber Rabbitbrush Series, was noted along the northern shoulder of Yates Road. Residential areas consisting of medium density single family homes occur southwest of Yates Road on the west side of the Mojave River and on both sides of Yucca Loma Road on the east side of the Mojave River (ECORP). In addition to the residential areas noted as Developed on the vegetation community map, Ruderal and Disturbed areas also occur throughout the project site. Mojave Narrows Regional Park also lies on the north side of Yates Road near the project site, and contains areas deemed Agriculture since livestock (horses) are allowed to graze in the area.

Mojave Riparian Forest

Mojave Riparian Forest is characterized as containing an open, broad-leafed winter deciduous forest of Fremont cottonwood (*Populus fremontii*), black willow (*Salix gooddingii*), and red willow (*Salix laevigata*). Open spaces may also contain saltbush (*Atriplex torreyi*), Mojave rubberbush (*Chrysothamnus nauseosus*), wild rose (*Rosa woodsii*), and sandbar willow (*Salix exigua*). The dominant soil in this community type consists of stream deposited sands, with occasional annual surface flows during flood events, but otherwise irrigated by sub-surface perennial flow during most of the year.

This is the primary plant community present at the Yucca Loma Bridge crossing area. High levels of disturbance, caused by flooding, flood control clearing, and/or high impact off-roading has removed all vegetation in the central portion of the crossing. The crossing is characterized mainly by denuded and highly disturbed river bottom in the central riverbed, bordered on both sides by habitat islands of disturbed Mojave Riparian Forest community.

Rubber Rabbitbush Scrub

This community is dominated by rubber rabbit bush (*Chrysothamnus nauseosus*), and is typically a pioneer community after natural or human caused disturbances, e.g., wildfires and fallow agricultural fields. Other members of this community may include yellow rabbitbrush (*Chrysothamnus viscidiflorus*) and four-wing saltbush (*Atriplex canescens*).

The northern shoulder of Yates Road has become established by this community. It also occurs in a few small patches along the roads next to the Mojave River crossing area. This highly disturbed area is also dominated by Russian thistle (*Salsola tragus*) and black mustard (*Brassica nigra*).

Agriculture, Ruderal, Developed, and Disturbed Areas

Portions of the project area contain off-road vehicle trails, an agricultural field, and weedy fallow disturbed areas. The Yucca Loma Bridge site contains several non-native shrubs and trees at both ends of the site that are associated with high levels of disturbance by off-road use, flood control activities, target practice, trash, green waste dumping, and other human disturbance. Agriculture and Ruderal areas occur on the northeastern side of Yates Road. This area is also grazed by livestock. It consists of disturbed bare ground, non-native grasses, and weedy annuals. Developed areas border the entire length of the southern side of Yates Road, on both sides of the proposed bridge crossing (ECORP).

Wildlife

Wildlife species observed or detected in the survey area were characteristic of those that would be expected to occupy riparian habitats in the region. Below is the discussion of the terrestrial wildlife observed or expected that primarily utilize the uplands and riparian habitats.

Mammals

Domestic dog (*Canis lupus*), black-tailed jackrabbit (*Lepus californicus*), desert cottontail (*Sylvilagus audubonii*), California ground squirrel (*Spermophilus beecheyi*), dusky-footed woodrat (*Neotoma fuscipes*), bobcat (*Lynx rufus*), striped skunk (*Mephitis mephitis*), and coyote (*Canis latrans*) were observed on the project site

during the surveys. Bats occur throughout most of southern California and are using the area as foraging habitat. The gaps in peeling bark and hollow snags or limbs provide potential roosting and maternal colony opportunities for bat species.

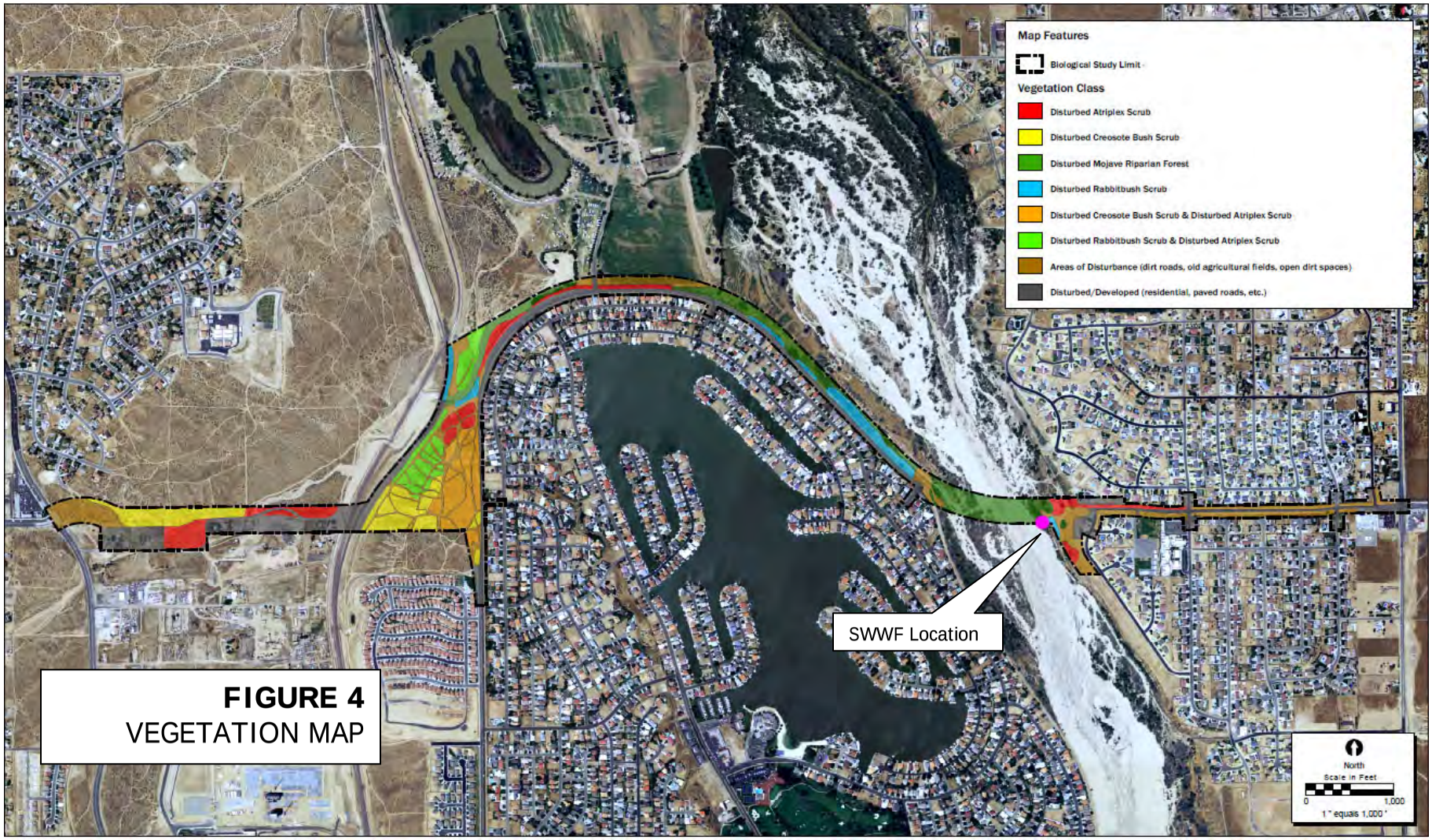


FIGURE 4
VEGETATION MAP

Exhibit modified from ECORP January 2008 exhibit

III. SOUTHWESTERN WILLOW FLYCATCHER FOCUSED SURVEY

Background

The southwestern willow flycatcher is a one of four subspecies of the willow flycatcher (Empidonax traillii) recognized in North America (Hubbard 1987; Unitt 1987; Browning 1993). The southwestern willow flycatcher is a relatively small, insectivorous bird with a whitish throat, grayish-green back, a light olive breast, and a pale yellowish belly. The breeding range of the southwestern willow flycatcher includes southern California, Arizona, New Mexico, southern portions of Nevada and Utah, western Texas, southwestern Colorado, and extreme Northwestern Mexico (Hubbard 1987; Unitt 1987; Browning 1993). Willow flycatchers winter in Mexico, Central America, and northern South America (Phillips 1948).

The southwestern willow flycatcher occurs in riparian habitats along rivers, streams, and other wetland habitats where dense growths of willows, Baccharis, arrowweed (*Pluchea* sp.), buttonbush (*Cephalanthus* sp.), or other plants of similar structure and form are present (Grinnell and Miller 1944, Phillips 1948, Hubbard 1987, Unitt 1987, Brown and Trosset 1989, Brown 1991). Overstories are often present in occupied habitats and composed of willows or cottonwoods (Unitt 1987, Brown 1991, U.S. Fish and Wildlife Service 1993).

Riparian communities provide both nesting and foraging habitat for the southwestern willow flycatcher. Flycatcher nests are in thickets of trees and shrubs approximately 13 to 23 feet tall with a high percentage of canopy cover and dense foliage from 0 to 13 feet above ground. The nest site plant community is typically even-aged, structurally homogeneous, dense, and near surface water or saturated soil (Brown 1988, Sedgwick and Knopf 1992, Sogge et al. 1993). Other characteristics such as dominant plant species, size and shape of habitat patch, canopy structure, and vegetation height vary widely among sites. Along the upper San Luis Rey River, in San Diego County, approximately 90 percent of southwestern willow flycatcher nests were in coast live oak.

Flycatchers are late spring breeders, typically raising one brood per year. They are generally present and singing on breeding territories by mid-May and fledge young in early July (Ligon 1961, Brown 1988). Willow flycatchers are generally gone from breeding grounds in southern California by late August and are exceedingly scarce in the United States after mid-October (Garrett and Dunn 1981).

Willow flycatchers were once considered widely distributed and common in California, occurring wherever suitable habitat existed in the Los Angeles Basin, San Bernardino/Riverside and San Diego Counties, and the lower Colorado River (Grinnell

and Miller 1944, Unitt 1987, Willet 1933). California once may have supported the majority of nesting flycatchers. Currently in California, willow flycatchers exist only in small disjunct groups and have been extirpated from the lower Colorado River (Hunter et al. 1987, Unitt 1987, Rosenburg et al. 1991).

Due to the threats to the population, U.S. Fish and Wildlife Service (USFWS) listed the southwestern willow flycatcher as endangered on February 27, 1995 (60 FR 10694) and designated critical habitat on July 22, 1997 (62 FR 39129).

Methods

Gonzales Environmental Consulting (GEC) biologist Teresa Gonzales performed the surveys, which were carried out according to USFWS protocol (USFWS 2000). Ms. Gonzales has a permit (TE-060175-1, expires 19 October 2008) authorized by the USFWS to perform such surveys for the southwestern willow flycatcher.

Surveys included all habitats within the area potentially supporting riparian birds that may be directly or indirectly affected by the impacts of the project. A minimum width of a ¼ mile distance from the project site was surveyed. Suitable habitat was surveyed on foot by walking slowly and methodically along existing trails when possible. The suitable habitat areas were searched quietly using binoculars and listening for the songs of the birds. When no observations were made, tape vocalizations of the willow flycatcher were played in appropriate habitat. Information on habitat characteristics, locality and weather conditions were recorded onto field forms and mapped.

Weather conditions during surveys were generally conducive to a high level of bird activity. If weather conditions were not conducive to bird activity surveys were cancelled or not conducted.

Southwestern willow flycatcher survey protocol calls for a minimum of one survey between 15-31 May, a minimum of one survey between 1-21 June, and, for project-related surveys, a minimum of three surveys between 22 June-17 July, each at least five days apart. During these surveys use of vocalization tapes of prerecorded calls of the southwestern willow flycatcher is mandatory as part of the survey protocol. Methods for the surveys consisted of walking through habitat at the site that is considered appropriate for this species, i.e., Riparian. Simultaneously with walking the habitat, the biologist doing the survey watches and listens for wildlife, observing any indirect signs of species presence. “Pishing,” a vocal technique commonly used to attract passerines (songbirds) and draw them into view, was occasionally employed. Binoculars (8.5 x 44) were used to assist in the detection and identification of any sighted wildlife. In accordance with survey protocol, taped vocalizations of the southwestern willow flycatcher species were occasionally played. The size of the property and the extent of appropriate habitat are such that the site could be surveyed in its entirety during each of the survey visits. As a condition of the federal

permit to perform this survey, GEC is required to submit a copy of this report to the USFWS, the California Department of Fish and Game (CDFG), and the US Geological Survey (USGS). A copy of the form required by the USGS is included.

The schedule and field conditions during the visits are summarized below.

Table 1
Survey Summary

Date	Air Temp (F)	Wind Speed (mph)	Cloud Cover	Precipitation	Time
May 29, 2008	55-58	4	Clear	None*	3:30 AM – 10 AM
June 10, 2008	56-60	2	Clear	None	3:30 AM – 10 AM
June 21, 2008	58-62	3	Clear	None	3:00 AM – 9:00 AM
June 29, 2008	60-65	2	Clear	None	3 AM – 9 AM
July 15, 2008	63-69	5	Clear	None	3 AM – 9 AM

*Precipitation later in day, morning clear

Results

The southwestern willow flycatcher is restricted to riparian woodlands along streams and rivers with mature, dense stands of willows (*Salix* spp.), cottonwoods (*Populus* spp.) or smaller spring fed or boggy areas with willows or alders (*Alnus* spp.). Riparian habitat provides both breeding and foraging habitat for the species. The southwestern willow flycatcher nests from zero to 13 feet above ground in thickets of trees and shrubs approximately 13 to 23 feet tall with a high percentage of canopy cover and dense foliage. Typically, sites selected as song perches by male willow flycatchers show higher variability in shrub size than do nest sites and often include large central shrubs. Habitats not selected for either nesting or singing are riparian zones with greater distances between willow patches and individual willow plants (Sedgewick and Knopf 1992). Nesting willow flycatchers invariably prefer areas with surface water nearby (Phillips et al. 1964, MSHCP 2003).

The project site is in the Basin and Mojave Recovery Unit, Mojave Management Unit for the southwestern willow flycatcher (USFWS 2005). Riparian habitat in the Mojave River area is considered critical habitat for the recovery of the southwestern willow flycatcher.

Records for the southwestern willow flycatcher within the project vicinity are from 1990 and were recorded approximately 2.6 miles northwest of the site at the northwest end of Mojave Narrows Regional Park (CNDDB 2006) (ECORP). The resident or migrant status of the bird was unknown but it was detected as singing in late June and early July when migrant flycatchers are typically no longer moving through the area.

Results of 2006 protocol surveys detected one willow flycatcher during each of the first two surveys. No willow flycatchers were observed during the final three focused SWWF surveys. Interpretation of the survey results leads to the conclusion that the observed willow flycatchers were migrants, and resident (breeding) flycatchers are absent from the site at this time (ECORP).

Habitat assessment for the southwestern willow flycatcher found suitable habitat on the site (riparian, willow scrub). One migratory southwestern willow flycatcher was observed in the project area. The migratory southwestern willow flycatcher responded to tape vocalization on May 29, and June 10, 2008 and was observed in the riparian habitat adjacent to Yucca Loma Road. Despite repeated attempts to locate this bird during the final three focused SWWF surveys (June 21, 29 and July 15) we were unable to locate it. Based on these observations, the conclusion was that the southwestern willow flycatcher was migratory.

No other federally and/or state listed threatened or endangered bird species, were observed during surveys on the project site. Several species of concern including: Loggerhead shrike, California thrasher, yellow warbler and yellow-breasted chat. One least Bell's vireo was located well outside the project site at Horseshoe Lake in Mojave Narrows Regional Park. Brown headed cowbirds were observed on each survey.

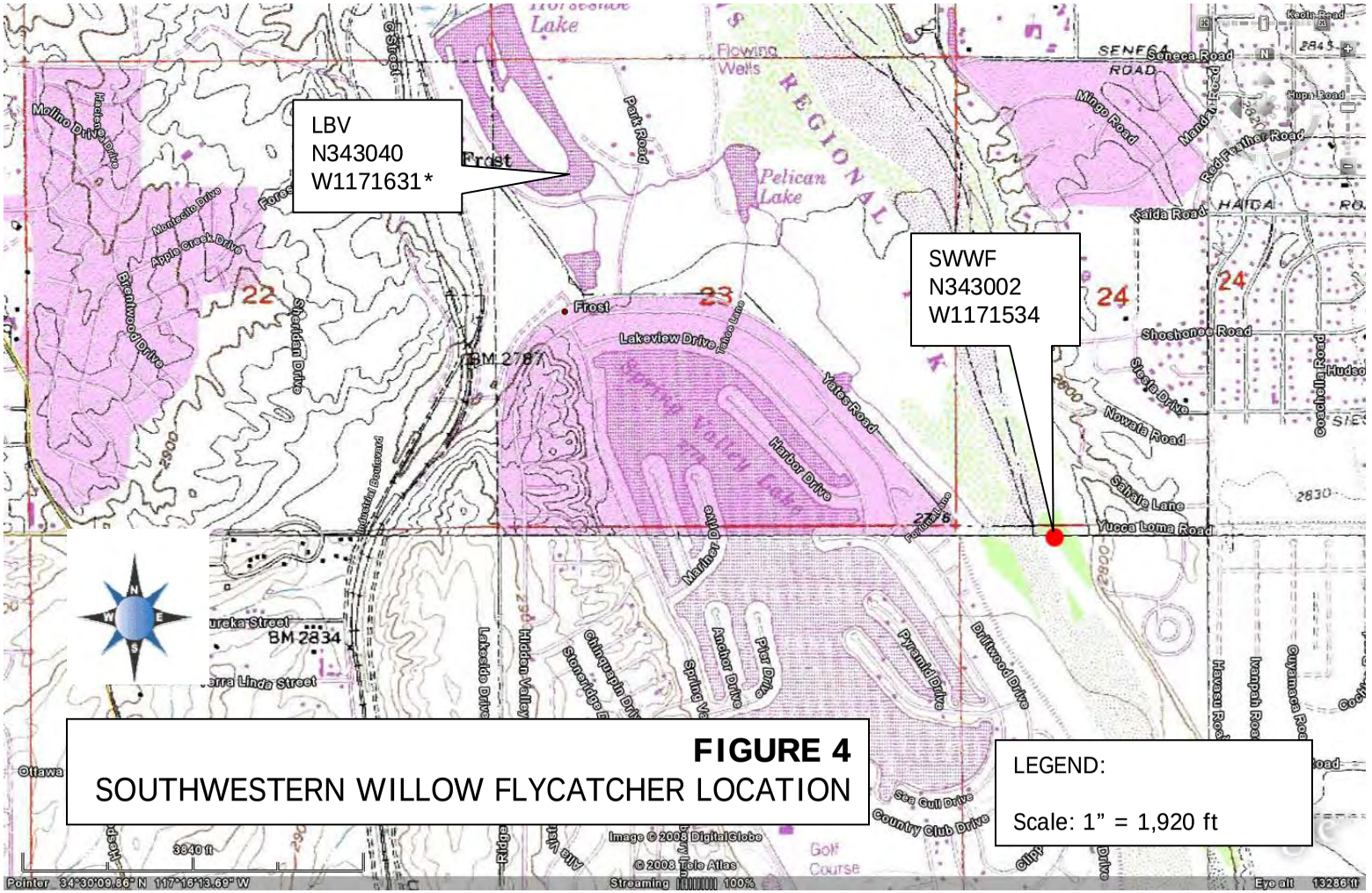


FIGURE 4
SOUTHWESTERN WILLOW FLYCATCHER LOCATION

*Outside of the zone of influence of the project

Conclusion

Vegetation on the project site does not appear to provide suitable territorial or breeding habitat for the southwestern willow flycatcher. Although willow and cottonwood species are present adjacent to saturated/open water the diversity may not be adequate to support the species. Therefore, this species is not expected to territorialize or breed on the project site or in immediately adjacent areas. Coordination with USFWS is required, as the project area is considered to be critical habitat for the recovery of the southwestern willow flycatcher.

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ATTACHMENT A
WILDLIFE COMPENDIUM

SCIENTIFIC NAME	COMMON NAME
AVES	BIRDS
ACCIPITRIDAE	HAWKS, EAGLES, HARRIERS, OSPREY
Accipiter cooperii	Cooper's hawk
Buteo jamaicensis	Red-tailed hawk
AEGITHALIDAE	BUSHTITS
Psaltriparus minimus	Bushtit
ANATIDAE	DUCKS, GEESE AND SWANS
Arias platyrhynchos	Mallard
APODIDAE	SWIFTS
Aeronautes saxatalis	White-throated swift
ARDEIDAE	HERONS
Ardea herodias	Great blue heron
CATHARTIDAE	VULTURES
Cathartes aura	Turkey vulture
CHARADRIIDAE	PLOVERS
Charadrius vociferus	Killdeer
COLUMBIDAE	PIGEONS AND DOVES
*Columba livia**	Rock dove
Zenaida macroura	Mourning dove
CORVIDAE	CROWS AND JAYS
Corvus brachyrhynchos	American crow
Corvus corax	Common raven
CUCULIDAE	CUCKOOS
Geococcyx californianus	Greater roadrunner
EMBERIZIDAE	SPARROWS, WARBLERS, TANAGERS
Guiraca caerulea	Blue grosbeak
Melospiza melodia	Song sparrow
FALCONIDAE	FALCONS
Falco sparverius	American kestrel
FRINGILLIDAE	FINCHES
Carpodacus mexicanus	House finch
Carduelis psaltria	Lesser goldfinch
Carduelis tristis	American goldfinch
HIRUNDINIDAE	SWALLOWS
Stelgidopteryx serripennis	Northern rough-winged swallow
Hirundo pyrrhonota	Cliff swallow
ICTERIDAE	BLACKBIRDS
Agelaius phoeniceus	Red-winged blackbird
Euphagus cyanocephalus	Brewer's blackbird
Icterus cucullatus	Hooded oriole
Quiscalus mexicanus	Great-tailed grackle
Molothrus ater	Brown-headed cowbird
LANIIDAE	SHRIKES
*Lanius ludovicianus***	Loggerhead shrike
MIMIDAE	MOCKINGBIRDS AND THRASHERS
Mimus polyglottos	Northern mockingbird
*Toxostoma redivivum **	California thrasher
PASSERIDAE	WEAVERS
*Passer domesticus**	House sparrow
PARULIDAE	WOOD WARBLERS

SCIENTIFIC NAME	COMMON NAME
*Dendroica petechia***	yellow warbler
*Icteria virens***	yellow-breasted chat
Wilsonia pusilla	Wilson's warbler
PHASIANIDAE	GROUSE AND QUAIL
Callipepla californica	California quail
PICIDAE	WOODPECKERS
Picoides nuttallii	Nuttall's woodpecker
Colaptes auratus	Northern flicker
PTILOGONATIDAE	SILKY FLYCATCHERS
Phainopepla nitens	Phainopepla
RALLIDAE	RAILS, GALLINULES AND COOTS
Fulica americana	American coot
REMIZIDAE	VERDINS
Auriparus flaviceps	Verdin
STRIGIDAE	TYPICAL OWLS
Otus kennicottii	Western screech-owl
Bubo virginianus	Great horned owl
STURNIDAE	STARLINGS
Sturnus vulgaris	European starling*
THRAUPIDAE	TANAGERS
Piranga ludoviciana	Western tanager
TROCHILIDAE	HUMMINGBIRDS
Archilochus alexandri	Black-chinned hummingbird
Calypte anna	Anna's hummingbird
Calypte costae	Costa's hummingbird
TROGLODYTIDAE	WRENS
Thryomanes bewickii	Bewick's wren
Troglodytes aedon	House wren
TURDIDAE	THRUSHES
Sialia mexicana	western bluebird
TYRANNIDAE	TYRANT FLYCATCHERS
Contopus sordidulus	Western wood-pewee
*Empidonax traillii***	Southwestern willow flycatcher
Myiarchus cinerascens	Ash-throated flycatcher
Sayornis nigricans	Black phoebe
Sayornis saya	Say's phoebe
Tyrannus verticalis	Western kingbird
Tyrannus vociferans	Cassin's kingbird
TYTONIDAE	BARN OWLS
Tyto alba	Common barn-owl
VIREONIDAE	VIREOS
Vireo gilvus	Warbling vireo

Alien species indicated by asterisk, special status species indicated by two asterisks. This list includes species observed on the site. Others may have been overlooked or unidentifiable due to season.

SCIENTIFIC NAME	COMMON NAME

SCIENTIFIC NAME	COMMON NAME
CLASS MAMMALIA	MAMMALS
LEPORIDAE	HARES AND RABBITS
Lepus californicus	Black-tailed jackrabbit
Sylvilagus audubonii	Desert cottontail
SCIURIDAE	SQUIRRELS
Spermophilus beecheyi	California ground squirrel
MURIDAE	OLD WORLD RATS AND MICE
Neotoma fuscipes	Dusky-footed woodrat (midden)
FELIDAE	CATS
Lynx rufus	Bobcat (tracks)
CANIDAE	DOGS/WOLVES/FOXES
Canis familiaris *	Domestic dog
Canis latrans	Coyote (observed a pack of 4 hunt and kill cottontail)
MUSTELIDAE	WEASELS AND ALLIES
Mephitis mephitis	Striped skunk
EQUIDAE	HORSES
*Equus caballus**	Domestic horse

Alien species indicated by asterisk, special status species indicated by two asterisks. This list includes species observed on the site. Others may have been overlooked or unidentifiable due to season.

ATTACHMENT B
BOTANICAL COMPENDIUM

Scientific Name	Common Name
VASCULAR PLANTS	
ANGIOSPERMS (DICOTYLEDONS)	
ACERACEAE	MAPLE FAMILY
Acer negundo var. *californicum*	California box-elder
ASTERACEAE	SUNFLOWER FAMILY
Ambrosia acanthicarpa	Annual bur-sage
Artemisia douglasiana	Mugwort
Artemisia ludoviciana	Western mugwort
Baccharis salicifolia	Mulefat
Chrysothamnus nauseosus	Mojave rabbitbrush
Helianthus annuus	Common sunflower
Lepidospartum squamatum	Scale-broom
BRASSICACEAE	MUSTARD FAMILY
*Brassica nigra***	Black mustard
Lepidium virginicum	Wild pepper-grass
CAPRIFOLIACEAE	HONEYSUCKLE FAMILY
Sambucus mexicana	Mexican elderberry
CHENOPODIACEAE	GOOSEFOOT FAMILY
Atriplex canescens	Four-wing saltbush
*Salsola tragus**	Russian thistle
ONAGRACEAE	EVENING PRIMROSE FAMILY
Oenothera primiveris	Desert evening primrose
POLEMONIACEAE	PHLOX FAMILY
Eriastrum densifolium ssp. *mohavense*	Mojave eriastrum
POLYGONACEAE	BUCKWHEAT FAMILY
Eriogonum deflexum	Skeletonweed
*Rumex crispus**	Curly dock
SALICACEAE	WILLOW FAMILY
Populus balsamifera ssp. *trichocarpa*	Black cottonwood
Populus fremontii ssp. *fremontii*	Fremont's cottonwood
Salix exigua	Sandbar or Narrow-leaf willow
Salix lasiolepis	Arroyo willow
Salix gooddingii	Black willow
SCROPHULARIACEAE	FIGWORT FAMILY
*Verbascum thapsus**	woolly mullein
SOLANACEAE	NIGHTSHADE FAMILY
Datura wrightii	Jimson weed
Lycium cooperi	Peach thorn
TAMARICACEAE	TAMARISK FAMILY
*Tamarix ramosissima**	Mediterranean tamarisk
ANGIOSPERMS (MONOCOTYLEDONS)	
POACEAE	GRASS FAMILY
*Arundo donax**	Giant reed

Scientific Name	Common Name
*Bromus diandrus**	Ripgut grass
Bromus madritensis ssp. *rubens**	Foxtail chess
*Cynodon dactylon**	Bermuda grass
Leymus condensatus	Giant wild rye
*Polypogon monspeliensis**	Annual beard grass

Alien species indicated by asterisk, special status species indicated by two asterisks. This list includes species observed on the site. Others may have been overlooked or unidentifiable due to season. Plants were identified using keys, descriptions, and illustrations in Hickman (1993), Munz (1974) and Jepson (1993). Taxonomy and nomenclature generally follow Jepson.

Willow Flycatcher Survey and Detection Form (revised April, 2004)

Site Name Yucca Loma State CA County San Bernardino
USGS Quad Name Victorville Elevation 2760 - 2800 feet

Is copy of USGS map marked with survey area and WIFL sightings attached (as required)? X Yes No

Site Coordinates: Start: N 34.302380 W 117.163522 UTM Datum NAD 27
Stop: N 34.300049 W 117.151757 UTM Zone _____

***** Fill in additional site information on back of this page *****

Survey # Observer(s) (Full Name)	Date (m/d/y) Survey time	# of Adult WIFLs	Estimated Number of Pairs	Estimated Number of Territories	Nest(s) Found ? Y or N	Cowbirds Detected ? Y or N	Presence of Livestock, Recent sign, If Yes, Describe Y or N	Comments about this survey (e.g., bird behavior, evidence of pairs or breeding, number of nests, nest contents or number of fledges seen; potential threats)
1 Teresa Gonzales	Date 5-29-08 Start 0330 Stop1000 Total hrs 6.5	1	0	0	N	Y	Y -Horses	Early in the season, bird aggressive response to tape.
2 Teresa Gonzales	Date6-10-08 Start0330 Stop1000 Total hrs 6.5	1	0	0	N	Y	Y -Horses	Bird aggressive response to tape.
3Teresa Gonzales	Date6-21-08 Start0300 Stop0900 Total hrs 6	0	0	0	N	Y	Y -Horses	None located
4Teresa Gonzales	Date6-29-08 Start 0300 Stop0900 Total hrs 6	0	0	0	N	Y	Y -Horses	None located
5Teresa Gonzales	Date7-15-08 Start 0400 Stop0900 Total hrs 5	0	0	0	N	Y	Y -Horses	None located

Overall Site Summary (Total **resident** WIFLs only) Total survey hrs30	Adults	Pairs	Territories	Nests	Were any WIFLs color-banded? Yes (No) If yes, report color combination(s) in the comments section on back of form
	1	0	0	0	

Reporting Individual: Teresa Gonzales Date Report Completed: July 24, 2008
US Fish and Wildlife Service Permit # TE06175-1 CDFG Permit # 801270-05

Fill in the following information completely. Submit original form by August 1st. Retain a copy for your records.

Reporting Individual Teresa Gonzales Phone # 760.777-1621
Affiliation Gonzales Environmental Consulting LLC E-mail teresa.gonzales@earthlink.net
Site Name: Yucca Loma Date Report Completed July 24, 2008

Did you verify that this site name is consistent with that used in previous years? Yes (No) Not applicable
If name is different, what name(s) was used in the past?
_____

If site was surveyed last year, did you survey the same general area this year? (No)
If no, summarize in comments below.
Did you survey the same general area during each visit to this site this year? (Yes) If no, summarize in comments below.

Management Authority for Survey Area (circle one): Federal (Municipal) State Tribal Private
Name of Management Entity or Owner (e.g., Tonto National Forest) County of Riverside

Length of area surveyed: 1.5 mile (specify units, e.g., miles = mi, kilometers = km, meters = m)

Vegetation Characteristics: Overall, are the species in tree/shrub layer at this site comprised predominantly of (check one):

XX Native broadleaf plants (entirely or almost entirely, includes high-elevation willow)

☐ Mixed native and exotic plants (mostly native)

☐ Mixed native and exotic plants (mostly exotic)

☐ Exotic/introduced plants (entirely or almost entirely)

Identify the 2-3 predominant tree/shrub species: willow
Average height of canopy (Do not put a range): 40 feet (specify units)

Was surface water or saturated soil present at or adjacent to site? (Yes) (circle one)
Distance from the site to surface water or saturated soil: 0 feet (specify units)

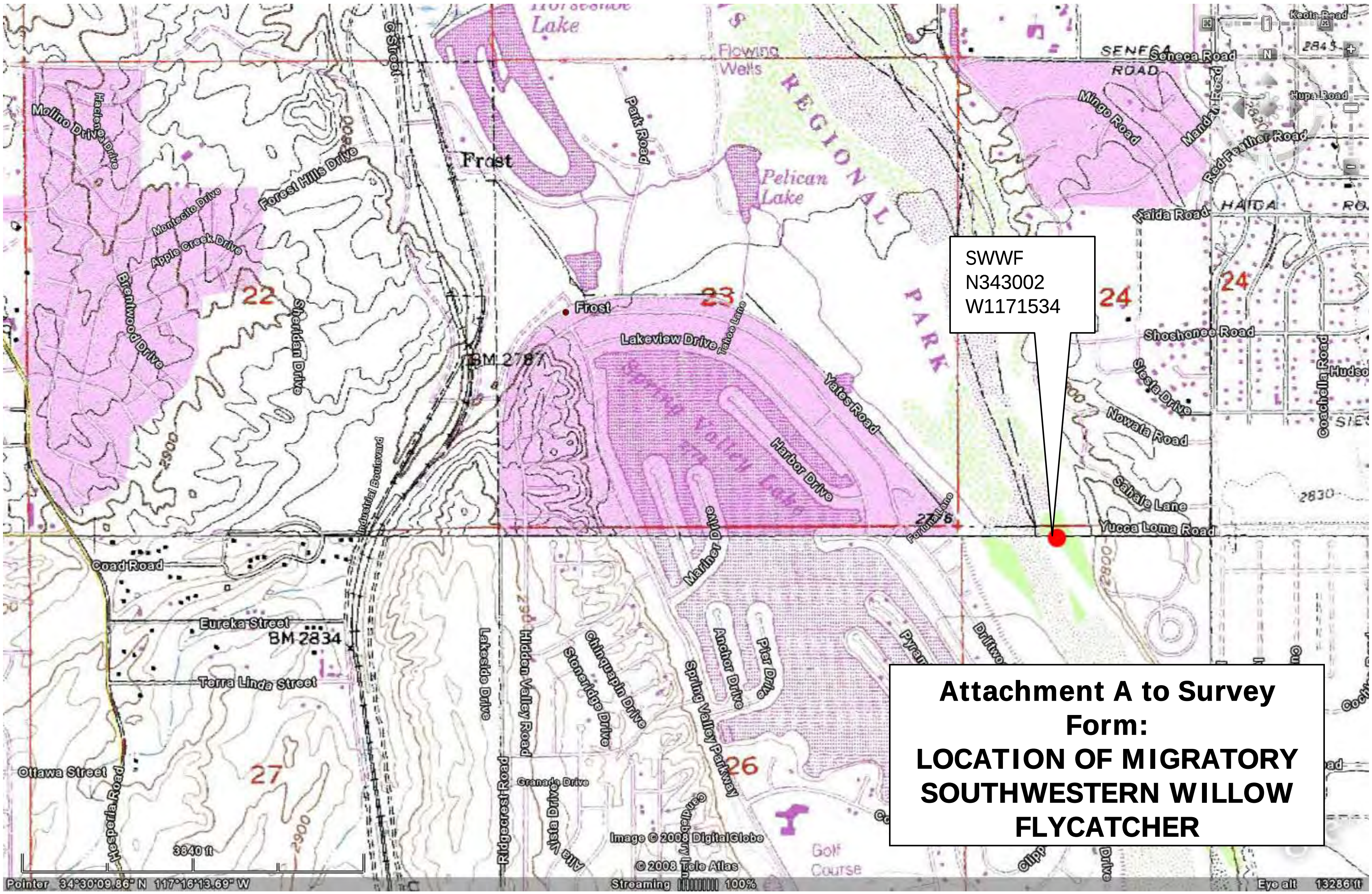
Did hydrological conditions change significantly among visits (did the site flood or dry out)? (No) (circle one)
If yes, describe in comments section below.

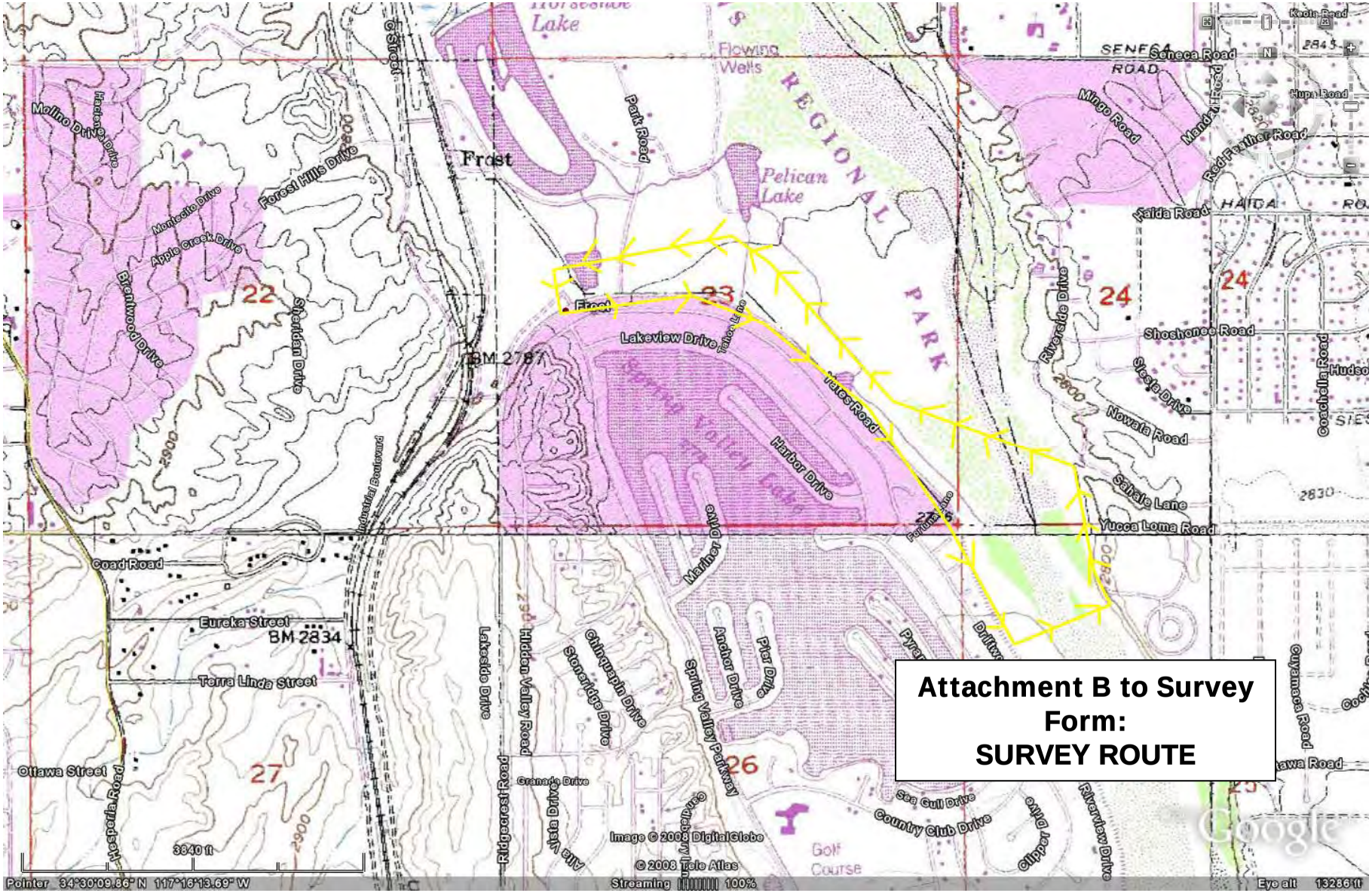
Remember to attach a copy of a USGS quad/topographical map (REQUIRED) of the survey area, outlining the survey site and location of WIFL detections. Also include a sketch or aerial photograph showing details of site location, patch shape, survey route in relation to patch, and location of any willow flycatchers or willow flycatcher nests detected. Such sketches or photographs are welcomed, but DO NOT substitute for the required USGS quad map. Please include photos of the interior of the patch, exterior of the patch, and overall site and describe any unique habitat features.

Comments (attach additional sheets if necessary)

WIFL Detection Locations:

Date Detected	N UTM	E UTM	Date Detected	N UTM	E UTM
5/29/08	N343002	W1171534			
6/10/08	N343002	W1171534			


SWWF
N343002
W1171534
Attachment A to Survey Form:
LOCATION OF MIGRATORY SOUTHWESTERN WILLOW FLYCATCHER
Lake
Flowing Wells
REGIONAL PARK
Pelican Lake
Frost
Park Road
Lakeview Drive
Tahoe Lane
Yates Road
Harbor Drive
Spring Valley Lake
Mariner Drive
Anchor Drive
Pier Drive
Spring Valley Parkway
Fortuna Lane
Yucca Loma Road
Sahale Lane
Nowata Road
Siesta Drive
Shoshonee Road
Coachella Road
Saida Road
Mingo Road
Mandan Road
Red Feather Road
Seneca Road
SENECA ROAD
HAIDA
Hupa Road
Keoin Road
Molino Drive
Hacienda Drive
Montecito Drive
Apple Creek Drive
Brentwood Drive
Forest Hills Drive
Sheridan Drive
Industrial Boulevard
G Street
Coad Road
Eureka Street
BM 2834
BM 2787
Terra Linda Street
Ottawa Street
Hesperia Road
Lakeside Drive
Hidden Valley Road
Ridgecrest Road
Granada Drive
Alta Vista Drive
Stoneridge Drive
Chinquapin Drive
Golf Course
22
23
24
26
27
2900
2830
3840 ft
Pointer 34°30'09.86" N 117°16'13.69" W
Image © 2008 DigitalGlobe
© 2008 Tele Atlas
Streaming 100%
Eye alt 13286 ft


Attachment B to Survey Form:
SURVEY ROUTE
Lake
Flowing Wells
REGIONAL PARK
Pelican Lake
Frost
Park Road
SENECA ROAD
Seneca Road
Mingo Road
Mandan Road
Red Panther Road
Kupa Road
Kaola Road
HAIDA
Haida Road
Riverside Drive
Shoshonee Road
Siesta Drive
Nowata Road
Cocopah Road
Sahale Lane
Yucca Loma Road
Lakeview Drive
Harbor Drive
Marliner
Anchor Drive
Pier Drive
Spring Valley Parkway
Stonehedge Drive
Chinquapin Drive
Hidden Valley Road
Lakeside Drive
Ridgecrest Road
Granada Drive
Alta Vista Drive
Country Club Drive
Sea Gull Drive
Clipper Drive
Riverview Drive
Guyamaca Road
Coad Road
Eureka Street
Terra Linda Street
Ottawa Street
Hacienda Drive
Malino Drive
Forest Hills Drive
Montecito Drive
Apple Creek Drive
Brentwood Drive
Sheridan Drive
Industrial Boulevard
Fortuna Lane
BM 2787
BM 2834
Golf Course
22
23
24
26
27
2900
2830
3840 ft
Image © 2008 DigitalGlobe
© 2008 Tele Atlas
Streaming 100%
Pointer 34°30'09.86" N 117°16'13.69" W
Eye alt 13286 ft
Google


Attachment C to Survey Form:
EXTERIOR PATCH VIEW


Attachment D to Survey Form:
INTERIOR PATCH VIEW

Attachment E to Survey Form:
OVERALL SITE

Least Bell’s Vireo Data Sheets

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

LEAST BELL'S VIREO (*Vireo bellii pusillus*) SURVEY

Date: 4/14/08

Project # 2007-173
Client Name DOKKEN

Survey number: 1
Sunrise Time: 0619

OBSERVERS:
K. Mobraaten
T. Chapman

SURVEY CONDITIONS				
	Time	Temp (F)	Wind (mph)	% Cloud Cover
START	0715	61	0-1	Ø
END	1000	63	3-5	Ø

SITE INFORMATION		
ACREAGE:	% COVERAGE: 100	LINEAR DISTANCE COVERED
NEAREST CROSS STREET(S): Yucca Loma Rd & Apple Valley Rd.		
TOPOGRAPHY:		
DISTURBANCES: ORV, some trash, residential nearby		
VEGETATION COMMUNITIES: dist. Mojave riparian forest/scrub		
COMMENTS: No standing water Recent tree chopping NE ~~portion~~ of project site in River		

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

LEAST BELL'S VIREO (*Vireo bellii pusillus*) SURVEY

Date: 4/14/08

Project # 2007-173
Client Name Dokken

Survey number: 1
Sunrise Time: 0619

SURVEY RESULTS
AGE (Juvenile, Unpaired, Paired), SEX, BEHAVIOR/ACTIVITY
None observed
Started at E end of project

INCIDENTAL SPECIES OBSERVED		
HOFI	ANHU	Dom. Dog
CAKI	LECA	SYAU
RODI	CORA	Opossum (t)
EUST	CATH	K-rat (t)
MODO	MALL	Dom. Horse
WEBL	LEGO	Crickets
CAQU	NRWS	W. fence lizard
WIWA	NOMO	Side blotch
WCSP	RCKI	Stink beetle
CATO	NOFL?	Desert Spiny
SOSP	SAPH	Cabbage white
RWBL	COHA 475613/3818215	honey bee
BLPH	DCCO	Pallid band grasshopper
GTGR	RTHA	
HDSP	Hummingbird sp.	
CAWR		
GBHE		
CAGO		

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

LEAST BELL'S VIREO (*Vireo bellii pusillus*) SURVEY

Date: 4/25/08

Project # 2007-173
Client Name Dokken

Survey number: 2
Sunrise Time: 0605

OBSERVERS:
K. Noblaaten

SURVEY CONDITIONS				
	Time	Temp (F)	Wind (mph)	% Cloud Cover
START	0735	45	0-1	Ø
END	0930	62	0-1	Ø

SITE INFORMATION		
ACREAGE:	% COVERAGE: 100	LINEAR DISTANCE COVERED
NEAREST CROSS STREET(S): See 1st survey data sheet		
TOPOGRAPHY:		
DISTURBANCES:		
VEGETATION COMMUNITIES:		

COMMENTS:
- took photos of habitat surveyed
- Resident: bobcat sightings in river
- two drainage areas along Yucca Loma Rd - very sparse habitat
- 0915 birds on E portion river significantly quieter
  *Survey earlier next time

*SPBE had dead juv. SYAU in mouth! SPBE spooked by my presence & dropped SYAU on log

- Started on W portion of habitat w/in project area

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

LEAST BELL'S VIREO (*Vireo bellii pusillus*) SURVEY

Date: 4/25/08

Project # 2007-173
Client Name Dokken

Survey number: 2
Sunrise Time: 0605

SURVEY RESULTS
AGE (Juvenile, Unpaired, Paired), SEX, BEHAVIOR/ACTIVITY
None observed

INCIDENTAL SPECIES OBSERVED			
KILL	OSPR	DOH Dog	Stink beetle Uta Stans.
HOFI	BCHU	LECA	Cabbage White
NOMO	WEKI	SYAU	PBW Grasshopper
HOSP	CLSW	K-Rat (+)	Ladybug
RWBL	NOFL	DOH Cat	
CAQU	CAKI	SPBE* (see other side)	
MALL	LEGO	CALA (S)	
CORA	Accipiter sp.		
EUST			
SOSP			
MODU			
GTGR			
WIWA			
NUWO			
MODO			
ANHU			
WEBL			
GBHE			

Project Name Yucca Loma Project # 2007-173 Survey Type LBV #3
Location Appld Valley Mojave Narrows
Surveyor CLT Date 5-6-08 Time (Start) 06:15 (End) 10:50
General Habitat Description of Area

Weather (Cloud cover, Estimated wind speed) clear 0-1mph / clear 0-2 mph
Temp (Start) 48°F (End) 76.6°F

Time	Wildlife Species	Sign*	Microhabitat	Behavior/Comments
06:15	CAQU		E side of River	
	LEGO			
	CORA			
	MODO			
	BLPH			
	HOFI			
	CATH			
	WETA			
	ROPI			
	TOWA			
	YEWA			
	COYE			
	WAVI			
	WIWA			
	ATFL			
	BUSH			
	cottontail			
	coyote			
07:25	WEBL			
08:30	HOSP		W side of River	
	EUST			
	OCWA			
	BEWR			
	BHGR			
	NOMO			
	SAPH			
	NUMO			
	checkered white			
	W. Tiger swallowtail			
	GREG			
	GTGR			
	CAGO			
	RWBL			
	ANHU			

General Comments: SPSA

Ø LBV

* O=Observed, T=Tracks, S=Scat, V=Vocalization, B=Burrow, C=Carcass, N=Nest, Fe=Feathers, Fu=Fur

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

LEAST BELL'S VIREO (*Vireo bellii pusillus*) SURVEY

Date: May 20, 2008

Survey number: 4

Sunrise Time: 0545

Project # 2007-173-04

Client Name Dokken Engineering

Yucca Loma Bridge

OBSERVERS:
Sophie Chiang

SURVEY CONDITIONS				
	Time	Temp (F)	Wind (mph)	% Cloud Cover
START	0650	73°F	0mph	0% cc
END	1005	88°F	1-5mph	10% cc

SITE INFORMATION		
ACREAGE: 20.62 ac	% COVERAGE: 100%	LINEAR DISTANCE COVERED
NEAREST CROSS STREET(S): Apple Valley Rd & Yucca Loma Rd & Yates Rd.		
TOPOGRAPHY: flat		
DISTURBANCES: ORV in Mojave River		
VEGETATION COMMUNITIES: Disturbed Mojave Riparian Forest, cottonwood dominated		
COMMENTS:		

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

LEAST BELL'S VIREO (*Vireo bellii pusillus*) SURVEY

Date: May 20, 2008

Project # 2007-173, 004
Client Name Dokken Engineering
Yucca Loma Bridge

Survey number: 4
Sunrise Time: 0545

SURVEY RESULTS
AGE (Juvenile, Unpaired, Paired), SEX, BEHAVIOR/ACTIVITY
Ø LBV

INCIDENTAL SPECIES OBSERVED			
SAPH V,O		painted lady O	
CAQU V,O		checkered white O	
BCHU V,O		tiger swallowtail O	
HOFI V,O (most abundant)		TOSP O	
SPTO V		WEBL O (juvenile)	
MODO O		SOSP V,O	
BUSH V,O (Pledglings + adults)		CLSW O,V	
NUWO V,O		PSPT O	
LEGO O	W. kingbird O	WETA O (f. w/ insect in mouth)	
COTE FO	woodrat N	KILL V	
NOMO V	CGS O,V	MALL FO	
YEWA V,O	RWBL V	GTGR O	
cottontail O		BLPH V,O	
AMCR O		GRCA O,V	
BEWR O,V		GTHE FO (juvenile / 1st yr)	
CATH V		ANHU O	
RODO O		EUST V,O	
BNOW F		AMKE O wiping item in talons	

Project Name Yucca Loma Bridge Project # _____ Survey Type LBV #5
Location Mojave River at Yates/Yucca Loma Rd
Surveyor Matt Quillman Date 6/4/08 Time (Start) 0725 (End) 0915
General Habitat Description of Area Cottonwood/willow and disturbed

Weather (Cloud cover, Estimated wind speed) 2-3 with gusts to 5 (Beaufort Scale) Clouds 95%
Temp (Start) 63°F (End) 63°F

Time	Wildlife Species	Sign*	Microhabitat	Behavior/Comments
0725	SAPH	O		Begin Survey at east end of Yates
	WTSW	O		Road at Mojave River
	NRWS	O		
	BUSH	V		
	MODO	O		
	HOFI	V		
	Hummer sp	O		
	CAQU	O		Covey with babies and two males
	CORA	V,O		sparring
	PHAI	O		
	NOMO	O		
	WEKI	O		
	California	Ground squirrel		vocalizing
	ATFL	O		Family group
	WEBL	O		
	HOSP	O		
	BLPH	O		
	Flycatcher sp	O		In willows and dead brush immediately
				adjacent to homes along edge of Mojave
				River (east of homes and south of
				Survey area)
	HOFI	V		Switch to east side of Mojave
	WEKI	V		River Channel at terminus
	WTSW	O		of Yucca Loma Road
	ROPI	O		
	COHA	O		Flew out of one of the cottonwoods
				adjacent to river channel
	CORA	O		
	ANHU	O		Back on Yates Road side of Mojave
	BCHU	O		River
	GBHE	O		Flying over
	COHA			Flew over from residential area
	LEGO	O		

General Comments:

* O=Observed, T=Tracks, S=Scat, V=Vocalization, B=Burrow, C=Carcass, N=Nest, Fe=Feathers, Fu=Fur

Project Name Yucca Loma Bridge Project # _____ Survey Type LSB #5
Location Mojave River at Yates/Yucca Loma Road
Surveyor Mati Quillman Date 6/4/08 Time (Start) 0725 (End) 0915
General Habitat Description of Area Cottonwood/willow and disturbed

Weather (Cloud cover; Estimated wind speed) 2-3 with gusts to 5 (Beaufort Scale), clouds 95%
Temp (Start) 63°F (End) 63°F

Time	Wildlife Species	Sign*	Microhabitat	Behavior/Comments
	Western Fence Lizards			- along Yates Rd in Rabbitbrush
	RWBL	O		In marsh area west north of Yates Road near small pump building
	Desert Cottontail			In rabbitbrush scrub

General Comments: No vireos observed

* O=Observed, T=Tracks, S=Scat, V=Vocalization, B=Burrow, C=Carcass, N=Nest, Fe=Feathers, Fu=Fur

ECORP Consulting, Inc.
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LEAST BELL'S VIREO (*Vireo bellii pusillus*) SURVEY

Date: 6/18/08

Survey number: 6

Project # 2007-173

Project Name Yucca Loma

OBSERVERS:
SIT

SURVEY CONDITIONS				
	Time	Temp (F)	Wind (mph)	% Cloud Cover
START	0700	73°	0 mph	10%
END	0930	82°	0-5 mph	10%

SURVEY RESULTS

AGE (Juvenile, Unpaired, Paired), SEX, BEHAVIOR/ACTIVITY

None observed

INCIDENTAL SPECIES OBSERVED

House finch
Northern mockingbird
Western fence lizard
Common raven
Mourning dove
Nuttall's woodpecker
Bushtit
House wren
Song sparrow
Calif. quail
Ash-throated flycatcher
Lesser goldfinch
Calif. ground squirrel
Desert cottontail
Turkey vulture

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

LEAST BELL'S VIREO (*Vireo bellii pusillus*) SURVEY

Date: 6/18/08

Project # 2007-173

Project Name Yucca Loma

Survey number: 6

SITE INFORMATION		
ACREAGE: 15 acres	STREAM NAME: Mojave River	LINEAR DISTANCE COVERED 12,000 feet
SURROUNDING LAND USES: Residential, parkland		
TOPOGRAPHY: floodplain, relatively low relief		
DISTURBANCES: dumping, off-highway vehicles		
VEGETATION COMMUNITIES: Riparian woodland, mule fat scrub		
COMMENTS:		

ECORP Consulting, Inc.
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LEAST BELL'S VIREO (*Vireo bellii pusillus*) SURVEY

Date: 7/3/08

Project # 2007-173
Client Name Dokken

Survey number: 7
Sunrise Time: 0541

OBSERVERS:
K. Niblaaten

SURVEY CONDITIONS				
	Time	Temp (F)	Wind (mph)	% Cloud Cover
START	0700	74	0-3	Ø
END	0840	84	0-3	Ø

SITE INFORMATION		
ACREAGE:	% COVERAGE:	LINEAR DISTANCE COVERED
NEAREST CROSS STREET(S):		
TOPOGRAPHY:		
DISTURBANCES:		
VEGETATION COMMUNITIES:		
COMMENTS: -began @ River on East side project -Not very much bird activity -Did not survey habitat @ end Yates Rd due to sketchy vehicle. Surveyed the rest of Yates Rd, though		

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

LEAST BELL'S VIREO (*Vireo bellii pusillus*) SURVEY

Date: 7/3/08

Project # 2007-173
Client Name Dokken

Survey number: 7
Sunrise Time: 0541

SURVEY RESULTS
AGE (Juvenile, Unpaired, Paired), SEX, BEHAVIOR/ACTIVITY
None observed

INCIDENTAL SPECIES OBSERVED			
HOFI	Accipiter sp	SYAU	Sidewinder
ROPI		LECA	Desert Spiny
CORA		CALA	
SOSP			
BUSH			
BCHU			
CAKI			
CATH			
ANHU			
NUWO			
MODO			
CAQU			
NOMO			
LEGO			
HOSP			
MALL			
EUST			
GTTOW			

Project Name Yucca Loma Project # Survey Type LBV #8
Location Apple Valley / Mojave Narrows
Surveyor C/LT Date Time (Start) 05:35 (End) 08:40
General Habitat Description of Area Willow-cottonwood riparian

Weather (Cloud cover; Estimated wind speed) 5% cc 0-1mph / 0% cc 0-2mph
Temp (Start) 63.5°F (End) 81°F

Time	Wildlife Species	Sign*	Microhabitat	Behavior/Comments
05:35	CORA			NW corner ~~of~~ of Park Entrance
	BEWR			
	NOMO			
	HOFI			
	LEGO			
	BC? HU			
Bridge	RSHA			
	CAQU			
	MODO			
	BUSH			
	jackrabbit			
	NUWO			
	BLPH			
	ALHU			
	WEBL			
	NRWS			
	ANHU			
	HOSP			
0640	SAPH			E side of road
	YEWA			
	Common white			
	WAVI			
	BH ~~R~~? Grosbeak			
	ATFL			
	COYE			
	BGGN			
	W. fence lizard			
	cottontail			
	mtn chickadee			[illegible]
	CA gr. squirrel			
	CATA			
	SPTO			
	EUST			
	Verdin			

General Comments:

* O=Observed, T=Tracks, S=Scat, V=Vocalization, B=Burrow, C=Carcass, N=Nest, Fe=Feathers, Fu=Fur

Desert Tortoise Data Sheets

Date: 6/9/08

Desert Tortoise Survey with Zone of Influence

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Project #: 2007-173
Client: Dokken Eng.

General Information		Weather Data	
Observers: D. Schaffer-Smith, K. Nobriga, B. Stein, B. Haley, S. Jenkins	Time (24 hr)	Start: 0740	End: 1400
	Temp* (°F) 6" above ground in shade	Start: 71° F	End: 96° F
	Wind (mph)	Start: 0-1 mph	End: 0-2 mph
	% Cloud Cover	Start: Ø	End: Ø

Site Information		
Project Name: Yucca Loma Bridge		
Location:	**UTM Coordinates** (NAD 83)	
County: San Bern	N:	[PHOTOS? ___]
Quad:	E:	[PHOTOS? ___]
T____ R____ S____	S:	[PHOTOS? ___]
Parcel #:	W:	[PHOTOS? ___]

Physical Characteristics		
Elevation:	Aspect:	Soils:
Land Form*:	%Slope:	Other:
* e.g. mesa, bajada, wash		
Land Uses:		
NW:		SE:
NE:		SW:

Disturbances on Site: [e.g. tracks (vehicle, human, livestock, dog); trash; dump sites; bullet shells; blading; ravens; other]

Is site staked or marked? [Y] [N]
Transect Width:

Field Observations

Vegetation Communities:

Plants

Animals: [include: B - burrow, S - scat, O - observed, T - tracks, C - carcass, or Other (specify)]

CoRa (o), west. whiptail (o), side-blotched liz (o), Ca. ground sq. (o) Bullock's oriole (o), Mallard (o), cactus wren (v), horned lark (o) MoDo (o), coyote (s)

Comments

No sign observed. 100% cover completed.

Date: 6/9/08

Desert Tortoise Survey with Zone of Influence

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Project #: 2007-173
Client: Dokken Eng.

Desert Tortoise Sign (Zone of influence distances - 100, 300, 600, 1200 and 2400 feet)

Sign°	Class*	Location (UTM/Error) - Draw on Map	Comments
		No sign 100% cover	

° B - burrow, T - tortoise, S - scat, Tr - tracks, C - carcass, O - other (specify)

5% Intensive Survey of Project Area? ____ (check if completed)

*BURROWS		*SCAT
1 - Currently active, w/tortoise or active sign 2 - Good condition, definitely tortoise, no recent use 3 - Fair condition, definitely tortoise 4 - Deteriorated, definitely tortoise 5 - Good condition, possibly tortoise 6 - Deteriorated, possibly tortoise	*Note ASPECT of burrow entrance	1 - Wet or freshly dried, obvious odor 2 - Dry w/glaze and some odor, no bleaching 3 - Dry w/o glaze or odor, light brown, tightly packed 4 - Dry w/o glaze or odor, yellow, loose material 5 - Dry w/o glaze or odor, bleached
*LIVE TORTOISE (include MCL, Max Width, Width at 7/8 Marginal, Height)		*CARCASS
1 - Healthy 2 - URTD 3 - Shell Cracked 4 - Peeling scutes 5 - Ticks	A - Foraging B - Basking C - In burrow D - Digging E - Traveling	1 - Fresh or putrid 2 - Normal color, scutes adhered to bone 3 - Scutes peeled off bone 4 - Bones falling apart 5 - Disarticulated

Date: 6/10/08

Desert Tortoise Survey with Zone of Influence

ECORP Consulting, Inc. ENVIRONMENTAL CONSULTANTS

Project #: 2007-173

Client: Dokken Engr.

General Information	Weather Data		
Observers: B. Stein, B. Haley, D. Schaffer-Smith, K. Nowatten, S. Jenkins	Time (24 hr)	Start: 0705	End: 0925
	Temp* (°F) 6" above ground in shade	Start: 69°F	End: 86°F
	Wind (mph)	Start: 0-1	End: 0-2
	% Cloud Cover	Start: clear	End: clear

Site Information

Project Name:		
Location:	**UTM Coordinates** (NAD 83)	
County:	N:	[PHOTOS? ___]
Quad:	E:	[PHOTOS? ___]
T_____ R_____ S_____	S:	[PHOTOS? ___]
Parcel #:	W:	[PHOTOS? ___]

Physical Characteristics

Elevation:	Aspect:	Soils:
Land Form*:	%Slope:	Other:
* e.g. mesa, bajada, wash		
Land Uses:		
NW:		SE:
NE:		SW:

Disturbances on Site: [e.g. tracks (vehicle, human, livestock, dog); trash; dump sites; bullet shells; blading; ravens; other]

Is site staked or marked? [Y] [N]

Transect Width:

Field Observations

Vegetation Communities:

Plants

Animals: [include: B - burrow, S - scat, O - observed, T - tracks, C - carcass, or Other (specify)]

WESc, HOFi, CaQu, CaWR, NuWL, BuOR, Madu, Retta, desert spiny?, cabbage white, opossom, western-fence liz, dom. dog, HoLa, Bewr, Lego, Cora, Saph, bobcat (t,s), cooper's hawk or red-shoulder?, AtFL, Spto, bchu, cottontail, b.t. jackrabbit, coyote (o)

Comments

No sign observed. ZOI completed.

Date: 6/10/08

Desert Tortoise Survey with Zone of Influence

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Project #: 2007-173
Client: Dokken Eng

Desert Tortoise Sign (Zone of influence distances - 100, 300, 600, 1200 and 2400 feet)			
Sign°	Class*	Location (UTM/Error) - Draw on Map	Comments
ZOI		No Sign	

° B - burrow, T - tortoise, S - scat, Tr - tracks, C - carcass, O - other (specify)

5% Intensive Survey of Project Area? ____ (check if completed)

*BURROWS		*SCAT
1 - Currently active, w/tortoise or active sign 2 - Good condition, definitely tortoise, no recent use 3 - Fair condition, definitely tortoise 4 - Deteriorated, definitely tortoise 5 - Good condition, possibly tortoise 6 - Deteriorated, possibly tortoise	*Note ASPECT of burrow entrance	1 - Wet or freshly dried, obvious odor 2 - Dry w/glaze and some odor, no bleaching 3 - Dry w/o glaze or odor, light brown, tightly packed 4 - Dry w/o glaze or odor, yellow, loose material 5 - Dry w/o glaze or odor, bleached
*LIVE TORTOISE (include MCL, Max Width, Width at 7/8 Marginal, Height)		*CARCASS
1 - Healthy 2 - URTD 3 - Shell Cracked 4 - Peeling scutes 5 - Ticks	A - Foraging B - Basking C - In burrow D - Digging E - Traveling	1 - Fresh or putrid 2 - Normal color, scutes adhered to bone 3 - Scutes peeled off bone 4 - Bones falling apart 5 - Disarticulated

Appendix B Plant Species Compendium

Scientific Name	Common Name
VASCULAR PLANTS	
ANGIOSPERMS (DICOTYLEDONS)	
ACERACEAE	**MAPLE FAMILY**
Acer negundo var. *californicum*	California box-elder
AMARANTHACEAE	**AMARANTHE FAMILY**
Grayia spinosa	Hop-sage
APIACEAE	**CARROT FAMILY**
Lomatium nevadense	desert parsley
ASTERACEAE	**SUNFLOWER FAMILY**
Adenophyllum cooperi	Cooper's dogweed
Ambrosia acanthicarpa	annual bur-sage
Ambrosia dumosa	white bursage
Artemisia californica	California sagebrush
Anisocoma acaulis	scale bud
Artemisia douglasiana	mugwort
Artemisia dracunculus	wild tarragon
Artemisia tridentata	Great Basin sagebrush
Baccharis salicifolia	mulefat
Chaenactis fremontii	Fremont's pincushion
Ericameria nauseosa	Mojave rabbitbrush
Ericameria pinifolia	pinebush
Eriophyllum pringlei	Pringle's woolly sunflower
Eriophyllum wallacei	Wallace's woolly daisy
Gutierrezia microcephala	matchweed
Mentzelia albicaulis	white stemmed blazing star
Hazardia squarrosa	sawtooth goldenbush
Helianthus annuus	common sunflower
Hymenoclea salsola	cheesebush
Lasthenia californica	gold fields
Layia glandulosa	white tidy tips
Lepidospartum squamatum	scale-broom
Malacothrix glabrata	desert dandelion
Stephanomeria exigua	small wirelettuce
Tetradymia canescens	gray horsebrush
Xanthium strumarium	cocklebur
BIGNONIACEAE	**BIGNONIA FAMILY**
Chilopsis linearis ssp. *arcuata*	desert willow
BORAGINACEAE	**BORAGE FAMILY**
Amsinckia menziesii	fiddleneck
Cryptantha sp.	cryptantha

Scientific Name	**Common Name**
Pectocarya penicillata	sleeping combseed
Phacelia distans	distant phacelia
Phacelia fremontii	Fremont's phacelia
Eucrypta micrantha	small flowered eucrypta
BRASSICACEAE	**MUSTARD FAMILY**
*Brassica nigra**	black mustard
*Brassica tournefortii**	Sahara mustard
Descurainia pinnata	tansy mustard
CACTACEAE	**CACTUS FAMILY**
Opuntia echinocarpa	silver cholla
Opuntia ramosissima	pencil cholla
CAPRIFOLIACEAE	**HONEYSUCKLE FAMILY**
Sambucus mexicana	Mexican elderberry
CHENOPODIACEAE	**GOOSEFOOT FAMILY**
Atriplex canescens	four-wing saltbush
Atriplex lentiformis ssp*. torreyi*	Torrey's saltbush
Kraschennnikovia lanata	winterfat
*Salsola tragus**	Russian thistle
CONVULVULACEAE	**MORNING GLORY FAMILY**
Cressa truxillensis	alkali weed
EPHEDRACEAE	**EPHEDRA FAMILY**
Ephedra nevadensis	Mormon tea
EUPHORBIACEAE	**SPURGE FAMILY**
Croton californicus	California croton
FABACEAE	**PEA FAMILY**
Astragalus lentiginosus	freckled milkvetch
Psorothamnus arborescens	Mojave indigo-bush
GERANIACEAE	**GERANIUM FAMILY**
*Erodium cicutarium**	filaree
LAMIACEAE	**MINT FAMILY**
Salazaria mexicana	bladdersage
LOASACEAE	**LOASA FAMILY**
Petalonyx thurberi ssp. *gilmanii*	Death Valley sandpaper plant
MALVACEAE	**MALLOW FAMILY**
Eremalche exilis	small flowered eremalche
Malvella leprosa	alkali mallow
*Malva parviflora**	cheese weed

Scientific Name	**Common Name**
Sphaeralcea ambigua	apricot mallow
NYCTAGINACEAE	**FOUR O'CLOCK FAMILY**
Mirabilis californica	California four o'clock
ONAGRACEAE	**EVENING PRIMROSE FAMILY**
Camissonia campestris	field primrose
Camissonia brevipes	yellow cups
Oenothera primiveris	desert evening primrose
Oenothera californica	evening primrose
PAPAVERACEAE	**POPPY FAMILY**
Argemone munita	prickly poppy
Eschscholzia glyptosperma	Mojave poppy
POLEMONIACEAE	**PHLOX FAMILY**
Eriastrum densifolium ssp. *mohavense*	Mojave eriastrum
Gilia latiflora	broad-flowered gilia
Linanthus dichotomus	evening snow
Linanthus parryae	sand blossoms
POLYGONACEAE	**BUCKWHEAT FAMILY**
Eriogonum davidsonii	Davidson's buckwheat
Eriogonum deflexum	flat top buckwheat
Eriogonum inflatum var. *inflatum*	desert trumpet
Eriogonum fasciculatum	California buckwheat
Eriogonum palmerianum	Palmer's buckwheat
Eriogonum mohavense	Western Mojave buckwheat
*Rumex crispus**	curly dock
PORTULACEAE	**PURSLANE FAMILY**
Calyptridium monandrum	pussypaws
ROSACEAE	**ROSE FAMILY**
Rosa californica	California wild rose
SALICACEAE	**WILLOW FAMILY**
Populus fremontii ssp. *fremontii*	Fremont's cottonwood
Salix exigua	narrow-leaved willow
Salix lasiolepis	arroyo willow
Salix laevigata	red willow
SCROPHULARIACEAE	**FIGWORT FAMILY**
*Verbascum thapsus**	common mullein
SOLANACEAE	**NIGHTSHADE FAMILY**
Datura wrightii	jimson weed
Lycium andersonii	Anderson's desert thorn
Lycium cooperi	peach thorn

Scientific Name	Common Name
TAMARICACEAE	**TAMARISK FAMILY**
*Tamarix ramosissima**	Mediterranean tamarisk
ULMACEAE	**ELM FAMILY**
*Ulmus pumila**	Siberian elm
EUPHORBIACEAE	**SPURGE FAMILY**
Chamaesyce albomarginata	Rattlesnake weed
ZYGOPHYLLACEAE	**CALTROP FAMILY**
Larrea tridentata	creosote bush
ANGIOSPERMS (MONOCOTYLEDONS)	
LILIACEAE	**LILY FAMILY**
Dichelostemma capitatum	school bells
Yucca brevifolia	Joshua tree
POACEAE	**GRASS FAMILY**
Achnatherum hymenoides	Indian rice grass
*Aveena barbata**	Wild oats
*Arundo donax**	giant reed
*Bromus diandrus**	ripgut grass
Bromus madritensis ssp. *rubens**	foxtail chess
*Bromus tectorum**	cheat grass
*Cynodon dactylon**	Bermuda grass
Distichylis spicata	saltgrass
*Hordeum marinum**	wild barley
Leymus condensatus	giant wild rye
*Schismus barbatus**	schismus grass
TYPHACEAE	**CATTAIL FAMILY**
Typha latifolia	broad-leaved cattail

*non-native species

Appendix C Wildlife Species Compendium

SCIENTIFIC NAME	**COMMON NAME**
LEPIDOPTERA	**Butterflies**
Papilionidae	**Swallowtails**
Papilio rutulus	Western Tiger Swallowtail
Pieridae	**Whites and Sulfures**
Pontia protodice	Checkered White
Pieris rapae	Cabbage Butterfly
Nymphalidae	**Brush-footed Butterflies**
Vanessa cardui	Painted Lady
REPTILIA	**Reptiles**
Phrynosomatidae	**Phrynosomatids**
Sceloporus magister	Desert spiny lizard
Sceloporus occidentalis biseriatus	Western fence lizard
Uta stansburiana	Side-blotched lizard
Urosaurus graciosus	Long-tailed brush lizard
Teiidae	**Whiptail lizards**
Cnemidophorus tigris	Western whiptail
Colubridae	**Colubrids**
Masticophus flagellum	Coachwhip
AVES	**Birds**
Phalacrocoracidae	**Cormorants**
Phalacrocorax auritus	Double-crested cormorant
Ardeidae	**Herons and Egrets**
Ardea herodias	Great blue heron
Ardea alba	Great egret
Nycticorax nycticorax	Black-crowned night-heron
Cathartidae	**Vultures**
Cathartes aura	Turkey vulture
Anatidae	**Geese and ducks**
Branta canadensis	Canada goose
Aix sponsa	Wood duck
Anas platyrhynchos	Mallard
Anas discors	Blue-winged teal
Accipitridae	**Raptors**
Pandion haliaetus	Osprey
** *Accipiter cooperii*	Cooper's hawk
Buteo lineatus	Red-shouldered hawk
Buteo jamaicensis	Red-tailed hawk
Falconidae	**Falcons**
Falco sparverius	American kestrel
Odontophoridae	**Quail**
Callipepla californica	California quail

SCIENTIFIC NAME	COMMON NAME
Rallidae	**Rails and coots**
Fulica americana	American coot
Charadriidae	**Plovers**
Charadrius vociferus	Killdeer
Scolopacidae	**Sandpipers**
Tringa sp.	yellowlegs
Actitus macularia	Spotted sandpiper
Laridae	**Gulls and terns**
Larus sp.	Gull species
Larus glaucescens	Glaucous-winged gull
Columbidae	**Pigeons and doves**
* *Columba livia*	Rock pigeon
Zenaida macroura	Mourning dove
Cuculidae	**Cuckoos and roadrunners**
Geococcyx californianus	Greater roadrunner
Tytonidae	**Barn owls**
Tyto alba	Barn owl
Strigidae	**Owls**
Bubo virginianus	Great horned owl
** *Athene cunicularia*	Burrowing owl
Otus kennicottii	western screech owl
Caprimulgidae	**Nightjars**
Chordeiles acutipennis	Lesser nighthawk
Apodidae	**Swifts**
Aeronautes saxatalis	White-throated swift
Trochilidae	**Hummingbirds**
Archilochus alexandri	Black-chinned hummingbird
Calypte anna	Anna’s hummingbird
Calypte costae	Costa's hummingbird
Selasphorus sasin	Allen's hummingbird
Picidae	**Woodpeckers**
Picoides nuttallii	Nuttall’s woodpecker
Colaptes auratus	Northern flicker
Tyrannidae	**Tyrant flycatchers**
Contopus sordidulus	Western wood-pewee
*** *Empidonax traillii*	Willow flycatcher
Empidonax difficilis	Pacific-slope flycatcher
Sayornis nigricans	Black phoebe
Sayornis saya	Say’s phoebe
Myiarchus cinerascens	Ash-throated flycatcher
Tyrannus vociferans	Cassin's kingbird
Tyrannus verticalis	Western kingbird
** *Lanius ludovicianus*	Loggerhead shrike
Vireonidae	**Vireos**
Vireo gilvus	Warbling vireo
Corvidae	**Jays and crows**
Corvus brachyrhynchos	American crow
Corvus corax	Common raven
Alaudidae	**Larks**

SCIENTIFIC NAME	COMMON NAME
Eremophila alpestris	Horned lark
Hirundinidae	**Swallows**
Stelgidopteryx serripennis	Northern rough-winged swallow
Petrochelidon pyrrhonota	Cliff swallow
Paridae	**Titmice and chickadees**
Poecile gambeli	Mountain chickadee
Remizidae	**Verdins**
Auriparus flaviceps	Verdin
Aegithalidae	**Bushtits**
Psaltriparus minimus	Bushtit
Troglodytidae	**Wrens**
Campylorhynchus brunneicapillus	Cactus wren
Thryomanes bewickii	Bewick's wren
Troglodytes aedon	House wren
Regulidae	**Kinglets**
Regulus calendula	Ruby-crowned kinglet
Silviidae	**Gnatcatchers**
Polioptila caerula	Blue-gray gnatcatcher
Turdidae	**Bluebirds and thrushes**
Sialia mexicana	Western bluebird
Mimidae	**Mockingbirds and thrashers**
Mimus polyglottis	Northern mockingbird
Toxostoma redivivum	California thrasher
Sturnidae	**Starlings**
* *Sturnus vulgaris*	European starling
Bombycillidae	**Waxwings**
Bombycilla cedrorum	Cedar waxwing
Ptilogonatidae	**Silky flycatchers**
Phainopepla nitens	Phainopepla
Parulidae	**Wood warblers**
Vermivora celata	Orange-crowned warbler
** *Dendroica petechia*	Yellow warbler
Dendroica coronata	Yellow-rumped warbler
Dendroica townsendi	Townsend's warbler
Geothlypis trichas	Common yellowthroat
Wilsonia pusilla	Wilson's warbler
** *Icteria virens*	Yellow-breasted chat
Thraupidae	**Tanagers**
Piranga ludoviciana	Western tanager
Emberizidae	**Towhees and sparrows**
Pipilo maculatus	Spotted towhee
Pipilo crissalis	California towhee
Chondestes grammacus	Lark sparrow
Amphispiza belli	Sage sparrow
Melospiza melodia	Song sparrow
Zonotrichia leucophrys	White-crowned sparrow
Cardinalidae	**Grosbeaks and buntings**
Pheucticus melanocephalus	Black-headed grosbeak

SCIENTIFIC NAME	COMMON NAME
Guiraca caerulea	Blue grosbeak
Icteridae	**Blackbirds and orioles**
Agelaius phoeniceus	Red-winged blackbird
Euphagus cyanocephalus	Brewer's blackbird
Quiscalus mexicanus	Great-tailed grackle
Molothrus ater	Brown-headed cowbird
Icterus cucullatus	Hooded oriole
Icterus bullockii	Bullock's oriole
Fringillidae	**Finches**
Carpodacus mexicanus	House finch
Carduelis psaltria	Lesser goldfinch
Carduelis tristis	American goldfinch
Passeridae	**Old world sparrows**
* *Passer domesticus*	House sparrow
MAMMALIA	**Mammals**
Didelphidae	**Opossoms**
Didelphis virginiana	Virginia opossum (tracks)
Leporidae	**Hares and rabbits**
Sylvilagus audubonii	Desert cottontail
Lepus californicus	Black-tailed jackrabbit
Sciuridae	**Squirrels**
Tamius sp.	Chipmunk
Ammospermophilus leucurus	White-tailed antelope squirrel
Spermophilus beecheyi	California ground squirrel
Heteromyidae	**Pocket mice, kangaroo rats**
Dipodomys sp.	Kangaroo rat (burrows)
Muridae	**Old world rats and mice**
Neotoma sp.	woodrat (nest)
Canidae	**Dogs/wolves/foxes**
* *Canis familiarus*	Domestic dog
Canis latrans	Coyote (scat, tracks)
Mustelidae	**Weasels and allies**
Mephitis mephitis	Striped skunk
Felidae	**Cats**
* *Felis catus*	Feral cat
Lynx rufus	Bobcat (tracks)
Equidea	**Horses and allies**
* *Equus caballus*	Domestic horse

* Non-native species

** CSC species

*** Federally or state-listed species