Caltrans

U.S. Department of Transportation
Federal Railroad Administration

RCTC RIVERSIDE COUNTY TRANSPORTATION COMMISSION

Biological and Wetland Resources Technical Memorandum

Coachella Valley-San Gorgonio Pass Rail Corridor Service Program

May 2021

This page is intentionally blank.

Contents

Tables

Figures

Appendices

Abbreviations/Acronyms

BGEPA	Bald and Golden Eagle Protection Act of 1940
Caltrans	California Department of Transportation
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFR	Code of Federal Regulations
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CRPR	California Rare Plant Rank
corridor	Coachella Valley-San Gorgonio Pass Rail Corridor
CWA	Clean Water Act of 1972
EIR	environmental impact report
EIS	environmental impact statement
FESA	Federal Endangered Species Act of 1973
FRA	Federal Railroad Administration
GIS	geographic information system
HUC	Hydrologic Unit Code
IPaC	Information for Planning and Consultation
LAUS	Los Angeles Union Station
MBTA	Migratory Bird Treaty Act of 1918
MSHCP	Multiple Species Habitat Conservation Plan
NEPA	National Environmental Policy Act
NWI	National Wetland Inventory
Program	Coachella Valley-San Gorgonio Pass Rail Corridor Program
RCTC	Riverside County Transportation Commission
ROW	right-of-way
SDP	Service Development Plan

U.S.	United States
USACE	U.S. Army Corps of Engineers
USC	United States Code
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey

1 Introduction

The Federal Railroad Administration (FRA), California Department of Transportation (Caltrans) Division of Rail and Mass Transportation, and Riverside County Transportation Commission (RCTC) are proposing the Coachella Valley-San Gorgonio Pass Rail Corridor Service Program (Program) to establish daily intercity passenger rail service between Los Angeles Union Station (LAUS) in Los Angeles County, California and the City of Coachella in Riverside County, California. This biological and wetland resources technical memorandum evaluates biological resources along the 144-mile Coachella Valley-San Gorgonio Pass Rail Corridor (Program Corridor) in support of a programmatic Tier 1 Environmental Impact Statement (EIS)/Environmental Impact Report (EIR). The evaluation of potential biological and wetland effects resulting from the Program includes:

- Plant and wildlife species with special designation by federal, state, or local government agency; vegetation communities that provide habitat for these species; and wildlife movement corridors
- Waters of the United States (U.S.) and wetland resources, including perennial streams, lakes, ponds, intermittent streams, ephemeral waters, and wetlands

1.1 Study Approach

This evaluation was prepared pursuant to the requirements of the National Environmental Policy Act (NEPA) and the California Environmental Quality Act (CEQA) and will be incorporated into the Tier 1/Program EIS/EIR evaluation.

FRA, Caltrans, and RCTC are using a tiered NEPA/CEQA process (e.g., Tier 1/Program EIS/EIR) to complete the environmental review of the Program, under 40 Code of Federal Regulations (CFR) 1508.28 (titled “Tiering”), CEQA Guidelines Section 15168 (titled “Program EIR”), and Section 15170 (titled “Joint EIS/EIR”). “Tiering” is a staged environmental review process often applied to environmental review for complex transportation projects.

The Tier 1/Program EIS/EIR, along with the concurrent preparation of the Service Development Plan (SDP), are the first steps in the tiered environmental review process. Based on the decisions made in the Tier 1/Program EIS/EIR and SDP, future site-specific proposals of infrastructure improvements will be evaluated through one or more Tier 2/Project-level environmental clearance processes. A description of the Tier 1/Program EIS/EIR, SDP, and Tier 2/Project-level analysis processes are further discussed below:

- *Tier 1/Program EIS/EIR*: The Tier 1/Program EIS/EIR evaluates potential environmental impacts of the No Build Alternative and three Build Alternative Options broadly within the Program Corridor. The Program Corridor provides a flexible regional context for the best location of an enhanced passenger rail system while providing opportunities for the Build Alternative Options to account for engineering and environmental constraints. The Tier 1/Program EIS/EIR evaluation addresses broad questions and likely environmental effects within the Tier 1/Program Study Area for specific environmental resources. The resource-specific study areas generally represent the potential area where rail infrastructure improvements and station facilities could be implemented and constructed but does not represent the precise location or footprint of the improvement or facility.
- *SDP*: The SDP defines the Program's service mode, estimated ridership to include demand and revenue forecasts, operational strategy, station and access analysis, operating and maintenance costs, required infrastructure improvements and capital programming, and public benefits analysis necessary to implement the proposed intercity passenger rail service. As part of the SDP process, the site-specific infrastructure improvement requirements are being identified, including the number of stations and the general areas/communities in which stations might be located. The SDP infrastructure analysis is being informed by rail operations simulation modeling and would occur parallel to the Tier 1/Program EIS/EIR evaluation process.
- *Tier 2 Project-Level Analysis*: Based on the environmental evaluation conducted in the Tier 1/Program EIS/EIR and the site-specific infrastructure improvements identified in the SDP, a Tier 2/Project-level analysis would be required. The Tier 2/Project-level analysis would be a separate environmental review potentially led and funded by an agency other than FRA. In addition, the Tier 2/Project-level analysis process would not automatically follow the Tier 1 process, rather the potential Tier 2 Projects would need to be defined based on the Tier 1/Program EIS/EIR's broad scope and funding. The Tier 2/Project-level analysis would closely align with the future preliminary engineering process and would analyze site-specific direct and indirect Project-level effects, in addition to any required permits, consultations, or approvals needed for construction.

2 Program Location and Description

2.1 Program Location

The Tier 1/Program EIS/EIR analyzes the No Build Alternative and three Build Alternative Options in two geographic sections—a Western Section and an Eastern Section—occurring within existing railroad rights-of-way (ROW), as shown on Figure 2-1 through Figure 2-3. The Program Corridor runs west-to-east, extending up to 144 linear miles from a western terminus at LAUS to an eastern terminus in either the City of Indio or City of Coachella (depending on the Build Alternative Option).

From west to east, the cities traversed by the Build Alternative Options include Los Angeles, Vernon, Bell, Commerce, Montebello, Pico Rivera, Santa Fe Springs, Norwalk, La Mirada, Buena Park, Fullerton, Anaheim, Placentia, Yorba Linda, Chino Hills, Corona, Riverside, Grand Terrace, Colton, San Bernardino, Loma Linda, Redlands, Calimesa, Beaumont, Banning, Cabazon, Palm Springs, Cathedral City, Thousand Palms, Rancho Mirage, Palm Desert, Indio (under all Build Alternative Options), and/or Coachella (under Build Alternative Option 1 only). The boundary between Western and Eastern Sections is in the City of Colton, at the intersection of existing railroad lines owned by Union Pacific Railroad and BNSF.

2.2 Program Description

2.2.1 Build Alternative Option 1 (Coachella Terminus)

Build Alternative Option 1 includes a total Program Corridor distance of 144 miles and consists of a Western Section, terminating at LAUS, and an Eastern Section, terminating in the City of Coachella.

Western Section. Under Build Alternative Option 1, existing rail infrastructure would be used in the Western Section of the Program Corridor, and no additional railroad infrastructure improvements would be required. LAUS would serve as the western terminus, while existing stations in the Cities of Fullerton and Riverside would be utilized to support the proposed passenger rail service. No new stations or improvements to existing stations would be required to accommodate the proposed service within the Western Section of the Program Corridor.

Eastern Section. Under Build Alternative Option 1, potential new infrastructure improvements on the Eastern Section of the Program Corridor could include sidings, additional main line track, wayside signals, drainage, grade separation structures, and up to five new stations constructed in the following areas: 1) Loma Linda/Redlands Area (serving the Cities of Loma Linda and Redlands),

2) the Pass Area (serving the communities of Beaumont, Banning, and Cabazon), 3) the Mid-Valley (serving the communities of Cathedral City, Thousand Palms, the Agua Caliente Casino area, Rancho Mirage, and Palm Desert), 4) the City of Indio, and 5) the City of Coachella as the eastern terminus of the Program Corridor.

2.2.2 Build Alternative Option 2 (Indio Terminus)

Build Alternative Option 2 includes a total Program Corridor distance of 140.25 miles and consists of a Western Section, terminating at LAUS, and an Eastern Section, terminating at the City of Indio.

Western Section. The Western Section under Build Alternative Option 2 would be the same as that described above under Build Alternative Option 1.

Eastern Section. Under Build Alternative Option 2, potential new infrastructure improvements on the Eastern Section of the Program Corridor could include sidings, additional main line track, wayside signals, drainage, grade separation structures, and up to four new potential stations could be constructed in the following areas: 1) Loma Linda/Redlands Area (serving the Cities of Loma Linda and Redlands), 2) the Pass Area (serving the communities of Beaumont, Banning, and Cabazon), 3) the Mid-Valley (serving the communities of Cathedral City, Thousand Palms, the Agua Caliente Casino area, Rancho Mirage, and Palm Desert), and 4) the City of Indio as the eastern terminus of the Program Corridor.

2.2.3 Build Alternative Option 3 (Indio Terminus with Limited Third Track)

Build Alternative Option 3 includes a total Program Corridor distance of 140.25 miles and consists of a Western Section, terminating at LAUS, and an Eastern Section, terminating at the City of Indio.

Western Section. The Western Section under Build Alternative Option 3 would be the same as that described above under Build Alternative Options 1 and 2.

Eastern Section. The Eastern Section under Build Alternative Option 3 would be the same as that described above under Build Alternative Option 2, except for the following changes:

As part of Build Alternative Option 3, additional infrastructure improvements for the Eastern Section of the Program Corridor have been considered. These potential infrastructure improvements include the addition of station tracks and a third main line track. The addition of station tracks would be the same as described under Build Alternative Options 1 and 2; however, the addition of the third main track would be limited under Build Alternative Option 3 when compared with Build Alternative Options 1 and 2. The limited third track under Build Alternative Option 3 would augment the existing

two main tracks along the Eastern Section of the Program Corridor to the proposed Mid-Valley Station Area.

2.3 Construction

2.3.1 Western Section

In the Western Section, existing rail infrastructure would be used to accommodate the proposed service, and no additional track improvements would be required to accommodate the proposed service under all Build Alternative Options. LAUS would serve as the western terminus, and existing stations in the Cities of Fullerton and Riverside would be used, as depicted on Figure 2-1. No new stations or additions to existing stations would be required to accommodate the proposed service under all Build Alternative Options. The Tier 1/Program EIS/EIR Study Area for potential construction-related impacts on biological resources within the Western Section is up to 600 feet from either side of the existing railroad centerline.

2.3.2 Eastern Section

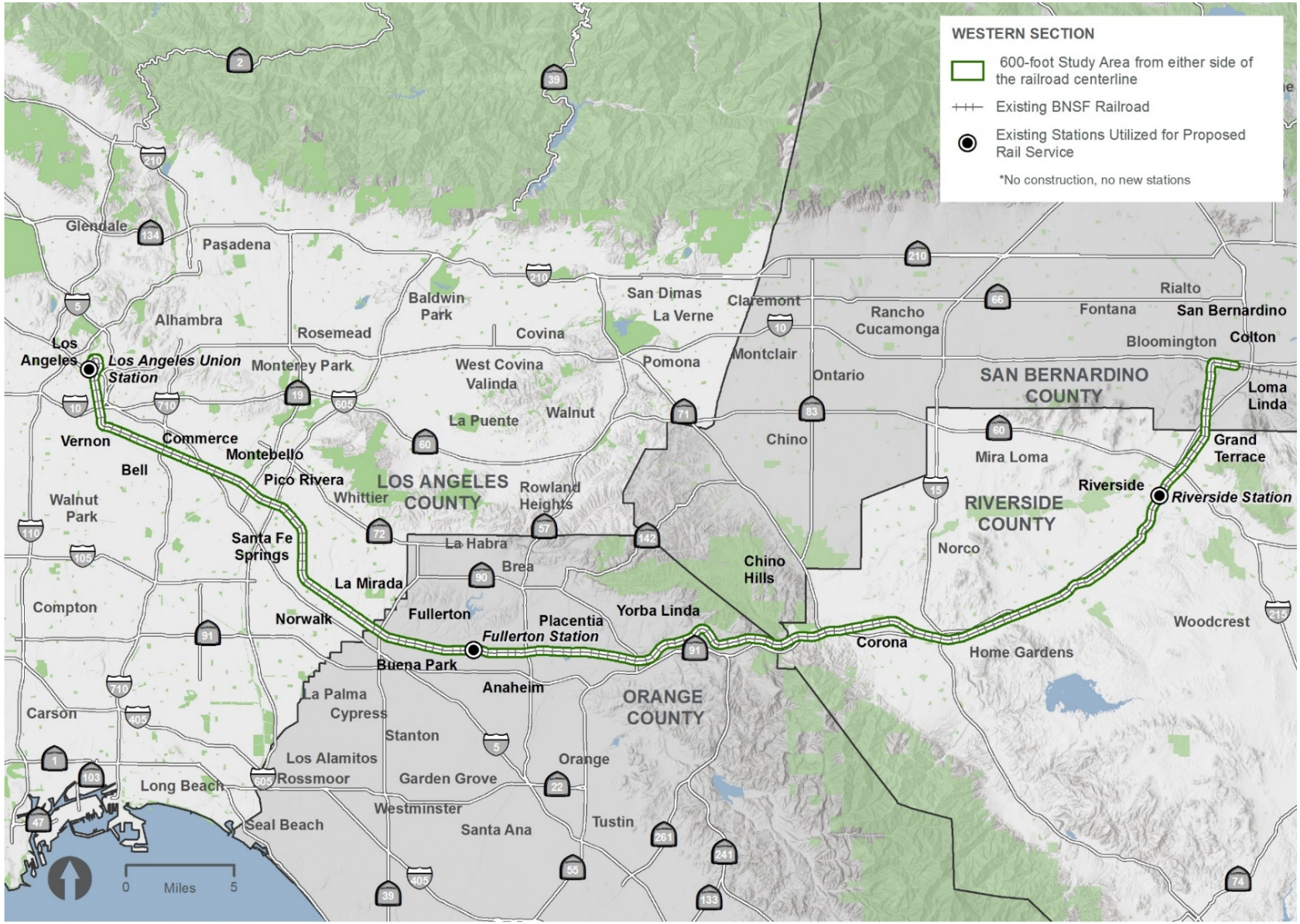
In the Eastern Section, proposed new infrastructure improvements under all Build Alternative Options could include sidings, additional main line track, wayside signals, drainage, grade-separation structures, and stations to accommodate the proposed service. The Eastern Section would use the existing station in the City of Palm Springs, which is the only existing station in the Eastern Section. Additionally, as depicted on Figure 2-2 and Figure 2-3, up to five new potential stations could be constructed in the following areas: 1) Loma Linda/Redlands Area (serving the Cities of Loma Linda and Redlands), 2) the Pass Area (serving the communities of Beaumont, Banning, and Cabazon), 3) the Mid-Valley (serving the communities of Cathedral City, Thousand Palms, the Agua Caliente Casino area, Rancho Mirage, and Palm Desert), 4) the City of Indio (under all Build Alternative Options), and/or 5) the City of Coachella (under Build Alternative Option 1 only).

The Tier 1/Program EIS/EIR Study Area for potential construction-related impacts on biological resources within the Eastern Section is up to 1,000 feet from either side of the centerline, plus a 500-foot buffer for the assessment of indirect impacts, for a total Tier 1/Program EIS/EIR Study Area of 1,500 feet from either side of the centerline at each of the individual station location areas. The remaining portion of the Eastern Section Tier 1/Program EIS/EIR Study Area encompasses up to 300 feet from the railroad centerline to include non-station-related infrastructure improvements, plus a 500-foot buffer for the assessment of indirect impacts, for a total Tier 1/Program EIS/EIR Study Area of 800 feet from the railroad centerline.

2.4 Operation

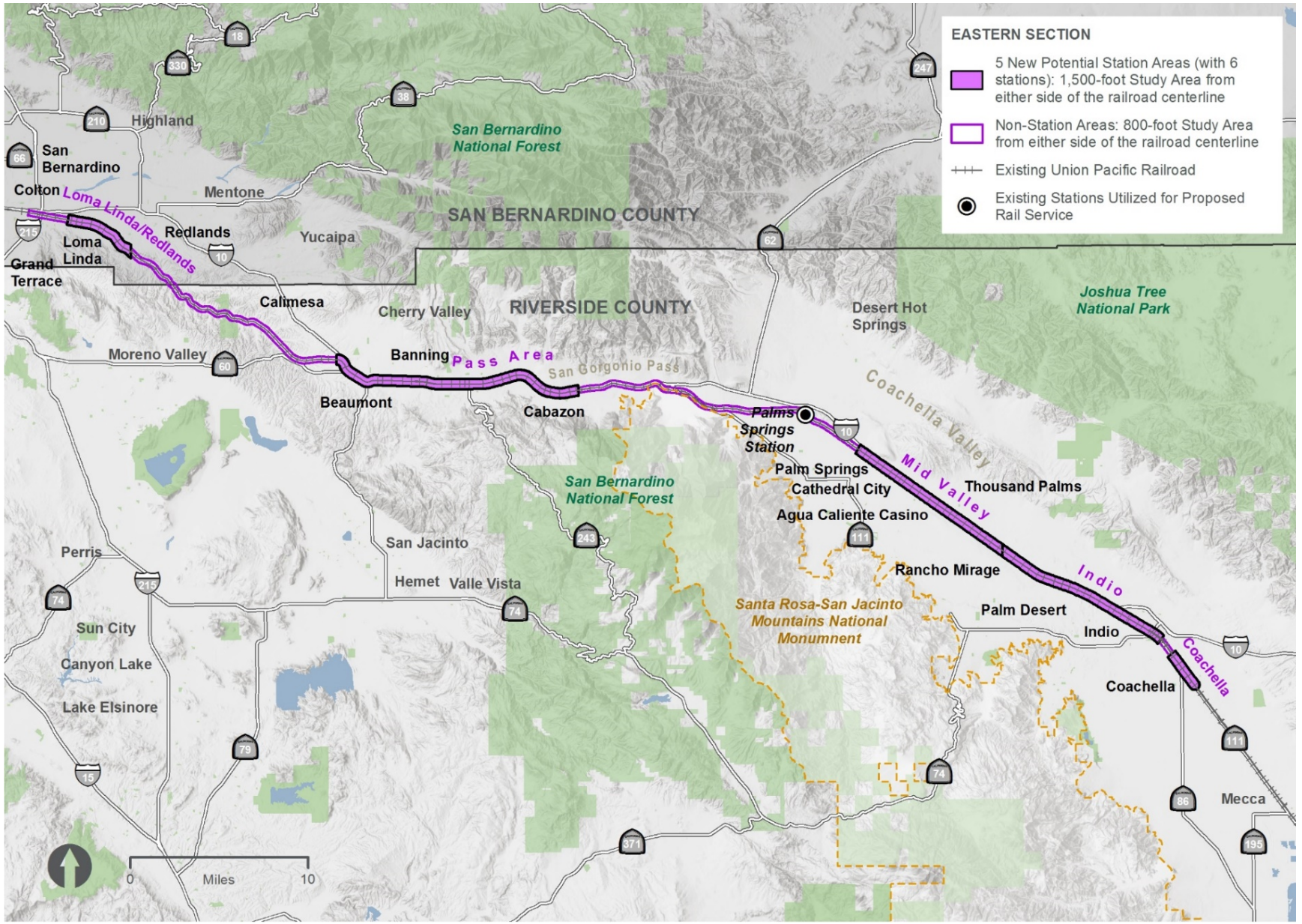
Passenger train frequencies proposed as part of the Program would consist of the addition of two daily round-trip intercity diesel-powered passenger trains operating the entire length of the Program Corridor between Los Angeles and Indio and/or Coachella, with one morning departure and one afternoon departure from each end of the Program Corridor.

Figure 2-1. Western Section of the Program Corridor (Build Alternative Options 1, 2, and 3)



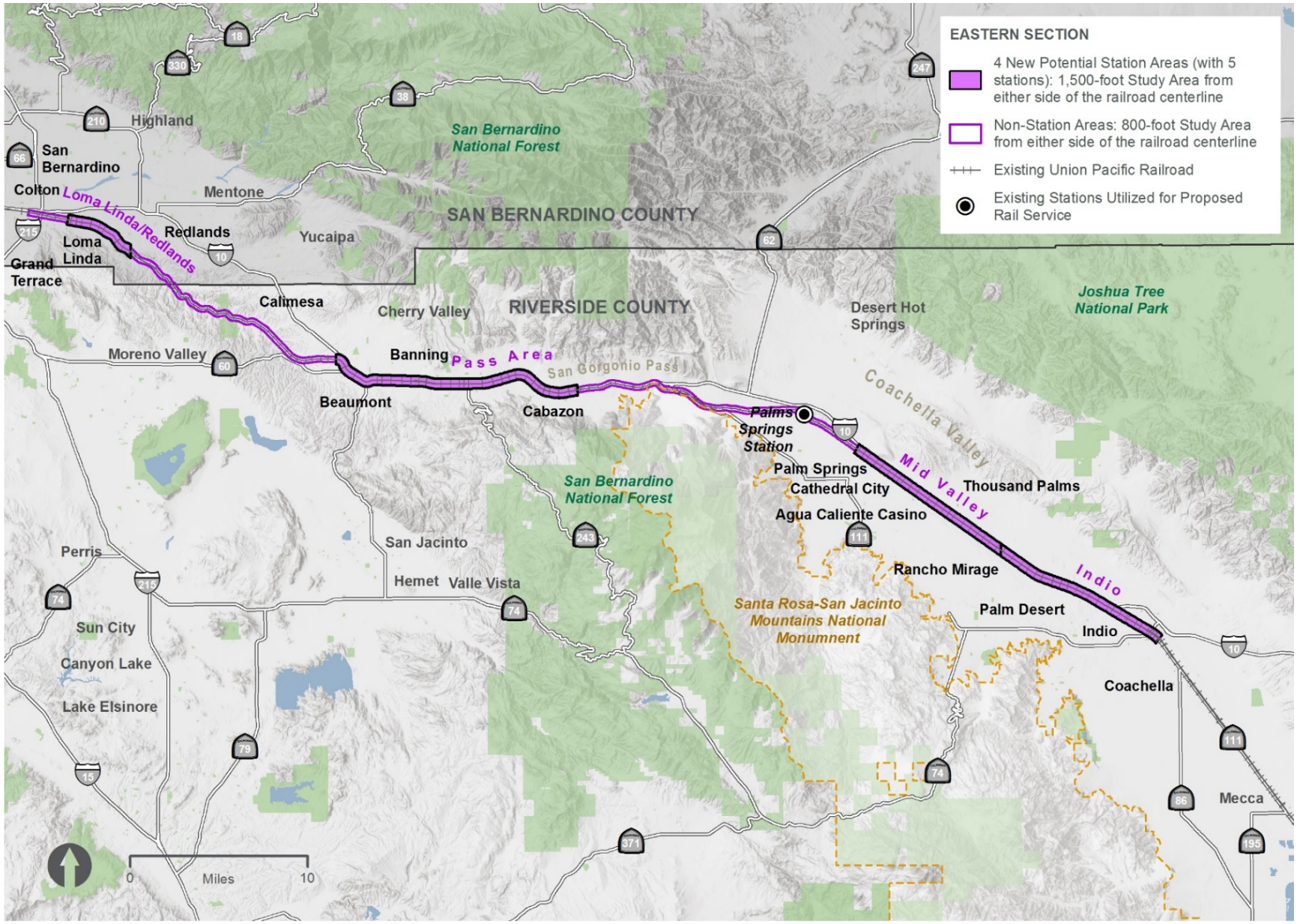
This page is intentionally blank.

Figure 2-2. Eastern Section of the Program Corridor (Build Alternative Option 1)



This page is intentionally blank.

Figure 2-3. Eastern Section of the Program Corridor (Build Alternative Options 2 and 3)



This page is intentionally blank.

3 Regulatory Framework

In accordance with NEPA (42 USC Section 4321 et seq.), CEQ regulations implementing NEPA (40 CFR Parts 1501 1508), FRA's *Procedures for Considering Environmental Impacts* (64 FR 28545, May 26, 1999) and CEQA, FRA identified biological resources within the Tier 1/Program EIS/EIR Study Area and evaluated the potential impacts on those resources as a result of implementing the Build Alternative Options. Biological and wetland resources are subject to regulation by multiple federal and state agencies, as well as various legislative and regulatory programs. Federal and state agencies' applicable legislation and regulations are presented below. Each of these regulations will be considered, consistent with a Tier 1/Program EIS/EIR, in the evaluation of biological and wetland resources for the Program.

3.1 Federal

3.1.1 Bald and Golden Eagle Protection Act

The Bald and Golden Eagle Protection Act of 1940 (BGEPA), and as amended (16 United States Code [USC] Section 668- 668d), prohibits anyone without a permit issued by U.S. Fish and Wildlife Service (USFWS) from "taking" bald or golden eagles, including their parts, nests, or eggs. The BGEPA defines "take" as "pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb." For purposes of these guidelines, "disturb" means "to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available, (1) injury to an eagle, (2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or (3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior."

3.1.2 Clean Water Act

The Clean Water Act of 1972 (as amended) (CWA) serves as the primary federal law protecting the quality of the nation's surface waters, including wetlands. The CWA (33 USC Section 1251 et seq.) defines waters of the U.S., also referred to as jurisdictional waters, as follows:

- All waters that are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters that are subject to the ebb and flow of the tide
- All interstate waters, including interstate wetlands

- All other waters, such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation or destruction of which could affect interstate or foreign commerce
- All impoundments of waters otherwise defined as waters of the U.S.
- Tributaries to the foregoing types of waters
- Wetlands adjacent to the foregoing waters (33 CFR Part 328.3 – the term “adjacent” means bordering, contiguous, or neighboring)

The applicable sections of the CWA are further discussed below.

- Section 303 identifies and sets pollutant standards (total maximum daily load) for impaired water bodies. Total maximum daily loads are the maximum amount of a pollutant that can be present in the waterbody and establishes restrictions for discharges to the waterbody.
- Under Section 401, activities that may result in a discharge into waters of the U.S. must obtain certification from the state in which the discharge would originate or from the interstate water pollution control agency with jurisdiction over affected waters. Project sponsors must obtain a 401 Water Quality Certification from the State Water Resources Control Board.
- Under Section 402, discharges, including, but not limited to, construction-related stormwater discharges to surface waters, are regulated through the National Pollutant Discharge Elimination System program. Project sponsors must obtain a National Pollutant Discharge Elimination System Permit from State Water Resources Control Board.
- Under CWA Section 404, the U.S. Army Corps of Engineers (USACE) and the U.S. Environmental Protection Agency regulate the discharge of dredged and fill materials into the waters of the U.S., including wetlands. Project sponsors must obtain a permit from the USACE for discharges of dredged or fill materials into jurisdictional aquatic resources.

3.1.3 Endangered Species Act

The Federal Endangered Species Act of 1973 (FESA), as amended (16 USC Section 1531 et seq.) provides a means whereby the ecosystems upon which endangered and threatened species depend may be conserved and provides a program for the conservation of such endangered and threatened species (Section 1531[b], Purposes). All federal agencies are to seek to conserve endangered and threatened species and utilize applicable authorities in furtherance of the purposes of the FESA (Section 1531[c][1], Policy). USFWS has primary administrative responsibility under the FESA for terrestrial and freshwater organisms and is responsible for the listing of plant and animal species

under the FESA on the basis of the best scientific and commercial data available on the species' biological status and threats to its existence. Species listed as threatened or endangered, or proposed for such listing, have specific protections under the FESA. All federal agencies are required to consult (or confer) with USFWS (and/or the National Marine Fisheries Service for marine species) in accordance with Section 7 of the FESA if the agency determines that any proposed action may affect a listed species. Each agency must ensure that any federal action or activity is not likely to jeopardize the continued existence of any species listed or proposed to be listed under the FESA or result in the destruction or adverse modification of designated or proposed critical habitat (Section 1536[a], Interagency Cooperation, and 50 CFR Part 402). Section 9 of the FESA prohibits any "take" (as defined in the FESA: to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct) of a listed species. Section 10 of the FESA allows for exemptions to the take prohibition, based on incidental take statements issued in accordance with biological opinions issued under Section 7 consultation or other authorized permits.

Categories listed under the FESA are as follows:

- **Endangered:** Species of plants or animals that have been identified by USFWS or National Marine Fisheries Service as being in danger of extinction throughout all or a significant portion of its range
- **Threatened:** Species of plants or animals that have been identified by USFWS or National Marine Fisheries Service as being likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range
- **Proposed:** Species identified by USFWS under the FESA that are proposed in the *Federal Register* to be listed as threatened or endangered
- **Candidate:** Species for which USFWS has sufficient information on biological vulnerability and threats to support proposals to list them as endangered or threatened
- **Petitioned:** Plant or animal species that have been formally requested to be listed by the USFWS or National Marine Fisheries Service under the FESA

3.1.4 Executive Order 13112, Invasive Species

Executive Order 13112 requires federal agencies to identify actions that may affect invasive species; use relevant programs to prevent the introduction of invasive species; detect, respond, and control such species; monitor invasive species populations; provide for restoration of native species; conduct research on invasive species; and promote public education on the spread of invasive species.

3.1.5 Executive Order 11990, Protection of Wetlands

Executive Order 11990 states that federal agencies should ensure that their actions "minimize the destruction, loss or degradation of wetlands and to preserve and to enhance the natural and beneficial values of wetlands" in carrying out their responsibilities.

3.1.6 Executive Order 13186, Protection on Migratory Bird Populations

Executive Order 13186 directs each federal agency taking actions that have or may have adverse impact on migratory bird populations to work with USFWS to develop a memorandum of understanding that will promote the conservation of migratory bird populations.

3.1.7 Federal Railroad Administration

According to the FRA's *Procedures for Considering Environmental Impacts* (64 FR 28545, May 26, 1999) Section 14(n)(13) (FRA 1999a), an "EIS should assess the impacts on both passenger and freight transportation, by all modes, from local, regional, national, and international perspectives. The EIS should include a discussion of both construction period and long-term impacts on vehicular traffic congestion."

3.1.8 Migratory Bird Treaty Act

The Migratory Bird Treaty Act of 1918 (MBTA), as amended (16 USC Section 703-712), is the domestic law that affirms, or implements, the U.S.'s commitment to four international conventions (with Canada, Japan, Mexico, and Russia) for the protection of a shared migratory bird resource. Each of the conventions protects selected species of birds that occur in both countries at some point during their annual life cycle. The MBTA protects migratory birds and their nests, eggs, young, and parts from possession, sale, purchase, barter, transport, import, export, and take. For purposes of the MBTA, take is defined as "to pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to pursue, hunt, shoot, wound, kill, trap, capture, or collect" (50 CFR Part 10.12). The MBTA applies to migratory birds identified in 50 CFR Part 10.13.

Generally speaking, the MBTA protects all birds occurring in the U.S., except for several non-native species (e.g., house sparrow, European starlings, and rock pigeons) and non-migratory upland game birds. The USFWS implements and enforces the MBTA; is the lead federal agency for managing and conserving migratory birds in the U.S.; regulates the take of migratory birds for educational, scientific, and recreational purposes; and requires that harvests be limited to levels that prevent overutilization. Special purpose permits under 50 CFR Part 2I.27 of the MBTA are required

in the event that an action would take, possess, or involve the sale or transport of birds protected by the MBTA.

3.2 State

3.2.1 California Endangered Species Act

The California Endangered Species Act (CESA) prohibits the take of any fish, wildlife, or plant species listed as endangered or threatened, or designated as candidates for listing, under CESA. Take refers to mortality or injury of the listed species itself and not the modification of a listed species habitat. Compared with the FESA process, CESA contains a procedure for the California Department of Fish and Wildlife (CDFW) to issue a Section 2081 incidental take permit authorizing the take of listed and candidate species incidental to an otherwise lawful activity, subject to specified conditions, including that the effects of the take are fully mitigated.

3.2.2 California Fish and Game Code

Sections 3511, 4700, 5050, and 5515 (Fully Protected)

The California Fish and Game Code designates 37 fully protected species and prohibits the take or possession at any time of such species with certain limited exceptions.

Sections 3503, 3503.5, and 3513 (Bird Protections)

Section California Fish and Game Code 3503 states that it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by code or any regulation made pursuant thereto. Section 3503.5 prohibits the take, possession, or needless destruction of any nests, eggs, or birds in the orders Falconiformes (New World vultures, hawks, eagles, ospreys, and falcons, among others) or Strigiformes (owls). Section 3513 prohibits the take or possession of any migratory non-game bird or part thereof, as designated in the MBTA. To avoid violation of the take provisions, it is generally required that project-related disturbance at active nesting territories be reduced or eliminated during the nesting cycle.

Section 1600 et seq. (Lake and Streambed Alteration)

Section 1600 et seq. requires notifying CDFW prior to any project activity that might (1) substantially divert or obstruct the natural flow of any river, stream, or lake; (2) substantially change or use any material from the bed, channel, or bank of any river, stream, or lake; or (3) deposit or dispose of

debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake.

If after this notification, CDFW determines that the activity may substantially adversely affect fish and wildlife resources, a Lake or Streambed Alteration Agreement needs to be obtained.

3.2.3 California Native Plant Protection Act

The California Native Plant Protection Act requires all state agencies to use their authority to carry out programs to conserve endangered and rare native plants. Under the California Native Plant Protection Act, the Fish and Game Commission may designate native plants as “endangered” or “rare” and prohibit the take of such plants, with certain exceptions.

3.2.4 Natural Communities Conservation Planning Act

The Natural Communities Conservation Planning Act was enacted to encourage broad-based planning to provide for effective protection and conservation of the state’s wildlife resources while continuing to allow appropriate development and growth. Natural community conservation plans may be implemented. These plans identify measures necessary to conserve and manage natural biological diversity within the planning area while allowing compatible and appropriate economic development, growth, and other human uses.

3.2.5 Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act provides authority for the State Water Resources Control Board and Regional Water Quality Control Boards to regulate discharges to waters of the state, including wetlands. Waters of the state include all waters of the U.S. and any other waters within the state, regardless of their federal jurisdiction. It also provides for implementation of portions of the federal CWA by the State Water Resources Control Board, including the development of basin plans with identified beneficial uses, issuance of Section 401 Certifications, and issuance of Section 402 National Pollutant Discharge Elimination System Permits. Effects on waters of the state are authorized through the issuance of Waste Discharge Requirements, which require documenting compliance with state water quality standards, including watershed plans, designated beneficial uses, and the total maximum daily load program. Issuance of a Section 401 Water Quality Certification generally incorporates the waste discharge requirements for effects on waters of the state. However, those surface resources lacking federal CWA jurisdiction are regulated under the waste discharge requirement process.

As defined in Division 7, Chapter 2, Section 13050(e) of the California Water Code, waters of the state include “any surface or groundwater, including saline waters, within the boundaries of the

state." In practice, waters of the state are delineated as any aquatic resource with an ordinary high water mark, or that meets the description of wetlands in Section 4. Waters of the state include all waters of the U.S. and any isolated aquatic resources.

3.3 Regional

3.3.1 Coachella Valley Multiple Species Habitat Conservation Plan

The Coachella Valley Multiple Species Habitat Conservation Plan (MSHCP) is a comprehensive, multijurisdictional habitat conservation plan focusing on the conservation of species and their associated habitats in the Coachella Valley region of Riverside County. The overall goal of the Coachella Valley MSHCP is to maintain and enhance biological diversity and ecosystem processes within the region while allowing for future economic growth.

The Coachella Valley MSHCP covers 27 sensitive plant and wildlife species, as well as 27 natural communities. Covered species include both listed and non-listed species that are adequately conserved by the Coachella Valley MSHCP. The overall provisions for the plan are subdivided according to specific resource conservation goals that have been organized according to geographic areas defined as Conservation Areas. These areas are identified as Core, Essential, or Other Conserved Habitat for sensitive plant, invertebrate, amphibian, reptile, bird, and mammal species; Essential Ecological Process Areas; and Biological Corridors and Linkages.

The approval of the Coachella Valley MSHCP and execution of the Implementing Agreement allows signatories of the Implementing Agreement to issue take authorizations for all species covered by the Coachella Valley MSHCP, including federally and state-listed species, as well as other identified covered species and/or their habitats.

Each participating city or local jurisdiction within the Coachella Valley imposes a development mitigation fee for new development projects within its jurisdiction. With payment of the mitigation fee and compliance with the requirements of the Coachella Valley MSHCP, full mitigation in compliance with CEQA, NEPA, FESA, and CESA is granted.

3.3.2 Western Riverside County Multiple Species Habitat Conservation Plan

The Western Riverside County MSHCP is a comprehensive, multijurisdictional habitat conservation plan focusing on conservation of species and their associated habitats in western Riverside County. The MSHCP is one of several large, multijurisdictional habitat-planning efforts in Southern California with the overall goal of maintaining biological and ecological diversity within a rapidly

urbanizing region. The MSHCP is a “criteria-based” plan, focused on preserving individual species through conservation. Conservation is based on the particular habitat requirements of each species, as well as the known distribution data for each species.

USFWS and CDFW have authority to regulate the take of threatened, endangered, and rare species. The Western Riverside County MSHCP allows the participating jurisdictions to authorize “take” of plant and wildlife species identified within the plan area. Under the Western Riverside County MSHCP, the wildlife agencies have granted “take authorization” for otherwise lawful actions, such as public and private development that may incidentally take or harm individual species or their habitat outside of the MSHCP conservation area, in exchange for the assembly and management of coordinated MSHCP conservation areas.

Plans like the Western Riverside County MSHCP are designed to allow development to occur in designated areas in exchange for a preserve system to ensure the survival of many sensitive species. Therefore, biologically important areas with high-quality habitat are set aside for mitigation and protection to balance the growth and urbanization.

3.4 Local

3.4.1 Los Angeles County General Plan

The L*os Angeles County General Plan 2035* was adopted by the County Board of Supervisors on October 6, 2015, and it provides a policy framework and establishes the long-range vision for Los Angeles County (County of Los Angeles 2015). Goals and policies that are applicable to biological resources for the Program are listed below.

Goal C/NR 3: Permanent, sustainable preservation of genetically and physically diverse biological resources and ecological systems including habitat linkages, forests, coastal zone, riparian habitats, streambeds, wetlands, woodlands, alpine habitat, chaparral, shrublands, and significant ecological areas

Policy C/NR 3.1: Conserve and enhance the ecological function of diverse natural habitats and biological resources

Policy C/NR 3.3: Restore upland communities and significant riparian resources, such as degraded streams, rivers, and wetlands to maintain ecological function – acknowledging the importance of incrementally restoring ecosystem values when complete restoration is not feasible

Policy C/NR 3.6: Assist state and federal agencies and other agencies, as appropriate, with the preservation of special-status species and their associated habitat and wildlife movement corridors through the administration of the significant ecological areas and other programs

Policy C/NR 3.7: Participate in interjurisdictional collaborative strategies that protect biological resources

Policy C/NR 3.10: Require environmentally superior mitigation for unavoidable impacts on biologically sensitive areas, and permanently preserve mitigation sites

Policy C/NR 3.11: Discourage development in riparian habitats, streambeds, wetlands, and other native woodlands in order to maintain and support their preservation in a natural state, unaltered by grading, fill, or diversion activities

Goal C/NR 5: Protected and useable local surface water resources

Policy C/NR 5.1: Support the low impact development philosophy, which seeks to plan and design public and private development with hydrologic sensitivity, including limits to straightening and channelizing natural flow paths, removal of vegetative cover, compaction of soils, and distribution of naturalistic best management practices at regional, neighborhood, and parcel-level scales

Policy C/NR 5.3: Actively engage stakeholders in the formulation and implementation of surface water preservation and restoration plans, including plans to improve impaired surface water bodies by retrofitting tributary watersheds with low impact development types of best management practices

Policy C/NR 5.4: Actively engage in implementing all approved Enhanced Watershed Management Programs, Watershed Management Programs and Coordinated integrated Monitoring Programs/Integrated Monitoring Programs and other county-involved total maximum daily load implementation and monitoring plans

Policy C/NR 5.6: Minimize point and non-point source water pollution

Policy C/NR 5.7: Actively support the design of new and retrofit of existing infrastructure to accommodate watershed protection goals, such as roadway, railway, bridge, and other-particularly tributary street and greenway interface points with channelized waterways

3.4.2 Orange County General Plan

The *Orange County General Plan* was completed in 2005, and the Land Use Element and Land Use Map were updated in 2015 (Orange County 2005). Goals, objectives, and policies that are applicable to the Program are listed below.

Goal 1: Protect wildlife and vegetation resources and promote development that preserves these resources

Objective 1.1: Prevent the elimination of significant wildlife and vegetation through resource inventory and management strategies

Policy 1: Identify and preserve the significant wildlife and vegetation habitat of the county

3.4.3 Riverside County General Plan

The *Riverside County General Plan* was adopted on October 7, 2003 and has had a number of revisions in the intervening years pursuant to adopted General Plan Amendments (Riverside County 2003). The current General Plan reflects amendments through 2017. Policies that are applicable to biological resources for the Program are listed below.

Policy LU 9.1: Provide for permanent preservation of open space lands that contain important natural resources, cultural resources, hazards, water features, watercourses including arroyos and canyons, and scenic and recreational values

Policy LU 9.2: Require that development protect environmental resources by compliance with the Multipurpose Open Space Element of the General Plan and federal and state regulations, such as CEQA, NEPA, the Clean Air Act, and the CWA

Policy OS 5.1: Substantially alter floodways or implement other channelization only as a last resort

Policy OS 5.2: If substantial modification to a floodway is proposed, design it to reduce adverse environmental effects to the maximum extent feasible

Policy OS 5.3: Based on specific study, all development shall be set back from the floodway boundary

Policy OS 5.5: Preserve and enhance existing native riparian habitat and prevent obstructions of natural watercourses. Prohibit fencing that constricts flow across watercourses and their banks

Policy OS 5.6: Identify and, to the maximum extent possible, conserve remaining upland habitat areas adjacent to wetland and riparian areas that are critical to the feeding, hibernation, or nesting of wildlife species associated with these wetland and riparian areas

Policy OS 6.1: During the development review process, ensure compliance with the CWA's Section 404 in terms of wetlands mitigation policies concerning fill material in jurisdictional wetlands

Policy OS 6.2: Preserve buffer zones around wetlands where feasible and biologically appropriate

3.4.4 San Bernardino County General Plan

San Bernardino's *2007 General Plan* became effective on April 12, 2007, with the latest amendment occurring in 2014 (County of San Bernardino 2007). Policies that are applicable to biological resources for the Program are listed below.

Policy CO 1.1: The County will coordinate with appropriate agencies and interested groups to develop, fund, and implement programs to maintain the County's natural resources' base.

Policy CO 2.1: The County will coordinate with state and federal agencies and departments to ensure that their programs to preserve rare and endangered species and protected areas of special habitat value, as well as conserve populations and habitats of commonly occurring species, are reflected in reviews and approvals of development programs.

3.5 Regulatory Compliance

FRA, Caltrans, and RCTC will coordinate with USFWS and CDFW on the methodology, assumptions, findings, and appropriate approvals required as a result of implementation of the Build Alternative Option. During the Tier 1/Program EIS/EIR evaluation, FRA, Caltrans, and RCTC will discuss rulemaking regarding Section 7 and programmatic actions with USFWS and CDFW as it relates to the Build Alternative Option and the requirements for Tier 2/Project-level analysis, including continued compliance with Section 7 of the FESA.

This page is intentionally blank.

4 Methodology

This methodology identifies the approach and assumptions for describing existing conditions for biological and wetland resources and analyzing environmental consequences of the Tier 1 Program. Potential direct and indirect effects on biological and wetland resources were evaluated qualitatively, consistent with a Tier 1/Program EIS/EIR evaluation.

Potential effects on species, designated critical habitat, broad-scale vegetation communities, and specified habitat requirements were evaluated by reviewing the habitat requirements for each listed species and determining if that habitat exists within the affected environment based on the geographic information system (GIS) data. Federally and state-listed threatened and endangered species with the potential to occur in the Tier 1/ Program EIS/EIR Study Area were enumerated based on the record search results, consistent with the current USFWS and CDFW listing of each species (i.e., current federal register listing status for federal species and current CDFW state-listed species status). Species descriptions and habitat requirements are provided in Section 5.3. Threatened and endangered species lists, species descriptions, designated critical habitats, and habitat requirements were generated from the data sources listed above. A current list of species from USFWS was requested. The Information for Planning and Consultation (IPaC) and California Natural Diversity Database (CNDDB) search results are provided in Appendix A and Appendix B. Field work was not conducted for the Tier 1/Program EIS/EIR evaluation.

Potential effects on sensitive vegetation communities, suitable habitat for federally and state-listed species, and waters of the U.S./waters of the state were qualitatively assessed, using GIS overlays, to determine the area potentially affected by direct or indirect effects. Available digital mapping of vegetation communities (including sensitive communities), potential waters of the U.S., including wetlands, and potential waters of the state were overlaid with the study area (Appendix C and Appendix D). GIS data layers from the Western Riverside County MSHCP, Coachella Valley MSHCP, and CalVeg (USFS 2017) were used to quantify acreages of vegetation communities in the Tier 1/ Program EIS/EIR Study Area and to provide a qualitative description of the types and general locations of each habitat type. GIS data layers from the National Wetland Inventory (NWI), U.S. Geological Survey (USGS), and National Hydrology Dataset watershed and stream data were used to quantify acreages of potential Waters of the U.S., including wetlands and potential CDFW streambed, including riparian habitat in the Tier 1/ Program EIS/EIR Study Area, and to provide a qualitative description of the types and general locations of each aquatic resource type.

In conjunction with the Tier 2/Project-level analysis, a wetland delineation and more detailed impact analysis of potential wetland areas would be conducted, including field surveys, to determine which

areas meet the U.S. EPA and USACE regulatory criteria and definition of a wetland, and to determine the types and boundaries of those wetland areas. The potential also exists for additional wetlands to be found in the course of those surveys. Coordination would take place with the USACE to determine which wetland areas are jurisdictional or non-jurisdictional for Section 404 permitting purposes and mitigation requirements.

4.1 Data Sources

For the evaluation of potential effects of the Tier 1 Program on biological and wetland resources, GIS based data were used to evaluate the Build Alternative Options from a landscape perspective. Online data available from USFWS and CDFW, NWI, and the South Coast Missing Linkage were used to acquire relevant site-specific data. Specifically, the following resources were reviewed:

- **USFWS IPaC Website:** A list of federal candidate, proposed, threatened, and endangered plant species was obtained for the Tier 1/ Program EIS/EIR Study Area from USFWS' IPaC website. The list was generated on June 21, 2018 (USFWS 2018b) (Appendix A).
- **CNDDB RareFind:** Lists of special-status plant and wildlife species were prepared through a two-fold inquiry of the CNDDB RareFind 5 database. A standard quad search was performed using the RareFind program (CDFW 2018) that included the following 28 USGS 7.5-minute quadrangles: Indio, La Quinta, Myoma, Cathedral City, Palm Springs, Seven Palm Valley, Desert Hot Springs, White Water, Cabazon, Beaumont, El Casco, Sunnymead, Redlands, San Bernardino South, Riverside East, Riverside West, Corona North, Corona South, Prado Dam, Black Star Canyon, Orange, Yorba Linda, Anaheim, La Habra, Los Alamitos, Whittier, South Gate, and Los Angeles (Appendix B). Second, a GIS mapping exercise captured all CNDDB occurrences within the Tier 1/ Program EIS/EIR Study Area (CDFW 2018). Biologists performed this two-fold inquiry so that all special-status species with the potential to occur in the Tier 1/ Program EIS/EIR Study Area were identified.
- **California Native Plant Society's (CNPS) Online Inventory of Rare and Endangered Plants of California:** The CNPS's Online Inventory of Rare and Endangered Plants of California was queried for special-status plant species that occur in Los Angeles, Orange, San Bernardino, and Riverside Counties (CNPS 2018).
- **eBird Database:** This list was consulted to identify bird observations in or near the Tier 1/ Program EIS/EIR Study Area (eBird 2017).
- **Critical Habitat:** To identify proposed and designated critical habitat within 1 mile of the Tier 1/ Program EIS/EIR Study Area, GIS layers from the USFWS Ventura and Carlsbad field office websites were reviewed in June 2018.

- **Areas of Protected Habitat:** To identify areas of protected habitat, the California Protected Areas Database 2017 was consulted.
- **Wildlife Movement Linkages:** To identify wildlife movement linkages, the South Coast Missing Linkage Project: A Linkage Design for the San Bernardino-San Jacinto Connection (Penrod et al. 2005) was consulted.
- **Waters of the U.S.:** To identify waters of the U.S., the USFWS NWI maps (USFWS 2018a) and National Hydrography Data (USGS 2016) were consulted.
- **Wetlands:** For this evaluation, the USFWS NWI database (USFWS 2018a) was used to identify locations of potential wetland areas within the Tier 1/ Program EIS/EIR Study Area. The NWI maps are based on a classification system known as the Cowardin System, which includes habitats that do not meet the USACE three-parameter wetland definition but provides a useful tool for estimating potential impacts on wetlands at a planning level. Typical wetland classifications in the Arid West include riverine, freshwater pond, and freshwater forested/shrub. According to the *Corps of Engineers Wetland Delineation Manual* (Environmental Laboratory 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (Version 2.0) (USACE 2008), three criteria must be satisfied to classify an area as a wetland: (1) hydrophytic vegetation; (2) hydric soils; and (3) wetland hydrology.

4.2 Definitions

4.2.1 Special-Status Species

Special-status species are plants or animals legally protected under FESA, CESA, or other regulations, as well as species considered sufficiently rare by the scientific community to qualify for such listing. Special-status species include the following:

- Species listed or proposed for listing as threatened or endangered under the FESA (50 CFR Part 17.12 [listed plants], 50 CFR Part 17.11 [listed animals], and various notices in the *Federal Register* [proposed species])
- Species that are candidates for listing as endangered or threatened (various notices in the *Federal Register*)
- Species listed or proposed for listing by the State of California as threatened or endangered under the CESA (14 California Code of Regulations 670.5)

- Bald and golden eagles protected under the BGEPA (16 USC Sections 668 to 668d, 54 Statute 250)
- Species that meet the definitions of “rare” or “endangered” under CEQA (CEQA Guidelines, Sections 15380 and 15125)
- Plants presumed by the CNPS to be “extinct in California” (California Rare Plant Rank [CRPR]1A, CNPS 2018)
- Plants considered by the CNPS to be “rare, threatened, or endangered in California” (CRPR 1B and 2B, CNPS 2018)
- Plant species listed as rare under the California Native Plant Protection Act (California Fish and Game Code, Section 1900, et seq.)
- Animal Species of Special Concern to CDFW
- Animals that are fully protected in California (California Fish and Game Code Sections 3511 [birds], 4700 [mammals], 5050 [amphibians and reptiles], and 5515 [fish])

4.2.2 Potential to Occur

Special-Status Plant Species

The potential for special-status plant species to occur within the Tier 1/ Program EIS/EIR Study Area is determined by several factors, including extant or potentially extant populations within 5 miles of the study area, the study area occurring within the known elevation range for the species according to historical records, and potential for suitable habitat (including suitable soil, hydrology, and vegetation requirements) to occur within the Tier 1/ Program EIS/EIR Study Area. Species would be considered “not expected” if any of the following are true:

- Suitable habitat for the species is not likely to occur within the study area, based on review of 2018 aerial imagery, review of soil information, and professional experience.
- The species’ elevation range is higher or lower than the study area.
- There are no CNDDB or CNPS records of the species within 5 miles of the study area.
- There are no records of the species occurring in the region after 1940, or records that do exist occur in areas that have since been developed.

Species would be considered to “have potential to occur” if suitable habitat, as defined above, is known or expected to occur in, or near, the study area and recent records have been observed within or near the study area.

Special-Status Wildlife Species

The potential for special-status wildlife species to occur within the study area depends on several factors, including the location of the study area in relation to the known range of the species, extant or potentially extant populations within the study area or within 5 miles of it, and the potential for suitable habitat to occur within the study area. Species would be considered "not expected" if any of the following are true:

- The study area is outside of the known range of the species.
- There are no records of the species within the study area since 1940, or those that do exist occur in areas that have since been developed.
- Suitable habitat for the species is not likely to occur within the study area.

Species would be considered to "have potential to occur" if the study area is within the species range and suitable habitat is likely to occur in or near the study area.

4.3 Tier 1/Program EIS/EIR Study Area

This biological and wetland resources technical memorandum is limited to a desktop evaluation of the data sources described in Section 4.1. In order to identify all biological and wetland resources that have the potential to occur, the Tier 1/ Program EIS/EIR Study Area for biological resources extends up to 600 feet from either side of the existing railroad centerline in the Western Section. For the Eastern Section, the Tier 1/Program EIS/EIR Study Area for station-related infrastructure improvements extends up to 1,000 feet from either side of the centerline, plus a 500-foot buffer for the assessment of indirect impacts on biological resources, for a total Tier 1/Program EIS/EIR Study Area of 1,500 feet from either side of the centerline at each of the individual station location areas. The remaining portion of the Eastern Section Tier 1/Program EIS/EIR Study Area encompasses up to 300 feet from the railroad centerline to include non-station-related infrastructure improvements, plus a 500-foot buffer for the assessment of indirect impacts, for a total Tier 1/Program EIS/EIR Study Area of 800 feet from the railroad centerline.

To identify vegetation communities, special-status plant and wildlife species, and waters of the U.S. (including wetlands that could be affected by the Program), the Tier 1/ Program EIS/EIR Study Area was overlaid with resource data, such as vegetation communities, special-status plant and wildlife occurrences, waterways, and riparian and wetland areas.

This page is intentionally blank.

5 Existing Conditions

Biological resources include plant and wildlife species that have received special-status designation by federal, state, and local government agencies, as well as general plant and wildlife species; vegetation communities that provide habitat for these species; critical habitat and preserved areas that protect habitat for plants and wildlife; and wildlife movement linkages that provide movement corridors between large blocks of protected habitat. This section is intended to provide an overview of the biological resources that could occur within the Tier 1/Program EIS/EIR Study Area and in the vicinity of the Build Alternative Options and serves as a foundation for the evaluation of potential effects on biological resources.

The Build Alternative Options cross a large geographic area within Southern California, spanning a distance of approximately 140.5 (Build Alternative Options 2 and 3) to 144 miles (Build Alternative Option 1) from its western terminus in Los Angeles to the eastern terminus in Indio or Coachella, respectively. The topography crossed by the Program Corridor ranges from relatively flat, urban landscapes in the western portion to hilly canyons in the central portion, and flat, low desert habitat in the east. Elevations within the Program Corridor range from 300 feet above mean sea level at the western terminus in Los Angeles to 600 feet in Corona, 1,000 feet in Colton, 2,600 feet in Beaumont (the highest elevation), and 75 feet below mean sea level (the lowest elevation) in Coachella. The Program Corridor traverses four major geographic regions: the Los Angeles Basin from Los Angeles to Corona, the Inland Empire from Corona to Redlands, the Peninsular Range from Redlands to Banning, and the northwestern Sonoran Desert from Banning to Coachella. The Build Alternative Options occur within an existing railroad corridor that traverses areas that have predominately been heavily modified for urban purposes, especially in the Western Section, though some areas occur in or adjacent to lands that are in natural condition. Much of the Tier 1/Program EIS/EIR Study Area from Los Angeles to Redlands is urbanized with limited habitat value for most plant and wildlife species. Areas of natural habitat occur mainly along the Santa Ana River basin, which provides riparian woodland and wetland habitat for a number of special-status plant and wildlife species. San Timoteo Canyon dominates the region between Redlands and Banning. Most of this region is marked by natural areas of riparian woodland, grasslands, and wetlands that provide habitat for a number of special-status plants and wildlife. The portion of the Program Corridor east of Banning occurs within the Sonoran Desert and is a mixture of developed and undeveloped desert scrub dominated by creosote (*Larrea tridentata*). Transportation facilities, such as an interstate highway, state highways, local roadways, and existing railroads, are included within or adjacent to the Build Alternative Options. The following section describes, in general, the biotic communities,

special-status plants and wildlife species and their associated habitat, wildlife movement corridors, and wetlands and drainages that occur within or adjacent to the Program Corridor.

5.1 Vegetation Communities

The vegetation communities were mapped by overlaying the Tier 1/Program EIS/EIR Study Area over GIS information from the Western Riverside County MSHCP, Coachella Valley MSHCP, and CalVeg. The vegetation communities mapped in the Tier 1/Program EIS/EIR Study Area are described below for each Build Alternative Option and illustrated on Figure 5-1 (Sheets 1 through 6).

5.1.1 Build Alternative Option 1 (Coachella Terminus)

Table 5-1 summarizes vegetation communities or land cover types within the Program Corridor under Build Alternative Option 1. As indicated in Table 5-1, the dominant vegetation communities or land cover types in the Western Section of the Program Corridor are urban (9,379.67 acres), annual grassland (316.28 acres), and barren (158.46 acres), which equals approximately 98 percent of the total area within the Western Section of Build Alternative Option 1. For the Eastern Section of the Program Corridor, the dominant vegetation communities or land cover types are urban (9,529.88 acres), desert scrub (7,112.92 acres), annual grassland (1,513.91 acres), and cropland/orchard/vineyard (1,886.18 acres), which equals approximately 93 percent of the total area within the Eastern Section of Build Alternative Option 1.

Table 5-1. Summary of Vegetation Communities (Build Alternative Option 1)

Vegetation Community	Western Section (acres)	Eastern Section: Non-Station Area (acres)	Eastern Section: Loma Linda Station Area (acres)	Eastern Section: Pass Area Station Area (acres)	Eastern Section: Mid-Valley Station Area (acres)	Eastern Section: Indio Station Area (acres)	Eastern Section: Coachella Station Area (acres)	Total Area of Vegetation Community (acres)
Alkali desert scrub	—	4.04	—	—	—	—	23.56	**27.60**
Annual grassland	316.28	922.41	281.77	309.73	—	—	—	**1,830.19**
Barren	158.46	77.28	69.20	—	—	—	—	**304.93**
Coastal oak woodland	35.90	3.52	—	—	—	—	—	**39.41**
Coastal scrub	65.43	100.74	5.35	189.96	—	—	—	**361.48**
Cropland/orchard/vineyard	30.30	504.27	182.53	78.82	—	471.68	648.88	**1,916.48**
Desert scrub	—	3,077.75	—	324.54	2,947.17	752.95	10.51	**7,112.92**
Desert wash	—	10.40	—	407.73	—	—	—	**418.13**
Eucalyptus woodland	13.94	24.08	—	—	—	—	—	**38.02**
Freshwater emergent Wetland	15.14	26.20	—	—	—	—	—	**41.34**
Lacustrine	14.05	35.59	—	—	—	—	—	**49.64**
Mixed chaparral	1.19	30.45	—	6.57	—	—	—	**38.20**
Montane riparian	12.33	29.60	—	—	—	—	—	**41.93**

Vegetation Community	Western Section (acres)	Eastern Section: Non-Station Area (acres)	Eastern Section: Loma Linda Station Area (acres)	Eastern Section: Pass Area Station Area (acres)	Eastern Section: Mid-Valley Station Area (acres)	Eastern Section: Indio Station Area (acres)	Eastern Section: Coachella Station Area (acres)	Total Area of Vegetation Community (acres)
Pasture	5.90	49.08	70.00	—	—	—	—	**124.98**
Riverine	—	43.89	—	14.18	—	—	—	**58.08**
Urban	9,379.67	1,317.54	898.06	3,948.19	670.08	2508.12	187.90	**18,909.55**
Valley foothill riparian	58.53	380.37	—	5.72	—	—	—	**444.63**

5.1.2 Build Alternative Option 2 (Indio Terminus)

Table 5-2 summarizes vegetation communities or land cover types within the Program Corridor under Build Alternative Option 2. As indicated in Table 5-2, the dominant vegetation communities or land cover types in the Western Section of the Program Corridor are urban (9,379.67 acres), annual grassland (316.28 acres), and barren (158.46 acres), which equals approximately 98 percent of the total area within the Western Section of Build Alternative Option 2. For the Eastern Section of the Program Corridor, the dominant vegetation communities or land cover types are urban (9,274.01 acres), desert scrub (7,100.51 acres), annual grassland (1,513.91 acres), and cropland/orchard/vineyard (1,116.54 acres), which equals approximately 93 percent of the total area within the Eastern Section of Build Alternative Option 2.

5.1.3 Build Alternative Option 3 (Indio Terminus with Limited Third Track)

As summarized in Table 5-2, the types of vegetation communities and land cover types within Build Alternative Option 3 would be the same as those identified for Build Alternative Option 2.

This page is intentionally blank.

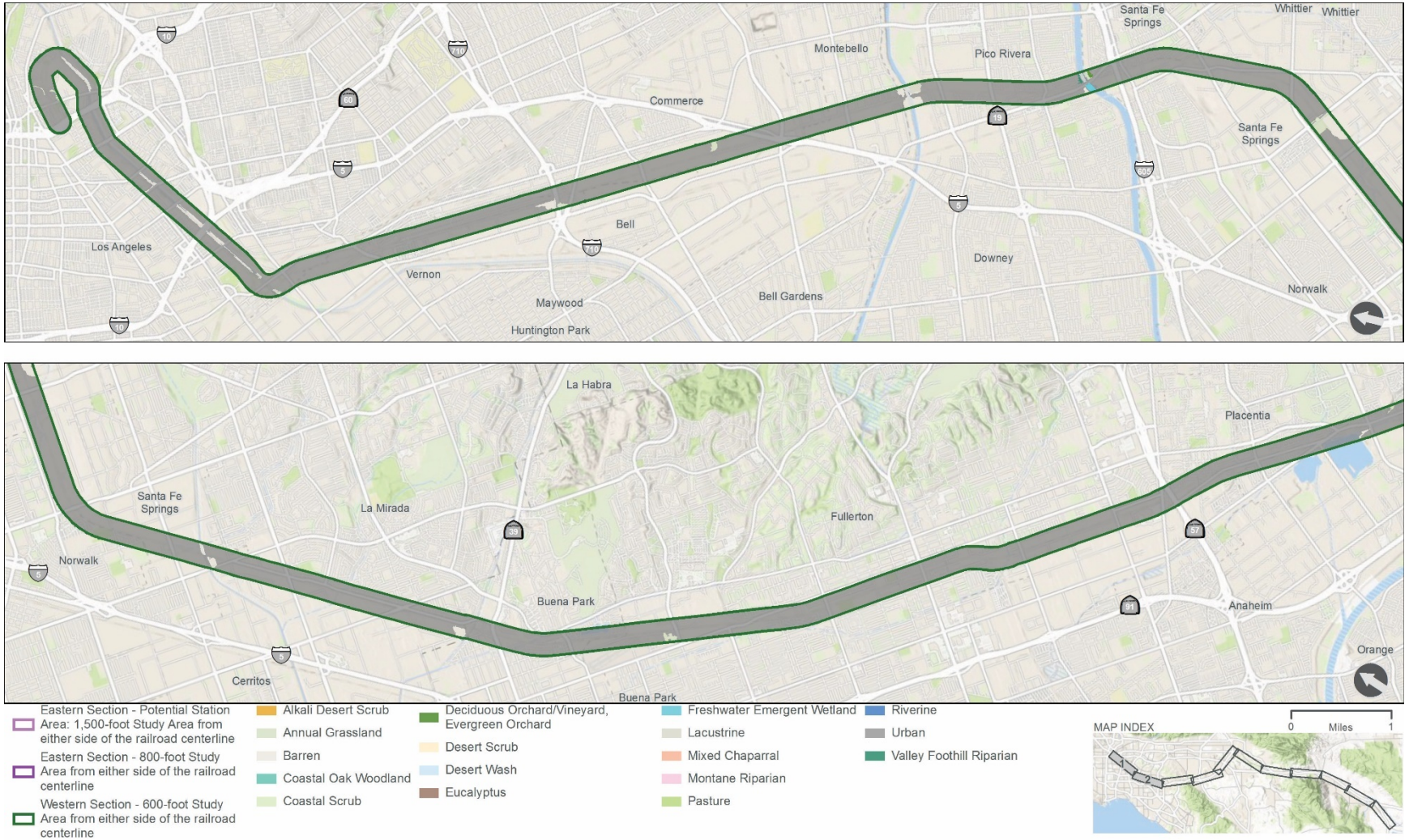
Table 5-2. Summary of Vegetation Communities (Build Alternative Options 2 and 3)

Vegetation Community	Western Section (acres)	Eastern Section: Non-Station Area (acres)	Eastern Section: Loma Linda Station Area (acres)	Eastern Section: Pass Area Station Area (acres)	Eastern Section: Mid-Valley Station Area (acres)	Eastern Section: Indio Station Area (acres)	Total Area of Vegetation Community (acres)
Alkali desert scrub	—	—	—	—	—	—	**—**
Annual grassland	316.28	922.41	281.77	309.73	—	—	**1,830.19**
Barren	158.46	77.28	69.20	—	—	—	**304.93**
Coastal oak woodland	35.90	3.52	—	—	—	—	**39.41**
Coastal scrub	65.43	100.74	5.35	189.96	—	—	**361.48**
Cropland/orchard/vineyard	30.30	383.51	182.53	78.82	—	471.68	**1,146.84**
Desert scrub	—	3,075.85	—	324.54	2,947.17	752.95	**7,100.51**
Desert wash	—	10.40	—	407.73	—	—	**418.13**
Eucalyptus woodland	13.94	24.08	—	—	—	—	**38.02**
Freshwater emergent wetland	15.14	26.20	—	—	—	—	**41.34**
Lacustrine	14.05	35.59	—	—	—	—	**49.64**
Mixed chaparral	1.19	30.45	—	6.57	—	—	**38.20**
Montane riparian	12.33	29.60	—	—	—	—	**41.93**

Vegetation Community	Western Section (acres)	Eastern Section: Non-Station Area (acres)	Eastern Section: Loma Linda Station Area (acres)	Eastern Section: Pass Area Station Area (acres)	Eastern Section: Mid-Valley Station Area (acres)	Eastern Section: Indio Station Area (acres)	Total Area of Vegetation Community (acres)
Pasture	5.90	49.08	70.00	—	—	—	**124.98**
Riverine	—	43.89	—	14.18	—	—	**58.08**
Urban	9,379.67	1,249.55	898.06	3,948.19	670.08	2,508.12	**18,653.68**
Valley foothill riparian	58.53	380.37	—	5.72	—	—	**444.63**

Figure 5-1. Vegetation Communities within the Tier 1/Program EIS/EIR Study Area

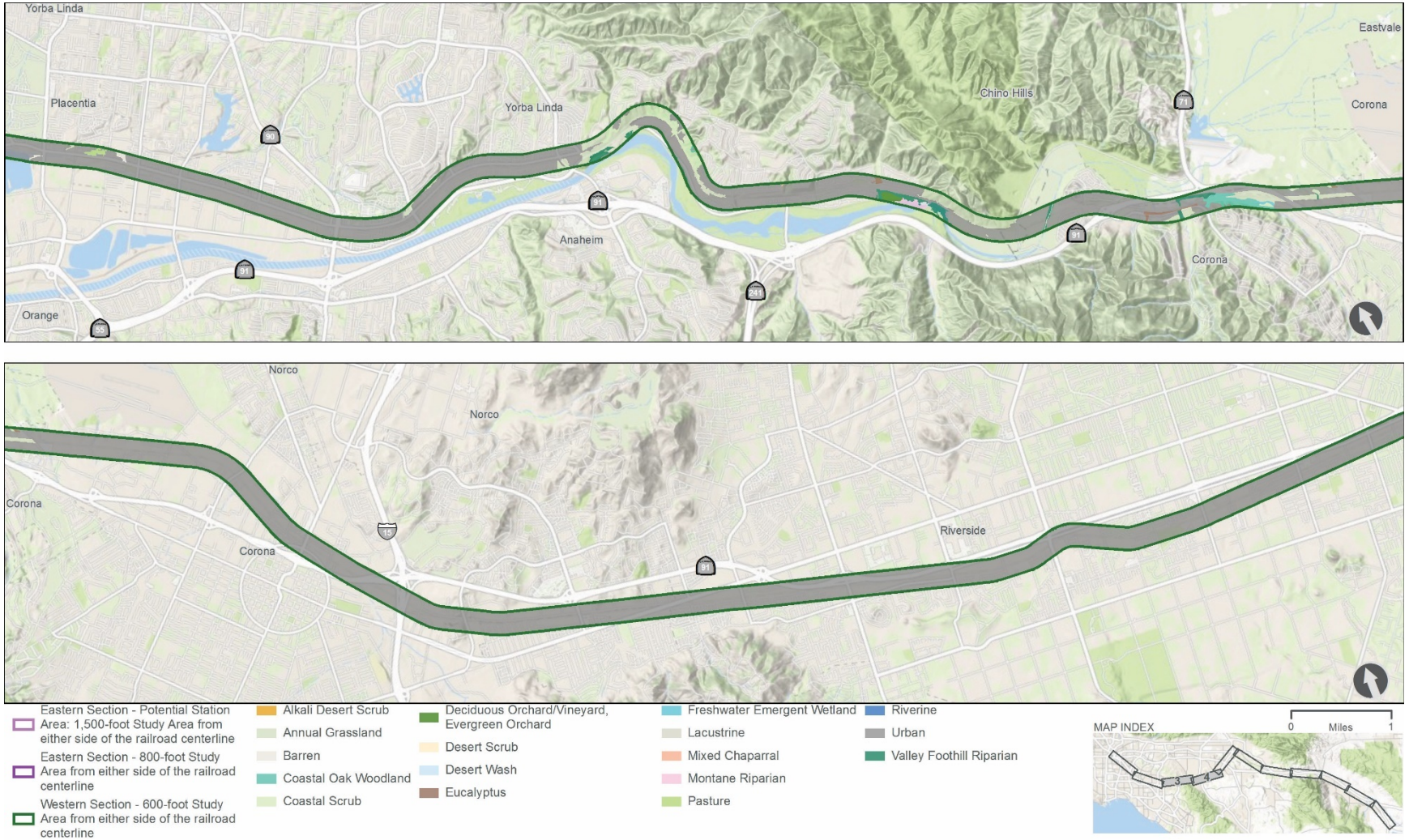
(Page 1 of 6)



This page is intentionally blank.

Figure 5-1. Vegetation Communities within the Tier 1/Program EIS/EIR Study Area

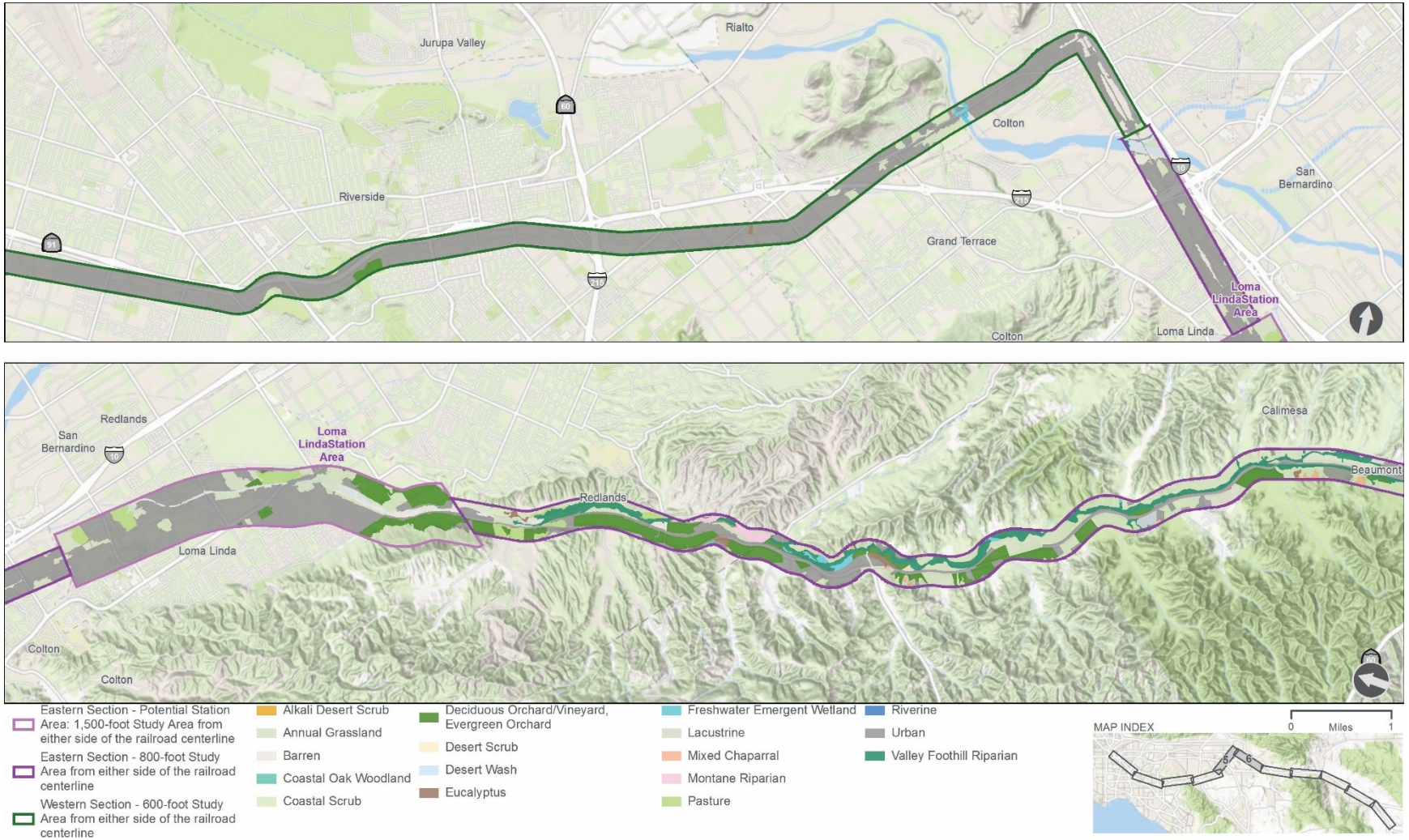
(Page 2 of 6)



This page is intentionally blank.

Figure 5-1. Vegetation Communities within the Tier 1/Program EIS/EIR Study Area

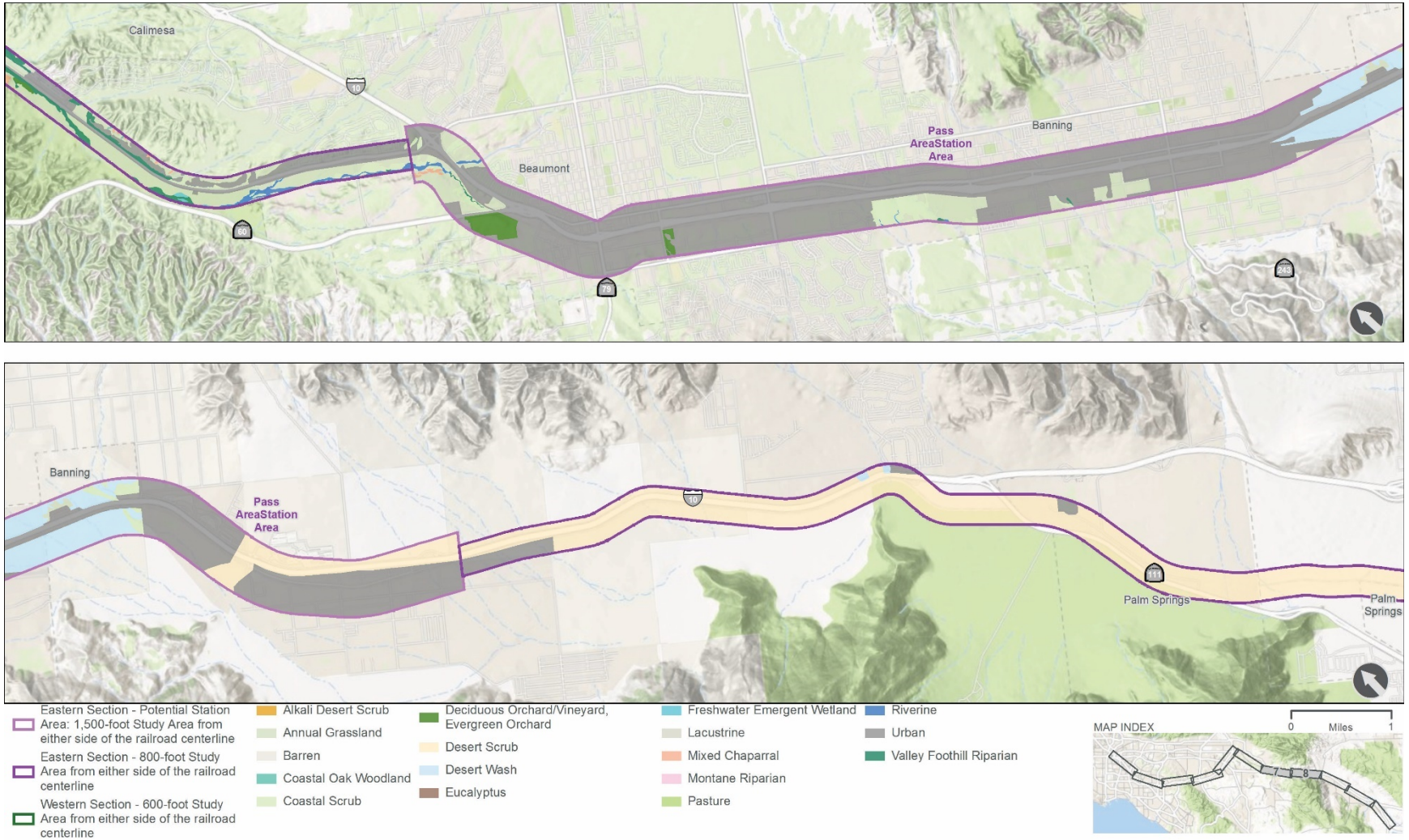
(Page 3 of 6)



This page is intentionally blank.

Figure 5-1. Vegetation Communities within the Tier 1/Program EIS/EIR Study Area

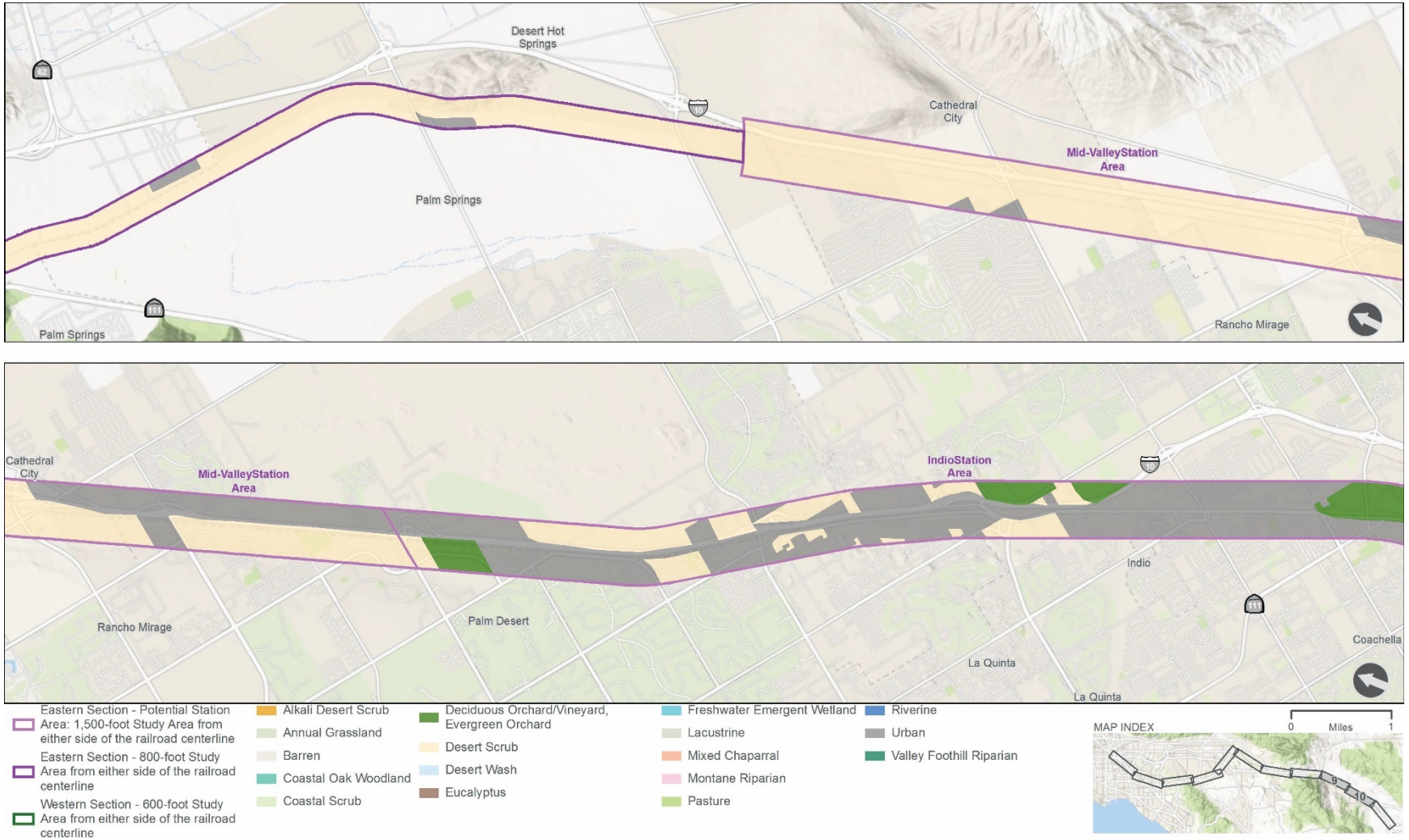
(Page 4 of 6)



This page is intentionally blank.

Figure 5-1. Vegetation Communities within the Tier 1/Program EIS/EIR Study Area

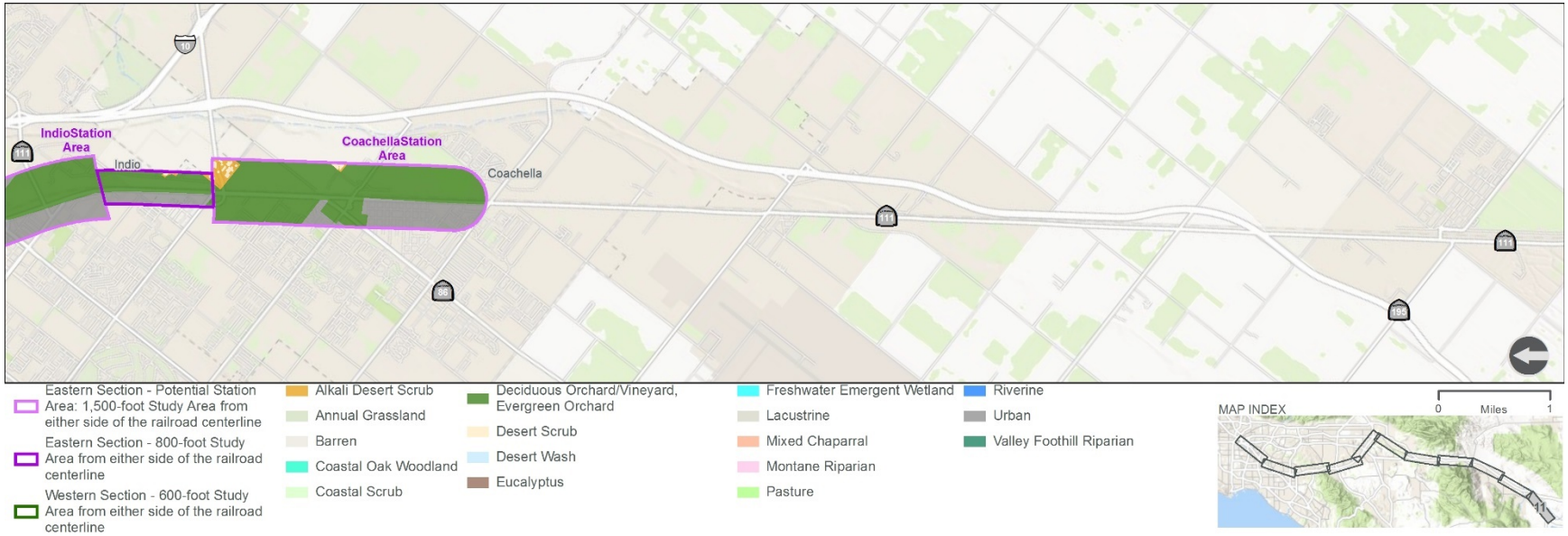
(Page 5 of 6)



This page is intentionally blank.

Figure 5-1. Vegetation Communities within the Tier 1/Program EIS/EIR Study Area

(Page 6 of 6)



This page is intentionally blank.

The vegetation communities referenced in Section 5.1 and illustrated on Figure 5-1 are described in detail below.

Alkali Desert Scrub

Alkali desert scrub generally occurs at lower to mid elevations throughout the Mojave Desert and northwestern edge of the Sonoran Desert and integrates with other arid and semiarid habitats. At lower elevations, alkali desert scrub can integrate with barren and desert scrub. Alkali scrub assemblages generally occur around the receding shores of large prehistoric lakes or alkali playas. The plant assemblage is subdivided into xerophytic (dry) and halophytic (saline) phases. Vegetation generally consists of perennial shrubs and subshrubs. Plant species characteristic of this community include allscale saltbush (*Atriplex polycarpa*), desert holly (*Atriplex hymenelytra*), fourwing saltbush (*Atriplex canescens)*, shadscale (*Atriplex confertifolia*), white bur-sage (*Ambrosia dumosa*), creosote bush (*Larrea tridentata*), Nevada ephedra (*Ephedra nevadensis*), cheesebush (*Ambrosia salsola*), alkali goldenbush (*Isocoma acradenia*), and snakeweed (*Gutierrezia* spp.) (Rowlands 1988). Within the Tier 1/Program EIS/EIR Study Area, alkali desert scrub occurs southwest of Coachella.

Wildlife species characteristic of alkali desert scrub include chisel-toothed kangaroo rat (*Dipodomys microps*), zebra-tailed lizards (*Callisaurus* spp.), Mojave ground squirrel (Xerospermophilus mohavensis), and long-nosed leopard lizard (*Gambelia wislizenii*) (Rowlands 1988).

Annual Grassland

An herbaceous community typical of disturbed areas that lack shrubland or woodland vegetation occurs throughout the Tier 1/Program EIS/EIR Study Area. Non-native forbs, black mustard (*Brassica nigra*), Saharan mustard (*Brassica tournefortii*), short pod mustard (*Hirschfeldia incana*), Russian thistle (*Salsola tragus*), tall tumbleweed mustards (*Sisymbrium* spp.), and annual grasses, such as bromes (*Bromus* spp.), oats (*Avena* spp.), schismus (*Schismus* spp.), and mouse barley (*Hordeum murinum*) are typically dominant or codominant. Depending on the severity and frequency of soil disturbance, these areas can contain a substantial number of native forbs. Annual grassland occurs throughout the study area.

Annual grasslands provide habitat for a variety of wildlife species. Reptiles that breed in annual grassland habitats typically include western fence lizard (*Sceloporus occidentalis*), common garter snake (*Thamnophis sirtalis*), and western rattlesnake (*Crotalus oreganus*). Mammals typically found in this habitat type include black-tailed jackrabbit (*Lepus californicus*), California ground squirrel (*Otospermophilus beecheyi*), Botta's pocket gopher (*Thomomys bottae*), western harvest mouse (*Reithrodontomys megalotis*), California vole (*Microtus californicus*), American badger (*Taxidea taxus*), and coyote (*Canis latrans*). Common birds known to breed in annual grasslands include

burrowing owl (*Athene cunicularia*), short-eared owl (*Asio flammeus*), horned lark (*Eremophila alpestris*), and western meadowlark (*Sturnella neglecta*). This community also provides important foraging habitat for turkey vulture (*Cathartes aura*), northern harrier (*Circus cyaneus*), American kestrel (*Falco sparverius*), black-shouldered kite (*Elanus axillaris*), and prairie falcon (*Falco mexicanus*) (Kie 2005).

Barren

Barren habitat is defined by the absence of vegetation. Any habitat with less than 2 percent of total vegetation cover is defined as barren. Most areas defined as barren have been previously disturbed by human activities. However, these areas may also include rock ledges, open ground covered with sand or gravel, vertical cliffs, and rocky river canyon walls. Within the Tier 1/Program EIS/EIR Study Area, barren lands occur adjacent to urban areas.

Wildlife species that may be found in some barren habitats include cormorants (*Phalacrocorax* spp.), hawks, falcons, plovers, stilts, avocets (*Recurvirostra* spp.), gulls, terns (*Sterna* spp.), common nighthawk (*Chordeiles minor*), common poorwill (*Phalaenoptilus nuttallii*), bank swallow (*Riparia riparia*), and bats. In the desert, open sandy soil provides a burrowing and egg-laying substrate for horned lizards and fringe-toed lizards (Parisi 1988).

Coastal Oak Woodland

Coastal oak woodland occurs within canyons and drainages within the Tier 1/Program EIS/EIR Study Area west of Banning. The overstory is open to dense and dominated or codominated by coast live oak with deciduous and evergreen hardwoods and some scattered conifers. The understory is composed of shrubs from adjacent chaparral or coastal scrub and are scattered under and between trees. Where trees form a closed canopy, the understory varies from a lush cover of shade-tolerant shrubs, ferns, and herbs to sparse cover with a thick carpet of litter. Within the Tier 1/Program EIS/EIR Study Area, coastal oak woodland occurs west of Banning.

Coastal oak woodlands provide habitat for a variety of wildlife species. Barrett (Barrett 1980) reported that this community provides habitat for at least 60 species of mammals and Verner (Verner 1980) observed 110 species of birds during the breeding season in coastal oak woodland. Squirrels and deer may be so dependent on acorns in fall and early winter that a poor acorn year can result in significant declines in their populations (Holland 2005).

Coastal Scrub

Coastal scrub is an open shrubland up to 3 feet in height that occupies well-drained soils on slopes and along drainages and washes. California buckwheat (*Eriogonum fasciculatum*) is dominant or

codominant in the cismontane stands with coastal sagebrush (*Artemisia californica*) and deerweed (*Acmispon glaber*). Transmontane stands include white bur sage (*Ambrosia dumosa*), big sagebrush (*Artemisia tridentata* ssp. *tridentata*), creosote (*Larrea tridentata*), and bladder sage (*Scutellaria mexicana*). The herbaceous layer is highly variable. Within the Tier 1/Program EIS/EIR Study Area, coastal scrub occurs in the Santa Ana River basin and San Timoteo basin.

Coastal scrub provides habitat for a variety of insects, mammals, and birds. Some of the more common bird species include California thrasher (*Toxostoma redivivum*), black-chinned sparrow (*Spizella atrogularis*), cactus wren (*Campylorhynchus brunneicapillus*), and wrentit (*Chamaea fasciata*). Coastal scrub also provides suitable nesting and foraging habitat for the federally threatened coastal California gnatcatcher (*Polioptila californica californica*) (Frost 2015).

Deciduous Orchard/Vineyard, Evergreen Orchard

These areas include agricultural land that is used for growing fruit or nut trees or vine crops. Within the Tier 1/Program EIS/EIR Study Area, orchards and vineyards occur in various locations from Corona to Coachella.

Orchards and vineyards provide wildlife habitat for deer, rabbits, squirrels, and numerous species of birds, which feed on fruits or nuts and use these areas for cover and nesting sites. Bird species that use these areas may include northern flicker (*Colaptes auratus*), scrub jay (*Aphelocoma californica*), American crow (*Corvus brachyrhynchos*), plain titmouse (*Baeolophus inornatus*), Brewer's blackbird (*Euphagus cyanocephalus*), house finch (*Haemorhous mexicanus*), California ground squirrel, and northern mockingbird (*Mimus polyglottos*) (Schultze 1988).

Desert Scrub

Desert scrub is an open shrubland up to 6 feet in height that occupies well-drained soils in valleys and gentle slopes and occurs in the desert portions of the study area east of Beaumont. Rubber rabbitbrush (*Ericameria nauseosa*) or creosote bush is generally dominant, with white bur sage, allscale saltbush (*Atriplex polycarpa*), Nevada ephedra (*Ephedra nevadensis*), Anderson's desert-thorn (*Lycium andersonii*), and other desert shrub species. The herbaceous layer is sparse or of non-native grasses. Within the Tier 1/Program EIS/EIR Study Area, desert scrub occurs in the desert portions east of Beaumont.

Desert scrub habitats support a variety of wildlife species, including the federally and state threatened desert tortoise (*Gopherus agasizzii*) and more common wildlife such as desert iguana (*Dipsosaurus dorsalis*), common kingsnake (*Lampropeltis getula*), black-throated sparrow (*Amphispiza bilineata*), various pocket mice and kangaroo rats, kit fox (*Vulpes macrotis*), coyote, and bobcat (*Lynx rufus*) (Laudenslayer and Boggs 1988).

Desert Wash

Desert wash is an open riparian shrubland up to 4 feet in height that occupies washes and drainages within the Tier 1/Program EIS/EIR Study Area east of Banning. Scalebroom (*Lepidospartum squamatum*) is dominant or codominant with mule fat (*Baccharis salicifolia*), big sagebrush, and/or rubber rabbitbrush. The herbaceous layer is variable and may be grassy. Within the Tier 1/Program EIS/EIR Study Area, desert wash and desert riparian habitats occur near Banning and Palm Springs.

Desert wash and desert riparian habitats are important to wildlife populations and they typically support more bird species at higher densities than other desert habitats. The dense shrubs also provide food and cover for other wildlife (Laudenslayer 1988).

Eucalyptus

Eucalyptus woodlands are seminatural woodland stands or eucalyptus groves. These areas are characterized by relatively dense stands of eucalyptus trees. The understory vegetation typically comprises introduced annual grasses, such as ripgut brome (*Bromus diandrus*) and Bermuda grass (*Cynodon dactylon*) with goose grass (*Galium aparine*) and dovefoot geranium (*Geranium molle*). Within the Tier 1/Program EIS/EIR Study Area, Eucalyptus woodland occurs in the Cities of Yorba Linda, Corona, and Highgrove, and in San Timoteo Canyon.

Wildlife species that are typically found in eucalyptus woodland include American crow, common raven (*Corvus corax*), barn owl (*Tyto alba*), red-tailed hawk (*Buteo jamaicensis*), and red-shouldered hawk (Buteo lineatus). Eucalyptus trees function as roosts, perches, and nest sites for a number of bird species, particularly raptors. Trees with stringy bark or a tendency for rapid deposition of litter create micro habitats for a number of small vertebrate species, including alligator lizard (*Elgaria* spp.), gopher snake (*Pituophis catenifer*), and woodrat (*Neotoma* spp.) (Pearson 1988).

Fresh Emergent Wetland

Fresh emergent wetlands are often associated with aquatic habitats, including riverine and lacustrine, and are flooded frequently. Vegetation is characterized by erect, rooted herbaceous hydrophytes. Dominant vegetation is generally perennial monocots that grow to 6 feet tall. Vegetation typically includes sedges (*Carex* spp.), rushes (*Juncus* spp.), nutgrass (*Cyperus* spp.) and, on more alkaline sites, saltgrass (*Distichlis spicata*). On wetter sites, cattail (*Typha* spp.), bulrush, and arrowhead (*Sagittaria*) may occur. Within the Tier 1/Program EIS/EIR Study Area, fresh emergent wetland is associated with the larger drainages west of Banning.

Freshwater emergent wetlands are among the most productive wildlife habitats in California. They provide food, cover, and water for numerous species of birds, mammals, reptiles, and amphibians. Many species rely on this habitat for their entire life cycle (Kramer 1988).

Lacustrine

Lacustrine areas are areas of open water and include freshwater ponds, lakes, and canals that are inundated by natural or artificial means. These features may hold water year-round in wet years but may be dry in other years. Concrete-lined ponds without vegetation are mapped as urban. Lacustrine habitats are largely unvegetated, but marsh or riparian plants, such as cattail (*Typha sp*.) or willows, may grow in shallower parts of the water. Within the Tier 1/Program EIS/EIR Study Area, lacustrine is associated with the larger drainages west of Banning and man-made lakes.

Lacustrine habitats are used by a variety of mammals, birds, reptiles, and amphibians for reproduction, food, water, and cover.

Mixed Chaparral

Mixed chaparral is an open shrubland up to 15 feet in height that occupies slopes and ridgetops on well-drained soils. Tucker oak (*Quercus john-tuckeri*) is dominant or codominant with California buckwheat, interior goldenbush (*Ericameria linearifolia*), rubber rabbitbrush, and other shrub species. The herbaceous layer is intermittent to sparse. Within the Tier 1/Program EIS/EIR Study Area, mixed chaparral occurs in the Santa Ana River basin and San Timoteo basin.

Mixed chaparral provides habitat for a variety of wildlife species. Common wildlife species may include brush rabbit (*Sylvilagus bachmani*), woodrat, wrentit, scrub jay, California thrasher, alligator lizard, rattlesnakes, and gopher snake (England 1988).

Montane Riparian

Montane riparian is an open riparian forest up to 100 feet in height with a sparse understory. Bigleaf maple (*Acer macrophyllum*) and California bay (*Umbellularia californica*) are typical dominants in Southern California, along with Fremont cottonwood (*Populus fremontii*). Within the Tier 1/Program EIS/EIR Study Area, montane riparian occurs in the San Timoteo drainage.

Montane riparian habitats provide high value for many wildlife species because they provide water, thermal cover, migration corridors, and diverse nesting and feeding opportunities. A variety of amphibians, reptiles, birds and mammals use montane riparian habitat for food, cover, and reproduction (Grenfell 1988).

Pasture

Pastures are composed of a mixture of annual and perennial grasses and forbs that provide forage for domestic livestock. Most of the pastureland in the Tier 1/Program EIS/EIR Study Area occurs in the San Timoteo Creek channel. While some pastures may be enhanced through the seeding of

desirable forage plants, such as tall fescue (*Schedonorus phoenix*), ryegrass (*Festuca perennis*), and various clovers (*Trifolium* spp.), they are less intensively managed than other types of agricultural lands. They also have a relatively low native diversity but often support some (usually minor) component of native California annual grassland species. Irrigation is variable, with some pasture areas flood- or sprinkler-irrigated, while others managed as dry-land pasture only. This habitat type is distinguished from extensive areas of California annual grassland that may be used as rangeland.

Pastures are used by a variety of wildlife depending upon geographic region and types of adjacent habitats. Ground-nesting birds, such as waterfowl and pheasant, nest in pastures if adequate vegetation is present at the beginning of the nesting season. Flood irrigation of pastures provides feeding and roosting sites for many wetland-associated birds, including shorebirds, wading birds, gulls, waterfowl, and some raptors. Deer also graze pastures when they provide adequate, adjacent escape cover (Zeiner 1988).

Riverine

Riverine areas are natural watercourses that include perennial rivers and creeks, as well as intermittent creeks. Most historical watercourses in Southern California had ephemeral hydrology. Many of the watercourses in the Tier 1/Program EIS/EIR Study Area have been channelized and concrete lined for flood control purposes.

The open water areas of large rivers provide resting and escape cover for many waterfowl species. Gulls, terns, osprey (*Pandion haliaetus*), and bald eagle (*Haliaeetus leucocephalus*) typically hunt in open water, while insectivorous birds (swallows, swifts, flycatchers) hunt over water. Waters near the shore provide food for waterfowl, herons, shorebirds, and belted kingfisher (*Megaceryle alcyon*). (Grenfell 1988).

Urban

Developed areas, such as buildings, warehouses, factories, mines, paved or graveled roads, and parking lots occur throughout the Tier 1/Program EIS/EIR Study Area. This category also includes ornamental vegetation, golf courses, and undeveloped areas, such as residential yards and horse pens. Urban accounts for most of the area between Redlands and Los Angeles and the Eastern Section.

Urban areas that are vegetated provide habitat for wildlife species. Common birds in these areas may include rock dove (*Columba livia*), house sparrow (*Passer domesticus*), starling (*Sturnus vulgaris*), scrub jay, mockingbird, house finch, wrentit, bushtit (*Psaltriparus minimus*), plain titmouse, and California quail (*Callipepla californica*). Common mammals typically include raccoon (*Procyon*

lotor), opossum (*Didelphimorphia* sp.), striped skunk (*Mephitis mephitis*), and black-tailed jackrabbit. Common reptiles typically include gopher snake and western fence lizard (McBride and Reid 1988).

Valley Foothill Riparian

Valley foothill riparian is an open dense riparian forest up to 100 feet in height that occupies gravelly or rocky soils in canyons, intermittent streams, and floodplains throughout the Tier 1/Program EIS/EIR Study Area. Many of the larger drainages in the Tier 1/Program EIS/EIR Study Area contain valley foothill riparian. Generally, Fremont cottonwood is dominant or codominant with California sycamore (*Platanus racemosa*), Goodding's black willow (*Salix gooddingii*), and arroyo willow (*Salix lasiolepis*). The shrub layer is open to dense and includes mule fat, blue elderberry (*Sambucus nigra* ssp. *caerulea*), tarragon (*Artemisia dracunculus*), and poison oak (*Toxicodendron diversilobum*). The herbaceous layer is highly variable. Many of the larger drainages in the Tier 1/Program EIS/EIR Study Area contain valley foothill riparian.

Valley foothill riparian habitats provide food, water, migration and dispersal corridors, as well as escape, nesting, and thermal cover for variety of wildlife species, including amphibians, reptiles, birds, and mammals.

5.2 Sensitive Natural Communities

Sensitive natural communities represent rare vegetation types or have limited distribution statewide or within a county or region. These communities include riparian areas that are jurisdictional to CDFW under the California Fish and Game Code 1600 et seq., and they are often vulnerable to the environmental effects of projects. A list of sensitive natural communities in California is maintained by CDFW in the Vegetation Classification and Mapping Program—Natural Communities List. The sensitive natural communities with potential to occur within the Tier 1/Program EIS/EIR Study Area are shown in Table 5-3. Mapping of sensitive natural communities requires a field assessment of the dominant plant species within each vegetation community type. Therefore, the potential presence of sensitive natural communities in the Tier 1/Program EIS/EIR Study Area was assessed based on the broader vegetation community categories for which mapping exists.

5.2.1 Build Alternative Option 1 (Coachella Terminus)

As summarized in Table 5-3, five sensitive natural communities have the potential to occur within the Tier 1/Program EIS/EIR Study Area under Build Alternative Option 1. These sensitive natural communities include California walnut woodland, scalebroom scrub, California sycamore woodland, Fremont cottonwood forest, and black willow thickets. All have state rarity ranks of S3, which indicates that they are "vulnerable and at moderate risk of extinction or elimination due to a restricted

range, relatively few populations or occurrences, recent and widespread declines, or other factors." These sensitive natural communities have the potential to occur in valley foothill riparian, coastal scrub, mixed chaparral, and desert wash habitats, respectively. Within the Western Section, California walnut woodland, California sycamore woodland, Fremont cottonwood forest, and black willow thickets have the potential to occur based on the vegetation community present. Within the Eastern Section, specifically the non-station areas and the Pass Area Station Area, all five sensitive natural communities have the potential to occur. Within the Loma Linda Station Area, California walnut woodland has the potential to occur. Within the Mid-Valley Station Area, Indio Station Area, and Coachella Station Area, none of the five sensitive natural communities have the potential to occur based on the vegetation community present.

5.2.2 Build Alternative Option 2 (Indio Terminus)

Sensitive natural communities within Build Alternative Option 2 are the same as Build Alternative Option 1.

5.2.3 Build Alternative Option 3 (Indio Terminus with Limited Third Track)

Sensitive natural communities within Build Alternative Option 3 are the same as Build Alternative Options 1 and 2.

Table 5-3. Sensitive Natural Communities with Potential to Occur within the Tier 1/Program EIS/EIR Study Area

Sensitive Natural Community (Alliance)[a]	State Rarity Rank[b]	Vegetation Community	Western Section	Eastern Section: Non-Station Area	Eastern Section: Loma Linda Station Area	Eastern Section: Pass Area Station Area	Eastern Section: Mid-Valley Station Area	Eastern Section: Indio Station Area	Eastern Section: Coachella Station Area
Juglans californica Woodland Alliance California walnut woodland	S3	Valley foothill riparian, coastal sage, mixed chaparral	P	P	P	P	—	—	—
Lepidospartum squamatum Shrubland Alliance Scalebroom scrub	S3	Desert wash	—	P	—	P	—	—	—
Platanus racemosa Woodland Alliance California sycamore woodland	S3	Valley foothill riparian	P	P	—	P	—	—	—
Populus fremontii Forest Alliance Fremont cottonwood forest	S3	Valley foothill riparian	P	P	—	P	—	—	—

Sensitive Natural Community (Alliance)[a]	State Rarity Rank[b]	Vegetation Community	Western Section	Eastern Section: Non-Station Area	Eastern Section: Loma Linda Station Area	Eastern Section: Pass Area Station Area	Eastern Section: Mid-Valley Station Area	Eastern Section: Indio Station Area	Eastern Section: Coachella Station Area
Salix gooddingii Woodland Alliance Black willow thickets	S3	Valley foothill riparian	P	P	—	P	—	—	—

Notes:

[a] Alliances names follow *A Manual of California Vegetation* (Sawyer et al. 2009).

[b] Rarity ranks are taken from *A Manual of California Vegetation* (Sawyer et al. 2009). Ranks of S1, S2, and S3 are considered rare and threatened statewide (Sawyer et al. 2009, p. 46) and of special concern by CDFW.

P=potential to occur

The sensitive natural communities referenced in Section 5.2 are described in detail below.

Juglans californica Woodland Alliance (California Walnut Woodland)

California walnut woodlands are either dominated by Southern California black walnut or Southern California black walnut is a secondary component. This community has a state rarity ranking of S3. This woodland alliance occurs in Southern California, the Transverse Ranges, and the Peninsular Ranges. California walnut woodlands generally occur in riparian areas and adjacent hillsides but occasionally occur in mixed chaparral and coastal sage communities. California walnut woodlands occur either as single species stands or mixed with oak species. The herbaceous layer is sparse or grassy (Sawyer et al. 2009).

Lepidospartum squamatum Shrubland Alliance (Scalebroom Scrub)

Scale broom scrub is defined as having greater than 1 percent absolute cover of scalebroom in alluvial environments. This community has a state rarity ranking of S3. It occurs in desert washes throughout Southern California. Scalebroom scrub occurs in alluvial plain and wash areas in the mountains near the desert edge. In these areas, scalebroom is dominant or codominant with burrobrush, mule fat, or rubber rabbitbrush. The herbaceous layer is sparse or grassy (Sawyer et al. 2009).

Platanus racemosa Woodland Alliance (California Sycamore Woodland)

California sycamore woodlands are defined as having California sycamore at greater than 50 percent relative cover in the tree layer. This community has a state rarity ranking of S3. It is most commonly found in rocky or cobbly alluvium along drainages and floodplains with permanent moisture at depth and occurs throughout the Central Valley, non-desert areas of Southern California, the Central Coast and Coast Ranges, and the Sierra Nevada and Tehachapi Mountains. California sycamore is dominant or codominant with Fremont cottonwood, willows, or other riparian tree species. The shrub layer is open to intermittent, consisting of mule fat or other shrubs adapted to occasionally flooded areas. The herbaceous layer is sparse or grassy with nonnative annuals (Sawyer et al. 2009).

Populus fremontii Forest Alliance (Fremont Cottonwood Forest)

Fremont cottonwood forest is a forest or woodland community with Fremont cottonwood dominant and at greater than 50 percent relative cover or 5 percent absolute cover in the tree layer or at greater than 30 percent relative cover and codominant with willows. This community has a state rarity ranking of S3. It occurs in canyons, drainages, lake and pond edges, and floodplains with a dependable subsurface water supply throughout most of California. Fremont cottonwood is dominant or codominant with California sycamore or willows. The shrub and herbaceous layers are open to intermittent and commonly include arroyo willow, mule fat, tarragon, and non-native grasses (Sawyer et al. 2009).

Salix gooddingii Woodland Alliance (Black Willow Thickets)

Black willow thickets are defined as having black willow greater than 50 percent relative cover in the tree canopy. This community has a state rarity ranking of S3. It occupies terraces along large rivers; canyons; and rocky floodplains of small, intermittent streams, seeps, and springs in the Central Valley and most of central and Southern California, except for the Great Basin. Black willow is dominant or codominant with California sycamore, Fremont cottonwood, or other willow species. The shrub layer is open to dense and includes mule fat, blue elderberry, tarragon, and poison oak. The herbaceous layer is variable but often dominated by non-native grasses (Sawyer et al. 2009).

5.3 Special-Status Species (All Build Alternative Options)

5.3.1 Federally and State-Listed Plants and Wildlife

Table 5-4 and Table 5-5 list the 15 federally and/or state-listed plant species and 25 federally and/or state-listed wildlife species identified through IPaC and CNDDB database searches as having potential to occur within the Tier 1/Program EIS/EIR Study Area. The tables provide information on habitat requirements and distribution to determine the likelihood that habitat for the species may be present within the Tier 1/Program EIS/EIR Study Area. The tables also identify those listed plant and wildlife species with designated critical habitat occurring within 1 mile of the Build Alternative Options route alternatives.

5.3.2 Non-Listed Special-Status Plants and Wildlife

Table 5-6 and Table 5-7 list the 76 non-listed special-status plant and 51 non-listed special-status wildlife species identified through CNDDB and CNPS database searches as having potential to occur within the Tier 1/Program EIS/EIR Study Area. The tables provide information on species habitat requirements and distribution to determine the likelihood that the species would occur in the Tier 1/Program EIS/EIR Study Area.

Table 5-4. Federally and State-Listed Plant Species with Potential to Occur within the Tier 1/Program EIS/EIR Study Area (All Build Alternative Options)

Scientific Name	Common Name	CRPR[a]	CESA[a]	FESA[a]	Blooming Period	Habitat	Micro Habitat	Potential to Occur within the Tier 1/Program EIS/EIR Study Area
Allium munzii	Munz's onion	1B.1	ST	FE	March–May	Chaparral, cismontane woodland, coastal scrub, pinyon and juniper woodland, valley and foothill grassland	Mesic, clay	**Not expected to occur.** Suitable habitat for this species is very limited within the study area. The study area is also outside of the known range for the species, which is restricted to clay soils approximately 5 miles south of the study area in the Temescal Valley.
Ambrosia pumila	San Diego ambrosia	1B.1	None	FE	April–October	Chaparral, coastal scrub, valley and foothill grassland, vernal pools	Sandy loam or clay, often in disturbed areas, sometimes alkaline	**Not expected to occur.** Suitable habitat for this species is very limited within the study area. The study area is outside of the species' current range. All other records occur approximately 12 miles south of the study area in the Temescal Valley and San Diego County.

Scientific Name	Common Name	CRPR[a]	CESA[a]	FESA[a]	Blooming Period	Habitat	Micro Habitat	Potential to Occur within the Tier 1/Program EIS/EIR Study Area
Arenaria paludicola	marsh sandwort	1B.1	SE	FE	May–August	Marshes and swamps (freshwater or brackish)	Sandy, openings	**Not expected to occur.** Appropriate marsh habitat is absent from the study area, based on available vegetation mapping. Additionally, the only records of this species near the study area are from the late 1800s and early 1900s. The only recent observations are outside of the study area near Pismo Beach, Santa Cruz, South San Francisco, and Mendocino County (one record). Therefore, the study area is outside of the species' current range.
Astragalus brauntonii	Braunton's milk-vetch	1B.1	None	FE	January–August	Chaparral, coastal scrub, valley and foothill grassland	Recent burns or disturbed areas, usually sandstone with carbonate layers	**Has potential to occur.** Suitable habitat for this species occurs within the study area. This species has been observed within 1 mile of the study area in Orange County. Designated critical habitat adjacent to Program.

Scientific Name	Common Name	CRPR[a]	CESA[a]	FESA[a]	Blooming Period	Habitat	Micro Habitat	Potential to Occur within the Tier 1/Program EIS/EIR Study Area
Astragalus lentiginosus var. *coachellae*	Coachella Valley milk-vetch	1B.2	None	FE	February–May	Desert dunes, Sonoran desert scrub (sandy)	—	**Has potential to occur.** Suitable habitat for this species occurs within the study area. This species has been observed from within 1 mile of the study area in the Coachella Valley. Designated critical habitat adjacent to Program.
Astragalus tricarinatus	triple-ribbed milk-vetch	1B.2	None	FE	February–May	Joshua tree woodland, Sonoran desert scrub	Sandy or gravelly	**Has potential to occur.** Suitable habitat for this species occurs within the study area. This species has been observed from within 1 mile of the study area in the Coachella Valley.
Atriplex coronata var. *notatior*	San Jacinto Valley crownscale	1B.1	None	FE	April–August	Playas, valley and foothill grassland (mesic), vernal pools	Alkaline	**Not expected to occur.** This species is restricted to the seasonally flooded alkaline soils along the San Jacinto River Valley approximately 16 miles south of the study area. Therefore, the study area is outside of the species' known range.

Scientific Name	Common Name	CRPR[a]	CESA[a]	FESA[a]	Blooming Period	Habitat	Micro Habitat	Potential to Occur within the Tier 1/Program EIS/EIR Study Area
Berberis nevinii	Nevin's barberry	1B.1	SE	FE	(February) March–June	Chaparral, cismontane woodland, coastal scrub, riparian scrub	Sandy or gravelly	**Has potential to occur.** Suitable habitat for this species occurs within the study area. This species has been observed within 1 mile of the study area in Riverside County.
Chloropyron maritimum ssp. *maritimum*	salt marsh bird's-beak	1B.2	SE	FE	May–October (November)	Coastal dunes, marshes, and swamps (coastal salt)	—	**Not expected to occur.** Appropriate marsh habitat is absent from the study area, based on available vegetation mapping. Additionally, the only records for near the study area are from the early 1900s. Recent records are for approximately 15 miles south of the study area in the Newport Bay. Therefore, the study area is outside of the species' current range.

Scientific Name	Common Name	CRPR[a]	CESA[a]	FESA[a]	Blooming Period	Habitat	Micro Habitat	Potential to Occur within the Tier 1/Program EIS/EIR Study Area
Chorizanthe parryi var. *fernandina*	San Fernando Valley spineflower	1B.1	SE	FC	April–July	Coastal scrub (sandy), valley and foothill grassland	—	**Not expected to occur.** Suitable habitat for this species occurs within the study area; however, the only records of this species near the study area are from the early 1900s. All other records are for at least 30 miles north of the study area near the Santa Clara River. Therefore, the study area is outside of the species' current range.
Deinandra mohavensis	Mojave tarplant	1B.3	SE	None	(May) June–October (January)	Chaparral, coastal scrub, Riparian scrub	Mesic	**Not expected to occur.** Suitable habitat for this species occurs within the study area; however, the study area is below the known elevation and geographical range for this species. Specifically, records for this species are for outside of the study area approximately 7 miles south in the San Jacinto and Sierra Nevada Mountains.

Scientific Name	Common Name	CRPR[a]	CESA[a]	FESA[a]	Blooming Period	Habitat	Micro Habitat	Potential to Occur within the Tier 1/Program EIS/EIR Study Area
Dodecahema leptoceras	slender-horned spineflower	1B.1	SE	FE	April–June	Chaparral, cismontane woodland, coastal scrub (alluvial fan)	Sandy	**Not expected to occur.** Suitable habitat for this species occurs within the study area; however, the only records of this species near the study area are from the early 1900s. All other records are for approximately 13 miles north of the study area in the foothills of the Transverse and Peninsular Mountains and approximately 10 miles south of the study area in the Temescal Valley. Therefore, the study area is outside of the species' current range.
Eriastrum densifolium ssp. *sanctorum*	Santa Ana River woollystar	1B.1	SE	FE	April–September	Chaparral, coastal scrub (alluvial fan)	Sandy or gravelly	**Has potential to occur.** Suitable habitat for this species occurs within the study area. This species has been collected from within 1 mile of the study area in the San Bernardino Basin.

Scientific Name	Common Name	CRPR[a]	CESA[a]	FESA[a]	Blooming Period	Habitat	Micro Habitat	Potential to Occur within the Tier 1/Program EIS/EIR Study Area
Nasturtium gambelii	Gambel's water cress	1B.1	ST	FE	April–October	Marshes and swamps (freshwater or brackish)	—	**Not expected to occur.** Appropriate marsh habitat is absent from the study area, based on available vegetation mapping. The only records of this species near the study area are from the late 1800s and early 1900s. The only recent observations are recorded for outside of the study area at least 130 miles north near Pismo Beach and Lompoc. Therefore, the study area is outside of the species' current range.

Scientific Name	Common Name	CRPR[a]	CESA[a]	FESA[a]	Blooming Period	Habitat	Micro Habitat	Potential to Occur within the Tier 1/Program EIS/EIR Study Area
Orcuttia californica	California Orcutt grass	1B.1	SE	FE	April–August	Vernal pools	—	**Not expected to occur.** Appropriate vernal pool habitat could occur within the eastern portion of the study area. However, all CDFW records for this species are for 30 miles north of the study area in Los Angeles County and at least 15 miles south of the study area in Riverside and Orange Counties. Therefore, the study area is outside of the species' known range.

Source: CDFW 2018

Notes:

[a] Explanation of state and federal listing codes:

Federal listing codes:

FE=Federally Endangered Species

FC=Candidate for Federal Listing

California listing codes:

SE=State-listed Endangered Species

ST=State-listed Threatened Species

CRPR (CNPS Lists):

1B=rare or endangered in California and elsewhere

Threat Ranks:

.1=seriously endangered in California

.2=fairly endangered in California

.3=Not very endangered in California

CESA=California Endangered Species Act; CRPR=California Rare Plant Rank; FESA=Federal Endangered Species Act

This page is intentionally blank.

Table 5-5. Federally and State-Listed Wildlife Species with Potential to Occur within the Tier 1/Program EIS/EIR Study Area (All Build Alternative Options)

Common Name (Scientific Name)	Federal and State Status	Habitat	Potential to Occur within the Tier 1/Program EIS/EIR Study Area
INVERTEBRATES			
Casey's June beetle (*Dinacoma caseyi*)	FE	Inhabit alluvial fan and river wash areas within Palm Springs and similar habitats south to the City of Indian Wells; generally associated with Palm Canyon Wash.	**Not expected to occur.** Study area is outside of the known range of the species.
Delhi sands flower-loving fly (*Rhaphiomidas terminates abdominalis*)	FE	Extant populations occur within an 8-mile radius that straddles I-10 near the Cities of Colton and Rialto. Occur on fine, sandy soils known as the Delhi series sand. Vegetation is sparse, generally 10 to 20 percent cover.	**Has potential to occur.** Suitable habitat may occur in the study area in and near the City of Colton.
Riverside fairy shrimp (*Streptocephalus woottoni*)	FE	Restricted to vernal pools and other non-vegetated ephemeral pools in inland areas of Riverside, Orange, and San Diego Counties.	**Has potential to occur.** Suitable ephemeral pool habitat may occur within the study area in Riverside and Orange Counties.
San Diego fairy shrimp (*Branchinecta sandiegonensis*)	FE	Restricted to vernal pools in coastal Southern California. All known localities are below 2,300 feet (700 meters) and are within 40 miles (64 kilometers) of the Pacific Ocean.	**Not expected to occur.** Study area is outside of the known range of the species.

Common Name (Scientific Name)	Federal and State Status	Habitat	Potential to Occur within the Tier 1/Program EIS/EIR Study Area
Vernal pool fairy shrimp (*Branchinecta lynchi*)	FT	Vernal pools; inhabit small, clear-water sandstone depression pools and grassed swale, earth slump, or basalt-flow depression pools. Primary constituent elements of critical habitat include complexes of swales and pools with intermittently or continuously flowing surface water, depressional features that become inundated by winter rains and continuously hold water for a minimum of 18 days, and sources of food and habitat structure within pools.	**Has potential to occur.** Suitable ephemeral pool habitat may occur throughout the study area. Although the nearest records according to the Western Riverside MSHCP are for Santa Rosa Plateau, Skunk Hollow, and Salt Creek in West Hemet (all over 30 miles to the south of the Tier 1/Program EIS/EIR Study Area), the species is widespread, though limited to restricted microhabitats, and, therefore, could occur in the study area.
FISH			
Desert pupfish (*Cyprinodon macularius*)	FE SE	In California, this species historically occurred in several springs, seeps, and slow-moving streams in the Salton Sink Basin, as well as in backwaters and sloughs along the lower Colorado River. Desert pupfish are now relegated to remnants of their former habitats, which generally are too harsh for most introduced species to exist.	**Has potential to occur.** Known locality of the species occurs near portions of the Program Corridor in the Cities of Bermuda Dunes and Palm Desert.

Common Name (Scientific Name)	Federal and State Status	Habitat	Potential to Occur within the Tier 1/Program EIS/EIR Study Area
Santa Ana sucker (*Catostomus santaanae*)	FT	Most abundant in unpolluted, clear water, at temperatures that are typically less than 72^0F (22°C). Optimal stream conditions include coarse substrates (e.g., gravel, cobble, and boulders), a combination of shallow riffle areas and deeper pools with algae present, and consistent flow. Adults prefer deeper water habitats, such as pools and runs, and utilize streams with gravelly substrates for spawning; juveniles occupy primarily riffle habitats. No fish have been found in streams with greater than 7 percent gradient. In-stream or bank habitat with riparian vegetation providing shade is important for larvae and juveniles. Tributary habitat inflows create refuge for larvae and juveniles.	**Has potential to occur.** Several drainages within the Santa Ana River watershed that are crossed by the Program Corridor provide potential habitat. Known occurrence where the Program Corridor crosses the Santa Ana River. Designated critical habitat occurs in the Santa Ana River.

Common Name (Scientific Name)	Federal and State Status	Habitat	Potential to Occur within the Tier 1/Program EIS/EIR Study Area
AMPHIBIANS			
Arroyo toad (*Anaxyrus californicus)*	FE SSC	Exposed shallow pools with a sand or gravel base are used for breeding. Breeding pools must occur in the vicinity of a braided sandy channel with shorelines or central bars made of stable, sandy terraces. Sandy terraces are utilized for foraging and aestivation. Upland habitat typically consist of riparian habitats of semi-arid areas with mature willow (*Salix* spp.) stands, cottonwoods (*Populus* spp.), and western sycamore (*Platanus racemose*).	**Not expected to occur.** Although suitable stream habitat is present within the study area in Orange, Riverside, and western San Bernardino Counties, the nearest CNDDB record is 12 miles to the south of the study area in Orange County. Specifically, records occur within upper Santa Ana River (Cajon Wash) and lower Santa Ana River (Santiago and Silverado Creeks). Given the impediments to movement upstream (Prado Dam) and downstream (5 miles of concrete-lined channel surrounded by urban habitat), the species is not expected to occur within the Santa Ana River watershed within the study area. Similarly, records in upper Los Angeles River occur approximately 20 miles north of the study area within Devils Gate Reservoir lying between the occupied habitat and the study area. Therefore, arroyo toad is not expected within the study area.

Common Name (Scientific Name)	Federal and State Status	Habitat	Potential to Occur within the Tier 1/Program EIS/EIR Study Area
California red-legged frog (*Rana draytonii*)	FT SSC	California red-legged frogs use a variety of habitats, including aquatic, riparian, and upland habitat. Aquatic breeding habitat consists of low-gradient freshwater bodies, including natural and manmade ponds, backwaters within streams and creeks, marshes, lagoons, and dune ponds that hold water for a minimum of 20 weeks in all but the driest of years. It does not include deep lacustrine water habitat (e.g., deep lakes and reservoirs 50 acres or larger. California red-legged frogs may use uplands for moving to and from aquatic habitats during periods of wet weather or may seek out other aquatic habitats while ones they are in dry up.	**Has potential to occur.** Potential to occur where suitable habitat is present within Los Angeles, Orange, Riverside, and western San Bernardino Counties within the study area. Although the nearest CNDDB record is 20 miles to the north of the study area in West Fork City Creek, San Bernardino County, the Program Corridor falls within the historic range for the species.
Southern mountain yellow-legged frog (*Rana muscosa*)	FE SE	Habitat consists of rocky and shaded streams with boulders or vegetation to the water's edge. This species is highly aquatic and rarely found more than 3 feet (1 meter) away from water. Found in creeks and streams with at least some portion with permanent water. Perennial flows are needed for reproduction, larval growth, and survival of juveniles and adults. The species is absent from the smallest creeks because they lack the depth for aquatic refuge and overwintering.	**Not expected to occur.** Study area is outside of the known range of the species.

Common Name (Scientific Name)	Federal and State Status	Habitat	Potential to Occur within the Tier 1/Program EIS/EIR Study Area
REPTILES			
Coachella Valley fringe-toed lizard (*Uma inornata*)	FT SE	Restricted to sandy areas in the Coachella Valley of Riverside County. Occurs in sparsely vegetated dunes, washes, and flats with fine wind-blown sand.	**Has potential to occur.** Known occurrences of the species from the Coachella Valley Preserve adjacent to the study area. Other potentially suitable habitat occurs in undeveloped areas with wind-blown sand in the vicinity of the Program Corridor. Designated critical habitat occurs in the Coachella Valley Preserve adjacent to the Program Corridor.
Desert tortoise (*Gopherus agasizzii*)	FT ST	Flats and slopes characterized by creosote bush (*Larrea anadensis*) and white bursage (*Ambrosia dumosa*) scrub at lower elevations to rocky slopes in blackbrush scrub and juniper woodland ecotones at higher elevations. Occurs most commonly on gently sloping terrain with sandy-gravel soils and with sparse cover of low-growing shrubs. Soils must be friable enough for digging burrows but firm enough so that burrows do not collapse.	**Has potential to occur.** Potential habitat for the species occurs in undeveloped areas in the vicinity of the study area from San Gorgonio Pass east to Coachella.

Common Name (Scientific Name)	Federal and State Status	Habitat	Potential to Occur within the Tier 1/Program EIS/EIR Study Area
BIRDS			
Bald eagle (*Haliaeetus leucocephalus*)	F Delisted, BGEPA SE, FP	Nests and roosts in coniferous forests generally within 1 mile (1.6 kilometer) of a lake, reservoir, stream, or the ocean.	**Has potential to occur.** Bald eagles have been observed nesting near the Santa Ana River. Suitable nesting habitat occurs along the Santa Ana River and along San Timoteo Creek.
Belding's savanna sparrow (*Passerunculus sandwichensis beldingi*)	SE	Resident species that is restricted to coastal marshes dominated by pickleweed.	**Not expected to occur.** Study area is outside of the known range of the species.
California black rail (*Laterallus jamaicensis coturniculus*)	ST, FP	Species occurs in saline, brackish areas along the California coast and in fresh emergent wetlands inland.	**Not expected to occur.** Study area is outside of the known range of the species.
California condor (*Gymnogyps californianus*)	FE SE, FP	Requires large blocks of open savanna, grasslands, and foothill chaparral with large trees, cliffs, and snags for roosting and nesting.	**Not expected to occur.** Study area is outside of the known range of the species.
Coastal California gnatcatcher (*Polioptila californica californica*)	FT SSC	Prefer open scrubby habitats, such as coastal sage scrub and some forms of chaparral.	**Has potential to occur.** There are records for Coastal California gnatcatchers in several locations in or near the study area, including Timoteo Creek. Designated critical habitat occurs in the vicinity of the Program Corridor in the hills near Loma Linda and Grand Terrance.

Common Name (Scientific Name)	Federal and State Status	Habitat	Potential to Occur within the Tier 1/Program EIS/EIR Study Area
Least Bell's vireo (*Vireo bellii pusillus*)	FE SE	Most commonly found in riparian thickets either near water or in dry portions of river bottoms; nests along margins of bushes and forages low to the ground; may also be found using mesquite and arrow weed in desert canyons.	**Has potential to occur.** Suitable riparian habitat occurs in the study areas along San Timoteo Creek between Beaumont and Loma Linda, the Prado Flood Control Basin, and in the Santa Ana River downstream from Prado Dam. Least Bell's vireos have been recorded nesting in these locations. Designated critical habitat occurs in the Santa Ana River basin downstream from Prado Dam.
Southwestern willow flycatcher (*Empidonax trallii extimus)*	FE SE	Breeds and forages in riparian woodlands along rivers, streams, or other wetlands. They usually nest near water or very saturated soil.	**Has potential to occur.** Suitable riparian habitat occurs along Timoteo Creek, in the Prado Flood Control Basin, and in the Santa Ana River basin. Southwestern willow flycatcher have been observed at the Prado Flood Control Basin. Designated critical habitat occurs in portions of Timoteo Creek, Santa Ana River basin where the Program Corridor crosses the Santa Ana River, and the Prado Flood Control Basin.

Common Name (Scientific Name)	Federal and State Status	Habitat	Potential to Occur within the Tier 1/Program EIS/EIR Study Area
Swainson's hawk (*Buteo swainsoni)*	ST	Nests in larger trees adjacent to grasslands and agricultural fields. Cultivated lands attract this hawk in some areas, where the human disturbance of agriculture concentrate insects and rodents.	**Has potential to occur (migration only).** Species is not known to nest in vicinity of the study area. Individuals may forage and rest in vicinity of the Program Corridor during migration.
Tricolored blackbird (*Agelais tricolor)*	CT	Breeds near fresh water, preferably in emergent wetland with tall, dense cattails or tules but also in thickets of willow, blackberry, wild rose, and tall herbs. Feeds in grassland and grain fields.	**Has potential to occur.** A colony of tricolored blackbirds has been observed in Timoteo Creek as recently as 2013. Suitable riparian and wetland habitat occurs along portions along Timoteo Creek, in the Prado Flood Control Basin, and in the Santa Ana River Basin.
Western yellow-billed cuckoo (*Coccyzus americanus occidentalis*)	FE SE	Currently only a handful of small populations remaining in California. The species occurs in relatively broad, well-shaded riparian forests.	**Has potential to occur.** Suitable riparian habitat occurs along portions along Timoteo Creek, in the Prado Flood Control Basin, and in the Santa Ana River basin. Designated critical habitat occurs in the Prado Flood Control Basin.

Common Name (Scientific Name)	Federal and State Status	Habitat	Potential to Occur within the Tier 1/Program EIS/EIR Study Area
MAMMALS			
Peninsular bighorn sheep (*Ovis canadensis nelson pop. 2)*	FE ST, FP	Open slopes in hot and dry desert regions characterized by rough, rocky, sparsely vegetated habitats with steep slopes, canyons, and washes with adequate water supply.	**Has potential to occur.** Suitable habitat occurs in the vicinity of the study area where it traverses the San Gorgonio Pass. Designated critical habitat occurs at the base of San Jacinto Mountain just south of the study area.
San Bernardino kangaroo rat (*Dipodomys merriami parvus*)	FE SSC	Occurs in alluvial fan habitat with active low-flow channels braided throughout the habitat.	**Has potential to occur.** Suitable habitat occurs in the study areas where it crosses the Santa Ana River in the City of Colton. Designated critical habitat occurs in the Santa Ana River basin just upstream of where the Program Corridor crosses the Santa Ana River near Colton.
Stephen's kangaroo rat (*Dipodomys stephensi*)	FE ST	Uses annual grasslands with sparse perennial vegetation.	**Has potential to occur.** Suitable habitat and known occurrences near the I-10 and Highway 60 interchange.

Notes:

STATUS - Federal

BGEPA = Bald and Golden Eagle Protection Act

FE = Federally listed as Endangered

FT = Federally listed as Threatened

F Delisted = Federally Delisted

STATUS - State

CT = candidate threatened

FP = Fully Protected Species in California

SE = State listed as Endangered

SSC = Species of Special Concern in California

ST = State listed as Threatened

CNDDB=California Natural Diversity Database; I=Interstate; MSHCP=Multiple Species Habitat Conservation Plan

This page is intentionally blank.

Table 5-6. Non-Listed Special-Status Plant Species with Potential to Occur within the Tier 1/Program EIS/EIR Study Area (All Build Alternative Options)

Scientific Name	Common Name	CRPR[a]	Blooming Period	Habitat	Micro Habitat	Potential to Occur within the Tier 1/Program EIS/EIR Study Area
Abronia villosa var. *aurita*	chaparral sand-verbena	1B.1	(January) March–September	Chaparral, coastal scrub, desert dunes	Sandy	**Has potential to occur.** Suitable habitat for this species occurs within the study area. This species has been observed from within 1 mile of the study area in Orange and San Bernardino Counties.
Acmispon haydonii	pygmy lotus	1B.3	January–June	Pinyon and juniper woodland, Sonoran desert scrub	Rocky	**Not expected to occur.** Suitable habitat for this species occurs within the study area; however, the only records of this species near the study area are from the 1930s. All other records are for at least 15 miles from the study area in the Santa Rosa and Laguna mountains. Therefore, the study area is outside of the species' current range.
Allium marvinii	Yucaipa onion	1B.2	April–May	Chaparral (clay, openings)	—	**Has potential to occur.** Suitable habitat for this species occurs within the study area. This species has been observed from within 1 mile of the study area in Riverside County.

Scientific Name	Common Name	CRPR[a]	Blooming Period	Habitat	Micro Habitat	Potential to Occur within the Tier 1/Program EIS/EIR Study Area
Ambrosia monogyra	singlewhorl burrobrush	2B.2	August–November	Chaparral, Sonoran desert scrub	Sandy	**Not expected to occur.** Suitable habitat for this species occurs within the study area; however, the only records of this species near the study area are from the 1920-30s. All other records are for at least 50 miles south of the study area in San Diego County. Therefore, the study area is outside of the species' current range.
Astragalus hornii var. *hornii*	Horn's milk-vetch	1B.1	May–October	Meadows and seeps, playas	Lake margins, alkaline	**Not expected to occur.** Appropriate alkaline habitat is absent from the study area, based on available vegetation mapping. Additionally, the only records of this species near the study area are from the late 1800s. The only recent observations are recorded for at least 90 miles north of the study area in the southern San Joaquin Valley. Therefore, the study area is outside of the species' current range.

Scientific Name	Common Name	CRPR[a]	Blooming Period	Habitat	Micro Habitat	Potential to Occur within the Tier 1/Program EIS/EIR Study Area
Astragalus pachypus var. *jaegeri*	Jaeger's bush milk-vetch	1B.1	December–June	Chaparral, cismontane woodland, coastal scrub, valley and foothill grassland	Sandy or rocky	**Not expected to occur.** Suitable habitat for this species occurs within the study area; however, the only records for this species near the study area are from the early 1900s, and the study area is 3 miles north of the current range of the species, as well as being located on the valley floor rather than foothills where almost all recent records occur.
Astragalus preussii var. *laxiflorus*	Lancaster milk-vetch	1B.1	March–May	Chenopod scrub	—	**Not expected to occur.** Suitable habitat for this species occurs within the study area; however, the study area is outside the known range for the species. The nearest recent record is for approximately 60 miles north of the study area near Edwards Air Force Base.
Astragalus sabulonum	gravel milk-vetch	2B.2	February–June	Desert dunes, Mojavean desert scrub, Sonoran desert scrub	Usually sandy, sometimes gravelly. Flats, washes, and roadsides	**Not expected to occur.** Suitable habitat for this species occurs within the study area; however, the only records near the study area are from the 1900-30s. All other records are for the desert areas of Death Valley and approximately 10 miles south of the study area in lower Coachella Valley. Therefore, the study area is outside of the species' current range.

Scientific Name	Common Name	CRPR[a]	Blooming Period	Habitat	Micro Habitat	Potential to Occur within the Tier 1/Program EIS/EIR Study Area
Atriplex coulteri	Coulter's saltbush	1B.2	March–October	Coastal bluff scrub, coastal dunes, coastal scrub, valley and foothill grassland	Alkaline or clay	**Not expected to occur.** Suitable habitat for this species occurs within the study area; however, most records of this species are for areas that are closer to the coast and therefore outside of the study area and the nearest recent record is for 17 miles south of the study area in Newport Beach.
Atriplex parishii	Parish's brittlescale	1B.1	June–October	Chenopod scrub, playas, vernal pools	Alkaline	**Not expected to occur.** Suitable habitat for this species occurs within the study area; however the study area is outside of the known range for the species. The nearest recent record is for approximately 30 miles south of the study area in the Temescal Valley.
Atriplex serenana var. *davidsonii*	Davidson's saltscale	1B.2	April–October	Coastal bluff scrub, coastal scrub	Alkaline	**Not expected to occur.** Appropriate coastal bluff habitat is absent within the study area. Additionally, the only records of this species near the study area are from the late 1800s and early 1900s. The nearest recent record is for approximately 30 miles south of the study area in the Temescal Valley. Therefore, the study area is outside of the species' current range.

Scientific Name	Common Name	CRPR[a]	Blooming Period	Habitat	Micro Habitat	Potential to Occur within the Tier 1/Program EIS/EIR Study Area
Ayenia compacta	California ayenia	2B.3	March–April	Mojavean desert scrub, Sonoran desert scrub	Rocky	**Not expected to occur.** Suitable habitat for this species occurs within the study area; however, the elevation of the study area is below the known elevation range for the species and the nearest recent record is for 10 miles south of the study area in the Santa Rosa Mountains. Therefore, the study area is outside of the species' known range.
Baccharis malibuensis	Malibu baccharis	1B.1	August	Chaparral, cismontane woodland, coastal scrub, riparian woodland	—	**Not expected to occur.** Suitable habitat for this species occurs within the study area; however, this species is restricted to two small populations—one approximately 30 miles north of the study area in the Santa Monica Mountains and one approximately 5 miles south of the study area in the Santa Ana Mountains. Therefore, the study area is outside of the species' known range.

Scientific Name	Common Name	CRPR[a]	Blooming Period	Habitat	Micro Habitat	Potential to Occur within the Tier 1/Program EIS/EIR Study Area
Calochortus palmeri var. *palmeri*	Palmer's mariposa lily	1B.2	April–July	Chaparral, lower montane coniferous forest, meadows and seeps	Mesic	**Not expected to occur.** Suitable habitat for this species occurs within the study area; however, the elevation of the study area is below the known elevation range for the species and the nearest recent record is for approximately 13 miles north of the study area in the San Gabriel Mountains.
Calochortus weedii var. *intermedius*	intermediate mariposa lily	1B.2	May–July	Chaparral, coastal scrub, valley and foothill grassland	Rocky, calcareous	**Has potential to occur.** Suitable habitat for this species occurs within the study area. This species has been observed within the study area near the Santa Ana River.
Calystegia felix	lucky morning-glory	1B.1	March–September	Meadows and seeps (sometimes alkaline), riparian scrub (alluvial)	Historically associated with wetland and marshy places, but possibly in drier situations, as well. Possibly silty loam and alkaline	**Not expected to occur.** Appropriate marsh habitat is absent from the study area, based on available vegetation mapping. The study area occurs outside of the current range for the species based upon the nearest recent record being located approximately 9 miles north of the study area in Chino Hills.

Scientific Name	Common Name	CRPR[a]	Blooming Period	Habitat	Micro Habitat	Potential to Occur within the Tier 1/Program EIS/EIR Study Area
Carex comosa	bristly sedge	2B.1	May–September	Coastal prairie, marshes and swamps (lake margins), valley and foothill grassland	—	**Not expected to occur.** Appropriate marsh habitat is absent from the study area, based on available vegetation mapping. The only records of this species near the study area are from the late 1800s. The only recently recorded observations are in Central and Northern California. Therefore, the study area is outside of the species' current range.
Centromadia parryi ssp. *australis*	southern tarplant	1B.1	May–November	Marshes and swamps (margins), valley and foothill grassland (vernally mesic), vernal pools	—	**Not expected to occur.** Appropriate marsh habitat is absent from the study area, based on available vegetation mapping. Additionally, the nearest recent records are for approximately 3 miles south of the study area at Santiago Creek and 10 miles east of the study area in Whittier Narrows. . Therefore, the study area is outside of the species' current range.
Centromadia pungens ssp. *laevis*	smooth tarplant	1B.1	April–September	Chenopod scrub, meadows and seeps, playas, riparian woodland, valley and foothill grassland	Alkaline	**Has potential to occur.** Suitable habitat for this species occurs within the study area. This species has been collected from within 1 mile of the study area in Riverside and San Bernardino Counties.

Scientific Name	Common Name	CRPR[a]	Blooming Period	Habitat	Micro Habitat	Potential to Occur within the Tier 1/Program EIS/EIR Study Area
Chorizanthe parryi var. *parryi*	Parry's spineflower	1B.1	April–June	Chaparral, cismontane woodland, coastal scrub, valley and foothill grassland	Sandy or rocky, openings	**Has potential to occur.** Suitable habitat for this species occurs within the study area. This species has been collected from within 1 mile of the study area in Los Angeles, San Bernardino, and Riverside Counties.
Chorizanthe polygonoides var. *longispina*	long-spined spineflower	1B.2	April–July	Chaparral, coastal scrub, meadows and seeps, valley and foothill grassland, vernal pools	Often clay	**Not expected to occur.** Suitable habitat for this species occurs within the study area; however, the study area is outside of the known range of the species, based on nearest records for at least 6 miles south of the study area in the Temescal Valley and San Diego County.
Chorizanthe xanti var. *leucotheca*	white-bracted spineflower	1B.2	April–June	Coastal scrub (alluvial fans), Mojavean desert scrub, pinyon and juniper woodland	Sandy or gravelly	**Has potential to occur.** Suitable habitat for this species occurs within the study area. This species has been observed from within 1 mile of the study area in the Coachella Valley.

Scientific Name	Common Name	CRPR[a]	Blooming Period	Habitat	Micro Habitat	Potential to Occur within the Tier 1/Program EIS/EIR Study Area
Cuscuta obtusiflora var. *glandulosa*	Peruvian dodder	2B.2	July–October	Marshes and swamps (freshwater)	—	**Not expected to occur.** Appropriate marsh habitat is absent from the study area, based on available vegetation mapping. The only records of this species near the study area are from the late 1800s. The species was last seen in 1948 in Merced County outside the study area. Therefore, the study area is outside of the species' current range.
Cylindropuntia californica var. *californica*	snake cholla	1B.1	April–May	Chaparral, coastal scrub	—	**Has potential to occur.** Suitable habitat for this species occurs within the study area. This species has been observed within 1 mile of the study area in Orange County.
Ditaxis claryana	glandular ditaxis	2B.2	December–March	Mojavean desert scrub, Sonoran desert scrub	Sandy	**Not expected to occur.** Suitable habitat for this species occurs within the study area; however, the only record for this species near the study area is from the early 1900s. The nearest recent records are located approximately 7 miles east of the study area in lower Coachella Valley and near the California-Arizona border. Therefore, the study area is outside of the species' current range.

Scientific Name	Common Name	CRPR[a]	Blooming Period	Habitat	Micro Habitat	Potential to Occur within the Tier 1/Program EIS/EIR Study Area
Dudleya multicaulis	many-stemmed dudleya	1B.2	April–July	Chaparral, coastal scrub, valley and foothill grassland	Often clay	**Has potential to occur.** Suitable habitat for this species occurs within the study area. This species has been observed within 1 mile of the study area in the San Bernardino Basin.
Eremothera boothii ssp. *boothii*	Booth's evening-primrose	2B.3	April–September	Joshua tree woodland, pinyon and juniper woodland	—	**Not expected to occur.** Appropriate woodland habitat is absent from the study area, based on available vegetation mapping. Additionally, the nearest record is for approximately 30 miles north of the study area near Victorville. Therefore, the study area is outside of the species' known range.
Eriastrum harwoodii	Harwood's eriastrum	1B.2	March–June	Desert dunes	—	**Has potential to occur.** Appropriate dune habitat occurs in the Coachella Valley Preserve adjacent to the study area. Other potentially suitable habitat occurs in undeveloped areas with windblown sand in the vicinity of the study area.
Euphorbia abramsiana	Abrams' spurge	2B.2	(August) September–November	Mojavean desert scrub, Sonoran desert scrub	Sandy	**Has potential to occur.** Suitable habitat for this species occurs within the study area. This species has been observed within 1 mile of the study area near Bermuda Dunes in the southern Coachella Valley.

Scientific Name	Common Name	CRPR[a]	Blooming Period	Habitat	Micro Habitat	Potential to Occur within the Tier 1/Program EIS/EIR Study Area
Euphorbia arizonica	Arizona spurge	2B.3	March–April	Sonoran desert scrub (sandy)	—	**Not expected to occur.** Suitable habitat for this species occurs within the study area. However, the only record for this species near the study area is from 1930. All other records are for at least 17 miles south in the lower Coachella Valley and Anza-Borrego State Park. Therefore, the study area is outside of the species' current range.
Euphorbia misera	cliff spurge	2B.2	December–August (October)	Coastal bluff scrub, coastal scrub, Mojavean desert scrub	Rocky	**Has potential to occur.** Suitable habitat for this species occurs within the study area. This species has been observed within 1 mile of the study area in Whitewater Canyon in the northern Coachella Valley.
Euphorbia platysperma	flat-seeded spurge	1B.2	February–September	Desert dunes, Sonoran desert scrub (sandy)	—	**Has potential to occur.** Appropriate dune habitat occurs in the Coachella Valley Preserve adjacent to the study area and this species was included on a checklist of that area in 1980. Other potentially suitable habitat occurs in undeveloped areas with windblown sand in the vicinity of the study area. The only records for this species near the study area are from the 1930s and 1960s.

Scientific Name	Common Name	CRPR[a]	Blooming Period	Habitat	Micro Habitat	Potential to Occur within the Tier 1/Program EIS/EIR Study Area
Galium californicum ssp. *primum*	Alvin Meadow bedstraw	1B.2	May–July	Chaparral, lower montane coniferous forest	Granitic, sandy	**Not expected to occur.** Suitable habitat for this species occurs within the study area. However, the only record for this species near the study area is from the late 1800s. The nearest recent record occurs 6 miles south of the study area on Mount San Jacinto. Therefore, the study area is outside of the species' current range.
Helianthus nuttallii ssp. *parishii*	Los Angeles sunflower	1A	August–October	Marshes and swamps (coastal salt and freshwater)	—	**Not expected to occur.** Appropriate marsh habitat is absent from the study area, based on available vegetation mapping. Additionally, the species was last observed in the vicinity of the study area in 1937.
Hesperocyparis forbesii	Tecate cypress	1B.1	—	Closed-cone coniferous forest, chaparral	Clay, gabbroic, or metavolcanic	**Not expected to occur.** Suitable vegetative cover for this species occurs within the study area; however, required soils do not.

Scientific Name	Common Name	CRPR[a]	Blooming Period	Habitat	Micro Habitat	Potential to Occur within the Tier 1/Program EIS/EIR Study Area
Heuchera hirsutissima	shaggy-haired alumroot	1B.3	(May) June–July	Subalpine coniferous forest, upper montane coniferous forest	Rocky, granitic	**Not expected to occur.** Appropriate coniferous forest habitat is absent from the study area, based on available vegetation mapping. Also the study area is outside of the elevation and geographic range for this species based on the nearest recent record, which is located approximately 8 miles south of the study area in the San Jacinto Mountains.
Horkelia cuneata var. *puberula*	mesa horkelia	1B.1	February–July (September)	Chaparral (maritime), cismontane woodland, coastal scrub	Sandy or gravelly	**Not expected to occur.** Suitable habitat for this species occurs within the study area. However, the only records near the study area are from the early 1900s. The nearest recent naturally occurring record of the species is approximately 12 miles north of the study area in the Los Angeles foothills. Therefore, the study area is outside of the species' current range.

Scientific Name	Common Name	CRPR[a]	Blooming Period	Habitat	Micro Habitat	Potential to Occur within the Tier 1/Program EIS/EIR Study Area
Imperata brevifolia	California satintail	2B.1	September–May	Chaparral, coastal scrub, Mojavean desert scrub, meadows and seeps (often alkali), riparian scrub	Mesic	**Not expected to occur.** Appropriate marsh habitat is absent from the study area, based on available vegetation mapping. Additionally, the only records near the study area are from the 1930s. The study area is outside of the species' current range based on the nearest recent record located approximately 7 miles south of the study area in the Santa Rosa Mountains.
Lasthenia glabrata ssp. *coulteri*	Coulter's goldfields	1B.1	February–June	Marshes and swamps (coastal salt), playas, vernal pools	—	**Not expected to occur.** Appropriate marsh habitat is absent from the study area, based on available vegetation mapping. The only records near the study area are from the 1930s. The nearest recent record is for approximately 15 miles south of the study area in the Perris Basin. Therefore, the study area is outside of the species' current range.
Lepechinia cardiophylla	heart-leaved pitcher sage	1B.2	April–July	Closed-cone coniferous forest, chaparral, cismontane woodland	—	**Not expected to occur.** Suitable habitat for this species occurs within the study area; however, the elevation of the study area is below the known elevation range for the species and the nearest recent record is approximately 5 miles south of the study area in the Santa Ana Mountains.

Scientific Name	Common Name	CRPR[a]	Blooming Period	Habitat	Micro Habitat	Potential to Occur within the Tier 1/Program EIS/EIR Study Area
Lilium parryi	lemon lily	1B.2	July–August	Lower montane coniferous forest, meadows and seeps, riparian forest, upper montane coniferous forest	Mesic	**Not expected to occur.** Suitable habitat for this species occurs within the study area; however, the elevation of the study area is below the known elevation range of the species and the nearest recent record is approximately 7 miles south of the study area in the San Jacinto Mountains.
Linanthus jaegeri	San Jacinto linanthus	1B.2	July–September	Subalpine coniferous forest, upper montane coniferous forest	Granitic, rocky	**Not expected to occur.** Suitable habitat for this species occurs within the study area; however, the elevation of the study area is below the known elevation range for the species and the nearest recent record is for approximately 7 miles south of the study area in the San Jacinto Mountains.
Linanthus maculatus ssp. *maculatus*	Little San Bernardino Mtns. Linanthus	1B.2	March–May	Desert dunes, Joshua tree woodland, Mojavean desert scrub, Sonoran desert scrub	Sandy	**Has potential to occur.** Suitable habitat for this species occurs within the study area. This species has been observed within 1 mile of the study area in the northern Coachella Valley.

Scientific Name	Common Name	CRPR[a]	Blooming Period	Habitat	Micro Habitat	Potential to Occur within the Tier 1/Program EIS/EIR Study Area
Malacothamnus parishii	Parish's bush-mallow	1A	June–July	Chaparral, coastal scrub	—	**Not expected to occur.** Suitable habitat for this species occurs within the study area. However, while this species is currently considered synonymous with *Malacothamnus fasciculatus* (Regents of the University of California 2018), the species as described in Munz (1959) is presumed extirpated in California (CNPS 2018). In addition, the species as originally described in *Leaflets of Western Botany* (Kearny 1951) is only known from the type collection made in 1895. Therefore, this species is not expected to occur.
Marina orcuttii var. *orcuttii*	California marina	1B.3	May–October	Chaparral, pinyon and juniper woodland, Sonoran desert scrub	Rocky	**Not expected to occur.** Suitable habitat for this species occurs within the study area; however, the elevation of the study area is below the known elevation range for the species.

Scientific Name	Common Name	CRPR[a]	Blooming Period	Habitat	Micro Habitat	Potential to Occur within the Tier 1/Program EIS/EIR Study Area
Mentzelia tricuspis	spiny-hair blazing star	2B.1	March–May	Mojavean desert scrub	Sandy, gravelly, slopes, and washes	**Not expected to occur.** Suitable habitat for this species occurs within the study area. However, the only record for this species near the study area is from the late 1800s. All other records are for at least 50 miles north of the study area near Barstow and Needles. Therefore, the study area is outside of the species' current range.
Mentzelia tridentata	creamy blazing star	1B.3	March–May	Mojavean desert scrub	Rocky, gravelly, sandy	**Not expected to occur.** Suitable habitat for this species occurs within the study area; however, the study area is outside of the known range for the species. All records occur at least 50 miles north of the study area near Barstow.
Monardella australis ssp. *jokerstii*	Jokerst's monardella	1B.1	July–September	Chaparral, lower montane coniferous forest	Steep scree or talus slopes between breccia, secondary alluvial benches along drainages and washes.	**Not expected to occur.** Suitable habitat for this species occurs within the study area; however, the study area is outside of the known geographic and elevation range for the species. The species is only known from the San Gabriel Mountains, approximately 20 miles north of the study area.

Scientific Name	Common Name	CRPR[a]	Blooming Period	Habitat	Micro Habitat	Potential to Occur within the Tier 1/Program EIS/EIR Study Area
Monardella hypoleuca ssp. *intermedia*	intermediate monardella	1B.3	April–September	Chaparral, cismontane woodland, lower montane coniferous forest (sometimes)	Usually understory	**Not expected to occur.** Suitable habitat for this species occurs within the study area; however, the study area is below the known geographic and elevation range for the species.
Monardella pringlei	Pringle's monardella	1A	May–June	Coastal scrub (sandy)	—	**Not expected to occur.** Based on available vegetation mapping, appropriate coastal scrub habitat is absent from the study area within the current range of the species.
Nama stenocarpa	mud nama	2B.2	January–July	Marshes and swamps (lake margins, riverbanks)	—	**Not expected to occur.** Appropriate marsh habitat is absent from the study area, based on available vegetation mapping. The nearest recent record is for approximately 15 miles south of the study area in the Perris Basin.
Navarretia prostrata	prostrate vernal pool navarretia	1B.1	April–July	Coastal scrub, meadows and seeps, valley and foothill grassland (alkaline), vernal pools	Mesic	**Not expected to occur.** Appropriate mesic habitat is absent from the study area, based on available vegetation mapping. The nearest recent record is for approximately 12 miles south of the study area in Costa Mesa. Therefore, the study area is outside of the species' known range.

Scientific Name	Common Name	CRPR[a]	Blooming Period	Habitat	Micro Habitat	Potential to Occur within the Tier 1/Program EIS/EIR Study Area
Nemacaulis denudata var. *gracilis*	slender cottonheads	2B.2	(March) April–May	Coastal dunes, desert dunes, Sonoran desert scrub	—	**Not expected to occur.** Suitable habitat for this species occurs within the study area. However, records for this species near the study area are from the early 1900s. The nearest recent record is for approximately 80 miles east near Rice. Therefore, the study area is outside of the species' current range.
Nolina cismontana	chaparral nolina	1B.2	(March) May–July	Chaparral, coastal scrub	Sandstone or gabbro	**Not expected to occur.** Suitable habitat for this species occurs within the study area. However, the only records of this species near the study area are from the early 1900s. Additionally, nearby records in the Santa Ana Mountains only occur at higher elevations than the study area. Therefore, the study area is outside of the regional elevation range for the species.
Penstemon californicus	California beardtongue	1B.2	May–June (August)	Chaparral, lower montane coniferous forest, pinyon and juniper woodland	Sandy	**Not expected to occur.** Suitable habitat for this species occurs within the study area; however, the study area is below the known elevation range for the species and outside of its known geographic range (San Jacinto Mountains, approximately 20 miles south of the study area).

Scientific Name	Common Name	CRPR[a]	Blooming Period	Habitat	Micro Habitat	Potential to Occur within the Tier 1/Program EIS/EIR Study Area
Penstemon pseudospectabilis ssp. *pseudospectabilis*	desert beardtongue	2B.2	January–May	Mojavean desert scrub, Sonoran desert scrub	Often sandy washes, sometimes rocky	**Not expected to occur.** Suitable habitat for this species occurs within the study area; however, the study area is outside the known range for the species. The nearest record is for approximately 40 miles east near Desert Center.
Pentachaeta aurea ssp. *allenii*	Allen's pentachaeta	1B.1	March–June	Coastal scrub (openings), valley and foothill grassland	—	**Not expected to occur.** Suitable habitat for this species occurs within the study area; however, the study area is north of the known range for the species.
Petalonyx linearis	narrow-leaf sandpaper-plant	2B.3	(January–February) March–May (June–December)	Mojavean desert scrub, Sonoran desert scrub	Sandy or rocky canyons	**Not expected to occur.** Suitable habitat for this species occurs within the study area. However, the only record of this species near the study area is from the late 1800s. The nearest recent record is approximately 8 miles northeast in Joshua Tree National Park. Therefore, the study area is outside of the species' current range.

Scientific Name	Common Name	CRPR[a]	Blooming Period	Habitat	Micro Habitat	Potential to Occur within the Tier 1/Program EIS/EIR Study Area
Phacelia keckii	Santiago Peak phacelia	1B.3	May–June	Closed-cone coniferous forest, Chaparral	—	**Not expected to occur.** Suitable habitat for this species occurs within the study area; however, the species is restricted to two small populations at least 13 miles south in the Santa Ana and Palomar mountains. Therefore, the study area is outside of the species' known range.
Phacelia stellaris	Brand's star phacelia	1B.1	March–June	Coastal dunes, coastal scrub	—	**Has potential to occur.** Suitable habitat for this species occurs within the study area. This species has been observed from within 1.5 mile of the study area near the Santa Ana River.
Pseudognaphalium leucocephalum	white rabbit-tobacco	2B.2	(July) August–November (December)	Chaparral, cismontane woodland, coastal scrub, riparian woodland	Sandy, gravelly	**Not expected to occur.** Suitable habitat for this species occurs within the study area. However, the only record of this species near the study area is from 1928. The study area is outside the known current range of the species. All recent records are for approximately 30 miles north of the study area in Los Angeles County and at least 6 miles south of the study area in the Temescal Valley and San Joaquin Hills.

Scientific Name	Common Name	CRPR[a]	Blooming Period	Habitat	Micro Habitat	Potential to Occur within the Tier 1/Program EIS/EIR Study Area
Pseudorontium cyathiferum	Deep Canyon snapdragon	2B.3	February–April	Sonoran desert scrub (rocky)	—	**Not expected to occur.** Study area is outside of the known range for the species. Only known from Deep Canyon southwest of Coachella.
Ribes divaricatum var. *parishii*	Parish's gooseberry	1A	February–April	Riparian woodland	—	**Not expected to occur.** Suitable habitat for this species occurs within the study area. However, the study area is south of the known range for the species and the only records for this species near the study area are from the early 1900s. The species is known from fewer than five historical occurrences and, is unlikely to be found in the study area due to a combination of dry years and altered stream flow.
Saltugilia latimeri	Latimer's woodland-gilia	1B.2	March–June	Chaparral, Mojavean desert scrub, pinyon and juniper woodland	Rocky or sandy, often granitic, sometimes washes	**Has potential to occur.** Suitable habitat for this species occurs within the study area. This species has been observed from within 1 mile of the study area in northern Coachella Valley.

Scientific Name	Common Name	CRPR[a]	Blooming Period	Habitat	Micro Habitat	Potential to Occur within the Tier 1/Program EIS/EIR Study Area
Selaginella eremophila	desert spike-moss	2B.2	(May) June (July)	Chaparral, Sonoran desert scrub (gravelly or rocky)	—	**Has potential to occur.** Suitable habitat for this species occurs within the study area. However, the only record of this species near the study area is from the early 1900s. The study area is outside the known current range of the species. The nearest recent record is for 5 miles north of the study area in Desert Hot Springs.
Senecio aphanactis	chaparral ragwort	2B.2	January–April (May)	Chaparral, cismontane woodland, coastal scrub	Sometimes alkaline	**Not expected to occur.** Suitable habitat for this species occurs within the study area; however, the study area is outside the known range of the species. The nearest recent record is for approximately 4 miles east of the study area in the Box Springs Mountain Reserve Park.
Sidalcea neomexicana	salt spring checkerbloom	2B.2	March–June	Chaparral, coastal scrub, lower montane coniferous forest, Mojavean desert scrub, playas	Alkaline, mesic	**Not expected to occur.** Suitable habitat for this species occurs within the study area. However, all records for this species in the study area are from the early 1900s. The nearest recent record is for approximately 30 miles north in the Lucerne Valley. Therefore, the study area is outside the species' current range.

Scientific Name	Common Name	CRPR[a]	Blooming Period	Habitat	Micro Habitat	Potential to Occur within the Tier 1/Program EIS/EIR Study Area
Sphenopholis obtusata	prairie wedge grass	2B.2	April–July	Cismontane woodland, meadows and seeps	Mesic	**Not expected to occur.** Appropriate mesic habitat is absent from the study area, based on available vegetation mapping. Additionally, the only record for this species in the study area is from the early 1900s. The nearest recent record is for approximately 35 miles south in San Diego County. Therefore, the study area is outside the species' current range.
Stemodia durantifolia	purple stemodia	2B.1	(January) April, June, August, September, October, December	Sonoran desert scrub (often mesic, sandy)	—	**Not expected to occur.** Suitable habitat for this species occurs within the study area; however, the study area is outside of the known range for the species. The nearest recent record is for approximately 65 miles south in San Diego County.
Streptanthus campestris	southern jewelflower	1B.3	(April) May–July	Chaparral, lower montane coniferous forest, pinyon and juniper woodland	Rocky	**Not expected to occur.** Suitable habitat for this species occurs within the study area; however, the elevation of the study area is below the known elevation range for the species and the nearest record is for approximately 13 miles west in the Santa Rosa Mountains.

Scientific Name	Common Name	CRPR[a]	Blooming Period	Habitat	Micro Habitat	Potential to Occur within the Tier 1/Program EIS/EIR Study Area
Suaeda esteroa	estuary seablite	1B.2	(May) July–October (January)	Marshes and swamps (coastal salt)	—	**Not expected to occur.** Appropriate coastal marsh habitat is absent from the study area, based on available vegetation mapping. Additionally, recent records are approximately 15 miles from the study area in the Newport Bay. Therefore, the study area is outside the species' current range.
Symphyotrichum defoliatum	San Bernardino aster	1B.2	July–November	Cismontane woodland, coastal scrub, lower montane coniferous forest, meadows and seeps, marshes and swamps, valley and foothill grassland (vernally mesic)	Near ditches, streams, springs	**Not expected to occur.** Appropriate mesic habitat is absent from the study area, based on available vegetation mapping. Additionally, the nearest recent record is for approximately 15 miles south near San Jacinto Mountain. Therefore, the study area is outside the species' current range.

Scientific Name	Common Name	CRPR[a]	Blooming Period	Habitat	Micro Habitat	Potential to Occur within the Tier 1/Program EIS/EIR Study Area
Symphyotrichum greatae	Greata's aster	1B.3	June–October	Broadleafed upland forest, chaparral, cismontane woodland, lower montane coniferous forest, riparian woodland	Mesic	**Not expected to occur.** Suitable habitat for this species occurs within the study area; however, the species is restricted to the San Gabriel Mountains, approximately 10 miles north of the study area.
Thelypteris puberula var. *sonorensis*	Sonoran maiden fern	2B.2	January–September	Meadows and seeps (seeps and streams)	—	**Not expected to occur.** Appropriate mesic habitat is absent from the study area, based on available vegetation mapping. The nearest record is for approximately 7 miles west in the Santa Rosa Mountains. Therefore, the study area is outside the species' known range.
Trichocoronis wrightii var. *wrightii*	Wright's trichocoronis	2B.1	May–September	Meadows and seeps, marshes and swamps, riparian forest, vernal pools	Alkaline	**Not expected to occur.** Appropriate marsh habitat is absent from the study area, based on available vegetation mapping. The nearest record is for approximately 10 miles south in the Perris Basin. Therefore, the study area is outside the species' known range.

Scientific Name	Common Name	CRPR[a]	Blooming Period	Habitat	Micro Habitat	Potential to Occur within the Tier 1/Program EIS/EIR Study Area
Xylorhiza cognata	Mecca-aster	1B.2	January–June	Sonoran desert scrub	—	**Not expected to occur.** Suitable habitat for this species occurs within the study area; however, the study area is outside the known range for the species. The nearest record is for 6 miles east in the Indio Hills.

Notes:

[a] Explanation of listing codes:

CRPR; CNPS Lists:

1A = Presumed extirpated in California, rare or extinct elsewhere

1B = Rare or endangered in California and elsewhere

2B = Rare or endangered in California, more common elsewhere

Threat Ranks = .1 – seriously endangered in California, .2 – fairly endangered in California, .3 – Not very endangered in California

CRPR=California Rare Plant Rank

EIR=environmental impact report; EIS=environmental impact statement

This page is intentionally blank.

Table 5-7. Non-Listed Special-Status Wildlife Species with Potential to Occur within the Tier 1/Program EIS/EIR Study Area (All Build Alternative Options)

Common Name (*Scientific Name*)	Federal and State Status	Habitat	Potential to Occur within the Tier 1/Program EIS/EIR Study Area
FISH			
Arroyo chub (*Gila orcuttii*)	SSC	The species inhabits slow moving reaches and backwaters of cool to warm water streams (50-74°F). They are commonly found over sand and silt substrates and are known to be able to tolerate hypoxic conditions and elevated temperatures typical of Southern California stream habitats.	**Has potential to occur.** Several of the drainages west of Beaumont that are crossed by the Program Corridor provide potential habitat.
Santa Ana speckled dace (*Rhinichthys osculus*)	SSC	The species inhabits shallow riffles of cool perennial stream habitats and prefers cobble substrates. In streams where riffles are interspersed with run and pool habitats, the species will concentrate in the riffle habitat.	**Has potential to occur.** Several of the drainages west of Beaumont that are crossed by the Program Corridor provide potential habitat.
AMPHIBIANS			
Coast Range newt (*Taricha torosa*)	SSC	Occurs from near seal level to around 6,000 feet (1,830 meters). Frequents terrestrial habitats near suitable breeding habitat. Breeds in ponds, reservoirs, and slow-moving streams	**Has potential to occur.** Suitable habitat occurs along Timoteo Creek and in the Santa Ana River basin.
Northern leopard frog (*Lithobates pipiens*)	SSC (native populations only)	Permanent aquatic habitat, such as creeks, wet meadows, and ponds with emergent and submergent vegetation for breeding and overwintering. Nearby dense grass or forb- dominated habitats with moist soil for foraging.	**Not expected to occur.** Study area is outside of the known range of the species.

Common Name (*Scientific Name*)	Federal and State Status	Habitat	Potential to Occur within the Tier 1/Program EIS/EIR Study Area
Western spadefoot (*Spea hammondii*)	SSC	Species is found in grassland and valley-foothill woodlands. Essential breeding habitat includes temporary rainpools that last at least 3 weeks with water temperatures between 48°F to <86°F (9°C to < 30°C).	**Has potential to occur.** Suitable habitat occurs along Timoteo Creek, in the Santa Ana River basin, in drainages between Banning and Beaumont and non-urban areas where seasonal ponds are present.
REPTILES			
California glossy snake (*Arizona elegans occidentalis*)	SSC	Prefers open areas in a variety of habitats, including light shrubby to barren desert scrub, grassland, chaparral, cismontane, and coastal sage scrub. The species is active mostly at night and remains underground during the day.	**Has potential to occur.** Suitable habitat occurs in non-urban areas near Beaumont, Cabazon, and Whitewater River, western Riverside County, and Orange County.
Coast horned lizard (*Phrynosoma blainvillii*)	SSC	Grasslands, brushlands, woodlands, and open coniferous forest with sandy or loose soil; requires abundant ant colonies for foraging. Dietary specialists dependent on ants, as well as beetles and other seasonally abundant insects. Forages on the ground in open areas, usually between shrubs and often near an ant nest.	**Has potential to occur.** Suitable habitat for the species occurs in non-urban areas west of Banning.
Coast patched-nosed snake (*Salvadora hexalepis virgultea)*	SSC	Inhabits semi-arid brushy areas and chaparral in canyons, rocky hillsides, and grasslands.	**Has potential to occur.** Suitable habitat for the species occurs in non-urban areas west of Beaumont.

Common Name (*Scientific Name*)	Federal and State Status	Habitat	Potential to Occur within the Tier 1/Program EIS/EIR Study Area
Coastal whiptail (*Aspidoscelis tigris stejnegeri*)	SSC	Found in a variety of habitats, including coastal sage scrub, chaparral, riparian, oak woodlands, and rocky areas up to 5,000 feet (1,500 meters). Occurs primarily in areas with habitats with sandy or gravel soils and is often associated with washes. Not found in areas where the habitat has been fragmented by roads and development.	**Has potential to occur.** Suitable habitat for the species occurs in non-urban areas west of Beaumont.
Flat-tailed horned lizard (*Phrynosoma mcallii*)	SSC	Typically occurs in sandy desert flats with sparse desert vegetation. Most common in areas with a high density of harvester ants and fine windblown sand. Rarely occur in dune habitat.	**Has potential to occur.** Suitable habitat occurs in the Coachella Preserve. Other potentially suitable habitat occurs in undeveloped areas with wind-blown sand in the San Gorgonio Pass and Coachella Valley.
Red diamond rattlesnake (*Crotalus ruber*)	SSC	Occurs from sea level to 3,000 feet (914 meters) in chaparral, woodland, and arid desert habitats with rocky areas and dense vegetation.	**Has potential to occur.** Suitable habitat for the species occurs in non-urban areas west of San Gorgonio Pass.
San Diego banded gecko (*Coleonyx variegatus abbottii*)	SSC	Prefers rocky areas in coastal sage scrub and chaparral habitats.	**Not expected to occur.** Study area is outside of the known range of the species.
San Diego mountain kingsnake (*Lampropeltis zonata pulchra)*	SSC	Occurs in diverse habitats including coniferous forest, oak-pine woodlands, riparian woodland, chaparral, manzanita, and coastal sage scrub.	**Has potential to occur.** Suitable habitat is present in the Santa Ana Mountains.

Common Name (*Scientific Name*)	Federal and State Status	Habitat	Potential to Occur within the Tier 1/Program EIS/EIR Study Area
Southern California legless lizard (*Anniella stebbinsi*)	SSC	Occurs in sparsely vegetated areas of beach dunes, chaparral, pine-oak woodlands, desert scrub, sandy washes, and stream terraces with sycamores, cottonwoods, or oaks. Leaf litter under trees and bushes in sunny areas often indicate suitable habitat.	**Has potential to occur.** Suitable habitat is present in Santa Ana River basin and San Timoteo Creek channel.
Two-striped garter snake (*Thamnophis hammondii*)	SSC	Inhabits perennial and intermittent streams with rocky beds and bordered by willow thickets or other dense vegetation.	**Has potential to occur.** Suitable habitat is present in Santa Ana River basin and San Timoteo Creek channel.
Western pond turtle *(Emys marmorata*)	SSC	Requires slack- or slow-water aquatic habitat, as well as aerial and aquatic basking sites. Also requires suitable upland oviposition habitat, generally on an unshaded slope with clay soils, in the vicinity of aquatic habitat.	**Has potential to occur.** Suitable habitat is present in Santa Ana River basin and San Timoteo Creek channel.
BIRDS			
American peregrine falcon (*Falco peregrinus anatum*)	F Delisted S Delisted FP	Nests on cliff ledges or on tall building or bridges. Will forage over a wide variety of habitats.	**Has potential to occur.** Suitable nesting habitat is not anticipated in the study area. Species can forage throughout study area.
Black swift (*Cypseloides niger*)	SSC	Nests behind or next to permanent or semipermanent waterfalls or vertical cliffs near water.	**Not expected to occur.** Suitable nesting habitat does not occur in study area.

Common Name (*Scientific Name*)	Federal and State Status	Habitat	Potential to Occur within the Tier 1/Program EIS/EIR Study Area
Coastal cactus wren (*Campylorhynchus brunneicapillus sandiegensis*)	SSC	Cactus thickets of *Opuntia* or *Cylindropuntia* species, preferably over 3 feet (1 meter) tall.	**Has potential to occur.** Suitable nesting habitat in chaparral and coastal sage scrub habitats in western Riverside County and Orange County.
Ferruginous hawk (*Buteo regalis*)	SSC	Not known to nest in California. Winters in areas with open terrain in plains and foothills where ground squirrels and other prey are available.	**Has potential to occur (winter and migration only).** Species does not nest in California. May forage in agricultural and grassland fields in study area during winter months and during migration.
Golden eagle (*Aquila chrysaetos)*	BGEPA FP	Nests on cliff ledges or large trees in open areas. Forages in grasslands, sage scrub, open chaparral, and open woodlands.	**Has potential to occur.** Suitable nest habitat occurs along Timoteo Creek and in the Santa Ana River basin.
Grasshopper sparrow (*Ammodramus savannarum perpallidus*)	SSC	Occurs in dry, dense grasslands, especially those with a variety of grasses and tall forbs and scattered shrubs for singing perches. Nests in slight depressions in dense grasslands.	**Has potential to occur.** Suitable nest habitat in grassland, alfalfa fields, and weedy fallow fields in western Riverside County and Orange County.
Least bittern (*Ixobrychus exilis*)	SSC	Occurs in freshwater or brackish marshes with tall emergent vegetation.	**Has potential to occur.** Suitable nest habitat occurs along Timoteo Creek and in the Santa Ana River basin.

Common Name (*Scientific Name*)	Federal and State Status	Habitat	Potential to Occur within the Tier 1/Program EIS/EIR Study Area
Loggerhead shrike (*Lanius ludovicianus*)	SSC	Found near grassland, open sage scrub and chaparral, and desert scrub. Nests in dense vegetation adjacent to its open foraging habitats.	**Has potential to occur.** Species has potential to nest throughout study area in non-urban areas.
Long-eared owl (*Asio otus*)	SSC	Scattered breeding populations along the coast and in southeastern California. Winters throughout the Central Valley and southeastern California. Nests in abandoned crow or hawk nests, usually in dense riparian stands of willows, cottonwoods, live oaks, or conifers.	**Has potential to occur.** Suitable nest habitat occurs along Timoteo Creek and in the Santa Ana River basin.
Northern harrier (*Circus hudsonius*)	SSC	Grasslands and marshes. Nests are on the ground and typically concealed within a marsh or other dense, low-growing vegetation. Forages in grasslands, wetlands, and other open areas with abundant rodent populations.	**Has potential to occur.** Suitable nest habitat occurs along Timoteo Creek and in the Santa Ana River basin.
Purple martin (*Progne subis)*	SSC	Nests in abandoned woodpecker holes in oaks, cottonwoods, and other deciduous trees in a variety of wooded and riparian habitats. Also nests in vertical drainage holes under elevated freeways and highway bridges.	**Has potential to occur.** Suitable nest habitat occurs along Timoteo Creek and in the Santa Ana River basin.
Western burrowing owl (*Athene cunicularia*)	SSC	Burrowing owls inhabit grasslands, lowland scrub, desert scrub, agricultural lands, and open developed areas, such as urban parks. They require large open expanses of sparsely vegetated areas on gently rolling or level terrain with an abundance of active small mammal burrows. They use rodent or other burrows for roosting and nesting cover. Will use pipes, culverts, and other man-made burrows where natural burrows are scarce.	**Has potential to occur.** Open areas within study area with suitable natural and artificial burrows provide potential nest habitat.

Common Name (*Scientific Name*)	Federal and State Status	Habitat	Potential to Occur within the Tier 1/Program EIS/EIR Study Area
White-tailed kite (*Elanus leucarus*)	FP	Nests in large trees adjacent to open areas. Forages in grasslands and other open habitats.	**Has potential to occur.** Suitable nest habitat occurs along Timoteo Creek and in the Santa Ana River basin.
Yellow rail (*Coturnicops noveboracensis*)	SSC	Winter records along the coast from Humboldt County to Orange County. Utilizes grassy marshes and wet meadows, building well-concealed firm grass cup nests. Especially secretive and seldom seen.	**Has potential to occur.** Species is no longer known to nest in Southern California. The species has potential to forage opportunistically within suitable habitat within the study area during migration.
Yellow warbler (*Setophaga petechial*)	SSC	Nests in riparian areas dominated by willows, cottonwoods, sycamores, or alders or in mature chaparral; may also use oaks and urban areas near stream courses.	**Has potential to occur.** Suitable nest habitat occurs along Timoteo Creek and in the Santa Ana River basin.
Yellow-breasted chat (*Icteria virens)*	SSC	Nests in dense riparian thickets of willow and other brushy tangles, including briars and stream thickets near watercourses.	**Has potential to occur.** Suitable nest habitat occurs along Timoteo Creek and in the Santa Ana River basin.
MAMMALS			
American badger (*Taxidea taxus*)	SSC	Inhabits a diversity of habitats with principal requirements of sufficient food, friable soils, and relatively open, uncultivated ground. Grasslands, savannas, and mountain meadows and desert scrub.	**Has potential to occur.** Non-urban areas throughout study area provide suitable habitat.

Common Name (*Scientific Name*)	Federal and State Status	Habitat	Potential to Occur within the Tier 1/Program EIS/EIR Study Area
Big free-tailed Bat (*Nyctinomops macrotis*)	SSC	Inhabits arid, rocky areas; roosts in crevices in cliffs. Species is rare in California.	**Has potential to occur.** Potentially suitable roosting habitat in the study area occurs in rocky/cliff areas in the vicinity of the San Gorgonio Pass. Suitable roost habitat in the remaining portion of the study area is expected to be limited.
Desert bighorn sheep (*Ovis canadensis nelsoni*)	FP	Generally occurs in areas with steep slopes with abundant rock outcrops and sparse shrubs for escape terrain. Escarpment chaparral with ceanothus, mountain mahogany associations for foraging. Range is 3,000–10,000 feet (914–3,048 meters).	**Has potential to occur.** Has potential to occur in the mountain areas adjacent to the San Gorgonio Pass area.
Dulzura pocket mouse (*Chaetodipus californicus femoralis)*	SSC	Coastal and montane regions in grassland, sage scrub, and chaparral slopes.	**Has potential to occur.** Suitable habitat in chaparral, grassland, and coastal sage scrub habitats in western Riverside County and Orange County.
Los Angeles pocket mouse (*Perognathus longimembris brevinasus*)	SSC	Lower elevation grassland and coastal sage communities with sandy soils.	**Has potential to occur.** Suitable habitat in chaparral, grassland, and coastal sage scrub habitats in western Riverside County and Orange County.

Common Name (*Scientific Name*)	Federal and State Status	Habitat	Potential to Occur within the Tier 1/Program EIS/EIR Study Area
Mexican long-tongued bat (*Choeronycteris mexicana*)	SSC	Species utilizes caves, mines, and buildings as roosts and nursery sites; feeds in desert habitats where nectar and pollen are available.	**Has potential to occur.** Potentially suitable roosting habitat in the study area occurs in rocky/cliff areas in the vicinity of the San Gorgonio Pass. Suitable roost habitat in the remaining portion of the study area is expected to be limited.
Northwestern San Diego pocket mouse (*Chaetodipus fallax fallax)*	SSC	Occurs in arid coastal and desert habitats, including coastal scrub, chaparral, chamise-redshank, desert scrub, pinyon-juniper, and annual grassland.	**Has potential to occur.** Suitable habitat in chaparral, grassland, and coastal sage scrub habitats in western Riverside County, Orange County, and desert areas east of Beaumont.
Pallid bat (*Antrozous pallidus*)	SSC	Species is found from coast to mixed conifer forest; grasslands, shrublands, woodlands, and forest; most common in open, dry habitats with rocky areas for roosting; yearlong resident in most of range. Roosts in rock crevices, caves, mine shafts, under bridges, in buildings and tree hollows.	**Has potential to occur.** Suitable roost habitat occurs in San Timoteo Creek basin, Santa Ana River basin, and open areas in Riverside County and Orange County.
Pallid San Diego pocket mouse (*Chaetodipus fallax pallidus)*	SSC	Occurs in arid coastal and desert habitats, including coastal scrub, chaparral, chamise-redshank, desert scrub, pinyon-juniper, and annual grassland.	**Has potential to occur.** Suitable habitat in chaparral, grassland, and coastal sage scrub habitats in western Riverside County and Orange County and desert areas east of Beaumont.

Common Name (*Scientific Name*)	Federal and State Status	Habitat	Potential to Occur within the Tier 1/Program EIS/EIR Study Area
Palm Springs pocket mouse (*Perognathus longimembris bangsi*)	SSC	Occurs in the Coachella Valley in desert habitats, including creosote scrub, desert scrub, and grasslands with loosely packed or sandy soils with sparse to moderate vegetative cover.	**Has potential to occur.** Suitable habitat occurs in sandy areas between San Gorgonio Pass and Coachella.
Palm Springs round-tailed ground squirrel (*Xerospermophilus tereticaudu chlorus*)	SSC	Restricted to the Coachella Valley, Riverside County. Found in a variety of desert habitats with relatively open sandy soils, including creosote scrub, desert wash, desert scrub, and levees of canals.	**Has potential to occur.** Suitable habitat occurs in sandy areas between San Gorgonio Pass and Coachella.
Pocketed free-tailed bat (*Nyctinomops femorosaccus*)	SSC	Occurs in desert scrub, desert riparian, chaparral, and pine oak forests. Roosts in rocky crevices.	**Has potential to occur.** Potentially suitable roosting habitat in the study area occurs in rocky/cliff areas in the vicinity of the San Gorgonio Pass. Suitable roost habitat in the remaining portion of the study area is expected to be limited.
San Diego black-tailed jackrabbit (*Lepus californicus bennettii*)	SSC	Mostly found on the coastal side of mountains in open habitats, usually avoiding dense stands of chaparral or woodlands.	**Has potential to occur.** Non-urban areas throughout study area provide suitable habitat.
San Diego desert woodrat (*Neotoma lepida intermedia*)	SSC	Occurs in a variety of shrub and desert habitats primarily associated with rock outcroppings, boulders, cacti, or areas of dense undergrowth.	**Has potential to occur.** Suitable habitat in chaparral, grassland, and coastal sage scrub habitats in western Riverside County, Orange County, and desert areas east of Beaumont.

Common Name (*Scientific Name*)	Federal and State Status	Habitat	Potential to Occur within the Tier 1/Program EIS/EIR Study Area
Southern grasshopper mouse (*Onychomys torridus ramona*)	SSC	Inhabits grasslands, sparse coastal sage scrub, and chaparral habitats.	**Has potential to occur.** Suitable habitat in chaparral, grassland, and coastal sage scrub habitats in western Riverside County, Orange County, and desert areas east of Beaumont.
Townsend's big-eared bat (*Corynorhinus townsendii)*	SSC	The species is found in a variety of habitats throughout California where appropriate roosting habitat exists. Primarily roosts in caves and cavern-like spaces; also in abandoned buildings, mines, culverts, box-like spaces in bridges and other structures, and large hollows in trees. Very sensitive to human disturbances.	**Has potential to occur.** Potentially suitable roosting habitat in the study area occurs in rocky/cliff areas in the vicinity of the San Gorgonio Pass. Suitable roost habitat in the remaining portion of the study area is expected to be limited.
Western mastiff bat (*Eumops perotis californicus*)	SSC	Primarily a cliff-dwelling species for breeding. Found foraging in a variety of habitats, from dry desert washes, flood plains, chaparral, oak woodland, open ponderosa pine forest, grassland, montane meadows, and agricultural areas.	**Has potential to occur.** Potentially suitable roosting habitat in the study area occurs in rocky/cliff areas in the vicinity of the San Gorgonio Pass. Suitable roost habitat in the remaining portion of the study area is expected to be limited.
Western red bat (*Lasiurus blossevillii*)	SSC	Usually among dense foliage, in forests and wooded areas, making long migrations from the northern latitudes to warmer climes for winter, sometimes hibernates in tree hollows or woodpecker holes.	**Has potential to occur.** Suitable riparian roosting habitat occurs along Timoteo Creek and in the Santa Ana River basin.

Common Name (*Scientific Name*)	Federal and State Status	Habitat	Potential to Occur within the Tier 1/Program EIS/EIR Study Area
Western yellow bat (*Lasiurus xanthinus*	SSC	Roosting habitat mostly associated desert riparian habitats, palm oasis, and urban areas with palm groves.	**Has potential to occur.** Suitable roost habitat in the study area along Timoteo Creek, in the Santa Ana River basin, and where palm trees are present.

Notes:

STATUS - Federal

BGEPA=Bald and Golden Eagle Protection Act

F Delisted=Federally Delisted

STATUS - State

FP=Fully Protected Species in California

SSC=Species of Special Concern in California

S Delisted=State Delisted

EIR=environmental impact report; EIS=environmental impact statement

Table 5-8 presents the special-status plant and wildlife species that have moderate to high potential to occur within the Tier 1/Program EIS/EIR Study Area, based on species' range information, habitat requirements, and vegetation communities present. Of the 91 special-status plants identified in the database searches, 12 were determined to have potential to occur in the Tier 1/Program EIS/EIR Study Area; of the 80 special-status wildlife species, 62 were determined to have potential to occur in the Tier 1/Program EIS/EIR Study Area.

Table 5-8. Special-Status Plants and Wildlife with Potential to Occur in the Tier 1/Program EIS/EIR Study Area (All Build Alternative Options)

Species	Status	Location of Potential to Occur in the Tier 1/Program EIS/EIR Study Area
PLANTS		
Abrams' spurge (*Euphorbia abramsiana*)	CRPR 2B.2	Eastern Section
Brand's star phacelia (*Phacelia stellaris*)	CRPR 1B.1	Western Section
Braunton's milk-vetch (*Astragalus brauntonii*)	FE, CRPR 1B.1	Western Section
Chaparral sand-verbena (*Abronia villosa* var. *aurita*)	CRPR 1B.1	Western and Eastern Sections
Cliff spurge (*Euphorbia misera*)	CRPR 2B.2	Eastern Section
Coachella Valley milk-vetch (*Astragalus lentiginosus* var. *coachellae*)	FE, CRPR 1B.2	Eastern Section
Flat-seeded surge (*Euphorbia platysperma*)	CRPR 1B.2	Eastern Section
Harwood's eriastrum (*Eriastrum harwoodii*)	CRPR 1B.2	Eastern Section
Intermediate Mariposa lily (*Calochortus weedii* var. *intermedius*)	CRPR 1B.2	Western Section
Little San Bernardino Mtns. Linanthus (*Linanthus maculatus* ssp. *maculatus*)	CRPR 1B.2	Eastern Section
Many-stemmed dudleya (*Dudleya multicaulis*)	CRPR 1B.2	Eastern Section

Species	Status	Location of Potential to Occur in the Tier 1/Program EIS/EIR Study Area
Nevin's barberry (*Berberis nevinii*)	FE, SE/CRPR 1B.1	Western and Eastern Sections
Parry's spineflower (*Chorizanthe parryi* var. *parryi*)	CRPR 1B.1	Western and Eastern Sections
Purple stemodia (*Stemodia durantifolia*)	CRPR 2B.1	Eastern Section
Santa Ana River woollystar (*Eriastrum densifolium* ssp. *sanctorum*)	FE, SE/CRPR 1B.1	Western and Eastern Sections
Smooth tarplant (*Centromadia pungens* ssp. *laevis*)	CRPR 1B.1	Western and Eastern Sections
Snake cholla (*Cylindropuntia californica* var. *californica*)	CRPR 1B.2	Western Section
Three-ribbed milk-vetch (*Astragalus tricarinatus*)	FE, CRPR 1B.2	Eastern Section
White-bracted spineflower (*Chorizanthe xanti* var. *leucotheca)*	CRPR 1B.2	Eastern Section
Yucaipa onion (*Allium marvinii*)	CRPR 1B.2	Eastern Section
INVERTEBRATES		
Delhi Sands flower-loving fly (*Rhaphiomidas terminates abdominalis*)	FE	Western and Eastern Sections
Riverside fairy shrimp (*Streptocephalus woottoni*)	FE	Eastern Section
Vernal pool fairy shrimp (*Branchinecta lynchi*)	FT	Western and Eastern Sections
FISH		
Arroyo chub (*Gila orcuttii*)	SSC	Western and Eastern Sections
Desert pupfish (*Cyprinodon macularius*)	FE, SE	Eastern Section

Species	Status	Location of Potential to Occur in the Tier 1/Program EIS/EIR Study Area
Santa Ana speckled dace (*Rhinichthys osculus*)	SSC	Western and Eastern Sections
Santa Ana sucker (*Catostomus santaanae*)	ST	Western and Eastern Sections
AMPHIBIANS		
California red-legged frog (*Rana draytonii*)	FT, SSC	Western and Eastern Sections
Coast Range newt (*Taricha torosa*)	SSC	Western Section
Western spadefoot (*Spea hammondii*)	SSC	Western and Eastern Sections
REPTILES		
California glossy snake (*Arizona elegans occidentalis*)	SSC	Western and Eastern Sections
Coachella Valley fringe-toed lizard (*Uma inornata*)	FT, SE	Eastern Section
Coast horned lizard (*Phrynosoma blainvillii*)	SSC	Western and Eastern Sections
Coast patched-nosed snake (*Salvadora hexalepis virgultea*	SSC	Western and Eastern Sections
Coastal whiptail (*Aspidoscelis tigris stejnegeri*)	SSC	Western and Eastern Sections
Desert tortoise (*Gopherus agasizzii*)	FT, ST	Eastern Section
Flat-tailed horned lizard (*Phrynosoma mcallii*)	SSC	Eastern Section
Red diamond rattlesnake (*Crotalus ruber*)	SSC	Western and Eastern Sections

Species	Status	Location of Potential to Occur in the Tier 1/Program EIS/EIR Study Area
San Diego mountain kingsnake (*Lampropeltis zonata pulchra)*	SSC	Western Section
Southern California legless lizard (*Anniella stebbinsi*)	SSC	Western and Eastern Sections
Two-striped garter snake (*Thamnophis hammondii*)	SSC	Western and Eastern Sections
Western pond turtle *(Emys marmorata*)	SSC	Western and Eastern Sections
BIRDS		
American peregrine falcon (*Falco peregrinus anatum*)	FP	Western and Eastern Section
Bald eagle (*Haliaeetus leucocephalus*)	BGEPA, F Delisted SE/FP	Western and Eastern Sections
Coastal cactus wren (*Campylorhynchus brunneicapillus sandiegensis*)	SSC	Western and Eastern Sections
Coastal California gnatcatcher (*Polioptila californica californica*)	FT, SSC	Western and Eastern Sections
Ferruginous hawk (*Buteo regalis*)	SSC	Western and Eastern Sections
Golden eagle (*Aquila chrysaetos)*	BGEPA FP	Western and Eastern Sections
Grasshopper sparrow (*Ammodramus savannarum perpallidus*)	SSC	Western Section
Least Bell's vireo (*Vireo bellii pusillus*)	FE, SE	Western and Eastern Sections
Least bittern (*Ixobrychus exilis*)	SSC	Western and Eastern Sections

Species	Status	Location of Potential to Occur in the Tier 1/Program EIS/EIR Study Area
Loggerhead shrike (*Lanius ludovicianus*)	SSC	Western and Eastern Sections
Long-eared owl (*Asio otus*)	SSC	Western and Eastern Sections
Northern harrier (*Circus hudsonius*)	SSC	Western and Eastern Sections
Purple martin (*Progne subis)*	SSC	Western and Eastern Sections
Southwestern willow flycatcher (*Empidonax trallii extimus)*	FE, SE	Western and Eastern Sections
Swainson's hawk (*Buteo swainsoni*)	ST	Western and Eastern Sections
Tricolored blackbird (*Agelais tricolor)*	CT	Western and Eastern Sections
Western burrowing owl (*Athene cunicularia*)	SSC	Western and Eastern Sections
Western yellow-billed cuckoo (*Coccyzus americanus occidentalis*)	FE, SE	Western Section
White-tailed kite (*Elanus leucarus*)	FP	Western and Eastern Sections
Yellow rail (*Coturnicops noveboracensis*)	SSC	Western Section
Yellow warbler (*Setophaga petechial*)	SSC	Western and Eastern Sections
Yellow-breasted chat (*Icteria virens)*	SSC	Western and Eastern Sections
MAMMALS		
American badger (*Taxidea taxus*)	SSC	Western and Eastern Sections

Species	Status	Location of Potential to Occur in the Tier 1/Program EIS/EIR Study Area
Big free-tailed bat (*Nyctinomops macrotis*)	SSC	Eastern Section
Desert bighorn sheep (*Ovis canadensis nelsoni*)	FP	Eastern Section
Dulzura pocket mouse (*Chaetodipus californicus femoralis)*	SSC	Western and Eastern Sections
Los Angeles pocket mouse (*Perognathus longimembris brevinasus*)	SSC	Western and Eastern Sections
Mexican long-tongued bat (*Choeronycteris mexicana)*	SSC	Eastern Section
Northwestern San Diego pocket mouse (*Chaetodipus fallax fallax)*	SSC	Western and Eastern Sections
Pallid bat (*Antrozous pallidus*)	SSC	Western and Eastern Sections
Pallid San Diego pocket mouse (*Chaetodipus fallax pallidus)*	SSC	Western and Eastern Sections
Palm Springs pocket mouse (*Perognathus longimembris bangsi*)	SSC	Eastern Section
Palm Springs round-tailed ground squirrel (*Xerospermophilus tereticaudu chlorus*)	SSC	Eastern Section
Peninsular bighorn sheep (*Ovis canadensis nelsoni pop. 2)*	FE, ST/FP	Eastern Section
Pocketed free-tailed bat (*Nyctinomops femorosaccus*)	SSC	Eastern Section
San Bernardino kangaroo rat (*Dipodomys merriami parvus*)	FE, SSC	Western and Eastern Sections
San Diego black-tailed jackrabbit (*Lepus californicus bennettii*)	SSC	Western and Eastern Sections

Species	Status	Location of Potential to Occur in the Tier 1/Program EIS/EIR Study Area
San Diego desert woodrat (*Neotoma lepida intermedia*)	SSC	Western and Eastern Sections
Southern grasshopper mouse (*Onychomys torridus ramona*)	SSC	Western and Eastern Sections
Stephen's kangaroo rat (*Dipodomys stephensi*)	FE, ST	Western and Eastern Sections
Townsend's big-eared bat (*Corynorhinus townsendii)*	SSC	Eastern Section
Western mastiff bat (*Eumops perotis californicus*)	SSC	Eastern Section
Western red bat (*Lasiurus blossevillii*)	SSC	Western and Eastern Sections
Western yellow bat (*Lasiurus xanthinus*	SSC	Western and Eastern Sections

Notes:

STATUS - Federal

FE=Federally listed as Endangered

FP=Federally listed as Protected

BGEPA=Bald and Golden Eagle Protection Act

STATUS - State

ST=State Candidate for listing as Threatened

FP=Fully Protected Species in California

SSC=Species of Special Concern in California

1B=Rare or endangered in California and elsewhere

2B=Rare or endangered in California, more common elsewhere

Threat Ranks:

.1=seriously endangered in California

.2=fairly endangered in California

.3=Not very endangered in California

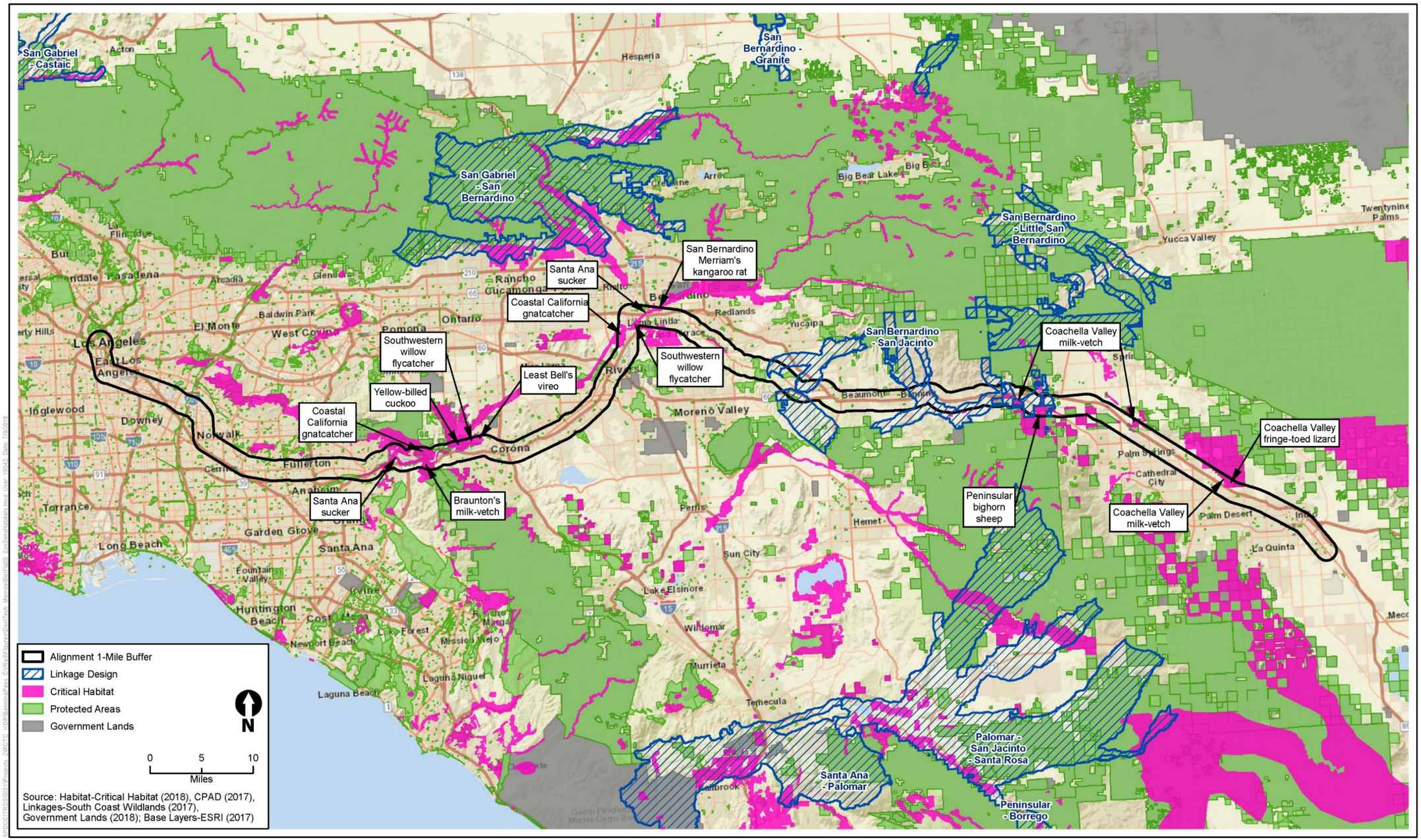
CRPR=California Rare Plant Rank; EIR=environmental impact report; EIS=environmental impact statement

5.4 Wildlife Movement Corridors (All Build Alternative Options)

Movement is essential to wildlife survival, whether it is day-to-day movements to find food, water, shelter, or seasonal migration to find favorable seasonal conditions and mates. Movement is also essential for gene flow, for recolonizing unoccupied habitat, and for species to shift their geographic range in response to climate change. Large mammals—such as mule deer, desert bighorn sheep, coyotes, and mountain lions—may range widely across the landscape in search of food and water or following seasonal movement patterns. Drainage channels are often used as corridors for wildlife movement, providing both cover and forage. Natural and man-made barriers to wildlife movement may prevent animals from reaching important resources and/or limit the availability of habitats that may otherwise become occupied.

Several planning efforts have been undertaken to address the effects of development on wildlife movement corridors and to identify opportunities to preserve and restore habitat connectivity. The South Coast Missing Linkages Project was developed through a collaboration between federal, state, and local partners to identify and conserve the highest-priority wildlife movement linkages in Southern California. This Program incorporates advanced planning techniques and the collaboration of experts in biology, conservation design, and implementation. The South Coast Missing Linkages Project developed a comprehensive plan for a regional network that would maintain and restore critical linkages between existing blocks of habitat that are either currently protected or could be protected in the future (Figure 5-2).

Figure 5-2. Sensitive Habitats within the Tier 1/Program EIS/EIR Study Area (All Build Alternative Options)



This page is intentionally blank.

The San Bernardino-San Jacinto Connection (Figure 5-2) was identified as a key wildlife movement linkage between the San Bernardino Mountains and the San Jacinto Mountains (Penrod et al. 2005). The linkage design of the San Bernardino-San Jacinto Connection has five routes to accommodate diverse species and ecosystem functions and connect large habitat blocks within the San Bernardino National Forest in the San Bernardino Mountains and the San Jacinto Mountains. Approximately 29 percent of the lands within the linkage are under some form of protection. Much of the unprotected lands within the linkage could be protected through the Western Riverside MSHCP and the Coachella Valley MSHCP.

Several major transportation routes—including Interstate 10 (I-10), Highway 111, Highway 79, and an existing railroad track—pose substantial barriers to wildlife movement. I-10 bisects approximately 11 miles of the linkage. Several existing structures accommodate various levels of animal movement within the linkage. There are several crossing structures where the San Gorgonio River flows under I-10; a series of undercrossings for Stubbe Wash; and a series of undercrossings to accommodate the Whitewater River crossing under I-10. The existing rail corridor bisects approximately 13 miles of this linkage between Banning and the San Gorgonio Pass.

5.5 Waters of the United States (All Build Alternative Options)

5.5.1 Watersheds

As shown on Figure 5-3, the Program Corridor crosses five watersheds (listed at the subbasin level) the Los Angeles River Watershed, the San Gabriel River Watershed, the Santa Ana River Watershed, the San Jacinto River Watershed, and the Salton Sea Watershed, as depicted on Figure 5-3. USGS divided the U.S. into hydrologic units that are arranged or nested within each other, from the largest geographic area to the smallest geographic area. Each hydrologic unit is identified by a unique hydrologic unit code (HUC) consisting of 2 to 12 digits based on the levels of classification in the hydrologic unit system (region [2], subregion [4], basin [6], subbasin [8], watershed [10], and subwatershed [12]), as follows:

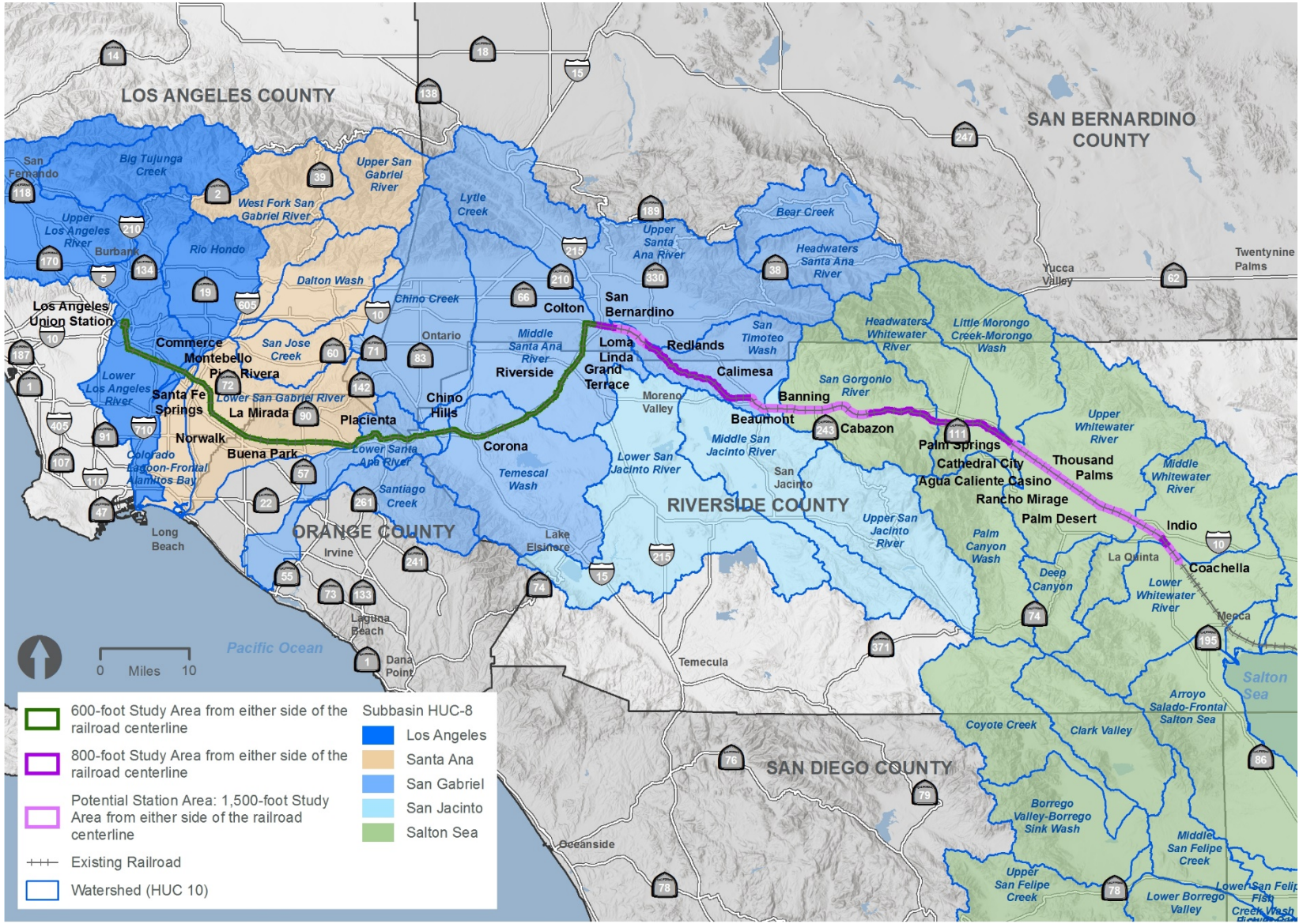
- Los Angeles River Watershed (HUC-8 18070105)
- San Gabriel River Watershed (HUC-8 18070106)
- Santa Ana River Watershed (HUC-8 18070203)
- San Jacinto River Watershed (HUC-8 18070202)
- Salton Sea Watershed (HUC-8 18100200)

Table 5-9 summarizes the names of the subbasins, HUC-8 watersheds, the major water features within each watershed, and the area within each watershed in the Tier 1/Program EIS/EIR Study Area.

Table 5-9. Subbasins and Watersheds in the Tier 1/Program EIS/EIR Study Area (All Build Alternative Options)

Subbasin	Watershed	Major Water Features	Watershed Area (acres)
Los Angeles River Watershed	Lower Los Angeles River; Rio Hondo	Los Angeles River, Rio Hondo	524,160
San Gabriel River Watershed	Lower Santa Ana River; Middle Santa Ana River; Upper Santa Ana River; Temescal Wash; San Timoteo Wash	San Gabriel River, Coyote Creek	456,320
San Jacinto River Watershed	Middle San Jacinto River	—[a]	489,767
Santa Ana River Watershed	Colorado Lagoon-Frontal Alamitos Bay; Lower San Gabriel River;	Santa Ana River, San Timoteo Creek	1,075,200
Salton Sea Watershed	San Gorgonio River; Headwaters Whitewater River; Little Morongo Creek-Morongo Wash; Upper Whitewater River; Middle Whitewater River; Lower Whitewater River	San Gorgonio River, Whitewater River	4,640,000

Figure 5-3. Subbasins and Watersheds within the Tier 1/Program EIS/EIR Study Area



This page is intentionally blank.

5.5.2 Named Rivers, Streams, Creeks, Washes, Canals, and Lakes

Within the Tier 1/Program EIS/EIR Study Area (Appendix D, Sheets 1-27), there are 5 rivers, 26 named drainages, and 1 named lake. A list of the named waters within the Tier 1/Program EIS/EIR Study Area are presented in Table 5-10. In addition to the named waters, numerous unnamed ephemeral washes also traverse the Tier 1/Program EIS/EIR Study Area.

Table 5-10. Named Rivers, Streams, Creeks, Washes, Canals, and Lakes within the Tier 1/Program EIS/EIR Study Area (All Build Alternative Options)

Named Waters	County
Los Angeles River	Los Angeles
Rio Hondo	Los Angeles
San Gabriel River	Los Angeles
La Canada Verde Creek	Los Angeles
La Mirada Creek	Los Angeles
Coyote Creek	Orange, Los Angeles
Brea Creek	Orange
Fullerton Creek	Orange
Anaheim Lake	Orange
Carbon Canyon Creek	Orange
Atwood Channel	Orange
Coal Creek	Orange
Wardlow Wash	Riverside
Temescal Wash	Riverside
Spring Brook	Riverside
Tequesquite Arroyo	Riverside
Riverside Canal	San Bernardino, Riverside

Named Waters	County
West Riverside Canal	San Bernardino
Santa Ana River	San Bernardino, Riverside, Orange
Gage Canal	San Bernardino
San Timoteo Creek	Riverside, San Bernardino
Yucaipa Creek	Riverside
Little San Gorgonio Creek	Riverside
Noble Creek	Riverside
Smith Creek	Riverside
Montgomery Creek	Riverside
San Gorgonio River	Riverside
Potrero Creek	Riverside
Garnet Wash	Riverside
Mission Creek	Riverside
Coachella Canal	Riverside
Whitewater River	Riverside

Source: USFWS 2018a

5.5.3 Wetlands

Most of the NWI-identified other waters of the U.S. (wetlands) can be characterized by the following:

- The channels of the named drainages identified in Table 5-10 and tributaries
- Areas within the associated floodplains of those named drainages
- Ponding areas in or adjacent to ephemeral washes
- Canals that receive water throughout the year
- Freshwater ponds associated with sand and gravel operations, golf courses, and parks

- Retention basins, stock tanks, or other water storage and management areas for agricultural, industrial, and residential purposes

Table 5-11 shows the acreages of different wetland types within the Tier 1/Program EIS/EIR Study Area.

Table 5-11. Potential Wetlands Areas within the Tier 1/Program EIS/EIR Study Area (All Build Alternative Options)

Wetland Type	Wetland Abbreviation[a]	Acres within the Tier 1/Program EIS/EIR Study Area (1,000-foot buffer)
Freshwater Emergent Wetland	PEM1A, PEM1Ax, PEM1C, PEM1Ch, PEM1Cx, PEM1Fx	11.825
Freshwater Forested/Shrub Wetland	PFO/SSCx, PFOA, PFOAx, PFOC, PFOCh, PFOCx, PSS/EM1Ah, PSS/EM1C, PSSA, PSSAx, PSSB, PSSC, PSSCh	172.733
Freshwater Pond	PABHx, PUBFx, PUBHh, PUBHr, PUBHx, PUBK, PUS, PUSAx, PUSCh, PUSCx	113.027
Lake	L1UBHx, L2UBHh, L2USCh, L2USCx	78.368
Riverine	R2UBF, R2UBFr, R2UBH, R2UBHr, R2UBHx, R2USAr, R2USC, R2USCr, R4SBA, R4SBAr, R4SBAx, R4SBC, R4SBCr, R4SBCx, R4SBJ, R4SBJr, R4SBJx, R5UBF, R5UBFx	650.380
Total	—	1,026.333

Source USFWS 2018a

Notes:

[a] Explanation of listing codes:

L1UB: Lacustrine Limnetic Unconsolidated Bottom

L2UB: Lacustrine Littoral Unconsolidated Bottom

L2US: Lacustrine Littoral Unconsolidated Shore

PAB: Palustrine Aquatic Bed

PEM: Palustrine Emergent

PFO: Palustrine Forested

PSS: Palustrine Scrub-shrub

PUB: Palustrine Unconsolidated Bottom

R2UB: Riverine Lower Perennial Unconsolidated Bottom

R2US: Riverine Lower Perennial Unconsolidated Shore

R4SB: Riverine Intermittent Streambed

R5UB: Riverine Unknown Perennial Unconsolidated Bottom

PUS: Palustrine Unconsolidated Shore

A: Temporarily Flooded h: Diked/Impounded

B: Seasonally Saturated r: Artificial Substrate

C: Seasonally Flooded x: Excavated

F: Semi-permanently Flooded

H: Permanently Flooded

J: Intermittently Flooded

K: Artificially Flooded

Figure 5-4 shows the mapped wetlands located within the Tier 1/Program EIS/EIR Study Area. The following section describes potential wetlands associated with waters of the U.S. and waters of the state within the Western and Eastern Sections of the Tier 1/Program EIS/EIR Study Area for each of the Build Alternative Options.

Build Alternative Option 1 (Coachella Terminus)

The largest wetland areas located within the Western Section of Build Alternative Option 1 are mainly composed of riverine wetlands. Other wetland types such as freshwater forested/shrub wetlands, freshwater pond wetlands, lake wetlands, and freshwater emergent wetlands are also present within the Western Section. For the Eastern Section of Build Alternative Option 1, the largest wetlands areas are mainly comprised of riverine wetlands. Similar to the Western Section, other wetland types such as freshwater forested/shrub wetlands, freshwater pond wetlands, and freshwater emergent wetlands are also present within the Eastern Section. Table 5-12 provides a summary of potential wetlands within Build Alternative Option 1.

Table 5-12. Summary of Wetland Types (Build Alternative Option 1)

Wetland Type	Number and Area of Wetland Types within Western Section	Number and Area of Wetland Types within Eastern Section	Total Number and Area of Wetland Types
Freshwater emergent wetland	6 (2.15 acres)	5 (4.43 acres)	**11** **(6.58 acres)**
Freshwater forested/shrub wetland	43 (31.04 acres)	8 (78.31 acres)	**51** **(109.35 acres)**
Freshwater pond	21 (25.61 acres)	29 (67.39 acres)	**50** **(93.00 acres)**
Lakes	7 (24.80 acres)	0 (0.00 acres)	**7** **(24.80 acres)**

Wetland Type	Number and Area of Wetland Types within Western Section	Number and Area of Wetland Types within Eastern Section	Total Number and Area of Wetland Types
Riverine	114 (150.07 acres)	122 (347.30 acres)	**236** **(497.37 acres)**

Source: USFWS 2018a

Build Alternative Option 2 (Indio Terminus)

The types of wetland areas that could be impacted by Build Alternative Option 2 are the same as for Build Alternative Option 1. Table 5-13 provides a summary of potential wetlands within Build Alternative Option 2.

Table 5-13. Summary of Wetland Types (Build Alternative Options 2 and 3)

Wetland Type	Number and Area of Wetland Types within Western Section	Number and Area of Wetland Types within Eastern Section	Total Number and Area of Wetland Types
Freshwater emergent wetland	6 (2.15 acres)	4 (3.51 acres)	**10** **(5.66 acres)**
Freshwater forested/shrub wetland	43 (31.04 acres)	8 (78.31 acres)	**51** **(109.35 acres)**
Freshwater pond	21 (25.61 acres)	28 (66.99 acres)	**49** **(92.60 acres)**
Lakes	7 (24.80 acres)	0 (0.00 acres)	**7** **(24.80 acres)**
Riverine	114 (150.07 acres)	122 (347.30 acres)	**236** **(497.37 acres)**

Source: USFWS 2018a

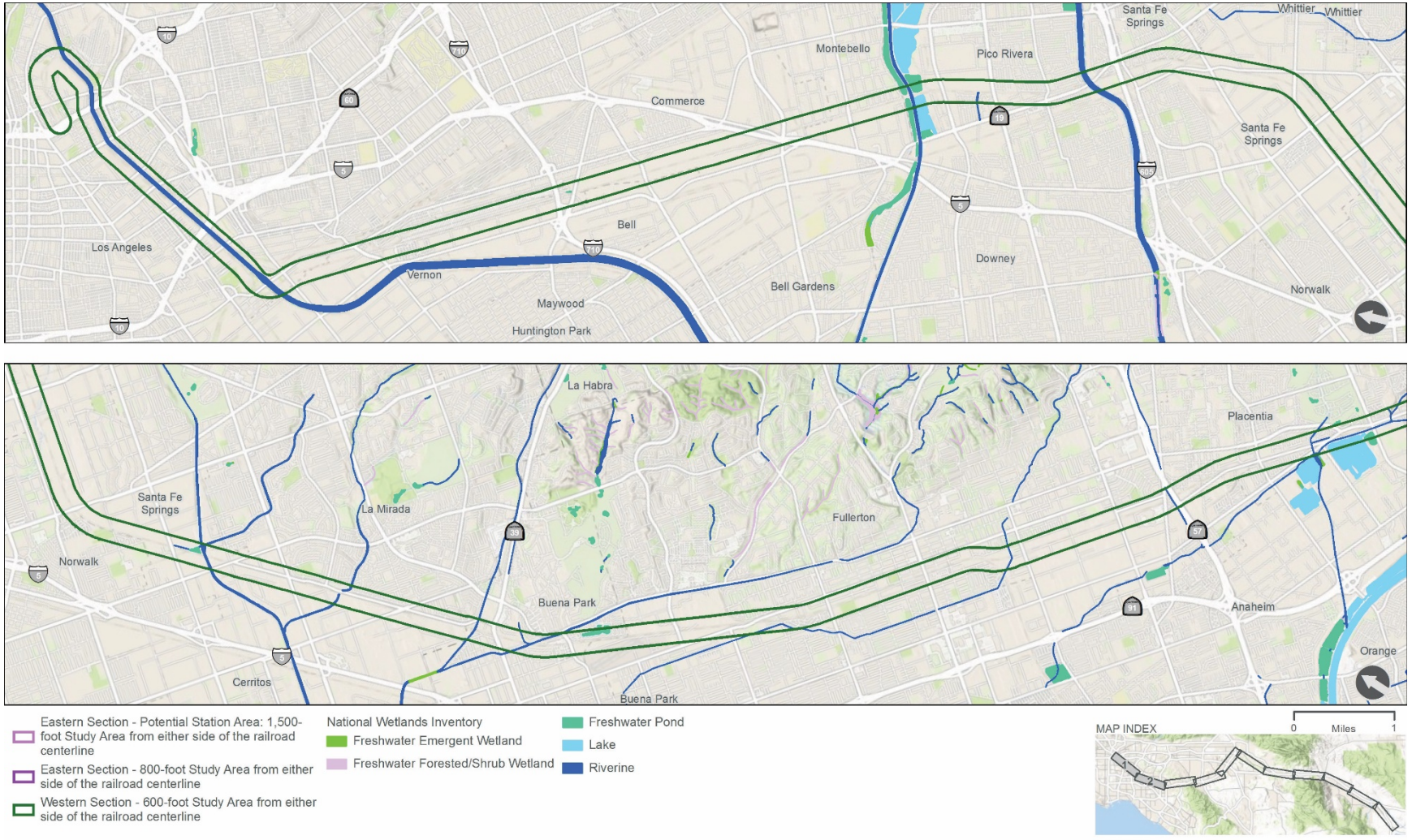
Build Alternative Option 3 (Indio Terminus with Limited Third Track)

As shown in Table 5-13, the types of wetland areas that could be impacted by Build Alternative Option 3 are the same as for Build Alternative Option 2.

This page is intentionally blank.

Figure 5-4. National Wetland Inventory-Mapped Wetlands within the Tier 1/Program EIS/EIR Study Area

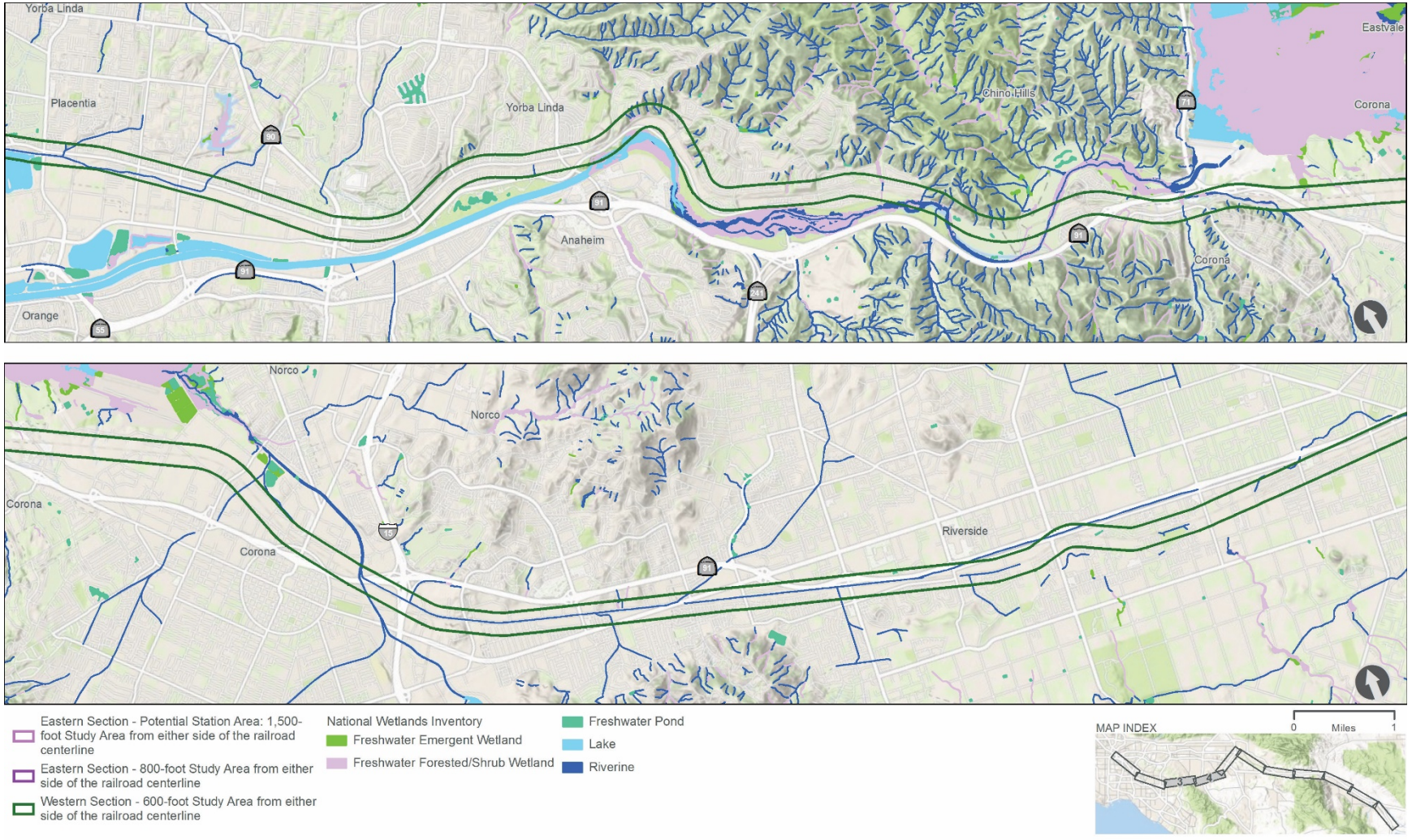
(Page 1 of 6)



This page is intentionally blank.

Figure 5-4. National Wetland Inventory-Mapped Wetlands within the Tier 1/Program EIS/EIR Study Area

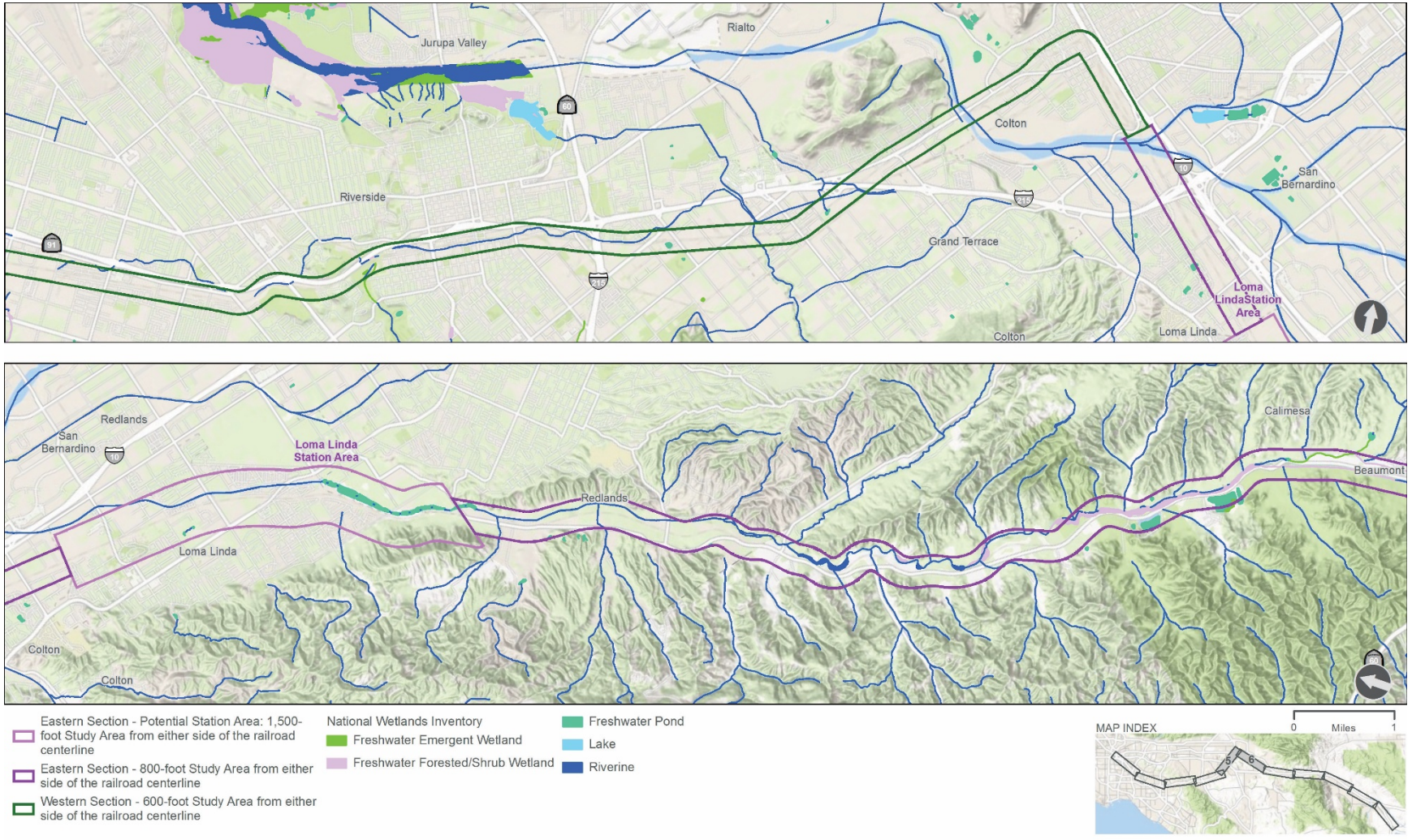
(Page 2 of 6)



This page is intentionally blank.

Figure 5-4. National Wetland Inventory-Mapped Wetlands within the Tier 1/Program EIS/EIR Study Area

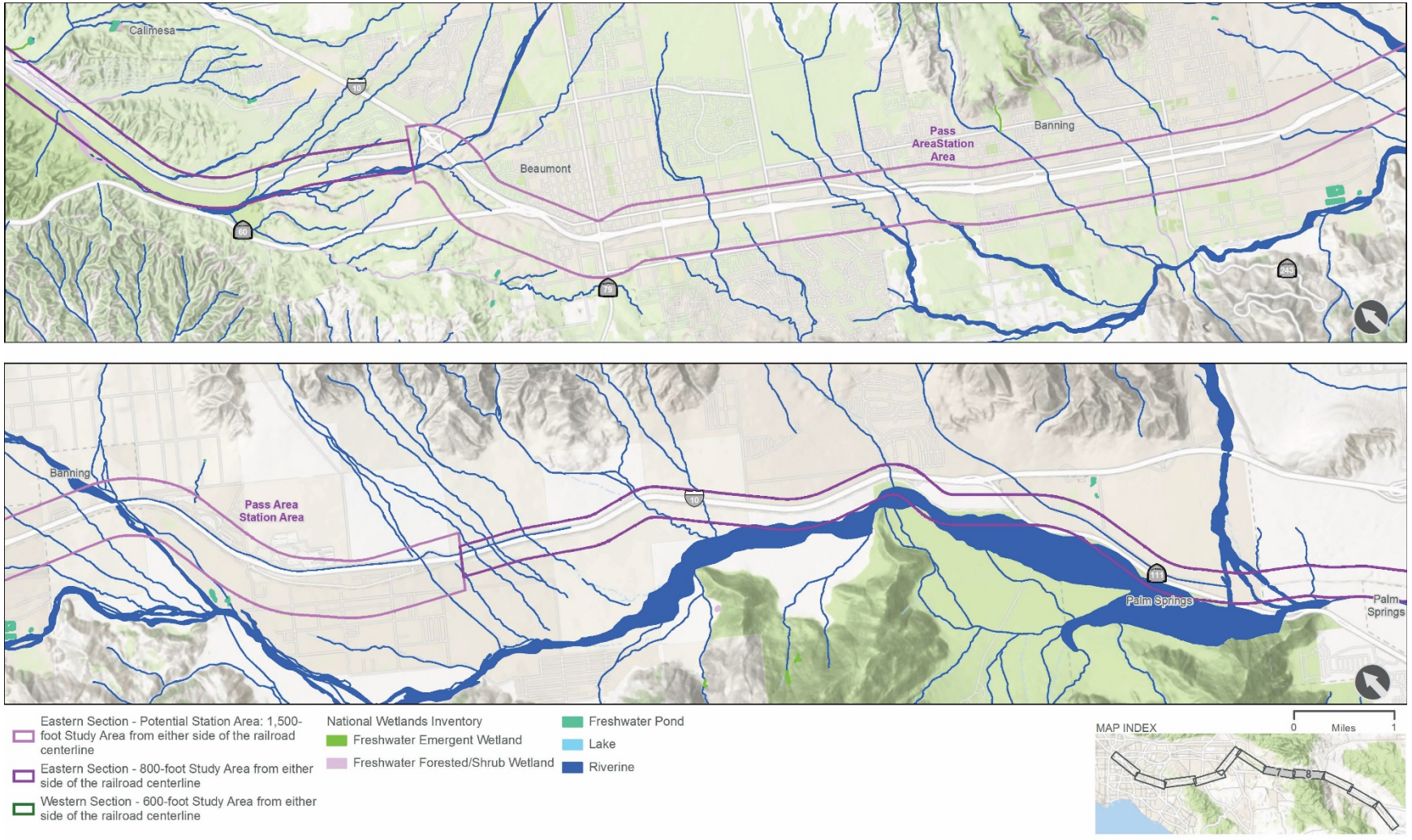
(Page 3 of 6)



This page is intentionally blank.

Figure 5-4. National Wetland Inventory-Mapped Wetlands within the Tier 1/Program EIS/EIR Study Area

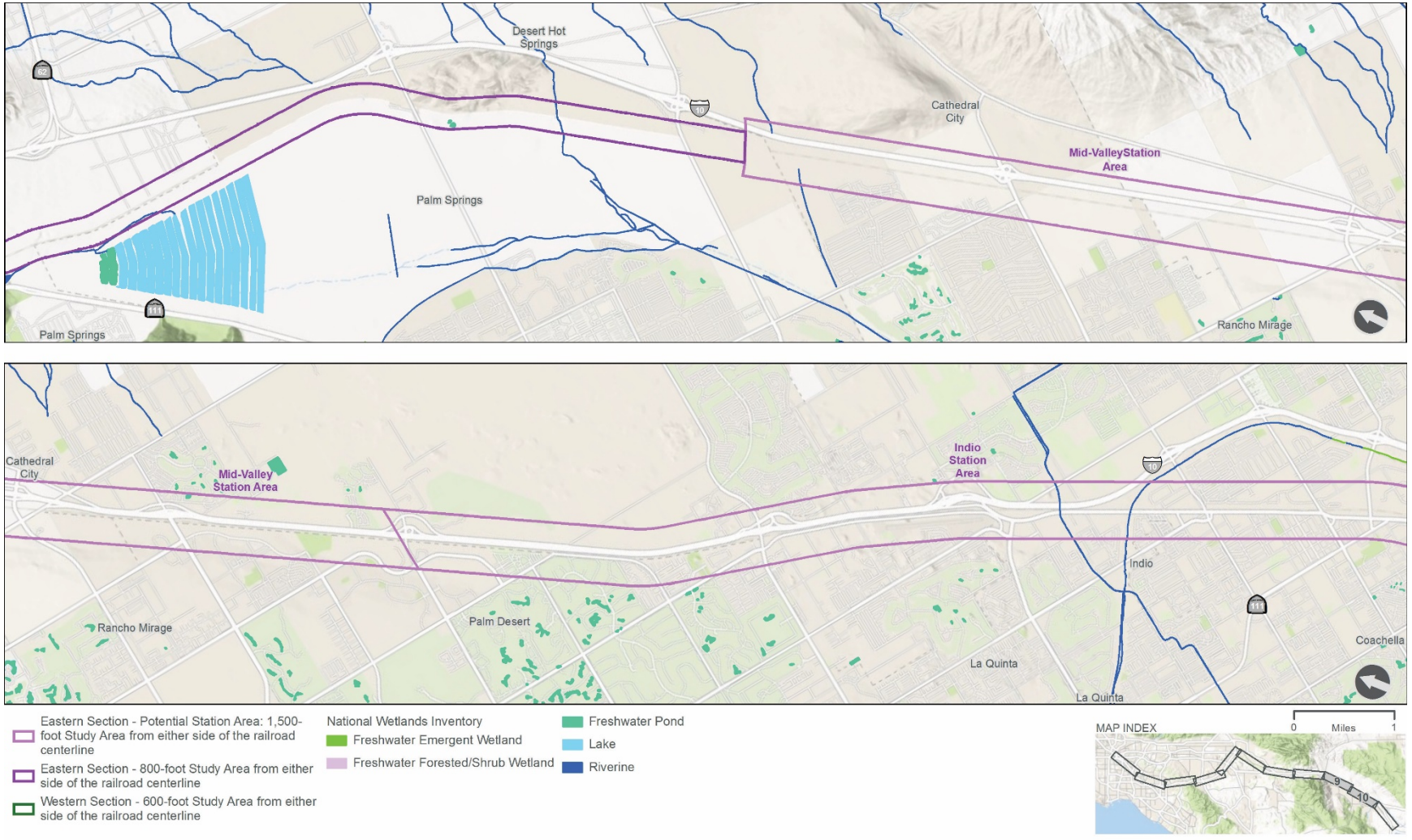
(Page 4 of 6)



This page is intentionally blank.

Figure 5-4. National Wetland Inventory-Mapped Wetlands within the Tier 1/Program EIS/EIR Study Area

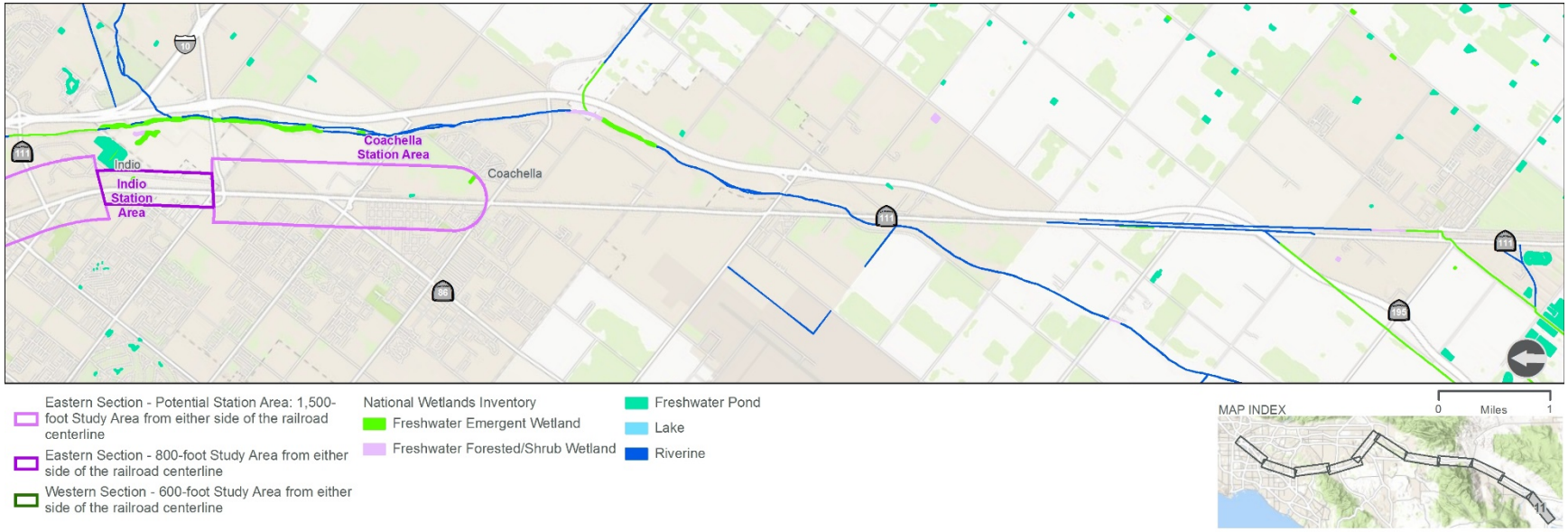
(Page 5 of 6)



This page is intentionally blank.

Figure 5-4. National Wetland Inventory-Mapped Wetlands within the Tier 1/Program EIS/EIR Study Area

(Page 6 of 6)



This page is intentionally blank.

6 Environmental Consequences

This section analyzes the potential effects on biological and wetland resources as a result of constructing and operating the No Build Alternative and the Build Alternative Options. Effects are evaluated qualitatively in this technical memorandum consistent with a Tier 1/Program EIS/EIR evaluation. The evaluation provides a general overview, as no Project-specific details are available (e.g., station locations, where and what type of structures would be used to cross drainage channels, and how wide the construction disturbance zone would be). Tier 2/Project-level analysis would address site-specific potential effects resulting from construction of new stations, maintenance facilities, and other infrastructure.

6.1 No Build Alternative

Under the No Build Alternative, no passenger rail system would be developed. Effects on biological and wetland resources would not occur beyond those that could occur because of other current and proposed projects.

Several existing and committed transportation improvement projects would still occur in the Western Section under the No Build Alternative. The No Build Alternative assumes completion of those reasonably foreseeable transportation, development, and infrastructure projects that are already in progress; are programmed; or are included in the fiscally constrained regional transportation plan. An increase in traffic and vehicle miles traveled is expected under the No Build Alternative because more cars would be on the roadways compared with what would occur with Program implementation. An increase in rail service and cars on the roadways would not result in new effects on biological and wetland resources.

6.2 Build Alternative Options 1, 2, and 3

6.2.1 Western Section

Construction

The Western Section utilizes existing rail infrastructure, and no additional track improvements would be required to accommodate the proposed service under all Build Alternative Options. No new stations or improvements to existing stations would be required to accommodate the proposed

service. As such, effects on biological or wetland resources as a result of proposed construction are not anticipated.

Operation

Current (2018) daily rail traffic volumes on the Western Section (as shown in Chapter 2 of the Tier 1/Program EIS/EIR) vary by segment (FRA and RCTC 2021). The highest density segment is between Los Angeles and Fullerton and has an average of 86 daily trains, while the lowest density segment is between Fullerton and Atwood and has an average of 43 daily trains. An additional two daily round-trip intercity passenger trains, even when compared with the lowest density segment, would represent a minor increase in train activity compared with current (2018) traffic volume along the existing railroad ROW. In 2024 and 2044, the Program would add the same number of rail operations to higher baseline conditions. Therefore, the Program's effects in 2024 see Chapter 2 of the Tier 1/Program EIS/EIR) and 2044 (see Chapter 2 of the Tier 1/Program EIS/EIR) would be lower than those evaluated under existing conditions for the lowest density segment. Under Build Alternative Options 1, 2, and 3, additional operation and maintenance activities associated with the two daily round-trip intercity passenger trains are between Los Angeles and Coachella unlikely to have any direct or indirect effects on special-status plant species, wildlife species, or wildlife movement corridors. Existing maintenance activities occur within the ROW, where the natural ecosystem has already been disturbed and vegetation is regularly maintained. In addition, the Program Corridor is heavily trafficked, and the additional maintenance (if any) and trips compared with existing conditions are minimal. Wildlife that may be present in the vicinity of the existing corridor has been exposed to disturbances associated with railroad operations and maintenance and habituated to existing noise and vibrations associated with railroad operations. Therefore, operation of the Build Alternative Options in the Western Section would remain similar to existing conditions and effects on biological or wetland resources are not anticipated.

6.2.2 Eastern Section

Construction

The Eastern Section of the Build Alternative Options includes infrastructure improvements, such as sidings, additional main line track, wayside signals, drainage, grade-separation structures, and stations, to accommodate the proposed service and would be informed by the results of operation modeling work to be carried out as part of the Program. Under Build Alternative Options 1, 2, and 3, construction activities associated with the Eastern Section could include vegetation removal; ground clearing; placement of fill material; new, replaced, or extended culverts; and the development

of up to five new stations. Potential construction effects would be temporary and intermittent and would cease after construction is completed and disturbed areas become restabilized.

Generally, when compared with Build Alternative Option 1, Build Alternative Option 2 would have slightly reduced construction effects due to a shorter route alignment and reduced station options. However, the magnitude of effects would be similar and considered substantial when compared with the No Build Alternative. When compared with Build Alternative Options 1 or 2, Build Alternative Option 3 may have slightly reduced effects due to a smaller footprint associated with a shorter route alignment, reduced station options, and reduced third track rail infrastructure. However, the magnitude of effects would be similar for Build Alternative Option 3 and considered substantial when compared with the No Build Alternative. Site-specific effects would be considered at the Tier 2/Project-level analysis.

Sensitive Natural Communities and Special-Status Plant Species

The Tier 1/Program EIS/EIR Study Area has the potential to support five sensitive natural communities under Build Alternative Options 1, 2, and 3, including California walnut woodland, scalebroom scrub, California sycamore woodland, Fremont cottonwood forest, and black willow thickets, all with a state rarity rank of S3. In addition, the Tier 1/Program EIS/EIR Study Area has the potential to support suitable habitat for five listed plants: Braunton's milk-vetch (FE), Coachella Valley milk-vetch (FE), three-ribbed milk-vetch (FE), Nevin's barberry (FE, SE), and Santa Ana River woollystar (FE, SE); and 15 non-listed special-status plants: Abrams' spurge (CRPR 2B.2), Brand's star phcelia (CRPR 1B.1), chaparral sand-verbena (CRPR 1B.1), cliff spurge (CRPR 2B.2), flat-seeded surge (CRPR 1B.1), Harwood's eriastrum (CRPR 1B.2), many-stemmed dudleya (CRPR 1B.1), smooth tarplant (CRPR 1B.1), Parry's spineflower (CRPR 1B.1), intermediate mariposa lily (CRPR 1B.2), Little San Bernardino Mountains linanthus (CRPR 1B.2), snake cholla (CRPR 1B.2), white-bracted spineflower (1B.2), Yucaipa onion (CRPR 1B.2), and purple stemodia (CRPR 2B.1). All of these plants have been collected from within 1 to 5 miles of the Tier 1/Program EIS/EIR Study Area. Potential construction-related effects on these species are addressed below.

The Eastern Section of the Program Corridor could result in the direct loss of native vegetation communities and habitat for special-status plant species under all Build Alternative Options. It could also result in direct and indirect effects on special-status plants, such as mortality or effects on reproductive output. The severity of the direct and indirect effects on these biological resources would depend on the location of new infrastructure, temporary roads, laydown yards, and other Program-related components in relation to the location of those resources.

The potential for special-status plant species to occur in a particular habitat is linked to the physical characteristics of the landscape, including elevation, soils, and microhabitat. Suitable habitat for each special-status plant species was presumed occupied for purposes of the effects evaluation.

Direct effects on special-status plant species, sensitive natural communities, and native plant species may result from the removal of vegetation for the placement of new permanent infrastructure improvements within the Eastern Section of the Program Corridor. Additional direct effects may result from construction crews removing vegetation within temporary affected areas and from construction vehicles and personnel disturbing vegetation (i.e., trampling; covering; and crushing individual plants, populations, or suitable potential habitat for special-status plant species). Other direct effects include clearing, grubbing, covering, undercutting and damaging roots, or unearthing of individual plants. Dust and airborne soil, which may settle on plants, particularly herbs, may inhibit their ability to photosynthesize or reproduce through pollination. Soil compaction and the placement of fill may directly affect special-status plant species by causing decreased fitness or death by root compaction, decreased germination from the seed bank, and/or the plants being covered with soil. Chemical spills have the potential to contaminate the soil and groundwater, resulting in mortality, habitat degradation, or reduced reproductive success of special-status plant species.

Indirect effects on special-status plant species and native plant species could potentially include:

- Erosion, siltation, and runoff into natural and constructed watercourses
- Soil and water contamination from construction equipment leaks
- Construction dust affecting plants by reducing their photosynthetic capability (especially during flowering periods)
- Altered hydrology that could change the wetland functions of aquatic habitats
- Changes in surface water resources potentially resulting from changes in groundwater flow
- Increased risk of fire (e.g., construction equipment use and smoking by construction workers) in adjacent open spaces
- Habitat degradation through fragmentation and changes in habitat heterogeneity
- Introduction of noxious plant species (non-native, detrimental species) resulting from ground disturbance

Special-Status Wildlife Species

Under Build Alternative Options 1, 2, and 3, the Eastern Section of the Program Corridor could result in the direct loss of habitat for special-status wildlife. It could also result in direct and indirect effects on special-status wildlife individuals, such as mortality, injury, or effects on reproductive behavior.

As summarized in Table 6-1, there are multiple special-status wildlife species with the potential to occur within the Eastern Section of the Build Alternative Options. These special-status wildlife species include invertebrates, fish, amphibians, reptiles, birds, and mammals, each with a specific set of habitat requirements. The severity of the direct and indirect effects on these biological resources would depend on the location of new infrastructure, temporary roads, laydown yards, and other Project-related components in relation to the location of those resources. Table 6-1 provides the number of special-status wildlife species for the Eastern Section of the Program Corridor.

Table 6-1. Number of Special-Status Wildlife Species with Potential to Occur within the Eastern Section (All Build Alternative Options)

Special-Status Wildlife Species	Non-Station Area	Loma Linda Station Area	Pass Area Station Area	Mid-Valley Station Area	Indio Station Area	Coachella Station Area
Invertebrates	2	0	0	0	0	0
Fish	4	0	2	0	0	0
Amphibians	2	2	0	0	0	0
Reptiles	11	6	6	4	3	1
Birds	18	9	5	5	5	5
Mammals	22	4	17	9	7	7
Total	59	21	30	18	15	13

The potential for special-status wildlife species to occur in a particular habitat is linked to the physical characteristics of the landscape. Suitable habitat for each species was presumed occupied for purpose of the effects evaluation.

INVERTEBRATES

The Tier 1/Program EIS/EIR Study Area has the potential to support three federally endangered invertebrates: Delhi sands flower-loving fly, Riverside fairy shrimp, and vernal pool fairy shrimp. Potential construction-related effects on these species are addressed below.

Delhi sand flower-loving fly could be directly affected if occupied habitat is destroyed or degraded by the placement of new infrastructure associated with the Build Alternative Options. The spread of noxious weeds resulting from Program activities could further degrade occupied or suitable habitat.

Fairy shrimp would be directly affected if suitable aquatic habitats are disturbed, penetrated, filled, polluted, or otherwise destroyed or degraded by construction equipment, siltation, and sedimentation. Construction equipment traveling off road in suitable aquatic habitats could cause erosion, soil compaction, increased siltation, destruction of native vegetation, and alteration of pool hydrology, which could negatively affect vernal pool fairy shrimp.

In upland areas surrounding suitable aquatic habitat (i.e., within 250 feet), indirect effects could occur as a result of construction activities, such as excavation, rail bed buildup, placement of permanent and temporary structures, and vehicle traffic, which could result in changes in the habitat's hydrology. Indirectly, these construction activities could alter the amount and quality of water available above and below ground, change the inflow of water to particular pools, or decrease or increase inundation. These changes in hydrology could affect the reproductive success and survival of these species and their food.

FISH

The Tier 1/Program EIS/EIR Study Area has the potential to support two listed fish species: desert pupfish (FE, SE) and Santa Ana sucker (ST); and two non-listed special-status fish species: arroyo chub and Santa Ana speckled dace, both SSCs. Potential construction-related effects on these species are addressed below.

Direct effects on special-status fish species include construction activities in suitable habitat that may disturb, injure, or kill individuals if waters are disturbed, degraded, or polluted by sedimentation and construction equipment spills or leaks. Shading from overhead elevated structures could also affect suitable habitat. Direct effects may consist of physical disturbance, temporary interruptions to fish passage, sedimentation, turbidity, altered water temperatures, oxygen depletion, and contaminants. Dewatering during construction, if needed, may result in the stranding and mortality of special-status fish. Changes in sedimentation and nutrient loading caused by soil erosion into occupied habitat related to construction disturbance of channel sediments and adjacent soils may result in habitat degradation or reduced reproductive success. Chemical spills from construction equipment (e.g., fuel, transmission fluid, lubricating oil, and motor oil) could contaminate the water column, resulting in habitat degradation or reduced reproductive success of special-status fish in downstream habitats. Construction activities in areas that support desert pupfish could result in changes to groundwater movement, which could negatively affect the species.

Indirect effects on special-status fish may include changes in water quality, which could lead to temporary shifts in foraging and reproductive habitats. Ground disturbance associated with construction may increase erosion and sedimentation into nearby creeks, rivers, and other waters.

AMPHIBIANS

The Tier 1/Program EIS/EIR Study Area has the potential to support three special-status amphibians, federally threatened and state SSC California red-legged frog, and coast range newt and western spadefoot toad, both SSCs. Potential construction-related effects on these species are addressed below.

Direct effects on special-status amphibian species would include construction activities in suitable upland or aquatic habitat that could cause mortality, injury, or harassment of adults, eggs or egg masses, and larvae. Construction may also result in the temporary destruction, degradation, fill, or pollution of aquatic breeding or upland nesting habitats and the temporary loss of burrows or other upland refugia. Mortality, injury, or harassment may also occur if these species become trapped in open, excavated areas. Direct effects also include the permanent conversion of occupied aquatic and upland habitat to infrastructure and fragmentation of habitats and landscapes resulting from construction of the Build Alternative Options.

Indirect construction effects on breeding habitat for special-status amphibians include changes in breeding habitat water quality or hydroperiod of streams, changes in the hydrology of streams that provide aquatic habitat, abandonment of upland refugia (e.g., burrows), and temporary shifts in foraging patterns or territories. Construction components, such as security fencing, electrical infrastructure, and elevated structures, could attract predators, like raptors, by providing artificial perch sites in the landscape.

REPTILES

The Tier 1/Program EIS/EIR Study Area has the potential to support two listed reptiles: Coachella Valley fringe-toed lizard (FT, SE) and desert tortoise (FT, ST); and 10 non-listed special-status reptiles: California glossy snake, coast horned lizard, coast patch-nosed snake, coastal whiptail, flat-tailed horned lizard, red diamond rattlesnake, San Diego mountain kingsnake, Southern California legless lizard, western pond turtle, and two-striped garter snake, all SSCs. Potential construction-related effects on these species are addressed below.

Direct effects on special-status reptiles include construction activities in suitable habitat that could cause mortality, injury, or harassment of adults or juveniles or crushing of eggs. Construction may also result in the temporary destruction, degradation, or pollution of habitat and the temporary loss of nesting areas, burrows, or other refugia. Direct effects also include the permanent conversion of occupied habitat to infrastructure and fragmentation of habitats and landscapes resulting from construction of the Program. Mortality, injury, or harassment may also occur if these species become trapped in open, excavated areas or are stuck by vehicles driving on and off roads.

Indirect effects on special-status reptiles may include the inadvertent introduction of noxious weeds, which can reduce habitat suitability. Soil compaction and the placement of fill in suitable habitat may indirectly affect special-status reptiles by prohibiting burrowing or by changing the frequency of vegetative cover. Construction activities could result in temporary shifts in foraging patterns or territories and the use of daily or seasonal refugia. Construction components, such as security fencing, electrical infrastructure, and elevated structures, could attract predators by providing artificial perch sites in the landscape, and construction activities may attract opportunistic predators (e.g., raptors and ravens) that may feed on special-status reptiles. The Program could also indirectly affect suitable western pond turtle aquatic habitat through potential changes in water quality or changes in the hydrology pattern or hydroperiod of streams that provide aquatic habitat.

BIRDS

The Tier 1/Program EIS/EIR Study Area has the potential to support seven listed or candidate listed birds: bald eagle (SE, FP), least Bell's vireo (FE, SE), southwestern willow flycatcher (FE, SE), western yellow-billed cuckoo (FE, SE), coastal California gnatcatcher (FT), Swainson's hawk (ST), and tricolored blackbird (CT); 13 non-listed special-status birds: western burrowing owl, coastal cactus wren, grasshopper sparrow, least bittern, loggerhead shrike, long-eared owl, northern harrier, purple martin, yellow warbler, ferruginous hawk, yellow rail, and yellow-breasted chat, all SSCs, and four fully protected species (bald eagle, golden eagle, American peregrine falcon, and white-tailed kite). Potential construction-related effects on these species are addressed below.

Construction activities could remove or disturb potential nesting habitat for special-status raptors and migratory birds. Direct effects may include bird mortality or injury, the permanent conversion of occupied nesting and foraging habitat to Program infrastructure, and fragmentation of habitats and landscapes resulting from construction of the Program, which would interfere with seasonal movement and dispersal of migratory and special-status birds. If construction occurs during the breeding season (generally February 1 to September 1), active nests could also be disturbed, potentially causing the loss of eggs or developing young (i.e., nest abandonment during the incubation, nestling, or fledgling stages), and noise could cause birds to avoid adjacent suitable nesting habitat. Additionally, burrowing owls extensively use open landscapes with suitable natural or artificial burrows. Suitable habitat exists along much of the limits of construction. Vibration from construction equipment along with increased vehicular traffic could collapse inhabited burrows in or near the study area.

Indirect effects during the construction period may include the permanent or temporary displacement of bird species to avoid disturbance (e.g., noise, vibration, visual stimuli); such displacement could also result from fragmentation of the landscape caused by the construction of the Program components (e.g., security fences, elevated structures, railbeds, and associated facilities). Indirect

effects include interference with the daily movement, foraging, and dispersal of resident and migratory bird species. Repeated exposure to disturbance can reduce reproductive success and increase mortality through the exposure of nests to predators and the elements. The Program could indirectly affect riparian habitat that provides nesting and foraging habitat for many special-status bird species through potential changes in the hydrology pattern or hydroperiod of streams.

MAMMALS

The Tier 1/Program EIS/EIR Study Area has the potential to support 3 listed mammals: Peninsular big-horn sheep (FE, ST, FP), Stephen's kangaroo rat (FE, ST), and San Bernardino kangaroo rat (FE); 18 non-listed special-status mammals: American badger, big free-tailed bat, Mexican long-tongued bat, pallid bat, pocketed free-tailed bat, Townsend's big-eared bat, western mastiff bat, western red bat, western yellow bat, San Diego desert woodrat, San Diego black-tailed jackrabbit, Dulzura pocket mouse, Los Angeles pocket mouse, Northwestern San Diego pocket mouse, pallid San Diego pocket mouse, Palm Springs pocket mouse, Southern grasshopper mouse, and Palm Springs round-tailed ground squirrel; and 2 fully protected mammals: Peninsular big-horn sheep and desert bighorn sheep. Potential construction-related effects on these species are addressed below.

Special-Status Bat Species

Direct effects on bats could include mortality of individuals during construction and temporary disturbances from noise, dust, and ultrasonic vibrations from construction equipment. Direct effects also include the permanent conversion of occupied roosting and foraging habitat to rail infrastructure and fragmentation of habitats and landscapes resulting from construction of the selected Build Alternative Option, which would interfere with seasonal movement and dispersal of special-status bats. Ground-disturbing activities—such as excavation, vegetation removal, placement of temporary structures and staging areas, and equipment operation—would result in noise, dust, or vibration disturbance. These disturbances could indirectly disrupt breeding or roosting activity, or result in the temporary loss of foraging habitats. Indirect construction effects are anticipated to be less than the direct construction effects. Increased lighting after sunset could disrupt foraging activities by special-status bat species, causing them to leave an area that has prolonged disturbance. Nocturnal insects are drawn by lighting, which in turn attracts foraging bats. Special-status bats that are attracted to lighted construction areas could have higher potential mortality through disorientation and effects from construction equipment.

American Badger and other Special-Status Small Mammals

Mortality and injury of American badgers and small mammals could occur from burrows being crushed by construction equipment, as well as from vehicle strikes in construction work areas. Ground disturbance could lead to the temporary loss of foraging habitat. Temporary effects on these

species may occur from noise, lighting, vibrations, dust, and motion disturbance. Direct effects also include the permanent conversion of occupied habitat to rail infrastructure and fragmentation of habitats and landscapes resulting from construction of the selected Build Alternative Option, which would interfere with seasonal movement and dispersal of these species. Indirect effects would include shifts in foraging patterns or territories, increased predation, and decreased reproductive success. Indirect effects could potentially include alteration of soils, such as compaction, which would make it more difficult to construct burrows. The inadvertent introduction of noxious weeds could reduce habitat suitability for these species.

Desert Bighorn Sheep

Direct effects of construction activities to desert bighorn sheep are not anticipated, as sheep would likely move away from where construction activities in suitable habitat occur. Suitable habitat for desert bighorn sheep is not anticipated to be removed as a result of construction of any of the Build Alternative Options. Potential effects on the movement of bighorn sheep are addressed in the wildlife movement corridor section.

Wildlife Movement Corridors

The Eastern Section of the Program Corridor has the potential to result in impediments to the movement of wildlife across the landscape. The severity of the direct and indirect effects on these biological resources would depend on the location of new infrastructure, temporary roads, laydown yards, and other Program-related components in relation to the location of those resources.

The existing rail alignment crosses drainages and roadways on viaducts and culverts that serve as crossing structures for wildlife movement corridors. Construction activities often deter wildlife from entering construction work areas, and work occurring near existing crossing structures—such as underpasses, overpasses, or culverts—would deter use of these structures. Monitoring data of wildlife use of the Sepulveda Underpass during construction related to the I-405 Reconfiguration Ramps at Getty Center Drive showed a decrease of more than 84-percent in detections for all wildlife species, compared with the preconstruction monitoring results and a 100-percent decrease in detection for six species (Caltrans 2015). Construction-related activities associated with the Build Alternative Options could have similar results for wildlife use of areas under construction. The presence of construction personnel and the operation of construction equipment would result in increased noise, dust, vehicle traffic, and human activity, which are expected to temporarily deter wildlife from using their movement corridors. Additionally, the removal of vegetation in temporary work areas near existing and proposed undercrossings would have temporary effects on wildlife movement for some species by leaving them exposed as they approach the underpasses and potentially deterring them from using the crossings until the vegetation has regenerated. Additionally,

construction activities on, and modifications to, existing crossing structures could render them unusable by wildlife species.

Waters of the United States, including Wetlands

The placement of fill required for major infrastructure—such as stations—could result in permanent effects on waters of the U.S., including wetlands, depending upon the station location. Permanent effects would be subject to permitting by the USACE. Temporary construction effects may also occur as a result of soil disturbance and potential construction pollutant loading of stormwater runoff. Chemical spills or leaks of fuel, transmission fluid, lubricating oil, or motor oil from construction equipment could also contaminate waters and degrade their quality. Potential effects from construction under Build Alternative Options 1, 2, and 3 would be temporary and intermittent and cease after construction is completed and disturbed areas become restabilized. Site-specific effects would be considered at the Tier 2/Project-level analysis.

Operation

Operational activity would increase within the Eastern Section of the Tier 1/Program EIS/EIR Study Area. Current (2018) daily rail traffic volumes on the Eastern Section (as shown in Chapter 2 of the Tier 1/Program EIS/EIR) average 43 daily trains along the Colton-Coachella segment, consisting of freight and passenger trains (FRA and RCTC 2021). The addition of two daily round-trip intercity passenger trains would represent a minor increase in train activity compared with current (2018) traffic volume along the existing railroad ROW. In 2024 and 2044, the Program would add the same number of rail operations to higher baseline conditions. Therefore, the Program's effects in 2024 (of the Tier 1/Program EIS/EIR) and 2044 (see Chapter 2 of the Tier 1/Program EIS/EIR) would be lower than those evaluated under existing conditions.

Sensitive Natural Communities and Special-Status Plant Species

Operation of Build Alternative Option 1, 2, or 3 would include the addition of two daily round-trip intercity passenger trains. Ongoing operation and maintenance activities (e.g., routine inspection and maintenance of the railroad ROW) would not affect sensitive natural communities, as they would already have been cleared during construction of the selected Build Alternative Option. Operation and maintenance activities under Build Alternative Option 1, 2, or 3 are unlikely to have any direct effects on special-status plant species because these activities would occur where the natural vegetation (i.e., areas with potential habitat for special-status plant species) has already been removed during construction. Direct effects, if they occur, would include 1) mortality from incidental trampling or crushing caused by increased human activity related to the maintenance of equipment

and facilities associated with the rail corridor and 2) exposure to accidental spills, including contaminants or pollutants.

Operational maintenance requires vegetation and pest control through a variety of methods, including the application of herbicides and pesticides. Pesticides and herbicides would be applied by certified pesticide applicators in accordance with all requirements of the California Department of Pesticide Regulation and County Agricultural Commissioners. If operational maintenance requires weed abatement activities, such as the use of herbicides, these activities could also contribute to chemical runoff and pollution of adjacent suitable habitats.

Wildlife Species

Operation of Build Alternative Option 1, 2, or 3 would include the addition of two daily round-trip intercity passenger trains. Direct operation and maintenance effects relative to all special-status wildlife species include the loss of individual special-status wildlife species as a result of operation and maintenance activities. Direct effects also include management activities of mitigation lands that have been purchased to mitigate effects on special-status wildlife species and their habitat. Operation and maintenance activities have the potential to disturb the lifecycles of special-status wildlife species. Site-specific effects would be considered at the Tier 2/Project-level analysis.

INVERTEBRATES

Direct effects on invertebrates during operation could include exposure to contaminants or pollutants from accidental spills and increased sedimentation from erosion resulting from vegetation clearing. Depending on drainage BMPs, some changes to local hydrology from operation-related maintenance and other activities could cause changes to local hydrologic profiles, causing changes in inundation periods, which could affect suitability for Riverside fairy shrimp and vernal pool fairy shrimp. Indirect effects on Riverside fairy shrimp and vernal pool fairy shrimp include changes in the local landscape from invasive plant species, as well as aquatic and terrestrial spills of fuel, transmission fluid, lubricating oil, and motor oil leaks.

FISH

Direct effects during operation could include exposure to contaminants or pollutants from accidental spills and increased sedimentation from erosion. Depending on drainage BMPs, some changes to local hydrology from operation-related maintenance and other activities could cause scour and changes to local hydrologic profiles, causing changes in habitat productivity and potential mortality to individuals. Chemical spills from fuel, transmission fluid, lubricating oil, and motor oil leaks could also contaminate water, resulting in mortality, habitat degradation, or reduced reproductive success of special-status fish. Indirect effects on amphibians include changes in the local landscape from

invasive plant species, as well as aquatic and terrestrial spills of fuel, transmission fluid, lubricating oil, and motor oil leaks.

AMPHIBIANS

Direct effects on amphibians could be expected in drainages subject to or near operational maintenance activities. Chemical spills from fuel, transmission fluid, lubricating oil, and motor oil leaks have the potential to contaminate the water column, resulting in mortality, habitat degradation, or reduced reproductive success. Noise, dust, and increased vibration may also directly affect amphibian species. Indirect effects on amphibians include changes in the local landscape from invasive plant species that may reduce the suitability of upland habitats.

REPTILES

The occasional individual of a special-status reptile species could enter the ROW, which would increase the likelihood of a direct strike resulting from train operation or related maintenance activities. Such direct strikes would likely result in mortality of the species. Direct effects from operation and maintenance activities associated with Build Alternative Option 1, 2, or 3 may also include some similar effects on invertebrates, such as incidental trampling or crushing and exposure to accidental spills including contaminants or pollutants. Noise, dust, and increased vibration may also directly affect reptile species.

BIRDS

Maintenance effects (e.g., mowing, weed control, and driving off-road) on birds during operation of Build Alternative Option 1, 2, or 3 would result in the removal or disturbance of areas that provide potential nesting habitat for a diverse population of birds. Operation and maintenance activities conducted in areas of nesting habitat during the breeding season (generally between February 1 and September 1) could disturb nesting birds, which could cause nest abandonment and loss of eggs or developing young at active nests in or near the area of activity. Operational effects (e.g., operation of the Program at grade or on an elevated structure) could result in injury or mortality from bird strikes or bird interactions with fencing and the electrical systems. Noise, vibration, wind, and visual stimuli from regular train operations may reduce the suitability of nesting habitat adjacent to the rail infrastructure.

Indirect effects could occur from operation activities that disrupt nesting birds, potentially leading to nest failure or abandonment. Indirect effects may include avoidance behavior by some species in response to increased noise, lighting, and startle and motion disturbances during operation of the Build Alternative Options and maintenance activities. Indirect effects would also include changes in

the local landscape from invasive plant species that may reduce suitable nesting and foraging habitat.

MAMMALS

Direct operational effects on mammals would be primarily related to ground disturbance during operation activities. Burrowing, denning, and foraging habitat may be directly affected. In addition, increased noise levels and human presence may result in local shifts in populations, and operation and maintenance would result in an increased risk of being struck by trains or maintenance vehicles. Some free-ranging mammals may avoid the area and be funneled along the Program Corridor until locating a wildlife crossing. Rodent control programs could directly poison special-status small mammals or predators, such as badgers, through consumption of poisoned rodents.

Operation of Build Alternative Option 1, 2, or 3 could result in displacement of mammal species from noise, vibration, wind, and visual stimuli, and from the actual fragmentation of the landscape as a result of the construction of the rail infrastructure. These effects may result in shifts in foraging patterns or territories, or dispersal movements, increased predation, decreased reproductive success, and reduced population viability. Indirect effects may include any additional pressures on the landscape from the colonization of non-native plant species. The change in plant species could further reduce adjacent habitat values. Local noise and motion disturbance effects resulting from operation of the Build Alternative Options may cause mammals to avoid areas adjacent to the rail infrastructure.

Wildlife Movement Corridors

Operation of the Build Alternative Options would include the addition of two daily round-trip intercity passenger trains. The Program Corridor generally parallels existing transportation infrastructure, including interstates, highways, and railroad tracks. Wildlife present in the vicinity of these existing infrastructures have been exposed, to some degree, to disturbances associated with railroad operations and vehicular traffic on the interstates and highways.

Though wildlife in the vicinity of the existing rail ROW have been habituated to existing noise and vibrations, the specific effects of noise and vibrations associated with the Build Alternative Options are unknown. Direct effects from daily train operation or regularly scheduled maintenance activities may interfere with wildlife movement between habitats. Bighorn sheep, mule deer, and mountain lions may have behavioral and physiological responses to this type of disturbance. Additionally, noise, wind, and vibration from passing trains may cause the wildlife to discontinue use of some or all existing crossing structures.

Regularly scheduled maintenance activities at specific sites may deter wildlife from approaching that area or using it as part of a wildlife movement corridor because wildlife may associate it with human presence and disturbance. If these sites are near wildlife crossings, movement through specific crossings could be obstructed, thus causing wildlife to turn back or find another undisturbed crossing. This result could lead to further habitat fragmentation, restricted movement within wildlife corridors, habitat shifts, increased foraging competition, and possibly increased predation near undisturbed crossings. Ground disturbance associated with the maintenance of roadways and tracks provides additional opportunities for establishment and/or spread of non-native species. Soil erosion, sedimentation, runoff of oils and lubricants from railroad grades, and the potential for spills during maintenance activities, could result in these substances entering adjacent drainage channels and exposing wildlife to toxic chemicals.

Waters of the State and Waters of the United States (Including Wetlands)

Minimal effects on waters of the state and waters of the U.S., including wetlands, would be expected during operation of the Build Alternative Options. Operation of Build Alternative Option 1, 2, or 3 would include the addition of two daily round-trip intercity passenger trains. Effects would likely be limited to maintenance of culverts, bridges, and embankments. Chemical spills or leaks of fuel, transmission fluid, lubricating oil, or motor oil from construction equipment could also contaminate jurisdictional waters and wetlands and degrade their quality.

This page is intentionally blank.

7 Tier 2 Environmental Review Considerations

The Tier 1/Program EIS/EIR evaluation provides an overview of potential effects resulting from development of the Build Alternative Options. Specific station locations, Tier 2/Project design, and construction methods have not been determined.

Identified below are proposed programmatic mitigation strategies for further consideration in the Tier 2/Project-level analysis. Specific mitigation measures, to the extent required, would be identified and discussed during Tier 2/Project-level analysis after design details are known and specific impacts are identified. Examples of programmatic mitigation strategies for biological resources include avoiding effects and impacts, when possible, and minimizing effects and impacts where complete avoidance is not feasible, particularly on protected and sensitive species and their associated habitats, and wildlife movement corridors and linkages. Additionally, mitigation strategies for unavoidable effects and impacts on biological resources could include in-lieu fees and on- or off-site mitigation, such as habitat or vegetation restoration or payment into a conservation bank. Coordination with USFWS and CDFW would occur to develop Tier 2/Project-level mitigation measures during the Tier 2/Project-level analysis after design details are known. Proposed programmatic mitigation strategies, include, but are not limited to, the following:

- During the Tier 2/Project-level analysis, a preliminary biological resource screening shall be performed as part of the environmental review process to determine whether the specific rail infrastructure or station facility proposed has any potential to impact biological resources. If the specific rail infrastructure or station facility proposed has no potential to impact biological resources, no further action will be required. If the specific rail infrastructure or station facility proposed has the potential to impact biological resources, a qualified biologist shall conduct a biological resources assessment report to document the existing biological resources within the Tier 2/Project-level Study Area. The report shall include, but not be limited to, analysis and recommendations on the following topics:
    - Special-status species
    - Nesting birds
    - Wildlife movement
    - Sensitive plant communities and critical habitat
    - Jurisdictional waters

- Applicable habitat conservation plans
- Other biological resources identified as sensitive by local, state and/or federal agencies

Pending the results of the biological resources assessment, design alterations; further technical studies (e.g., protocol surveys); and/or consultations with USFWS, CDFW, and other local, state, and federal agencies may be required. If the specific rail infrastructure or station facility proposed cannot be designed without complete avoidance, the lead agency shall coordinate with the appropriate resource agency to obtain regulatory permits and implement Project-specific mitigation prior to any construction activities.

- If completion of the Project-specific biological resources assessment determines that special-status plant species have potential to occur on site, surveys for special-status plants shall be completed prior to any vegetation removal, grubbing, or other construction activity of each project (including staging and mobilization). The surveys shall be floristic in nature and shall be seasonally timed to coincide with the target species identified in the Project-specific biological resources assessment. All plant surveys shall be conducted by a qualified biologist approved by the implementing agency no more than 2 years prior to Project implementation. All special-status plant species identified on site shall be mapped onto a site-specific aerial photograph or topographic map. Surveys shall be conducted in accordance with the most current protocols established by CDFW and/or the USFWS. A report of the survey results shall be submitted to the implementing agency for review.
- If federally or state-listed and/or CRPR 1 and 2 species are found during special-status plant surveys (as stated above), the specific rail infrastructure or station facility proposed shall be redesigned to avoid impacting these plant species where feasible based on coordination with the local jurisdiction and applicable resource agencies. If CRPR 3 and 4 species are found, the biologist shall evaluate to determine if they meet criteria to be considered special status. If so, the same process as identified for CRPR 1 and 2 species shall apply. If special-status plants species cannot be avoided and would be impacted by the specific rail infrastructure or station facility proposed, all impacts shall be mitigated for each species as a component of habitat restoration. A restoration plan shall be prepared and submitted to the lead agency and/or the local jurisdiction overseeing the Project for approval. The restoration plan shall include, at a minimum, the following components:
    - Description of the Project/impact site (i.e., location, responsible parties, areas to be impacted by habitat type)

- Goal(s) of the compensatory mitigation project (type(s) and area(s) of habitat to be established, restored, enhanced, and/or preserved; specific functions and values of habitat type(s) to be established, restored, enhanced, and/or preserved)
- Description of the proposed compensatory mitigation site (location and size, ownership status, existing functions and values)
- Implementation plan for the compensatory mitigation site (rationale for expecting implementation success, responsible parties, schedule, site preparation, planting plan)
- Maintenance activities during the monitoring period, including weed removal as appropriate (activities, responsible parties, schedule)
- Monitoring plan for the compensatory mitigation site, including performance standards, target functions and values, target acreages to be established, restored, enhanced, and/or preserved, annual monitoring reports
- Success criteria based on the goals and measurable objectives (said criteria to include numeric criteria to be selected based on the scale of the restoration effort and the restoration technique used)
- An adaptive management program and remedial measures to address any shortcomings in meeting success criteria
- Notification of completion of compensatory mitigation and agency confirmation
- Contingency measures (initiating procedures, alternative locations for contingency compensatory mitigation, funding mechanism)

- Specific habitat assessment and survey protocol surveys are established for several federally and/or state endangered or threatened species. If the results of the biological resources assessment determine that suitable habitat may be present for any such species, protocol habitat assessments/surveys shall be completed in accordance with CDFW and/or USFWS protocols prior to issuance of any construction permits/Project approvals. Alternatively, in lieu of conducting protocol surveys, the implementing agency may choose to assume presence within the Project footprint and proceed with development of appropriate avoidance measures, consultation, and permitting, as applicable. If the target species is detected during protocol surveys, or protocol surveys are not conducted and presence assumed based on suitable habitat, additional coordination shall apply.

- Prior to initiation of construction activities (including staging and mobilization), all personnel associated with Project construction shall attend worker environmental awareness program training, conducted by a qualified biologist, to aid workers in recognizing special-status resources that may occur in the Tier 2/Project-level Study Area. The specifics of this program shall include, but not be limited to, the following:
    - Identification of the sensitive species and habitats
    - Description of the regulatory status and general ecological characteristics of sensitive resources
    - Review of the limits of construction and mitigation measures required to reduce impacts on biological resources within the work area
    - Preparation of a fact sheet conveying this information shall for distribution to all contractors, their employers, and other personnel involved with construction of the Project
    - Employee documentation associated with worker environmental awareness program attendance and acknowledgment

8 References

Barrett, R. H. 1980. Mammals of California oak habitats: management implications. Pages 275-291 In T. R. Plumb, tech. coord. Ecology, management, and utilization of California oaks. U.S. Dep. Agric., For. Serv. (Berkeley, Calif.), Gen. Tech. Rep. PSW-44.

California Department of Fish and Wildlife (CDFW). 2018. California Natural Diversity Data Base RareFind 5 Report.

California Department of Transportation (Caltrans). 2015. Interstate 405 Reconfiguration of Ramps at Getty Center Drive.

California Native Plant Society (CNPS). 2018. Inventory of Rare and Endangered Plants of California (Eighth Edition). Online Edition. Accessed June 27, 2018. http://cnps.web.aplus.net/cgibin/inv/inventory.cgi.

County of Los Angeles. 2015. *Los Angeles County General Plan 2035*. Adopted October 6, 2015. Accessed June 27, 2018. http://planning.lacounty.gov/assets/upl/project/gp_final-general-plan.pdf.

County of San Bernardino. 2007. *2007 General Plan*. Amended 2014. Accessed June 27, 2018. http://www.sbcounty.gov/Uploads/lus/GeneralPlan/FINALGP.pdf.

eBird. 2017. An online database of bird distribution and abundance (web application). eBird, Cornell Lab of Ornithology, Ithaca, New York. Accessed July 2018. http://ebird.org/ebird/map/.

England, A. Sidney. 1988. California Wildlife Habitat Relationships System California Department of Fish and Game California Interagency Wildlife Task Group.

Environmental Laboratory. 1987. *Corps of Engineers Wetland Delineation Manual*. Technical Report Y 87 1, U.S. Army Engineers Waterways Experiment Station, Vicksburg, MS.

Frost, Garrison. 2015. Rare coastal sage scrub habitat provides a home for threatened gnatcatcher and many other species. National Audubon Society. Holland, V.L. 2005. California Wildlife Habitat Relationships System California Department of Fish and Game California Interagency Wildlife Task Group.

Federal Railroad Administration (FRA). 1999. Procedures for Considering Environmental Impacts. Section 14(n)(5)(6)(7). Accessed July 24, 2018. https://www.transportation.gov/sites/dot.gov/files/docs/FRAEnvProcedures_FED_REG_Notice.pdf.

GreenInfo Network. 2017. CPAD-California Protected Areas Database. Accessed July 2018. http://www.calands.org/data.

Grenfell, William E. Jr. 1988. California Wildlife Habitat Relationships System California Department of Fish and Game California Interagency Wildlife Task Group.

Federal Railroad Administration (FRA) and Riverside County Transportation Commission (RCTC). 2021. Coachella Valley-San Gorgonio Pass Rail Corridor Service Program Environmental Impact Statement/Environmental Impact Report (Draft). Prepared by HDR Engineering, Inc..

Holland, V.L. 2005. California Wildlife Habitat Relationships System California Department of Fish and Game California Interagency Wildlife Task Group.

Kearny, Thomas. 1951. The Genus Malacothamnus. *Leaflets of Western Botany*. Volume VI, No 6: 113-140.

Kie, John G. 2005. California Wildlife Habitat Relationships System California Department of Fish and Game California Interagency Wildlife Task Group.

Kramer, Gary. 1988. California Wildlife Habitat Relationships System California Department of Fish and Game California Interagency Wildlife Task Group.

Laudenslayer, William F. Jr. and Jerry R. Boggs. 1988. California Wildlife Habitat Relationships System California Department of Fish and Game California Interagency Wildlife Task Group.

Laudenslayer, William F. Jr. 1988. California Wildlife Habitat Relationships System California Department of Fish and Game California Interagency Wildlife Task Group.

McBride, Joe R. and Chris Reid. 1988. California Wildlife Habitat Relationships System California Department of Fish and Game California Interagency Wildlife Task Group.

Munz, P.A. 1959. *A California flora*. In collaboration with D.D. Keck. Univ. of California Press. Berkeley, CA. 1681 pp.

Orange County. 2005. *Orange County General Plan*. Accessed June 27, 2018. https://www.ocgov.com/gov/pw/cd/planning/generalplan2005.asp.

Parisi, Monica D. 1988. California Wildlife Habitat Relationships System California Department of Fish and Game California Interagency Wildlife Task Group.

Pearson, Daniel C. 1988. California Wildlife Habitat Relationships System California Department of Fish and Game California Interagency Wildlife Task Group.

Penrod, K., C. Cabariero, P. Beier, C. Luke, W. Spencer, and E. Rubin. 2005. South Coast Missing Linkages Project: A Linkage Design for the San Gabriel-Castaic Connection. South Coast Wildlands, Idyllwild, California. www.scwildlands.org.

Regents of the University of California. 2018. Jepson Flora Project: Jepson Interchange for California Floristics. Accessed October 4, 2018. http://ucjeps.berkeley.edu/cgi-bin/get_cpn.pl?32521.

Riverside County. 2003. *County of Riverside General Plan*. Accessed June 27, 2018. http://planning.rctlma.org/ZoningInformation/GeneralPlan.aspx.

Rowlands, Peter G. 1988. California Wildlife Habitat Relationships System California Department of Fish and Game California Interagency Wildlife Task Group. Sawyer, J. O., T. Keeler-Wolf, and J. E. Evens. 2009. A Manual of California Vegetation. Second Edition. Sacramento, CA: California Native Plant Society.

Sawyer, J. O., T. Keeler-Wolf, and J. E. Evens. 2009. *A Manual of California Vegetation.* Second Edition. Sacramento, CA: California Native Plant Society.

Schultze, Ronald F. 1988. California Wildlife Habitat Relationships System California Department of Fish and Game California Interagency Wildlife Task Group.

United States Army Corps of Engineers (USACE). 2008. Regional Supplement to the Corps of Engineers *Wetland Delineation Manual: Arid West Region*. Version 2.0. ERDC/EL TR-08-28. Department of the Army Environmental Laboratory. U.S. Army Corps of Engineers Waterways Experiment Station, Wetlands Research Program, Vicksburg, MS. September 2008.

United States Fish and Wildlife Service (USFWS). 2018a. *National Wetlands Inventory Mapper*. Accessed July 2018. www.fws.gov/wetlands/data/mapper.HTML.

——— 2018b. Critical Habitat. Accessed July 2018. https://ecos.fws.gov/ecp/report/table/critical-habitat.html.

United States Forest Service (USFS). 2017. Classification and Assessment with Landsat of Visible Ecological Groupings (CalVeg) data. Updated in 2017. https://www.fs.usda.gov/detail/r5/landmanagement/resourcemanagement/?cid=stelprdb5347192.

United States Geological Survey (USGS). 2016. *National Hydrography Dataset.* Accessed July 2018. ftp://nhdftp.usgs.gov/DataSets/Staged/States/.

Verner, J. 1980. Birds of California oak habitats: management implications. Pages 246- 264 In T. R. Plumb, tech. coord. Ecology, management, and utilization of California oaks. U.S. Dep. Agric., For. Serv. (Berkeley Calif.) Gen. Tech. Rep. PSW-44.

Zeiner, David. 1988. California Wildlife Habitat Relationships System California Department of Fish and Game California Interagency Wildlife Task Group.

Appendix A. Information for Planning and Consultation Resource List

This page is intentionally blank.

IPaC Information for Planning and Consultation **U.S. Fish & Wildlife Service**

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Location

California

Local office

Carlsbad Fish And Wildlife Office

(760) 431-9440
(760) 431-5901

2177 Salk Avenue - Suite 250
Carlsbad, CA 92008-7385

http://www.fws.gov/carlsbad/

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population, even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species

[1] and their critical habitats are managed by the Ecological Services Program of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries[2]).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact NOAA Fisheries for species under their jurisdiction.

1. Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the listing status page for more information.
2. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following species are potentially affected by activities in this location:

Mammals

NAME	STATUS
Peninsular Bighorn Sheep Ovis canadensis nelsoni There is **final** critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/4970	Endangered
San Bernardino Merriam's Kangaroo Rat Dipodomys merriami parvus There is **final** critical habitat for this species. Your location overlaps the critical habitat. https://ecos.fws.gov/ecp/species/2060	Endangered
Stephens' Kangaroo Rat Dipodomys stephensi (incl. D. cascus) No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/3495	Endangered

Birds

NAME	STATUS
California Condor Gymnogyps californianus There is **final** critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/8193	Endangered
Coastal California Gnatcatcher Polioptila californica californica There is **final** critical habitat for this species. Your location overlaps the critical habitat. https://ecos.fws.gov/ecp/species/8178	Threatened
Least Bell's Vireo Vireo bellii pusillus There is **final** critical habitat for this species. Your location overlaps the critical habitat. https://ecos.fws.gov/ecp/species/5945	Endangered
Southwestern Willow Flycatcher Empidonax traillii extimus There is **final** critical habitat for this species. Your location overlaps the critical habitat. https://ecos.fws.gov/ecp/species/6749	Endangered
Yuma Clapper Rail Rallus longirostris yumanensis No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/3505	Endangered

Reptiles

NAME	STATUS
Coachella Valley Fringe-toed Lizard Uma inornata There is **final** critical habitat for this species. Your location overlaps the critical habitat. https://ecos.fws.gov/ecp/species/2069	Threatened
Desert Tortoise Gopherus agassizii There is **final** critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/4481	Threatened

Amphibians

NAME	STATUS
Arroyo (=arroyo Southwestern) Toad Anaxyrus californicus There is **final** critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/3762	Endangered
California Red-legged Frog Rana draytonii There is **final** critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/2891	Threatened
Mountain Yellow-legged Frog Rana muscosa There is **final** critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/8037	Endangered

Fishes

NAME	STATUS
Desert Pupfish Cyprinodon macularius There is **final** critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/7003	Endangered
Santa Ana Sucker Catostomus santaanae There is **final** critical habitat for this species. Your location overlaps the critical habitat. https://ecos.fws.gov/ecp/species/3785	Threatened

Insects

NAME	STATUS
Casey's June Beetle Dinacoma caseyi There is **final** critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/4897	Endangered
Delhi Sands Flower-loving Fly Rhaphiomidas terminatus abdominalis No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/1540	Endangered

Crustaceans

NAME	STATUS
Riverside Fairy Shrimp Streptocephalus woottoni There is **final** critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/8148	Endangered
Vernal Pool Fairy Shrimp Branchinecta lynchi There is **final** critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/498	Threatened

Flowering Plants

NAME	STATUS
Coachella Valley Milk-vetch Astragalus lentiginosus var. coachellae There is **final** critical habitat for this species. Your location overlaps the critical habitat. https://ecos.fws.gov/ecp/species/7426	Endangered
Gambel's Watercress Rorippa gambellii No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/4201	Endangered
Nevin's Barberry Berberis nevinii There is **final** critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/8025	Endangered
San Diego Ambrosia Ambrosia pumila There is **final** critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/8287	Endangered

San Jacinto Valley Crownscale Atriplex coronata var. notatior There is **final** critical habitat for this species. However, no *actual* acres or miles were designated due to exemptions and/or exclusions. See Federal Register publication for details. https://ecos.fws.gov/ecp/species/4353	Endangered
Santa Ana River Woolly-star Eriastrum densifolium ssp. sanctorum No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/6575	Endangered
Slender-horned Spineflower Dodecahema leptoceras No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/4007	Endangered
Spreading Navarretia Navarretia fossalis There is **final** critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/1334	Threatened
Thread-leaved Brodiaea Brodiaea filifolia There is **final** critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/6087	Threatened
Triple-ribbed Milk-vetch Astragalus tricarinatus No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/3370	Endangered

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

This location overlaps the critical habitat for the following species:

NAME	TYPE
Coachella Valley Fringe-toed Lizard Uma inornata https://ecos.fws.gov/ecp/species/2069#crithab	Final
Coachella Valley Milk-vetch Astragalus lentiginosus var. coachellae https://ecos.fws.gov/ecp/species/7426#crithab	Final
Coastal California Gnatcatcher Polioptila californica californica https://ecos.fws.gov/ecp/species/8178#crithab	Final

Least Bell's Vireo Vireo bellii pusillus https://ecos.fws.gov/ecp/species/5945#crithab	Final
San Bernardino Merriam's Kangaroo Rat Dipodomys merriami parvus https://ecos.fws.gov/ecp/species/2060#crithab	Final
Santa Ana Sucker Catostomus santaanae https://ecos.fws.gov/ecp/species/3785#crithab	Final
Southwestern Willow Flycatcher Empidonax traillii extimus https://ecos.fws.gov/ecp/species/6749#crithab	Final
Yellow-billed Cuckoo Coccyzus americanus For information on why this critical habitat appears for your project, even though Yellow-billed Cuckoo is not on the list of potentially affected species at this location, contact the local field office. https://ecos.fws.gov/ecp/species/3911#crithab	Proposed

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act [1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.

Additional information can be found using the following links:

- Birds of Conservation Concern http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php
- Measures for avoiding and minimizing impacts to birds http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php
- Nationwide conservation measures for birds http://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.pdf

The birds listed below are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ below. This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be

found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the E-bird data mapping tool (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found below.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON (IF A BREEDING SEASON IS INDICATED FOR A BIRD ON YOUR LIST, THE BIRD MAY BREED IN YOUR PROJECT AREA SOMETIME WITHIN THE TIMEFRAME SPECIFIED, WHICH IS A VERY LIBERAL ESTIMATE OF THE DATES INSIDE WHICH THE BIRD BREEDS ACROSS ITS ENTIRE RANGE. "BREEDS ELSEWHERE" INDICATES THAT THE BIRD DOES NOT LIKELY BREED IN YOUR PROJECT AREA.)
Allen's Hummingbird Selasphorus sasin This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9637	Breeds Feb 1 to Jul 15
Bald Eagle Haliaeetus leucocephalus This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Jan 1 to Aug 31
Black Skimmer Rynchops niger This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/5234	Breeds May 20 to Sep 15
Black Swift Cypseloides niger This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/8878	Breeds Jun 15 to Sep 10

Black-chinned Sparrow Spizella atrogularis — Breeds Apr 15 to Jul 31
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9447

Burrowing Owl Athene cunicularia — Breeds Mar 15 to Aug 31
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA
https://ecos.fws.gov/ecp/species/9737

California Thrasher Toxostoma redivivum — Breeds Jan 1 to Jul 31
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Clark's Grebe Aechmophorus clarkii — Breeds Jan 1 to Dec 31
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Common Yellowthroat Geothlypis trichas sinuosa — Breeds May 20 to Jul 31
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA
https://ecos.fws.gov/ecp/species/2084

Costa's Hummingbird Calypte costae — Breeds Jan 15 to Jun 10
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA
https://ecos.fws.gov/ecp/species/9470

Golden Eagle Aquila chrysaetos — Breeds Jan 1 to Aug 31
This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.
https://ecos.fws.gov/ecp/species/1680

Lawrence's Goldfinch Carduelis lawrencei — Breeds Mar 20 to Sep 20
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9464

Le Conte's Thrasher toxostoma lecontei — Breeds Feb 15 to Jun 20
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/8969

Lewis's Woodpecker Melanerpes lewis — Breeds Apr 20 to Sep 30
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9408

Long-billed Curlew Numenius americanus — Breeds elsewhere
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/5511

Nuttall's Woodpecker Picoides nuttallii — Breeds Apr 1 to Jul 20
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA
https://ecos.fws.gov/ecp/species/9410

Oak Titmouse Baeolophus inornatus — Breeds Mar 15 to Jul 15
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9656

Rufous Hummingbird selasphorus rufus — Breeds elsewhere
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/8002

Rufous-winged Sparrow Aimophila carpalis — Breeds Jun 15 to Sep 30
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Short-billed Dowitcher Limnodromus griseus — Breeds elsewhere
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9480

Song Sparrow Melospiza melodia — Breeds Feb 20 to Sep 5
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA

Spotted Towhee Pipilo maculatus clementae — Breeds Apr 15 to Jul 20
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA
https://ecos.fws.gov/ecp/species/4243

Tricolored Blackbird Agelaius tricolor — Breeds Mar 15 to Aug 10
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/3910

Whimbrel Numenius phaeopus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9483	Breeds elsewhere
White Headed Woodpecker Picoides albolarvatus This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/9411	Breeds May 1 to Aug 15
Willet Tringa semipalmata This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds elsewhere
Wrentit Chamaea fasciata This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Mar 15 to Aug 10

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

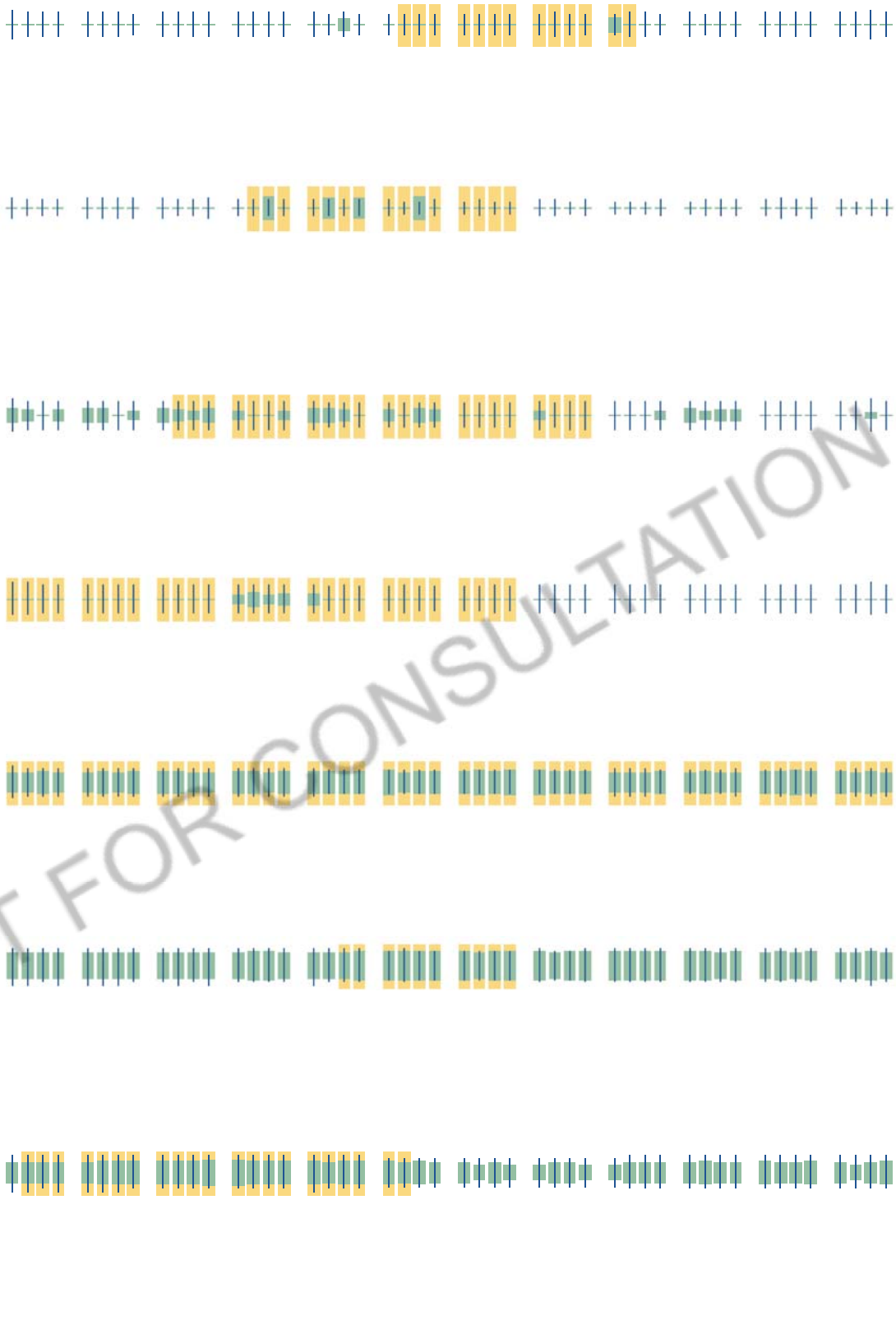
Breeding Season (▪)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

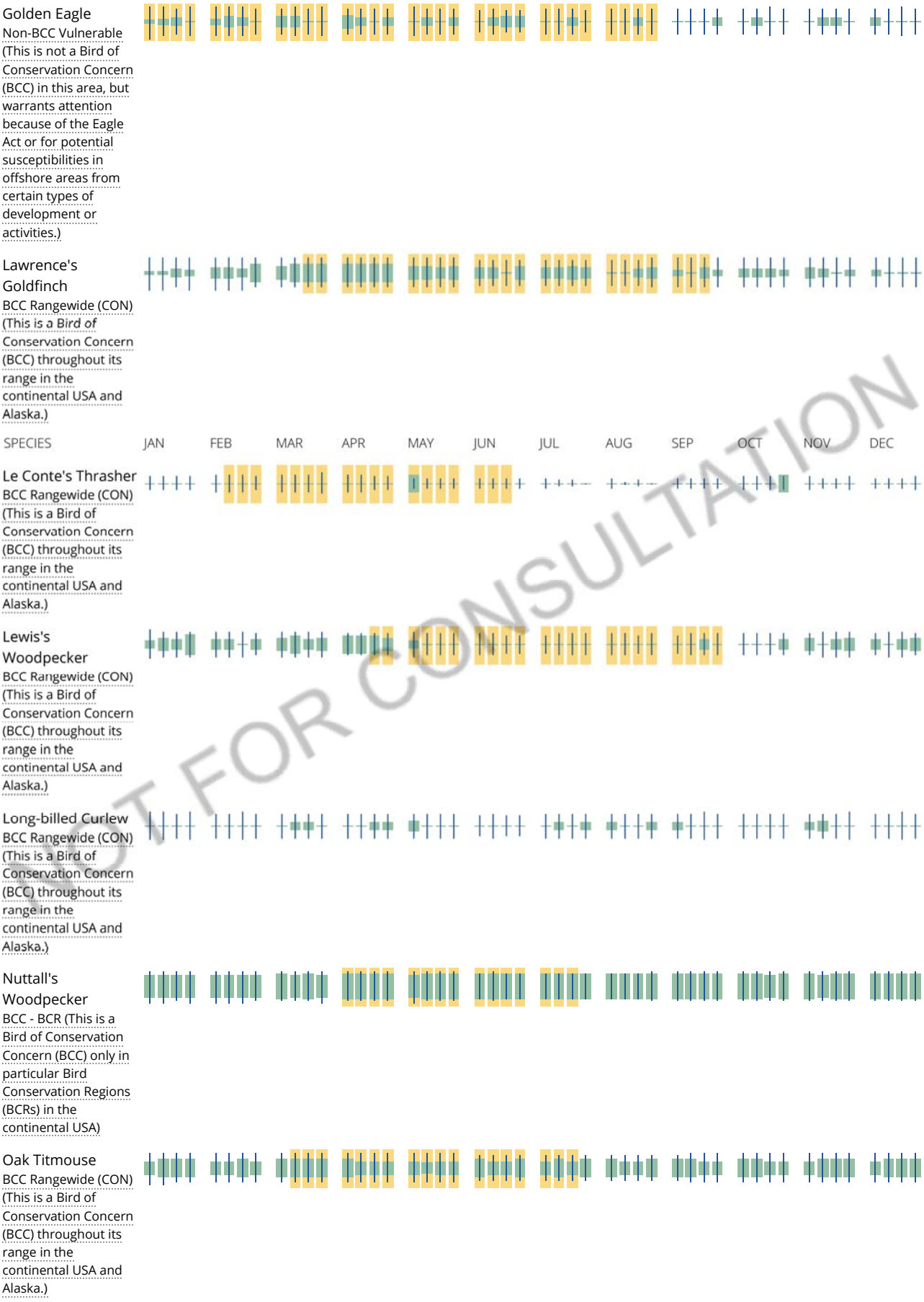
Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

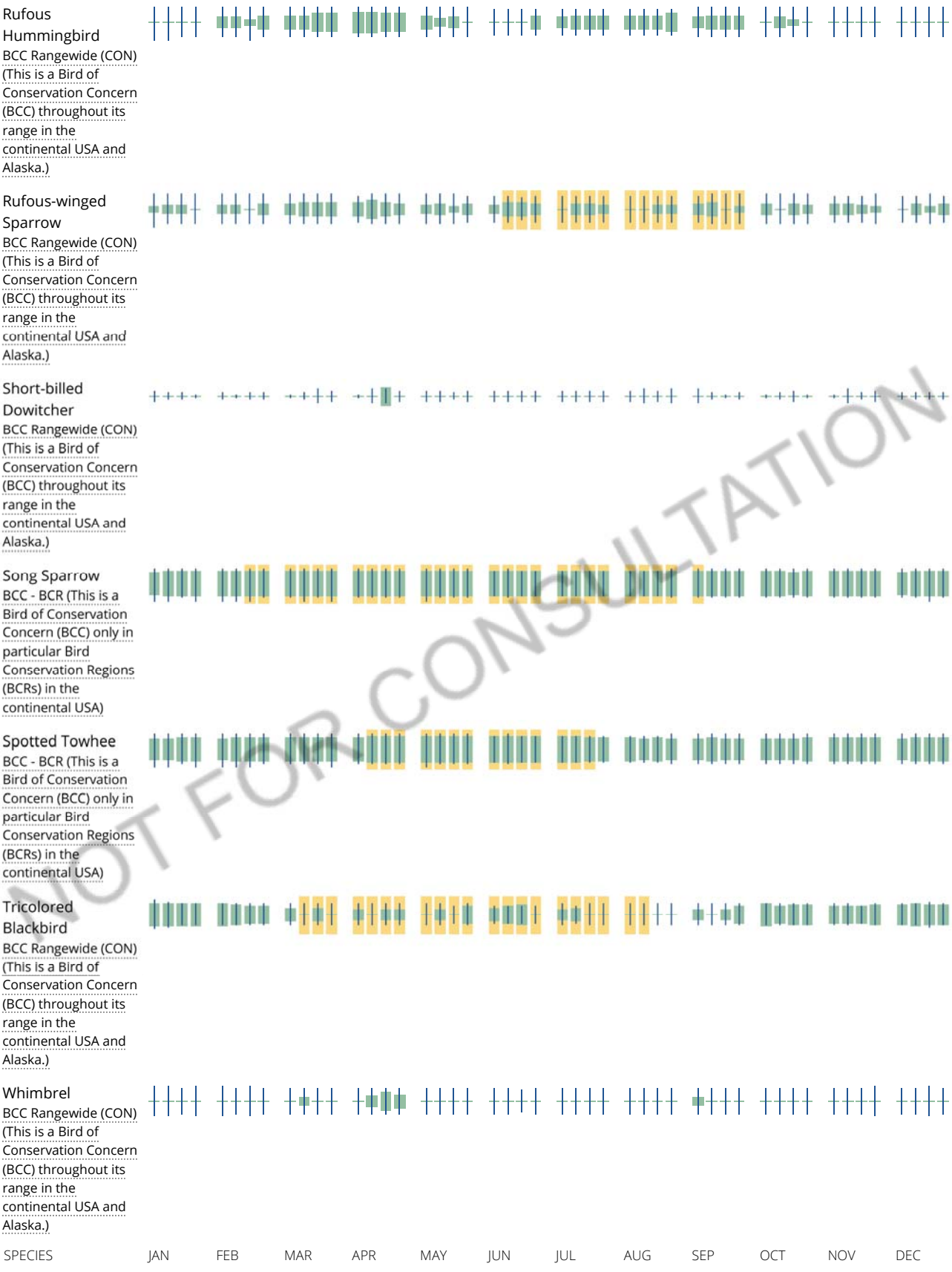
To see a bar's survey effort range, simply hover your mouse cursor over the bar.

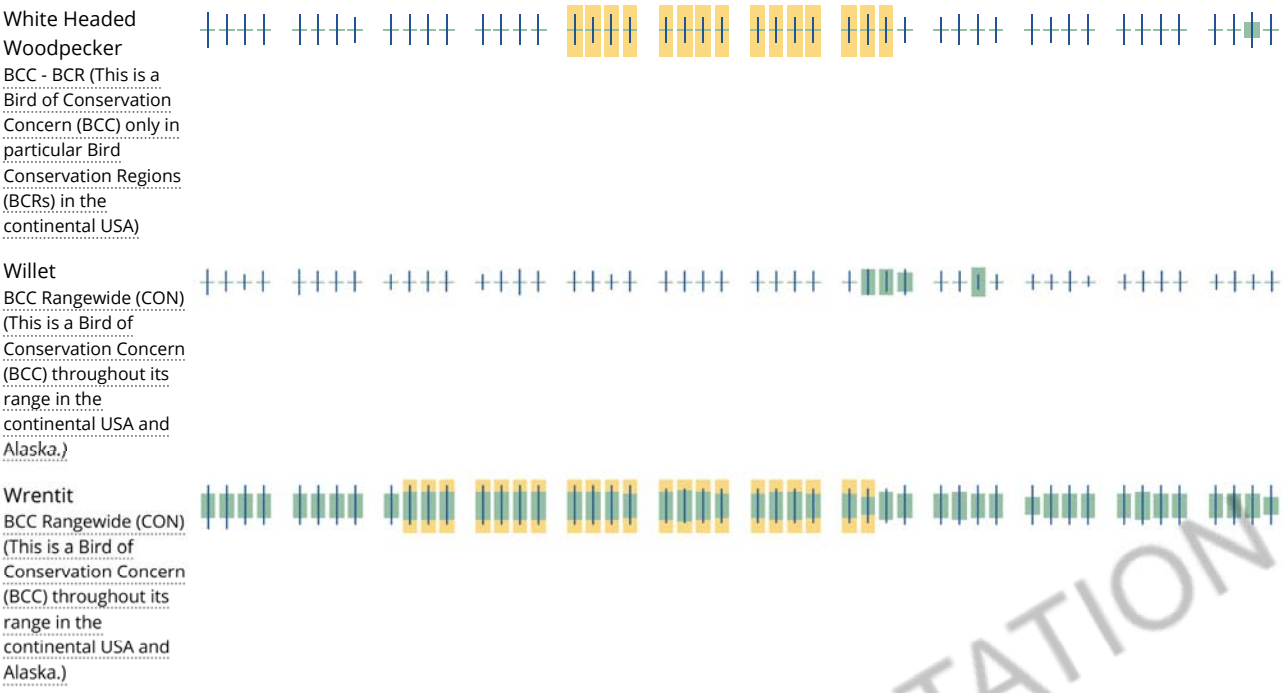
No Data (–)
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.









Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures and/or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the migratory birds potentially occurring in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the E-bird Explore Data Tool.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets .

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: The Cornell Lab of Ornithology All About Birds Bird Guide, or (if you are unsuccessful in locating the bird of interest there), the Cornell Lab of Ornithology Neotropical Birds guide. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Eagle Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the Diving Bird Study and the nanotag studies or contact Caleb Spiegel or Pam Loring.

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ “What does IPaC use to generate the migratory birds potentially occurring in my specified location”. Please be aware this report provides the “probability of presence” of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey

effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Facilities

National Wildlife Refuge lands

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

This location overlaps the following National Wildlife Refuge lands:

LAND	ACRES
Coachella Valley National Wildlife Refuge	3,596.98 acres

(760) 348-5278
(760) 348-7245

C/o Sonny Bono Salton Sea Nwr Complex
906 West Sinclair Road
Calipatria, CA 92233-9744

https://www.fws.gov/refuges/profiles/index.cfm?id=81632

Fish hatcheries

THERE ARE NO FISH HATCHERIES AT THIS LOCATION.

Wetlands in the National Wetlands Inventory

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers

District.

WETLAND INFORMATION IS NOT AVAILABLE AT THIS TIME

This can happen when the National Wetlands Inventory (NWI) map service is unavailable, or for very large projects that intersect many wetland areas. Try again, or visit the NWI map to view wetlands at this location.

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

This page is intentionally blank.

Appendix B. California Natural Diversity Database Query

This page is intentionally blank.

Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Quad IS (Indio (3311662) OR La Quinta (3311663) OR Myoma (3311673) OR Cathedral City (3311674) OR Palm Springs (3311675) OR Seven Palms Valley (3311684) OR Desert Hot Springs (3311685) OR White Water (3311686) OR Cabazon (3311687) OR Beaumont (3311688) OR El Casco (3311781) OR Sunnymead (3311782) OR Redlands (3411712) OR San Bernardino South (3411713) OR Riverside East (3311783) OR Riverside West (3311784) OR Corona North (3311785) OR Corona South (3311775) OR Prado Dam (3311786) OR Black Star Canyon (3311776) OR Orange (3311777) OR Yorba Linda (3311787) OR Anaheim (3311778) OR La Habra (3311788) OR Los Alamitos (3311871) OR Whittier (3311881) OR South Gate (3311882) OR Los Angeles (3411812))

Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
Abronia villosa var. aurita chaparral sand-verbena	G5T2T3 S2	None None	Rare Plant Rank - 1B.1 BLM_S-Sensitive USFS_S-Sensitive	25 2,300	98 S:18	0	1	0	2	4	11	10	8	14	0	4
Accipiter cooperii Cooper's hawk	G5 S4	None None	CDFW_WL-Watch List IUCN_LC-Least Concern	680 1,680	115 S:6	1	1	1	0	0	3	0	6	6	0	0
Acmispon haydonii pygmy lotus	G3 S3	None None	Rare Plant Rank - 1B.3 SB_USDA-US Dept of Agriculture		32 S:1	0	0	0	0	0	1	1	0	1	0	0
Agelaius tricolor tricolored blackbird	G2G3 S1S2	None Candidate Endangered	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_EN-Endangered NABCI_RWL-Red Watch List USFWS_BCC-Birds of Conservation Concern	28 1,960	951 S:18	1	0	0	0	2	15	12	6	16	1	1
Aimophila ruficeps canescens southern California rufous-crowned sparrow	G5T3 S3	None None	CDFW_WL-Watch List	500 2,729	226 S:29	0	10	2	0	0	17	1	28	29	0	0
Allium marvinii Yucaipa onion	G1 S1	None None	Rare Plant Rank - 1B.2 USFS_S-Sensitive	2,800 2,800	2 S:1	0	0	0	0	0	1	1	0	1	0	0
Almutaster pauciflorus alkali marsh aster	G4 S1S2	None None	Rare Plant Rank - 2B.2	800 800	7 S:1	0	0	0	0	0	1	1	0	1	0	0
Ambrosia monogyra singlewhorl burrobrush	G5 S2	None None	Rare Plant Rank - 2B.2		30 S:1	0	0	0	0	0	1	1	0	1	0	0
Ambrosia pumila San Diego ambrosia	G1 S1	Endangered None	Rare Plant Rank - 1B.1		59 S:1	0	0	0	0	1	0	1	0	0	0	1

Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database

Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
Ammodramus savannarum grasshopper sparrow	G5 S3	None None	CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern	1,111 1,500	25 S:2	0	1	0	0	0	1	0	2	2	0	0
Anaxyrus californicus arroyo toad	G2G3 S2S3	Endangered None	CDFW_SSC-Species of Special Concern IUCN_EN-Endangered	2,400 2,400	139 S:1	0	0	0	0	0	1	1	0	1	0	0
Anniella stebbinsi southern California legless lizard	G3 S3	None None	CDFW_SSC-Species of Special Concern USFS_S-Sensitive	31 2,110	102 S:12	1	1	2	5	2	1	5	7	10	1	1
Antrozous pallidus pallid bat	G5 S3	None None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern USFS_S-Sensitive WBWG_H-High Priority	700 1,690	415 S:3	0	1	0	0	0	2	3	0	3	0	0
Aquila chrysaetos golden eagle	G5 S3	None None	BLM_S-Sensitive CDF_S-Sensitive CDFW_FP-Fully Protected CDFW_WL-Watch List IUCN_LC-Least Concern USFWS_BCC-Birds of Conservation Concern	750 3,480	320 S:7	1	2	0	0	0	4	5	2	7	0	0
Ardea herodias great blue heron	G5 S4	None None	CDF_S-Sensitive IUCN_LC-Least Concern	250 250	154 S:1	0	0	1	0	0	0	0	1	1	0	0
Arenaria paludicola marsh sandwort	G1 S1	Endangered Endangered	Rare Plant Rank - 1B.1 SB_SBBG-Santa Barbara Botanic Garden	1,000 1,000	16 S:1	0	0	0	0	1	0	1	0	0	0	1
Arizona elegans occidentalis California glossy snake	G5T2 S2	None None	CDFW_SSC-Species of Special Concern	490 1,882	260 S:18	0	0	0	0	0	18	6	12	18	0	0
Artemisiospiza belli belli Bell's sage sparrow	G5T2T3 S3	None None	CDFW_WL-Watch List USFWS_BCC-Birds of Conservation Concern	1,100 2,120	61 S:4	0	1	0	0	0	3	0	4	4	0	0
Asio otus long-eared owl	G5 S3?	None None	CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern	700 1,050	46 S:3	0	0	0	0	0	3	3	0	3	0	0

Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database

Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
Aspidoscelis hyperythra orange-throated whiptail	G5 S2S3	None None	CDFW_WL-Watch List IUCN_LC-Least Concern USFS_S-Sensitive	490 2,620	359 S:44	3	8	2	1	3	27	28	16	41	3	0
Aspidoscelis tigris stejnegeri coastal whiptail	G5T5 S3	None None	CDFW_SSC-Species of Special Concern	700 2,768	134 S:20	0	4	2	1	0	13	2	18	20	0	0
Astragalus brauntonii Braunton's milk-vetch	G2 S2	Endangered None	Rare Plant Rank - 1B.1 SB_RSABG-Rancho Santa Ana Botanic Garden SB_SBBG-Santa Barbara Botanic Garden	400 1,200	42 S:4	0	2	0	0	0	2	0	4	4	0	0
Astragalus hornii var. hornii Horn's milk-vetch	G4G5T1T2 S1	None None	Rare Plant Rank - 1B.1 BLM_S-Sensitive	1,000 1,000	14 S:1	0	0	0	0	1	0	1	0	0	0	1
Astragalus lentiginosus var. coachellae Coachella Valley milk-vetch	G5T1 S1	Endangered None	Rare Plant Rank - 1B.2 SB_RSABG-Rancho Santa Ana Botanic Garden SB_USDA-US Dept of Agriculture	130 2,280	56 S:55	0	10	13	10	1	21	16	39	54	0	1
Astragalus pachypus var. jaegeri Jaeger's milk-vetch	G4T2 S2	None None	Rare Plant Rank - 1B.1 BLM_S-Sensitive SB_RSABG-Rancho Santa Ana Botanic Garden USFS_S-Sensitive	2,000 2,600	18 S:5	0	0	0	1	0	4	5	0	5	0	0
Astragalus preussii var. laxiflorus Lancaster milk-vetch	G4T2 S1	None None	Rare Plant Rank - 1B.1		5 S:1	0	0	0	0	1	0	1	0	0	1	0
Astragalus sabulonum gravel milk-vetch	G4G5 S2	None None	Rare Plant Rank - 2B.2		19 S:1	0	0	0	0	0	1	1	0	1	0	0
Astragalus tricarinatus triple-ribbed milk-vetch	G2 S2	Endangered None	Rare Plant Rank - 1B.2 SB_RSABG-Rancho Santa Ana Botanic Garden	1,700 2,400	43 S:6	0	0	0	0	0	6	4	2	6	0	0

Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database

Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
Athene cunicularia burrowing owl	G4 S3	None None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern USFWS_BCC-Birds of Conservation Concern	-120 1,700	1971 S:96	6	26	7	3	4	50	12	84	92	1	3
Atriplex coronata var. notatior San Jacinto Valley crownscale	G4T1 S1	Endangered None	Rare Plant Rank - 1B.1 SB_RSABG-Rancho Santa Ana Botanic Garden	130 1,430	16 S:5	1	1	0	0	1	2	1	4	4	1	0
Atriplex coulteri Coulter's saltbush	G3 S1S2	None None	Rare Plant Rank - 1B.2 SB_RSABG-Rancho Santa Ana Botanic Garden	500 500	102 S:1	0	0	0	0	1	0	1	0	0	1	0
Atriplex parishii Parish's brittlescale	G1G2 S1	None None	Rare Plant Rank - 1B.1 USFS_S-Sensitive	500 500	16 S:2	0	0	0	0	0	2	2	0	2	0	0
Atriplex serenana var. davidsonii Davidson's saltscale	G5T1 S1	None None	Rare Plant Rank - 1B.2	1,430 1,430	27 S:2	0	0	0	0	1	1	1	1	1	1	0
Ayenia compacta California ayenia	G4 S3	None None	Rare Plant Rank - 2B.3	1,000 2,500	53 S:4	0	0	0	0	0	4	4	0	4	0	0
Baccharis malibuensis Malibu baccharis	G1 S1	None None	Rare Plant Rank - 1B.1 SB_RSABG-Rancho Santa Ana Botanic Garden	1,500 2,165	13 S:3	0	0	0	0	0	3	0	3	3	0	0
Berberis nevinii Nevin's barberry	G1 S1	Endangered Endangered	Rare Plant Rank - 1B.1 SB_RSABG-Rancho Santa Ana Botanic Garden SB_SBBG-Santa Barbara Botanic Garden	1,020 1,600	31 S:4	0	0	0	2	0	2	2	2	4	0	0
Bombus crotchii Crotch bumble bee	G3G4 S1S2	None None		100 3,300	234 S:14	0	0	0	0	0	14	14	0	14	0	0
Branchinecta sandiegonensis San Diego fairy shrimp	G2 S2	Endangered None	IUCN_EN-Endangered	1,200 1,200	120 S:1	1	0	0	0	0	0	0	1	1	0	0

Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database

Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
Buteo regalis ferruginous hawk	G4 S3S4	None None	CDFW_WL-Watch List IUCN_LC-Least Concern USFWS_BCC-Birds of Conservation Concern	20 2,050	107 S:4	0	1	2	0	0	1	1	3	4	0	0
Buteo swainsoni Swainson's hawk	G5 S3	None Threatened	BLM_S-Sensitive IUCN_LC-Least Concern USFWS_BCC-Birds of Conservation Concern	150 1,000	2460 S:4	0	0	0	0	4	0	4	0	0	4	0
California Walnut Woodland California Walnut Woodland	G2 S2.1	None None		600 1,400	76 S:26	0	2	0	0	0	24	26	0	26	0	0
Calileptoneta oasa Andreas Canyon leptonetid spider	G1 S1	None None		1,850 1,850	1 S:1	0	0	0	0	0	1	1	0	1	0	0
Calochortus palmeri var. palmeri Palmer's mariposa-lily	G3T2 S2	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive SB_RSABG-Rancho Santa Ana Botanic Garden USFS_S-Sensitive	3,780 3,780	111 S:1	1	0	0	0	0	0	0	1	1	0	0
Calochortus plummerae Plummer's mariposa-lily	G4 S4	None None	Rare Plant Rank - 4.2 SB_RSABG-Rancho Santa Ana Botanic Garden	800 3,485	230 S:26	0	8	1	1	3	13	7	19	23	3	0
Calochortus weedii var. intermedius intermediate mariposa-lily	G3G4T2 S2	None None	Rare Plant Rank - 1B.2 SB_RSABG-Rancho Santa Ana Botanic Garden USFS_S-Sensitive	600 3,860	140 S:50	0	5	5	5	0	35	6	44	50	0	0
Calystegia felix lucky morning-glory	G1Q S1	None None	Rare Plant Rank - 1B.1	30 675	10 S:8	0	0	0	0	1	7	2	6	7	1	0
Campylorhynchus brunneicapillus sandiegensis coastal cactus wren	G5T3Q S3	None None	CDFW_SSC-Species of Special Concern USFS_S-Sensitive USFWS_BCC-Birds of Conservation Concern	300 1,480	154 S:13	0	5	3	0	0	5	5	8	13	0	0
Carex comosa bristly sedge	G5 S2	None None	Rare Plant Rank - 2B.1	1,000 1,000	29 S:1	0	0	0	0	1	0	1	0	0	1	0
Carolella busckana Busck's gallmoth	G1G3 SH	None None		780 1,160	4 S:2	0	0	0	0	2	0	2	0	0	0	2

Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database

Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
Catostomus santaanae Santa Ana sucker	G1 S1	Threatened None	AFS_TH-Threatened IUCN_VU-Vulnerable	260 880	28 S:14	0	1	3	1	0	9	4	10	14	0	0
Caulanthus simulans Payson's jewelflower	G4 S4	None None	Rare Plant Rank - 4.2 USFS_S-Sensitive	3,000 3,000	31 S:2	0	0	0	0	0	2	2	0	2	0	0
Centromadia parryi ssp. australis southern tarplant	G3T2 S2	None None	Rare Plant Rank - 1B.1 SB_RSABG-Rancho Santa Ana Botanic Garden	10 385	87 S:11	0	0	1	0	3	7	8	3	8	0	3
Centromadia pungens ssp. laevis smooth tarplant	G3G4T2 S2	None None	Rare Plant Rank - 1B.1 SB_RSABG-Rancho Santa Ana Botanic Garden	600 2,100	117 S:16	1	1	2	0	2	10	6	10	14	0	2
Ceratochrysis longimala Desert cuckoo wasp	G1 S1	None None		900 900	2 S:1	0	0	0	0	1	0	1	0	0	1	0
Chaetodipus californicus femoralis Dulzura pocket mouse	G5T3 S3	None None	CDFW_SSC-Species of Special Concern	2,800 2,800	54 S:1	0	0	0	0	0	1	1	0	1	0	0
Chaetodipus fallax fallax northwestern San Diego pocket mouse	G5T3T4 S3S4	None None	CDFW_SSC-Species of Special Concern	1,150 2,800	99 S:30	1	5	8	4	0	12	9	21	30	0	0
Chaetodipus fallax pallidus pallid San Diego pocket mouse	G5T34 S3S4	None None	CDFW_SSC-Species of Special Concern	475 3,000	79 S:20	0	0	0	0	0	20	18	2	20	0	0
Chelonia mydas green turtle	G3 S1	Threatened None	IUCN_EN-Endangered	0 0	2 S:1	0	0	1	0	0	0	0	1	1	0	0
Chloropyron maritimum ssp. maritimum salt marsh bird's-beak	G4?T1 S1	Endangered Endangered	Rare Plant Rank - 1B.2 SB_RSABG-Rancho Santa Ana Botanic Garden SB_SBBG-Santa Barbara Botanic Garden	35 1,000	30 S:2	0	0	0	0	2	0	2	0	0	2	0
Choeronycteris mexicana Mexican long-tongued bat	G4 S1	None None	CDFW_SSC-Species of Special Concern IUCN_NT-Near Threatened WBWG_H-High Priority	125 125	14 S:1	0	0	0	0	0	1	1	0	1	0	0

Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database

Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
Chorizanthe parryi var. fernandina San Fernando Valley spineflower	G2T1 S1	Proposed Threatened Endangered	Rare Plant Rank - 1B.1 SB_RSABG-Rancho Santa Ana Botanic Garden USFS_S-Sensitive		21 S:1	0	0	0	0	1	0	1	0	0	1	0
Chorizanthe parryi var. parryi Parry's spineflower	G3T2 S2	None None	Rare Plant Rank - 1B.1 BLM_S-Sensitive SB_RSABG-Rancho Santa Ana Botanic Garden USFS_S-Sensitive	1,000 3,555	127 S:30	6	0	2	0	1	21	15	15	29	1	0
Chorizanthe polygonoides var. longispina long-spined spineflower	G5T3 S3	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive SB_RSABG-Rancho Santa Ana Botanic Garden	500 500	130 S:1	0	0	0	0	0	1	0	1	1	0	0
Chorizanthe xanti var. leucotheca white-bracted spineflower	G4T3 S3	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive SB_RSABG-Rancho Santa Ana Botanic Garden SB_USDA-US Dept of Agriculture USFS_S-Sensitive	1,200 4,000	52 S:21	7	2	0	0	0	12	8	13	21	0	0
Cicindela gabbii western tidal-flat tiger beetle	G2G4 S1	None None		10 20	9 S:2	0	0	0	0	1	1	1	1	1	1	0
Cicindela hirticollis gravida sandy beach tiger beetle	G5T2 S2	None None		10 10	34 S:2	0	0	0	0	2	0	2	0	0	0	2
Cicindela latesignata latesignata western beach tiger beetle	G2G4T1T2 S1	None None		10 20	15 S:2	0	0	0	0	2	0	2	0	0	0	2
Cicindela senilis frosti senile tiger beetle	G2G3T1T3 S1	None None		10 10	9 S:1	0	0	0	0	1	0	1	0	0	0	1
Coccyzus americanus occidentalis western yellow-billed cuckoo	G5T2T3 S1	Threatened Endangered	BLM_S-Sensitive NABCI_RWL-Red Watch List USFS_S-Sensitive USFWS_BCC-Birds of Conservation Concern	60 1,690	155 S:12	0	1	0	0	10	1	10	2	2	5	5
Coleonyx variegatus abbotti San Diego banded gecko	G5T3T4 S1S2	None None	CDFW_SSC-Species of Special Concern	920 1,075	8 S:2	0	1	1	0	0	0	0	2	2	0	0

Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database

Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
Corynorhinus townsendii Townsend's big-eared bat	G3G4 S2	None None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern USFS_S-Sensitive WBWG_H-High Priority	1,360 1,360	626 S:1	0	0	0	0	0	1	1	0	1	0	0
Coturnicops noveboracensis yellow rail	G4 S1S2	None None	CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern NABCI_RWL-Red Watch List USFS_S-Sensitive USFWS_BCC-Birds of Conservation Concern	674 674	45 S:1	0	0	0	0	0	1	1	0	1	0	0
Crotalus ruber red-diamond rattlesnake	G4 S3	None None	CDFW_SSC-Species of Special Concern USFS_S-Sensitive	720 3,000	189 S:39	0	8	4	0	0	27	19	20	39	0	0
Cuscuta obtusiflora var. glandulosa Peruvian dodder	G5T4T5 SH	None None	Rare Plant Rank - 2B.2		6 S:1	0	0	0	0	1	0	1	0	0	0	1
Cyprinodon macularius desert pupfish	G1 S1	Endangered Endangered	AFS_EN-Endangered IUCN_VU-Vulnerable	385 440	73 S:2	0	2	0	0	0	0	2	0	2	0	0
Cypseloides niger black swift	G4 S2	None None	CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern NABCI_YWL-Yellow Watch List USFWS_BCC-Birds of Conservation Concern	3,480 3,480	46 S:1	0	1	0	0	0	0	1	0	1	0	0
Danaus plexippus pop. 1 monarch - California overwintering population	G4T2T3 S2S3	None None	USFS_S-Sensitive	15 20	380 S:2	0	1	1	0	0	0	0	2	2	0	0
Deinandra mohavensis Mojave tarplant	G2 S2	None Endangered	Rare Plant Rank - 1B.3 BLM_S-Sensitive SB_RSABG-Rancho Santa Ana Botanic Garden USFS_S-Sensitive	2,450 3,700	77 S:3	0	1	1	0	0	1	0	3	3	0	0

Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database

Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
Desert Fan Palm Oasis Woodland	G3	None		400	80	0	2	0	0	1	21	24	0	23	0	1
Desert Fan Palm Oasis Woodland	S3.2	None		2,800	S:24											
Dinacoma caseyi	G1	Endangered		120	9	0	1	0	1	2	5	3	6	7	0	2
Casey's June beetle	S1	None		1,250	S:9											
Dipodomys merriami collinus	G5T2?	None		110	23	0	2	0	0	0	0	0	2	2	0	0
Earthquake Merriam's kangaroo rat	S1S2	None		140	S:2											
Dipodomys merriami parvus	G5T1	Endangered	CDFW_SSC-Species of Special Concern	892	45	2	0	4	2	0	8	6	10	16	0	0
San Bernardino kangaroo rat	S1	None		1,619	S:16											
Dipodomys stephensi	G2	Endangered	IUCN_EN-Endangered	1	220	1	10	13	12	8	7	39	12	43	4	4
Stephens' kangaroo rat	S2	Threatened		2,700	S:51											
Ditaxis claryana	G3G4	None	Rare Plant Rank - 2B.2	60	26	0	0	0	0	1	3	4	0	3	1	0
glandular ditaxis	S2	None		400	S:4											
Ditaxis serrata var. californica	G5T3T4	None	Rare Plant Rank - 3.2	200	24	0	0	0	0	0	4	4	0	4	0	0
California ditaxis	S2?	None		1,000	S:4											
Dodecahema leptoceras	G1	Endangered	Rare Plant Rank - 1B.1 SB_RSABG-Rancho Santa Ana Botanic Garden	1,280	38	0	1	1	0	1	5	7	1	7	0	1
slender-horned spineflower	S1	Endangered		1,600	S:8											
Dudleya multicaulis	G2	None	Rare Plant Rank - 1B.2 BLM_S-Sensitive SB_RSABG-Rancho Santa Ana Botanic Garden USFS_S-Sensitive	500	154	1	6	0	0	3	23	21	12	30	0	3
many-stemmed dudleya	S2	None		2,975	S:33											
Elanus leucurus	G5	None	BLM_S-Sensitive CDFW_FP-Fully Protected IUCN_LC-Least Concern	420	175	0	0	0	0	0	11	0	11	11	0	0
white-tailed kite	S3S4	None		2,074	S:11											
Empidonax traillii extimus	G5T2	Endangered	NABCI_RWL-Red Watch List	280	70	3	1	1	0	0	5	5	5	10	0	0
southwestern willow flycatcher	S1	Endangered		2,400	S:10											
Emys marmorata	G3G4	None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_VU-Vulnerable USFS_S-Sensitive	20	1344	0	3	2	0	5	8	11	7	13	5	0
western pond turtle	S3	None		1,716	S:18											

Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database

Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
Eremophila alpestris actia California horned lark	G5T4Q S4	None None	CDFW_WL-Watch List IUCN_LC-Least Concern	1,100 2,430	94 S:5	0	0	2	1	0	2	1	4	5	0	0
Eremothera boothii ssp. boothii Booth's evening-primrose	G5T4 S2	None None	Rare Plant Rank - 2B.3	1,200 1,200	35 S:1	0	0	0	0	0	1	1	0	1	0	0
Eriastrum densifolium ssp. sanctorum Santa Ana River woollystar	G4T1 S1	Endangered Endangered	Rare Plant Rank - 1B.1 SB_RSABG-Rancho Santa Ana Botanic Garden	600 1,421	31 S:19	0	2	8	4	1	4	6	13	18	1	0
Eumops perotis californicus western mastiff bat	G5T4 S3S4	None None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern WBWG_H-High Priority	300 1,380	294 S:17	0	1	0	1	0	15	17	0	17	0	0
Euphorbia abramsiana Abrams' spurge	G4 S2	None None	Rare Plant Rank - 2B.2 SB_RSABG-Rancho Santa Ana Botanic Garden	200 200	109 S:1	0	0	0	0	0	1	1	0	1	0	0
Euphorbia arizonica Arizona spurge	G5 S3	None None	Rare Plant Rank - 2B.3	500 1,400	11 S:3	0	0	0	0	0	3	3	0	3	0	0
Euphorbia misera cliff spurge	G5 S2	None None	Rare Plant Rank - 2B.2 SB_RSABG-Rancho Santa Ana Botanic Garden	1,400 1,400	40 S:1	0	0	0	1	0	0	1	0	1	0	0
Euphorbia platysperma flat-seeded spurge	G3 S1	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive	210 210	4 S:1	0	0	0	0	0	1	1	0	1	0	0
Falco columbarius merlin	G5 S3S4	None None	CDFW_WL-Watch List IUCN_LC-Least Concern	964 964	36 S:1	0	0	1	0	0	0	0	1	1	0	0
Falco mexicanus prairie falcon	G5 S4	None None	CDFW_WL-Watch List IUCN_LC-Least Concern USFWS_BCC-Birds of Conservation Concern	400 2,800	459 S:13	0	0	0	0	0	13	13	0	13	0	0
Falco peregrinus anatum American peregrine falcon	G4T4 S3S4	Delisted Delisted	CDF_S-Sensitive CDFW_FP-Fully Protected USFWS_BCC-Birds of Conservation Concern	161 161	57 S:1	0	0	0	0	0	1	0	1	1	0	0

Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
Galium californicum ssp. primum Alvin Meadow bedstraw	G5T2 S2	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive USFS_S-Sensitive		12 S:1	0	0	0	0	0	1	1	0	1	0	0
Gila orcuttii arroyo chub	G2 S2	None None	AFS_VU-Vulnerable CDFW_SSC-Species of Special Concern USFS_S-Sensitive	525 880	49 S:5	0	2	1	1	0	1	2	3	5	0	0
Gopherus agassizii desert tortoise	G3 S2S3	Threatened Threatened	IUCN_VU-Vulnerable	1,165 2,290	954 S:4	0	3	0	1	0	0	2	2	4	0	0
Haliaeetus leucocephalus bald eagle	G5 S3	Delisted Endangered	BLM_S-Sensitive CDF_S-Sensitive CDFW_FP-Fully Protected IUCN_LC-Least Concern USFS_S-Sensitive USFWS_BCC-Birds of Conservation Concern	1,055 1,055	327 S:1	0	0	0	0	0	1	0	1	1	0	0
Helianthus nuttallii ssp. parishii Los Angeles sunflower	G5TH SH	None None	Rare Plant Rank - 1A	700 1,000	7 S:3	0	0	0	0	3	0	3	0	0	1	2
Hesperocyparis forbesii Tecate cypress	G2 S2	None None	Rare Plant Rank - 1B.1 BLM_S-Sensitive SB_RSABG-Rancho Santa Ana Botanic Garden SB_USDA-US Dept of Agriculture USFS_S-Sensitive	1,600 2,900	27 S:6	0	2	0	0	0	4	0	6	6	0	0
Heuchera hirsutissima shaggy-haired alumroot	G3 S3	None None	Rare Plant Rank - 1B.3 SB_RSABG-Rancho Santa Ana Botanic Garden USFS_S-Sensitive	6,525 6,525	23 S:2	0	0	0	0	0	2	0	2	2	0	0
Horkelia cuneata var. puberula mesa horkelia	G4T1 S1	None None	Rare Plant Rank - 1B.1 USFS_S-Sensitive	600 2,300	103 S:4	0	0	0	0	3	1	3	1	1	2	1
Icteria virens yellow-breasted chat	G5 S3	None None	CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern	300 2,064	97 S:11	2	3	0	0	0	6	0	11	11	0	0

Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database

Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
Imperata brevifolia California satintail	G4 S3	None None	Rare Plant Rank - 2B.1 SB_SBBG-Santa Barbara Botanic Garden USFS_S-Sensitive	860 1,250	32 S:5	0	0	0	0	0	5	4	1	5	0	0
Lampropeltis zonata (pulchra) California mountain kingsnake (San Diego population)	G4G5 S1S2	None None	BLM_S-Sensitive CDFW_WL-Watch List IUCN_LC-Least Concern USFS_S-Sensitive	2,000 2,700	18 S:2	1	0	0	0	0	1	2	0	2	0	0
Lanius ludovicianus loggerhead shrike	G4 S4	None None	CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern USFWS_BCC-Birds of Conservation Concern	133 2,596	109 S:6	1	2	1	0	0	2	1	5	6	0	0
Lasionycteris noctivagans silver-haired bat	G5 S3S4	None None	IUCN_LC-Least Concern WBWG_M-Medium Priority	60 60	139 S:1	0	0	0	0	0	1	1	0	1	0	0
Lasiurus cinereus hoary bat	G5 S4	None None	IUCN_LC-Least Concern WBWG_M-Medium Priority		236 S:1	0	0	0	0	0	1	1	0	1	0	0
Lasiurus xanthinus western yellow bat	G5 S3	None None	CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern WBWG_H-High Priority	-120 3,200	58 S:19	0	0	0	0	0	19	17	2	19	0	0
Lasthenia glabrata ssp. coulteri Coulter's goldfields	G4T2 S2	None None	Rare Plant Rank - 1B.1 BLM_S-Sensitive SB_RSABG-Rancho Santa Ana Botanic Garden	5 1,460	97 S:13	2	1	0	0	4	6	8	5	9	4	0
Laterallus jamaicensis coturniculus California black rail	G3G4T1 S1	None Threatened	BLM_S-Sensitive CDFW_FP-Fully Protected IUCN_NT-Near Threatened NABCI_RWL-Red Watch List USFWS_BCC-Birds of Conservation Concern	170 1,070	303 S:4	0	0	0	0	0	4	4	0	4	0	0

Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
Lepechinia cardiophylla heart-leaved pitcher sage	G3 S2S3	None None	Rare Plant Rank - 1B.2 SB_RSABG-Rancho Santa Ana Botanic Garden USFS_S-Sensitive	750 3,700	25 S:16	1	1	1	0	0	13	4	12	16	0	0
Lepidium virginicum var. robinsonii Robinson's pepper-grass	G5T3 S3	None None	Rare Plant Rank - 4.3	525 2,100	142 S:14	0	0	0	0	0	14	9	5	14	0	0
Lepus californicus bennettii San Diego black-tailed jackrabbit	G5T3T4 S3S4	None None	CDFW_SSC-Species of Special Concern	1,060 2,745	103 S:13	0	3	7	0	0	3	2	11	13	0	0
Lilium parryi lemon lily	G3 S3	None None	Rare Plant Rank - 1B.2 SB_RSABG-Rancho Santa Ana Botanic Garden USFS_S-Sensitive	6,525 6,525	138 S:1	0	0	0	0	0	1	0	1	1	0	0
Linanthus jaegeri San Jacinto linanthus	G2 S2	None None	Rare Plant Rank - 1B.2 USFS_S-Sensitive	6,525 6,525	7 S:1	0	0	0	0	0	1	0	1	1	0	0
Linanthus maculatus ssp. maculatus Little San Bernardino Mtns. linanthus	G2T2 S2	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive SB_RSABG-Rancho Santa Ana Botanic Garden	450 1,980	48 S:16	0	3	1	1	2	9	10	6	14	1	1
Lithobates pipiens northern leopard frog	G5 S2	None None	CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern	555 1,100	22 S:2	0	0	0	0	0	2	2	0	2	0	0
Lycium parishii Parish's desert-thorn	G3? S1	None None	Rare Plant Rank - 2B.3		21 S:1	0	0	0	0	1	0	1	0	0	0	1
Macrobaenetes valgum Coachella giant sand treader cricket	G1G2 S1S2	None None	IUCN_VU-Vulnerable	40 1,060	5 S:5	0	0	0	0	0	5	5	0	5	0	0
Malacothamnus parishii Parish's bush-mallow	GXQ SX	None None	Rare Plant Rank - 1A	1,250 1,250	1 S:1	0	0	0	0	1	0	1	0	0	1	0
Marina orcuttii var. orcuttii California marina	G2G3T1T2 S2?	None None	Rare Plant Rank - 1B.3 SB_RSABG-Rancho Santa Ana Botanic Garden USFS_S-Sensitive	1,200 1,200	3 S:1	0	0	0	0	0	1	1	0	1	0	0
Matelea parvifolia spear-leaf matelea	G5 S3	None None	Rare Plant Rank - 2B.3 USFS_S-Sensitive	2,700 2,700	26 S:1	0	0	0	0	0	1	1	0	1	0	0

Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database

Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
Mentzelia tricuspis spiny-hair blazing star	G4 S2	None None	Rare Plant Rank - 2B.1		16 S:2	0	0	0	0	0	2	2	0	2	0	0
Mesquite Bosque Mesquite Bosque	G3 S2.1	None None		1,800 1,800	14 S:1	0	0	0	0	0	1	1	0	1	0	0
Monardella australis ssp. jokerstii Jokerst's monardella	G4T1 S1	None None	Rare Plant Rank - 1B.1 USFS_S-Sensitive	700 700	3 S:1	0	0	0	0	0	1	1	0	1	0	0
Monardella hypoleuca ssp. intermedia intermediate monardella	G4T2? S2?	None None	Rare Plant Rank - 1B.3	1,000 3,750	38 S:7	0	0	0	0	0	7	5	2	7	0	0
Monardella pringlei Pringle's monardella	GX SX	None None	Rare Plant Rank - 1A	1,000 1,000	2 S:1	0	0	0	0	0	1	1	0	1	0	0
Myotis yumanensis Yuma myotis	G5 S4	None None	BLM_S-Sensitive IUCN_LC-Least Concern WBWG_LM-Low-Medium Priority	300 300	263 S:1	0	0	0	0	0	1	0	1	1	0	0
Nama stenocarpa mud nama	G4G5 S1S2	None None	Rare Plant Rank - 2B.2	1,400 1,400	22 S:1	0	0	0	0	0	1	0	1	1	0	0
Nasturtium gambelii Gambel's water cress	G1 S1	Endangered Threatened	Rare Plant Rank - 1B.1 SB_RSABG-Rancho Santa Ana Botanic Garden SB_SBBG-Santa Barbara Botanic Garden	1,000 1,000	13 S:2	0	0	0	0	2	0	2	0	0	0	2
Navarretia prostrata prostrate vernal pool navarretia	G2 S2	None None	Rare Plant Rank - 1B.1		60 S:3	0	0	0	0	3	0	3	0	0	3	0
Nemacaulis denudata var. denudata coast woolly-heads	G3G4T2 S2	None None	Rare Plant Rank - 1B.2 SB_RSABG-Rancho Santa Ana Botanic Garden		42 S:1	0	0	0	0	0	1	1	0	1	0	0
Nemacaulis denudata var. gracilis slender cottonheads	G3G4T3? S2	None None	Rare Plant Rank - 2B.2	100 1,000	24 S:5	0	0	0	0	3	2	5	0	2	2	1
Neotoma lepida intermedia San Diego desert woodrat	G5T3T4 S3S4	None None	CDFW_SSC-Species of Special Concern	320 2,640	118 S:25	1	1	3	0	0	20	22	3	25	0	0

Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database

Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
Nolina cismontana chaparral nolina	G3 S3	None None	Rare Plant Rank - 1B.2 SB_RSABG-Rancho Santa Ana Botanic Garden SB_SBBG-Santa Barbara Botanic Garden USFS_S-Sensitive	735 2,300	68 S:26	0	4	0	0	0	22	2	24	26	0	0
Nyctinomops femorosaccus pocketed free-tailed bat	G4 S3	None None	CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern WBWG_M-Medium Priority	400 1,600	90 S:7	0	0	0	0	0	7	7	0	7	0	0
Nyctinomops macrotis big free-tailed bat	G5 S3	None None	CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern WBWG_MH-Medium-High Priority	300 500	32 S:2	0	0	0	0	0	2	2	0	2	0	0
Oliarces clara cheeseweed owlfly (cheeseweed moth lacewing)	G1G3 S2	None None		560 800	11 S:2	0	0	0	0	0	2	2	0	2	0	0
Onychomys torridus ramona southern grasshopper mouse	G5T3 S3	None None	CDFW_SSC-Species of Special Concern	1,180 2,000	28 S:3	0	0	0	0	0	3	3	0	3	0	0
Orcuttia californica California Orcutt grass	G1 S1	Endangered Endangered	Rare Plant Rank - 1B.1 SB_RSABG-Rancho Santa Ana Botanic Garden	40 125	37 S:2	0	0	0	0	2	0	2	0	0	0	2
Ovis canadensis nelsoni desert bighorn sheep	G4T4 S3	None None	BLM_S-Sensitive CDFW_FP-Fully Protected USFS_S-Sensitive		46 S:1	0	0	0	0	0	1	1	0	1	0	0
Ovis canadensis nelsoni pop. 2 Peninsular bighorn sheep DPS	G4T3Q S1	Endangered Threatened	CDFW_FP-Fully Protected	2,000 2,000	7 S:1	0	0	0	0	0	1	1	0	1	0	0
Passerculus sandwichensis beldingi Belding's savannah sparrow	G5T3 S3	None Endangered		5 5	38 S:1	0	0	0	0	0	1	0	1	1	0	0

Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database

Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
Penstemon californicus California beardtongue	G3 S2	None None	Rare Plant Rank - 1B.2 SB_RSABG-Rancho Santa Ana Botanic Garden SB_USDA-US Dept of Agriculture USFS_S-Sensitive	800 800	13 S:1	0	0	0	0	0	1	1	0	1	0	0
Penstemon pseudospectabilis ssp. pseudospectabilis desert beardtongue	G4G5T4 S3	None None	Rare Plant Rank - 2B.2		25 S:1	0	0	0	0	0	1	0	1	1	0	0
Pentachaeta aurea ssp. allenii Allen's pentachaeta	G4T1 S1	None None	Rare Plant Rank - 1B.1	1,700 1,700	8 S:2	0	0	0	0	0	2	0	2	2	0	0
Perognathus longimembris bangsi Palm Springs pocket mouse	G5T2 S2	None None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern	75 1,525	18 S:5	1	1	3	0	0	0	1	4	5	0	0
Perognathus longimembris brevinasus Los Angeles pocket mouse	G5T1T2 S1S2	None None	CDFW_SSC-Species of Special Concern	1,000 3,000	56 S:23	1	2	7	0	0	13	11	12	23	0	0
Petalonyx linearis narrow-leaf sandpaper-plant	G4 S3?	None None	Rare Plant Rank - 2B.3	1,000 1,000	26 S:2	0	0	0	0	0	2	2	0	2	0	0
Phacelia keckii Santiago Peak phacelia	G1 S1	None None	Rare Plant Rank - 1B.3 USFS_S-Sensitive	3,860 3,860	7 S:1	0	0	0	0	0	1	1	0	1	0	0
Phacelia stellaris Brand's star phacelia	G1 S1	None None	Rare Plant Rank - 1B.1 SB_RSABG-Rancho Santa Ana Botanic Garden	45 750	15 S:3	0	0	0	0	2	1	2	1	1	2	0
Phrynosoma blainvillii coast horned lizard	G3G4 S3S4	None None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern	10 3,500	774 S:51	5	8	3	0	9	26	40	11	42	7	2
Phrynosoma mcallii flat-tailed horned lizard	G3 S2	None None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_NT-Near Threatened	-10 1,616	340 S:19	1	1	1	0	3	13	17	2	16	3	0
Plegadis chihi white-faced ibis	G5 S3S4	None None	CDFW_WL-Watch List IUCN_LC-Least Concern	1,425 1,425	20 S:1	0	0	0	0	0	1	1	0	1	0	0

Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database

Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
Polioptila californica californica coastal California gnatcatcher	G4G5T2Q S2	Threatened None	CDFW_SSC-Species of Special Concern NABCI_YWL-Yellow Watch List	300 2,250	830 S:118	8	20	14	6	2	68	32	86	116	2	0
Polioptila melanura black-tailed gnatcatcher	G5 S3S4	None None	CDFW_WL-Watch List IUCN_LC-Least Concern	-120 500	31 S:7	0	2	0	0	1	4	7	0	6	1	0
Progne subis purple martin	G5 S3	None None	CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern	2,620 3,800	71 S:2	0	0	0	0	0	2	2	0	2	0	0
Pseudognaphalium leucocephalum white rabbit-tobacco	G4 S2	None None	Rare Plant Rank - 2B.2	500 730	62 S:2	0	0	0	0	0	2	1	1	2	0	0
Pseudorontium cyathiferum Deep Canyon snapdragon	G4G5 S1	None None	Rare Plant Rank - 2B.3	900 900	3 S:1	0	0	0	0	0	1	1	0	1	0	0
Pyrocephalus rubinus vermilion flycatcher	G5 S2S3	None None	CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern	120 120	25 S:2	0	0	0	0	0	2	2	0	2	0	0
Rana draytonii California red-legged frog	G2G3 S2S3	Threatened None	CDFW_SSC-Species of Special Concern IUCN_VU-Vulnerable	1,080 2,159	1497 S:2	0	0	0	0	0	2	1	1	2	0	0
Rana muscosa southern mountain yellow-legged frog	G1 S1	Endangered Endangered	CDFW_WL-Watch List IUCN_EN-Endangered USFS_S-Sensitive	800 2,000	186 S:6	0	0	0	0	6	0	6	0	0	4	2
Rhaphiomidas terminatus abdominalis Delhi Sands flower-loving fly	G1T1 S1	Endangered None		925 1,164	36 S:20	0	8	1	2	7	2	6	14	13	1	6
Rhinichthys osculus ssp. 3 Santa Ana speckled dace	G5T1 S1	None None	AFS_TH-Threatened CDFW_SSC-Species of Special Concern USFS_S-Sensitive	680 1,600	13 S:2	0	1	1	0	0	0	2	0	2	0	0
Ribes divaricatum var. parishii Parish's gooseberry	G5TX SX	None None	Rare Plant Rank - 1A	1,000 1,080	5 S:2	0	0	0	0	2	0	2	0	0	2	0
Riparia riparia bank swallow	G5 S2	None Threatened	BLM_S-Sensitive IUCN_LC-Least Concern		297 S:2	0	0	0	0	2	0	2	0	0	0	2
Riversidian Alluvial Fan Sage Scrub Riversidian Alluvial Fan Sage Scrub	G1 S1.1	None None		800 2,000	30 S:3	0	1	2	0	0	0	3	0	3	0	0

Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database

Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
Saltugilia latimeri Latimer's woodland-gilia	G3 S3	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive SB_RSABG-Rancho Santa Ana Botanic Garden SB_USDA-US Dept of Agriculture USFS_S-Sensitive	400 1,500	60 S:2	0	0	0	0	0	2	1	1	2	0	0
Salvadora hexalepis virgultea coast patch-nosed snake	G5T4 S2S3	None None	CDFW_SSC-Species of Special Concern	875 1,672	34 S:4	0	1	0	0	0	3	1	3	4	0	0
Selaginella eremophila desert spike-moss	G4 S2S3	None None	Rare Plant Rank - 2B.2	745 2,500	75 S:12	0	0	0	0	0	12	7	5	12	0	0
Senecio aphanactis chaparral ragwort	G3 S2	None None	Rare Plant Rank - 2B.2	2,300 2,300	82 S:2	0	0	0	0	0	2	0	2	2	0	0
Setophaga petechia yellow warbler	G5 S3S4	None None	CDFW_SSC-Species of Special Concern USFWS_BCC-Birds of Conservation Concern	300 2,473	70 S:15	1	0	0	1	0	13	2	13	15	0	0
Sidalcea neomexicana salt spring checkerbloom	G4 S2	None None	Rare Plant Rank - 2B.2 USFS_S-Sensitive	10 1,050	30 S:6	0	0	0	0	5	1	6	0	1	4	1
Southern California Arroyo Chub/Santa Ana Sucker Stream Southern California Arroyo Chub/Santa Ana Sucker Stream	GNR SNR	None None		570 570	4 S:1	0	0	0	0	0	1	1	0	1	0	0
Southern Coast Live Oak Riparian Forest Southern Coast Live Oak Riparian Forest	G4 S4	None None		500 2,220	246 S:21	0	0	0	0	2	19	21	0	19	0	2
Southern Coastal Salt Marsh Southern Coastal Salt Marsh	G2 S2.1	None None			24 S:1	0	0	0	0	0	1	1	0	1	0	0
Southern Cottonwood Willow Riparian Forest Southern Cottonwood Willow Riparian Forest	G3 S3.2	None None		300 2,170	111 S:10	0	0	1	0	2	7	10	0	8	0	2
Southern Interior Cypress Forest Southern Interior Cypress Forest	G2 S2.1	None None		2,000 2,500	24 S:3	1	0	0	0	0	2	2	1	3	0	0
Southern Riparian Forest Southern Riparian Forest	G4 S4	None None		1,780 2,200	20 S:2	0	1	0	0	0	1	2	0	2	0	0

Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database

Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
Southern Riparian Scrub	G3	None		1,070	56	0	0	0	0	0	2	2	0	2	0	0
Southern Riparian Scrub	S3.2	None		1,360	S:2											
Southern Sycamore Alder Riparian Woodland	G4	None		480	230	0	0	0	0	0	30	30	0	30	0	0
Southern Sycamore Alder Riparian Woodland	S4	None		2,200	S:30											
Southern Willow Scrub	G3	None		370	45	0	0	0	0	0	4	4	0	4	0	0
Southern Willow Scrub	S2.1	None		1,120	S:4											
Spea hammondii	G3	None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_NT-Near Threatened	1,100	463	2	3	4	0	0	9	6	12	18	0	0
western spadefoot	S3	None		2,600	S:18											
Sphenopholis obtusata	G5	None	Rare Plant Rank - 2B.2	800	19	0	0	0	0	0	2	2	0	2	0	0
prairie wedge grass	S2	None		1,000	S:2											
Spinus lawrencei	G3G4	None	IUCN_LC-Least Concern NABCI_YWL-Yellow Watch List USFWS_BCC-Birds of Conservation Concern	710	4	0	1	0	0	0	1	0	2	2	0	0
Lawrence's goldfinch	S3S4	None		1,690	S:2											
Stemodia durantifolia	G5	None	Rare Plant Rank - 2B.1	600	21	0	0	0	0	0	3	3	0	3	0	0
purple stemodia	S2	None		1,000	S:3											
Stenopelmatus cahuilaensis	G1G2	None	IUCN_VU-Vulnerable	230	11	0	0	0	1	3	7	4	7	8	2	1
Coachella Valley jerusalem cricket	S1S2	None		1,780	S:11											
Sternula antillarum browni	G4T2T3Q	Endangered	CDFW_FP-Fully Protected NABCI_RWL-Red Watch List	10	71	0	0	0	0	2	0	2	0	0	0	2
California least tern	S2	Endangered		10	S:2											
Streptanthus campestris	G3	None	Rare Plant Rank - 1B.3 BLM_S-Sensitive USFS_S-Sensitive	6,000	38	0	0	0	0	0	1	1	0	1	0	0
southern jewelflower	S3	None		6,000	S:1											
Streptocephalus woottoni	G1G2	Endangered	IUCN_EN-Endangered	1,520	82	0	0	0	0	2	0	2	0	0	1	1
Riverside fairy shrimp	S1S2	None		1,540	S:2											
Suaeda esteroa	G3	None	Rare Plant Rank - 1B.2	0	39	0	1	0	0	0	0	0	1	1	0	0
estuary seablite	S2	None		0	S:1											

Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database

Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
Symphyotrichum defoliatum San Bernardino aster	G2 S2	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive USFS_S-Sensitive	10 3,920	102 S:8	0	0	0	0	6	2	7	1	2	1	5
Symphyotrichum greatae Greata's aster	G2 S2	None None	Rare Plant Rank - 1B.3 BLM_S-Sensitive		56 S:2	0	0	0	0	2	0	2	0	0	2	0
Taricha torosa Coast Range newt	G4 S4	None None	CDFW_SSC-Species of Special Concern	1,800 2,040	87 S:2	0	2	0	0	0	0	1	1	2	0	0
Taxidea taxus American badger	G5 S3	None None	CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern	-10 2,360	559 S:6	0	0	0	0	0	6	5	1	6	0	0
Thamnophis hammondii two-striped gartersnake	G4 S3S4	None None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern USFS_S-Sensitive	700 1,430	175 S:4	0	2	0	2	0	0	0	4	4	0	0
Thelypteris puberula var. sonorensis Sonoran maiden fern	G5T3 S2	None None	Rare Plant Rank - 2B.2 USFS_S-Sensitive	1,500 1,500	27 S:1	0	0	0	0	0	1	1	0	1	0	0
Toxostoma crissale Crissal thrasher	G5 S3	None None	CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern	-120 500	67 S:5	0	0	0	0	0	5	5	0	5	0	0
Toxostoma lecontei Le Conte's thrasher	G4 S3	None None	CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern NABCI_RWL-Red Watch List USFWS_BCC-Birds of Conservation Concern	-10 1,760	236 S:10	0	0	0	0	0	10	10	0	10	0	0
Trichocoronis wrightii var. wrightii Wright's trichocoronis	G4T3 S1	None None	Rare Plant Rank - 2B.1	1,420 1,420	9 S:1	0	0	0	0	0	1	1	0	1	0	0
Uma inornata Coachella Valley fringe-toed lizard	G1Q S1	Threatened Endangered	IUCN_EN-Endangered	-110 2,300	162 S:139	1	7	8	6	27	90	131	8	112	17	10
Vireo bellii pusillus least Bell's vireo	G5T2 S2	Endangered Endangered	IUCN_NT-Near Threatened NABCI_YWL-Yellow Watch List	50 2,495	483 S:83	4	19	13	2	7	38	17	66	76	7	0

Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database

Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
Walnut Forest	G1	None		700	6	0	1	0	0	0	0	1	0	1	0	0
Walnut Forest	S1.1	None		700	S:1											
Xerospermophilus tereticaudus chlorus	G5T2Q	None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern	35	11	0	0	0	3	0	6	6	3	9	0	0
Palm Springs round-tailed ground squirrel	S2	None		1,780	S:9											
Xylorhiza cognata	G2	None	Rare Plant Rank - 1B.2 BLM_S-Sensitive SB_RSABG-Rancho Santa Ana Botanic Garden	600	36	0	0	0	0	0	2	1	1	2	0	0
Mecca-aster	S2	None		600	S:2											

Appendix C. Vegetation Communities Maps

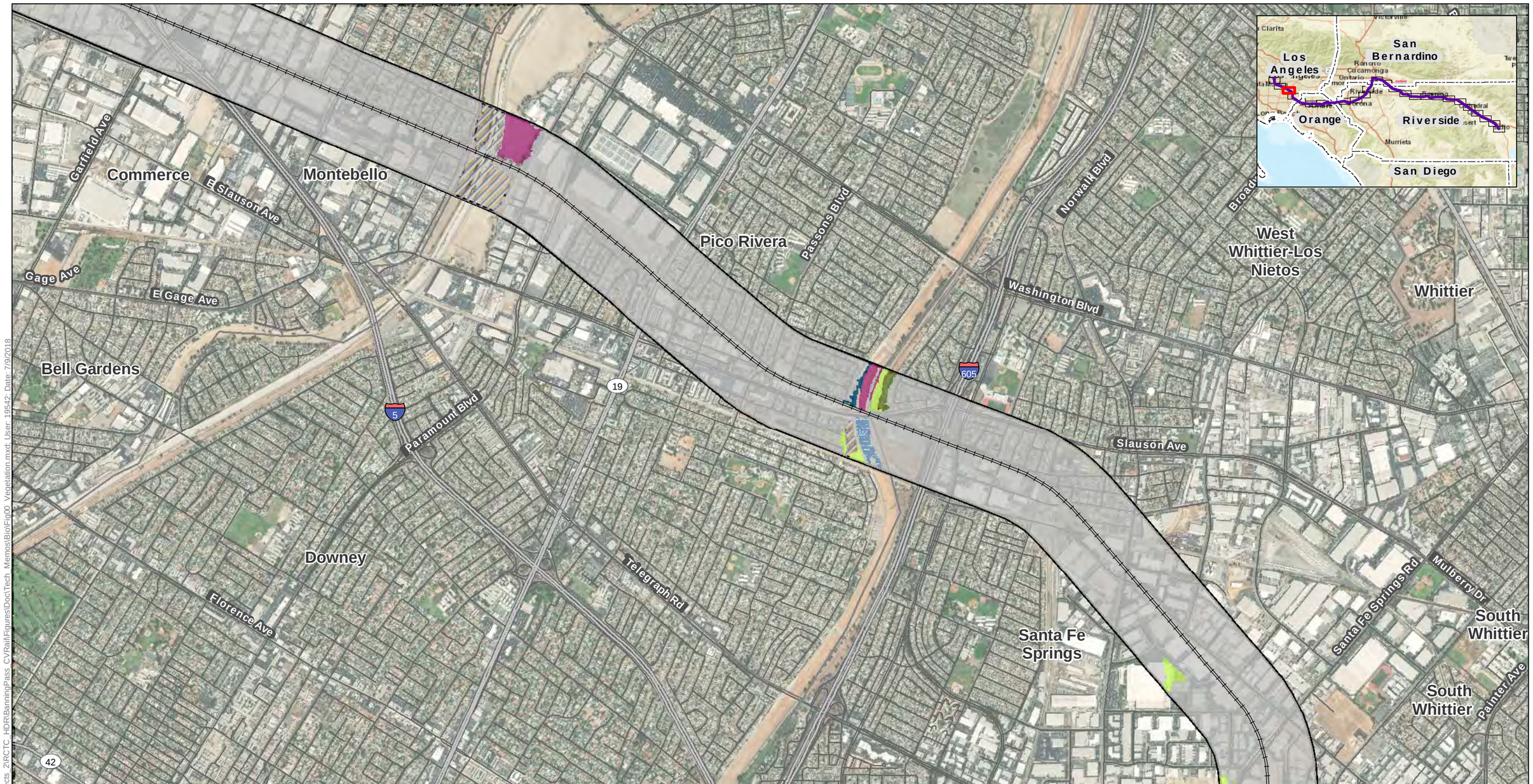
This page is intentionally blank.

Figure 1
Vegetation Communities within Study Area
Coachella Valley-San Gorgonio Pass Rail Corridor Service Study

Path: \\PDCCITRDSGIS1\Projects_2\RCTC_HDR\BanningPass_CVRailFigures\DocTech_Memos\BioFig00_Vegetation.mxd, User: 19542, Date: 7/9/2018

ICF

Figure 2
Vegetation Communities within Study Area
Coachella Valley-San Gorgonio Pass Rail Corridor Service Study

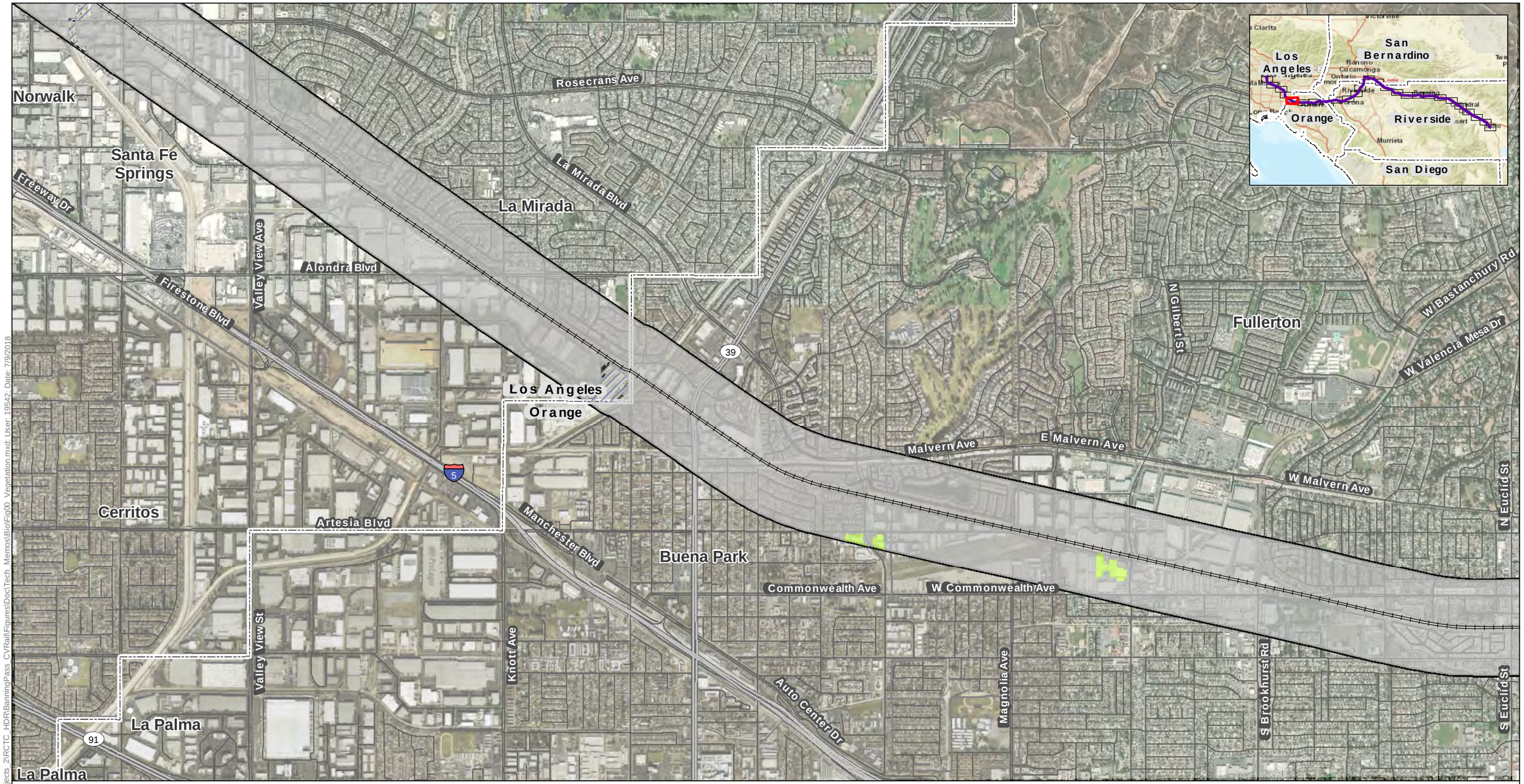


Path: \\PDCCITFRDSGIS1\Projects_2\RCTC_HDR\BanningPass_CVRailFigures\Doc\Tech Memos\Bio\Fig00_Vegetation.mxd; User: 19542; Date: 7/9/2018

Figure 3
Vegetation Communities within Study Area
Coachella Valley-San Gorgonio Pass Rail Corridor Service Study

Path: \PDCC\TRDSGIS1\Projects_2\RCTC_HDR\BanningPass_CVRailFigures\DocTech_Memos\BioFig00_Vegetation.mxd; User: 19542; Date: 7/9/2018

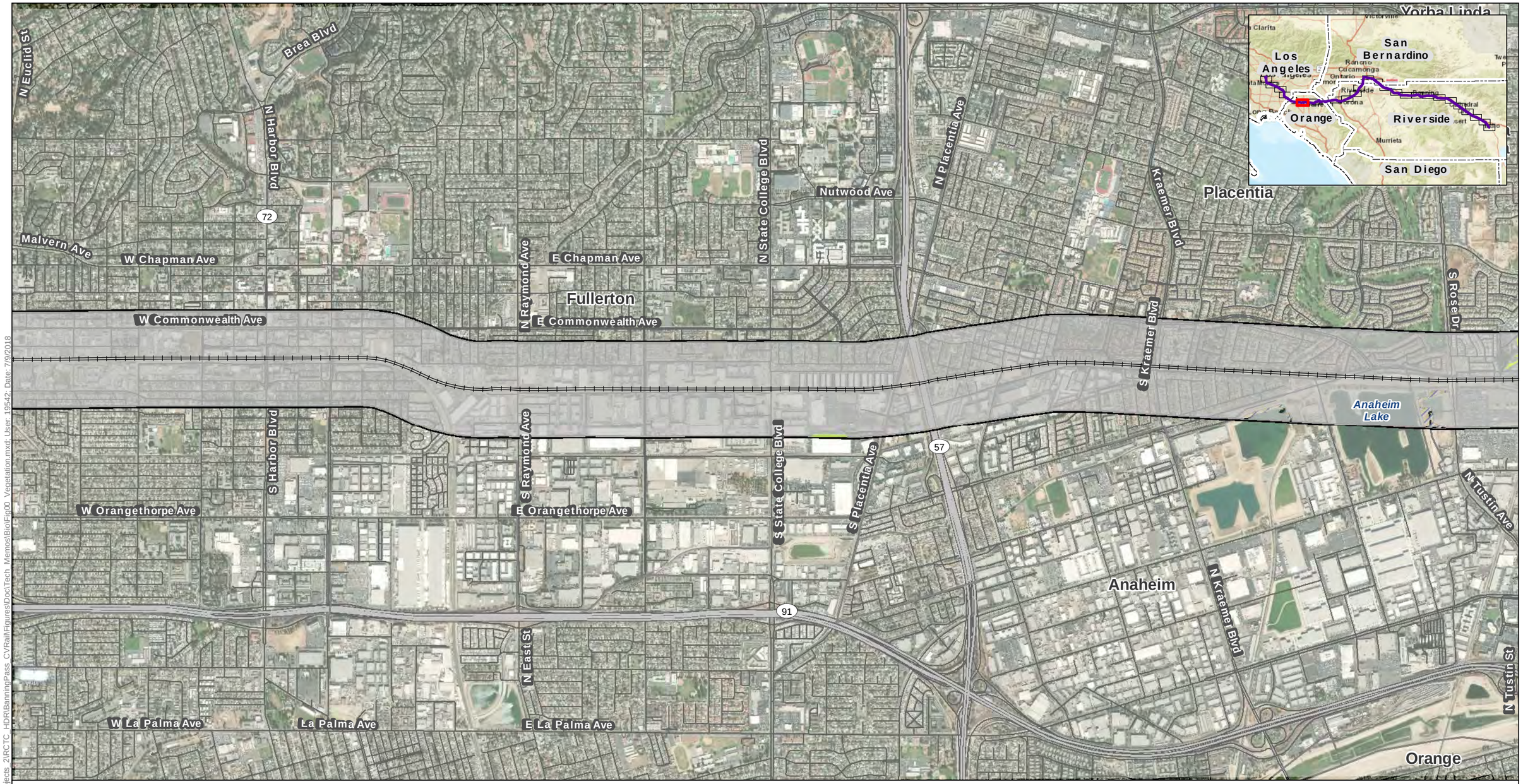
Figure 4
Vegetation Communities within Study Area
Coachella Valley-San Gorgonio Pass Rail Corridor Service Study



Source: Vegetation-CDFW (2012), CVMSHCP (2016), CalVeg (2011); Base Layers-ESRI (2017)

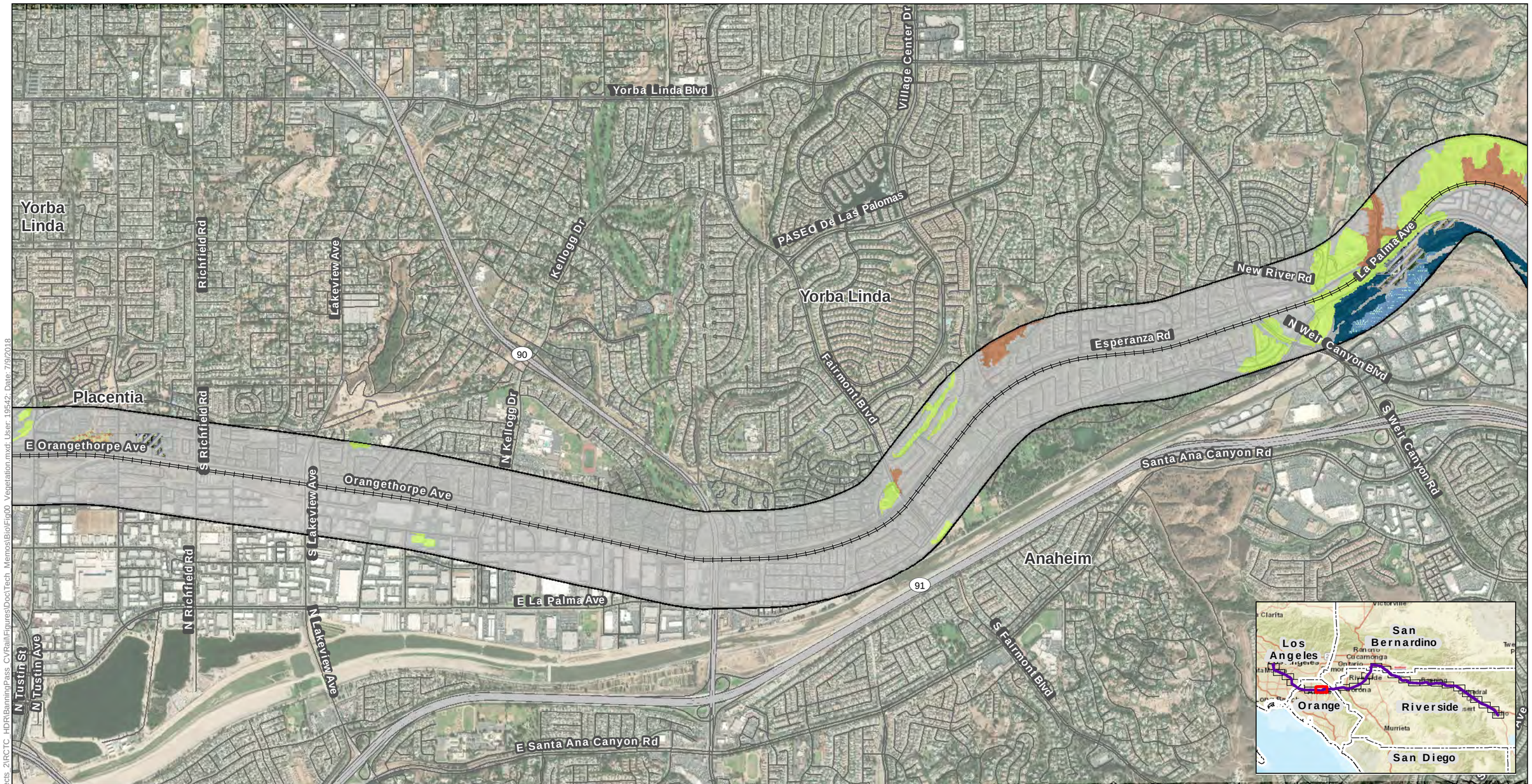
Path: \\PDCCITRDSGIS1\Projects_2\RCTC_HDR\BanningPass_CVRail\Figures\DocTech_Memos\Bio\Fig00_Vegetation.mxd; User: 19542; Date: 7/9/2018

Figure 5
Vegetation Communities within Study Area
Coachella Valley-San Gorgonio Pass Rail Corridor Service Study



Path: \\PDCCITRDSGIS1\Projects_2\RCTC_HDR\BanningPass_CVRailFigures\DocTech_Memos\BioFig00_Vegetation.mxd; User: 19542; Date: 7/9/2018

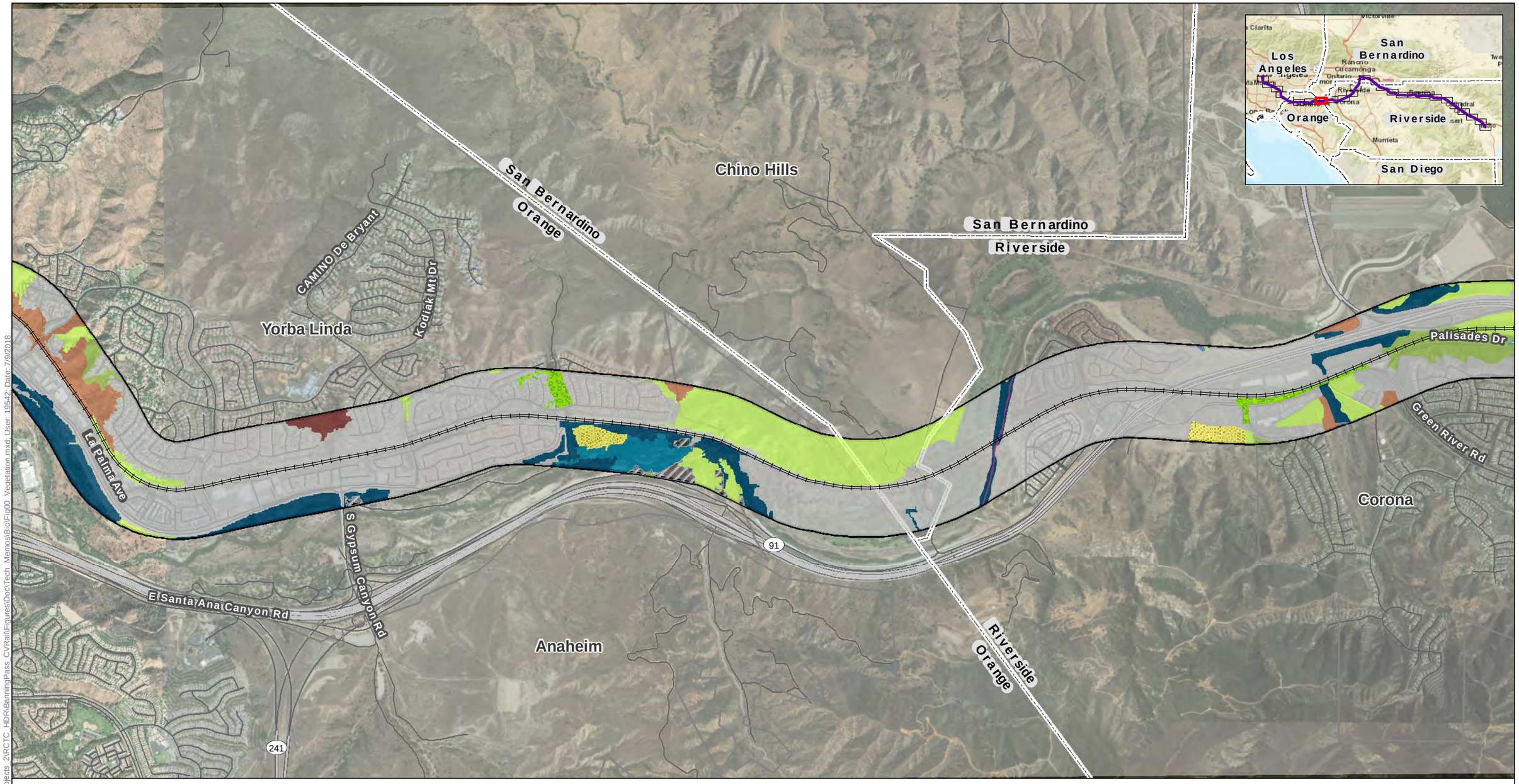
Figure 6
Vegetation Communities within Study Area
Coachella Valley-San Gorgonio Pass Rail Corridor Service Study



Source: Vegetation-CDFW (2012), CVMSHCP (2016), CalVeg (2011); Base Layers-ESRI (2017)

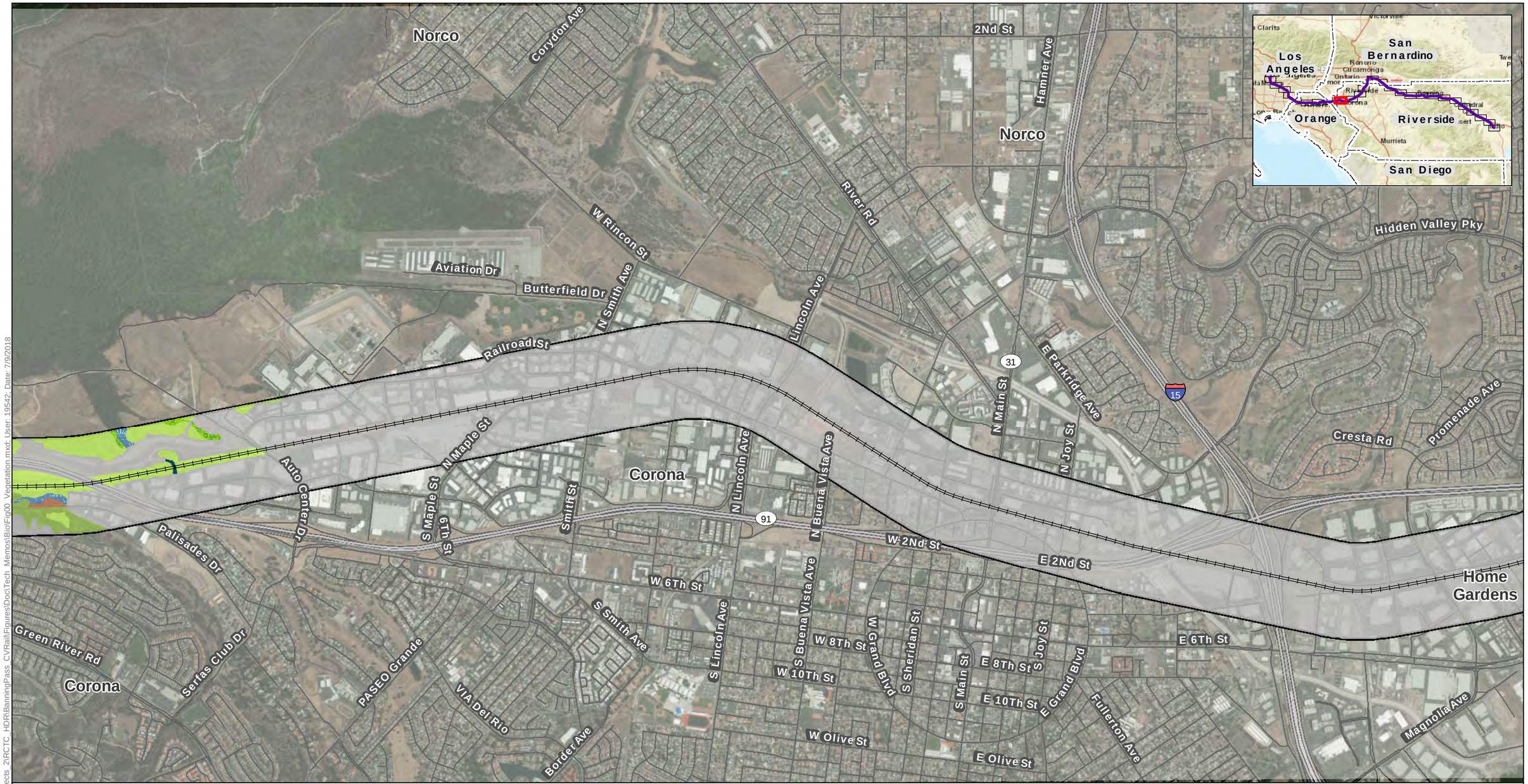
Path: \\PDCCITRDSGIS1\Projects_2\RCTC_HDR\BanningPass_CVRailFigures\DocTech Memos\BioFig00_Vegetation.mxd - User: 19542 - Date: 7/9/2018

Figure 7
Vegetation Communities within Study Area
Coachella Valley-San Gorgonio Pass Rail Corridor Service Study



Path: \\PDCCITRDSGIS11\Projects_2\RCTC_HDR\BanningPass_CV\Rail\Figures\DocTech_Memos\BioFig00_Vegetation.mxd; User: 1954J; Date: 7/9/2018

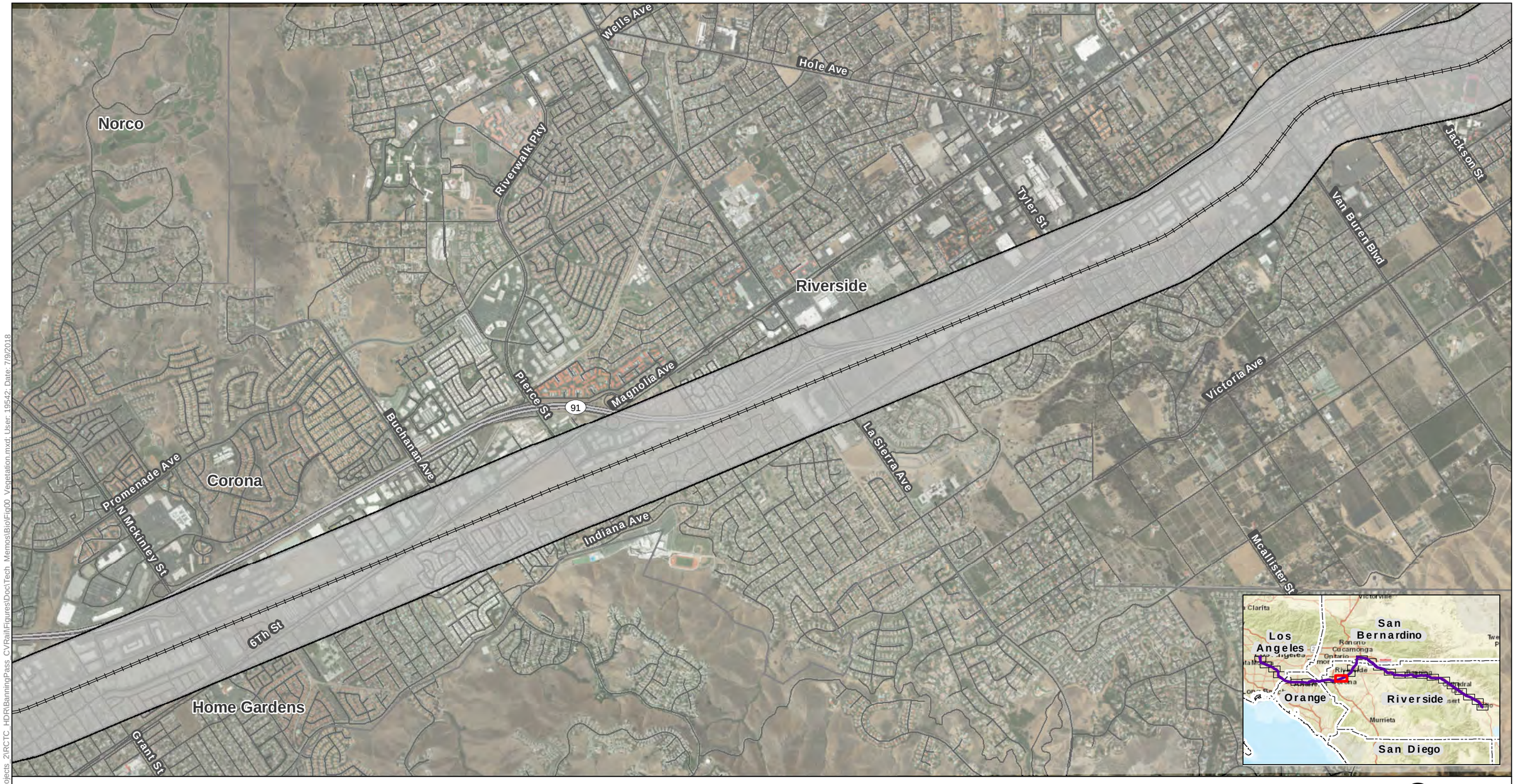
Figure 8
Vegetation Communities within Study Area
Coachella Valley-San Gorgonio Pass Rail Corridor Service Study



Source: Vegetation-CDFW (2012), CVMSHCP (2016), CalVeg (2011); Base Layers-ESRI (2017)

Path: \\PDCCITRDSGIS1\Projects_2\RCTC_HDR\BanningPass_CV\Rail\FiguresDocTech Memos\BioFig00_Vegetation.mxd User: 19542 Date: 7/9/2018

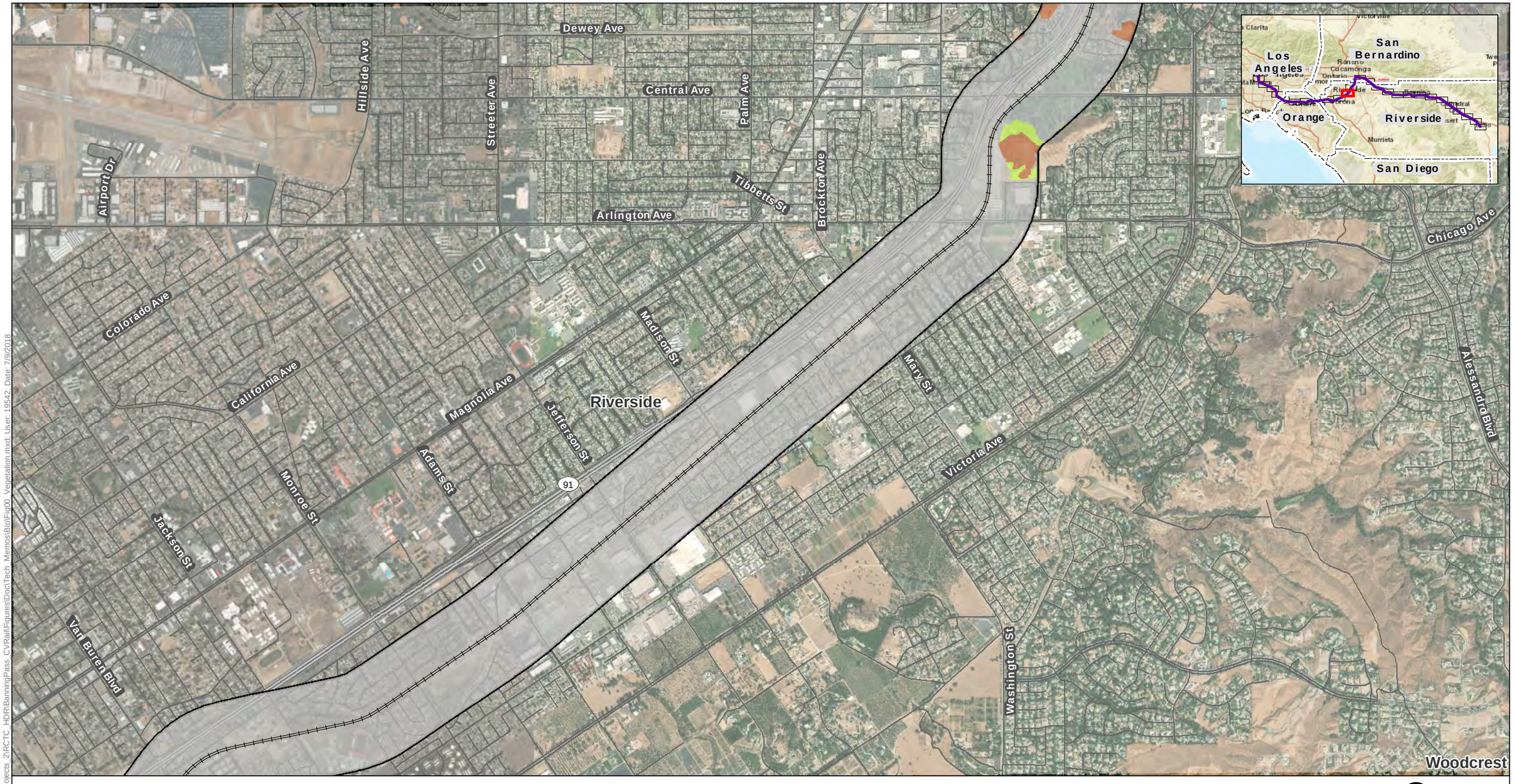
Figure 9
Vegetation Communities within Study Area
Coachella Valley-San Gorgonio Pass Rail Corridor Service Study



Source: Vegetation-CDFW (2012), CVMSHCP (2016), CalVeg (2011); Base Layers-ESRI (2017)

Path: \\PDCCITRDSGIS1\Projects_2\RCTC_HDR\BanningPass_CVRail\Figures\DocTech Memos\BioFig00_Vegetation.mxd; User: 19542; Date: 7/9/2018

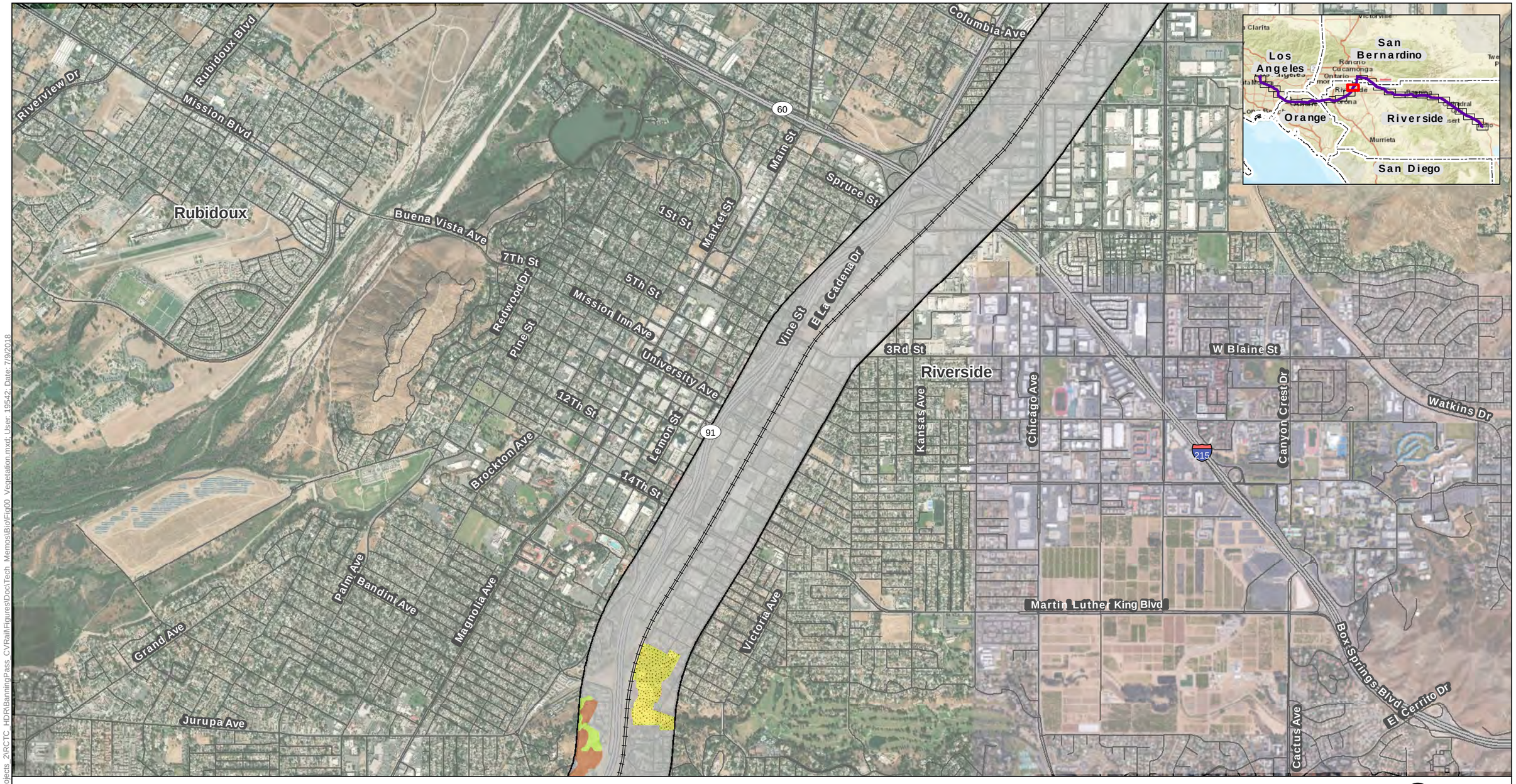
Figure 10
Vegetation Communities within Study Area
Coachella Valley-San Gorgonio Pass Rail Corridor Service Study



Path: \\PDCCITRDSGIS1\Projects_2\RCTC_HDR\BanningPass_CVRail\Figures\DocTech_Memos\BioFig00_Vegetation.mxd; User: 19542; Date: 7/9/2018

ICF

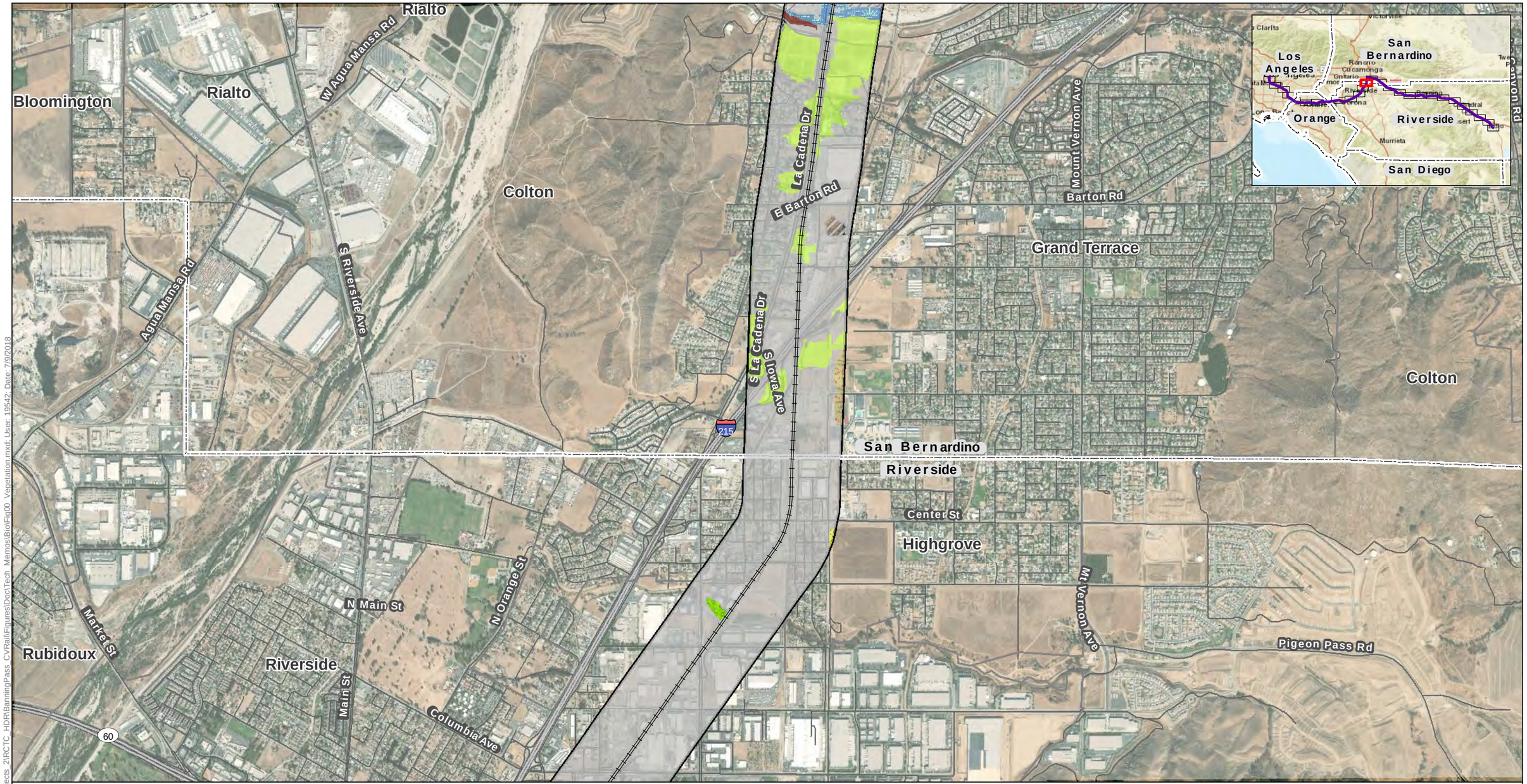
Figure 11
Vegetation Communities within Study Area
Coachella Valley-San Gorgonio Pass Rail Corridor Service Study



Source: Vegetation-CDFW (2012), CVMSHCP (2016), CalVeg (2011); Base Layers-ESRI (2017)

Path: \\PDCCITRDSGIS1\Projects_2\RCTC_HDR\BanningPass_CVRailFigures\DocTech_Memos\BioFig00_Vegetation.mxd; User: 19542; Date: 7/9/2018

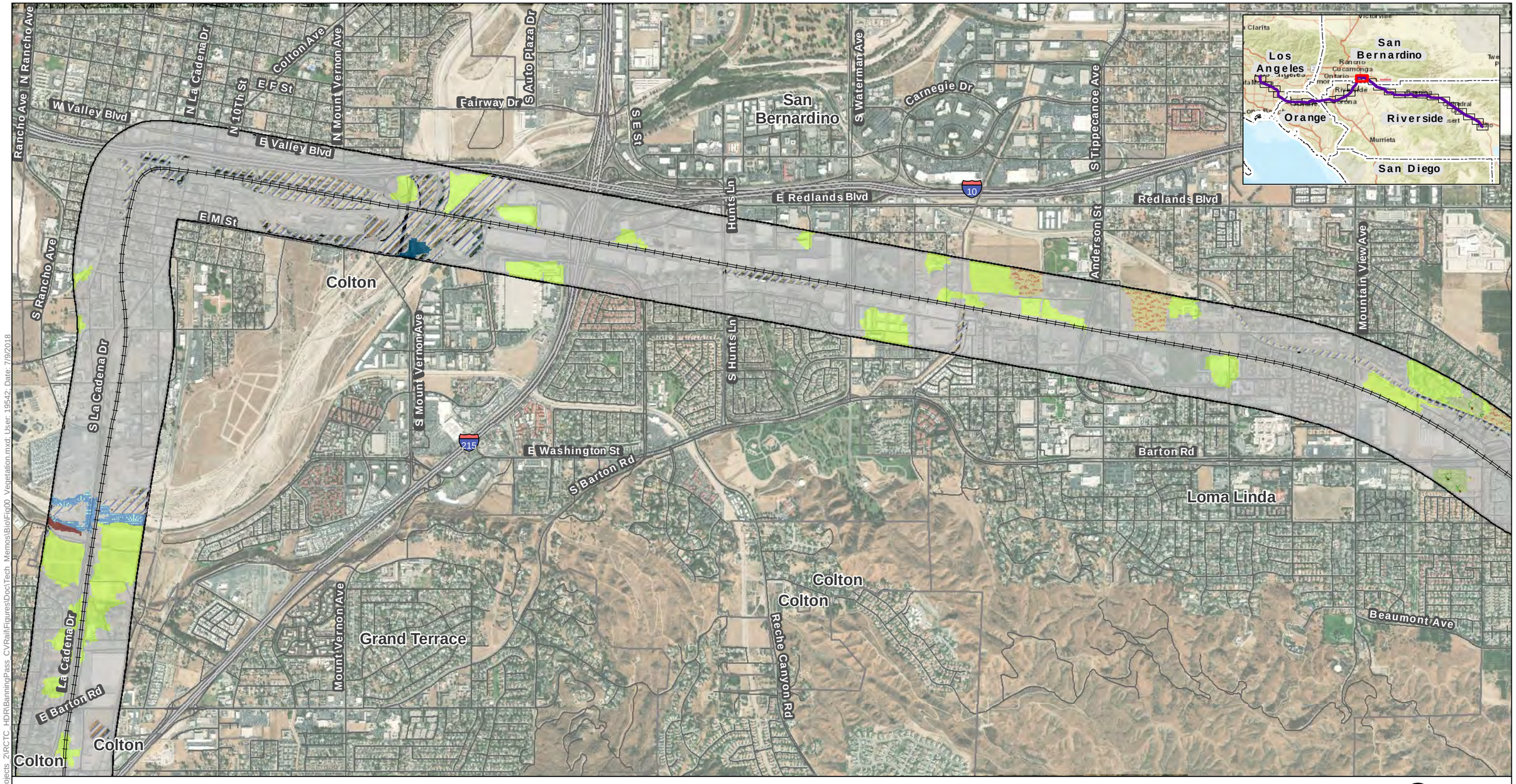
Figure 12
Vegetation Communities within Study Area
Coachella Valley-San Gorgonio Pass Rail Corridor Service Study



Source: Vegetation-CDFW (2012), CVMSHCP (2016), CalVeg (2011); Base Layers-ESRI (2017)

Path: \\PDCCITRDSGIS1\Projects_2\RCTC_HDR\BanningPass_CVRailFigures\DocTech_Memos\BioFig00_Vegetation.mxd; User: 19542; Date: 7/9/2018

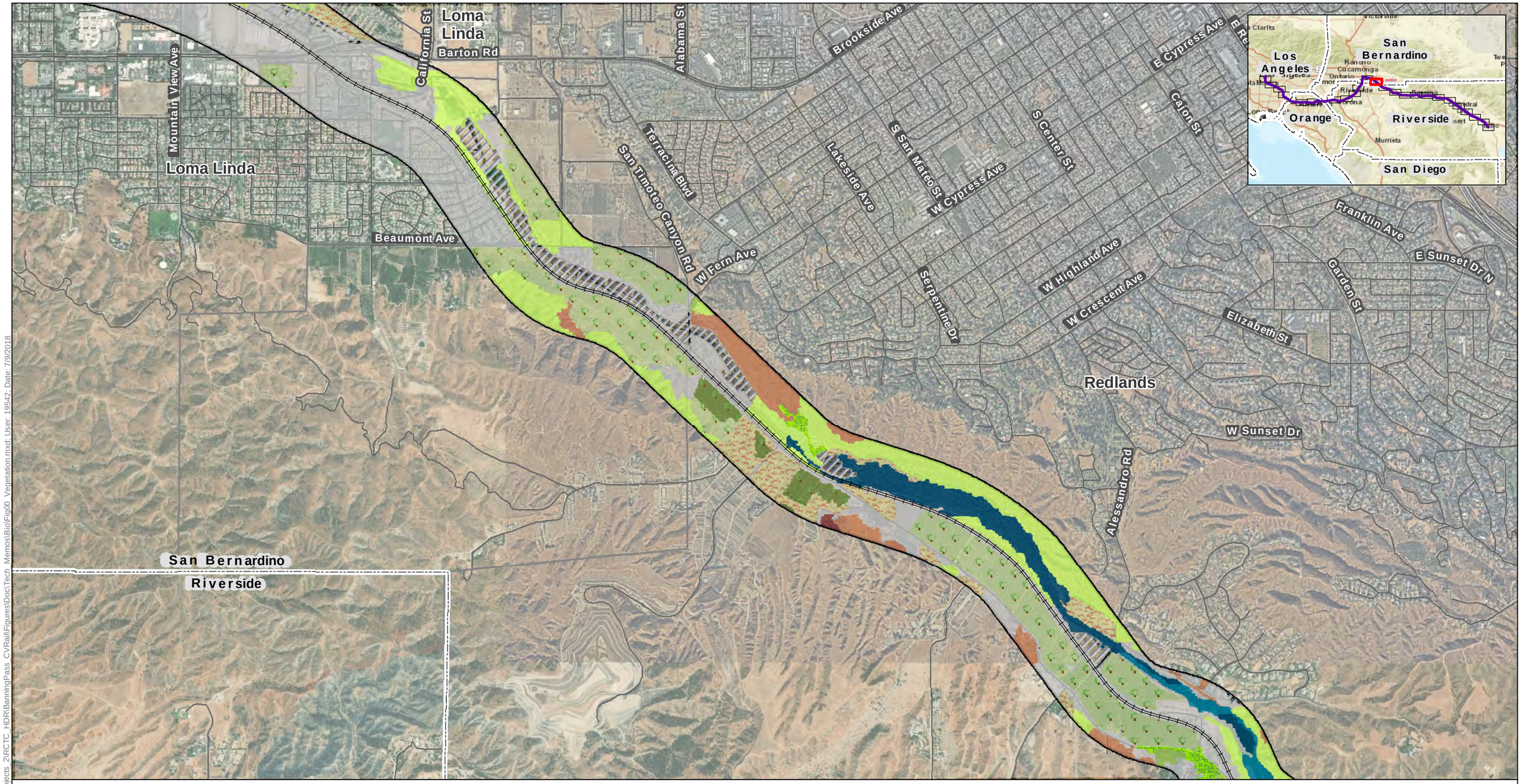
Figure 13
Vegetation Communities within Study Area
Coachella Valley-San Gorgonio Pass Rail Corridor Service Study



Source: Vegetation-CDFW (2012), CVMSHCP (2016), CalVeg (2011); Base Layers-ESRI (2017)

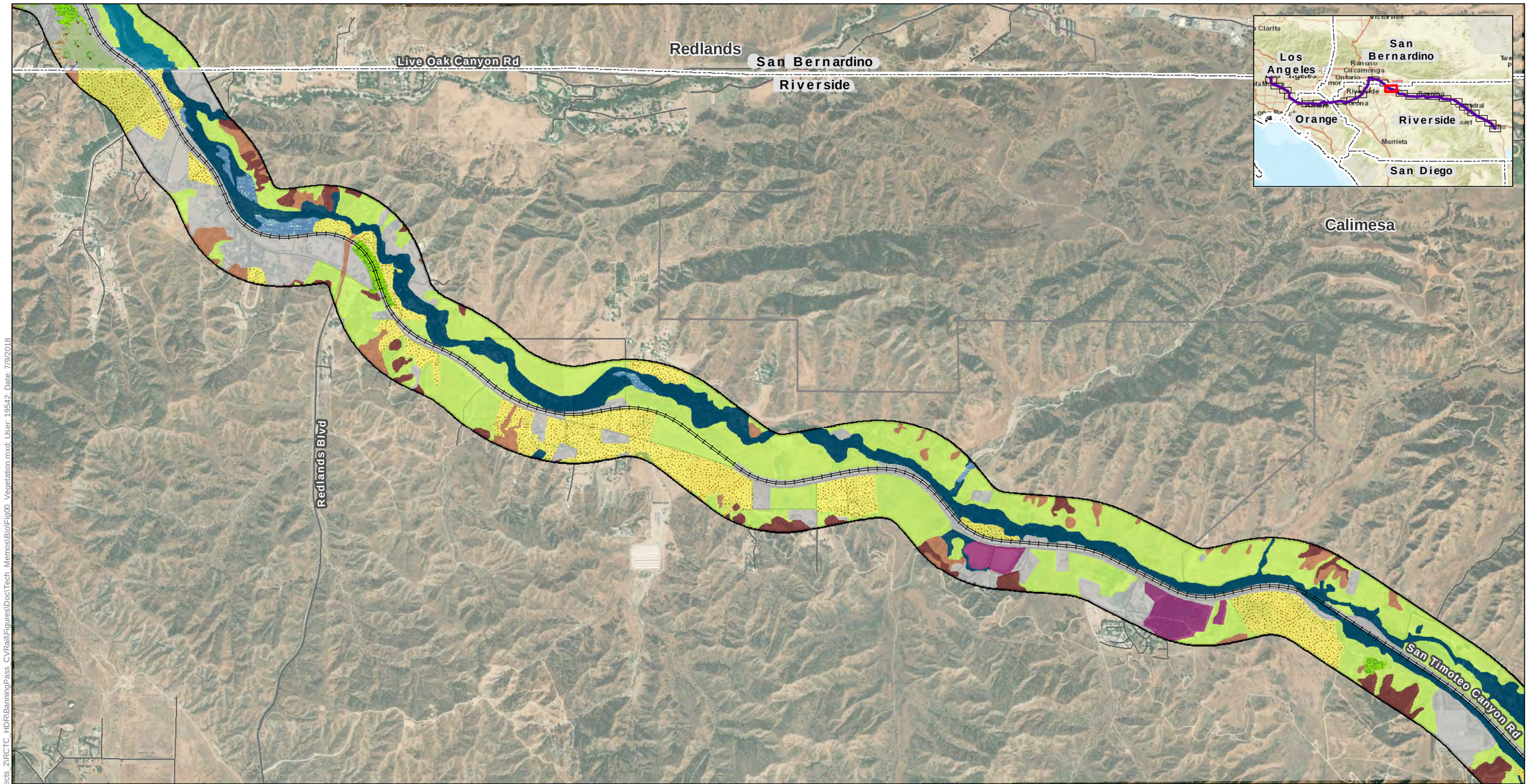
Path: \\PDCCITRDSGIS1\Projects_2\RCTC_HDR\BanningPass_CVRail\Figures\Doc\Tech_Memos\BioFig00_Vegetation.mxd User: 19542 Date: 7/9/2018

Figure 14
Vegetation Communities within Study Area
Coachella Valley-San Gorgonio Pass Rail Corridor Service Study



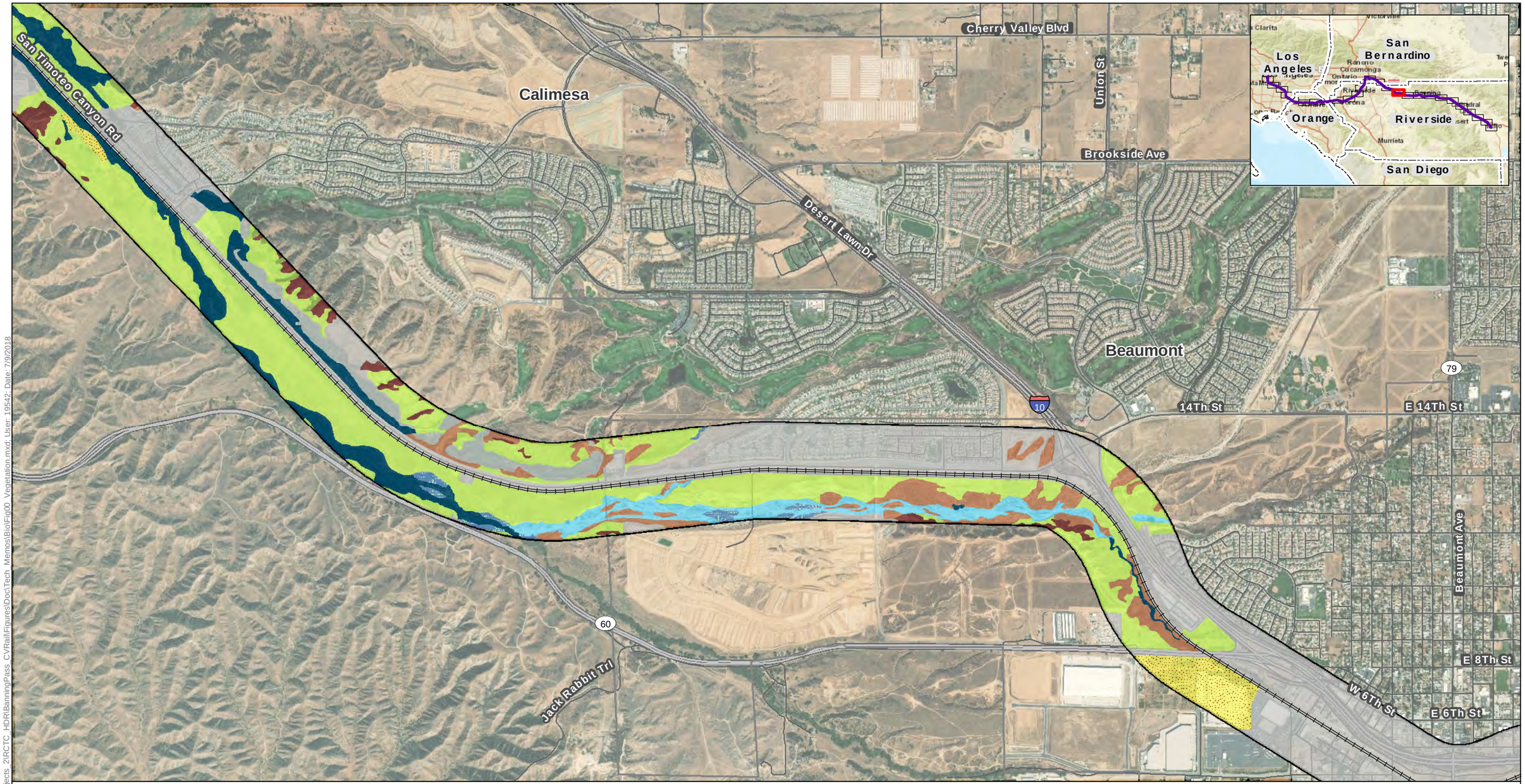
Path: \\PDCCITRDSGIS1\Projects_2\RCTC_HDR\BanningPass_CVRail\Figures\DocTech_Memos\BioFig\00_Vegetation.mxd; User: 19542; Date: 7/9/2018

Figure 15
Vegetation Communities within Study Area
Coachella Valley-San Gorgonio Pass Rail Corridor Service Study



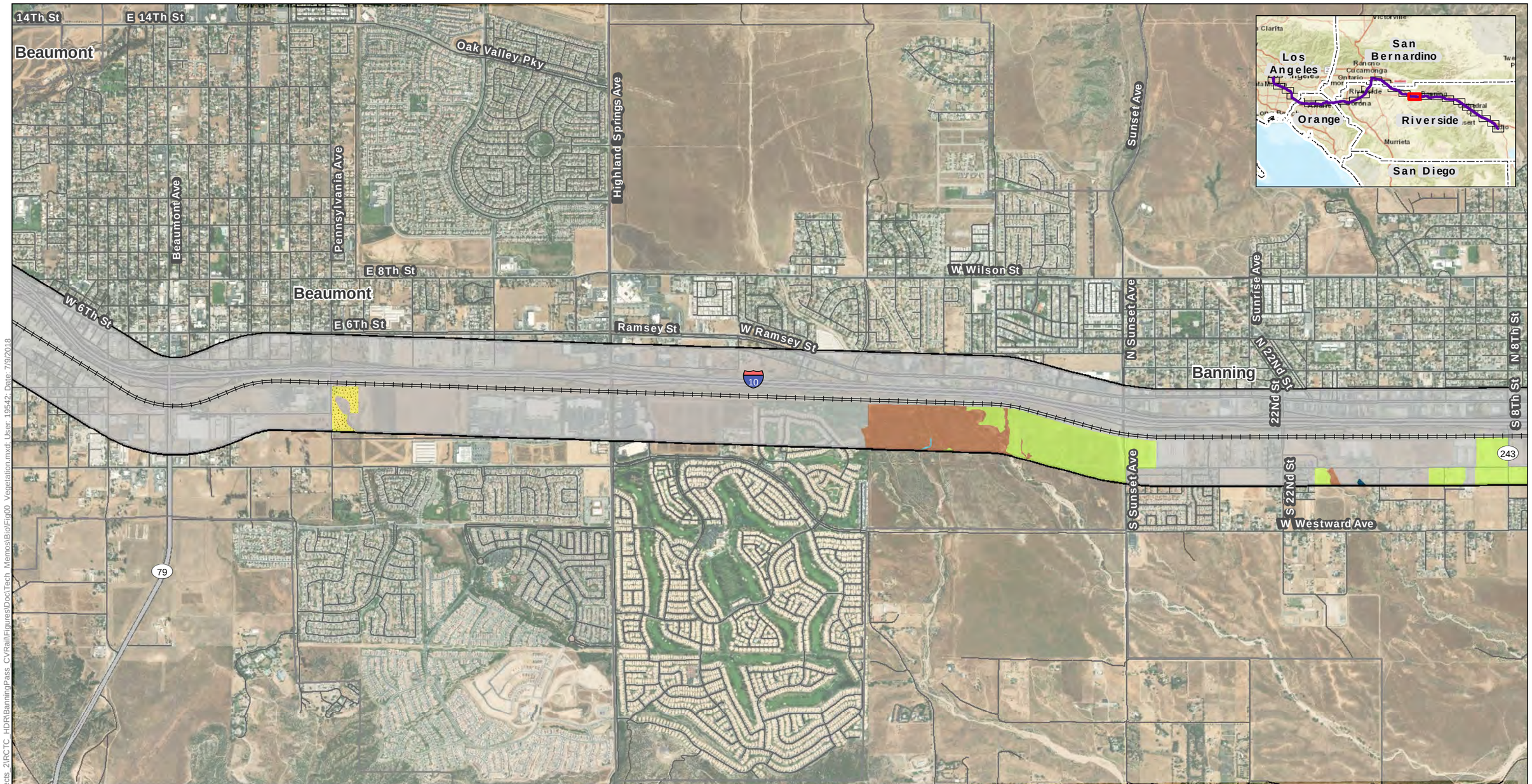
Path: \\PDCCIITRDSGIS1\Projects_2\RCTC_HDR\BanningPass_CVRail\Figures\DocTech Memos\BioFig00_Vegetation.mxd; User: 1954z; Date: 7/9/2018

Figure 16
Vegetation Communities within Study Area
Coachella Valley-San Gorgonio Pass Rail Corridor Service Study



Path: \\PDCCITRDSGIS1\Projects_2\RCTC_HDR\BanningPass_CVRail\Figures\DocTech_Memos\BioFig00_Vegetation.mxd; User: 19542; Date: 7/9/2018

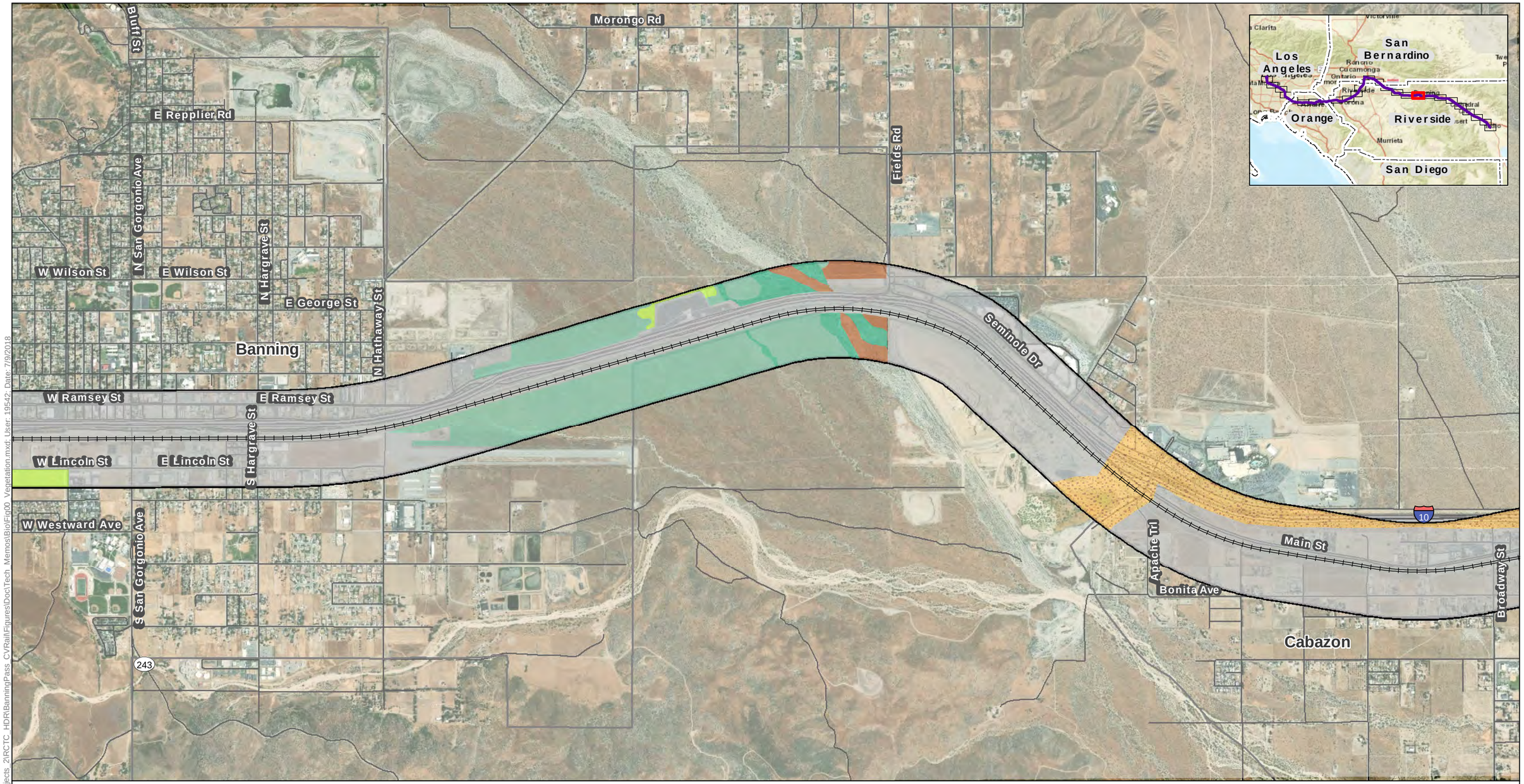
Figure 17
Vegetation Communities within Study Area
Coachella Valley-San Gorgonio Pass Rail Corridor Service Study



Source: Vegetation-CDFW (2012), CVMSHCP (2016), CalVeg (2011); Base Layers-ESRI (2017)

Path: \\PDCCITRDSGIS1\Projects_2\RCTC_HDR\BanningPass_CVRailFigures\DocTech_Memos\BioFig00_Vegetation.mxd; User: 19542; Date: 7/9/2018

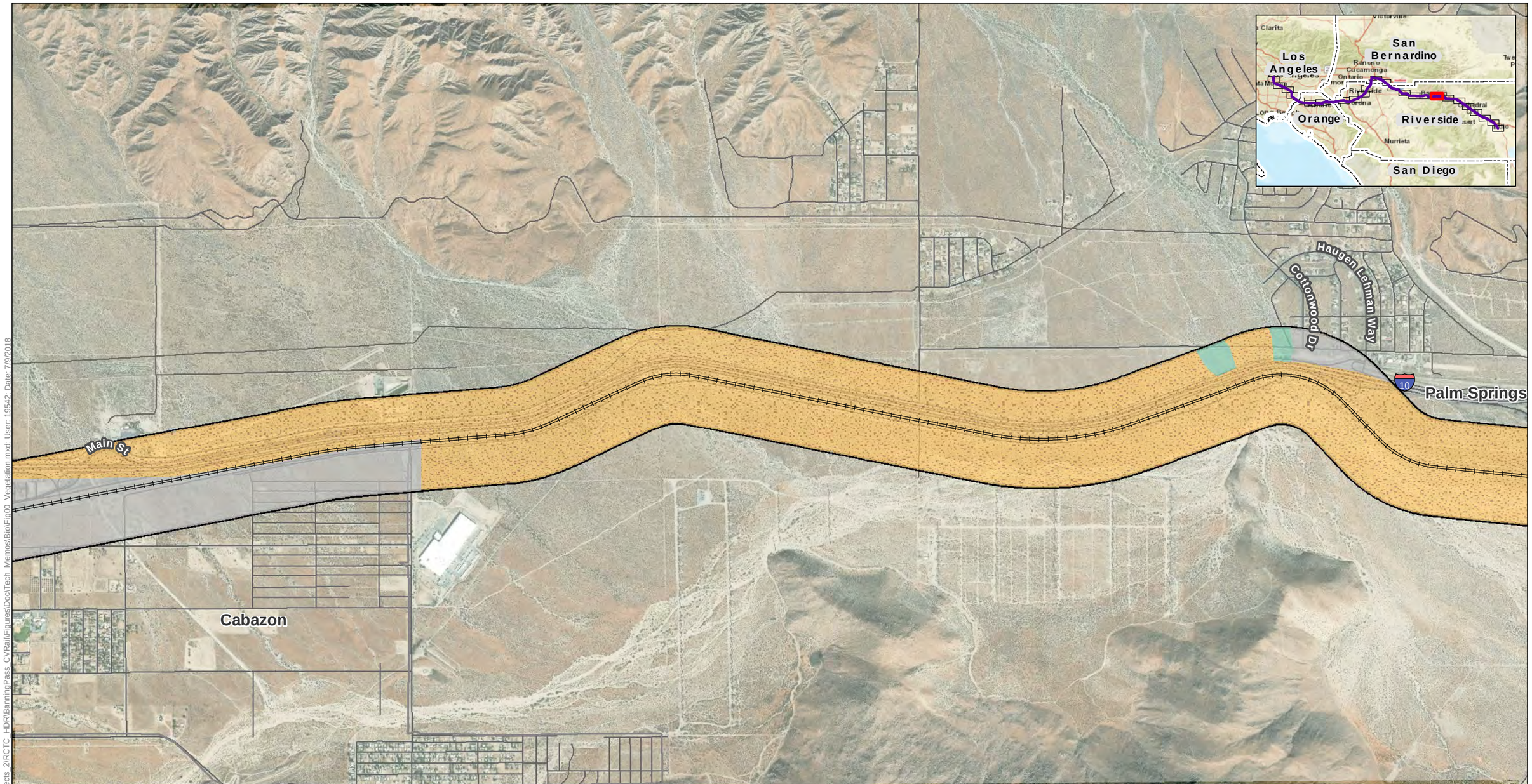
Figure 18
Vegetation Communities within Study Area
Coachella Valley-San Gorgonio Pass Rail Corridor Service Study



Source: Vegetation-CDFW (2012), CVMSHCP (2016), CalVeg (2011); Base Layers-ESRI (2017)

Path: \\PDCCITRDSGIS1\Projects_2\RCTC_HDR\BanningPass_CVRail\Figures\DocTech_Memos\Bio\Fig00_Vegetation.mxd; User: 19542; Date: 7/9/2018

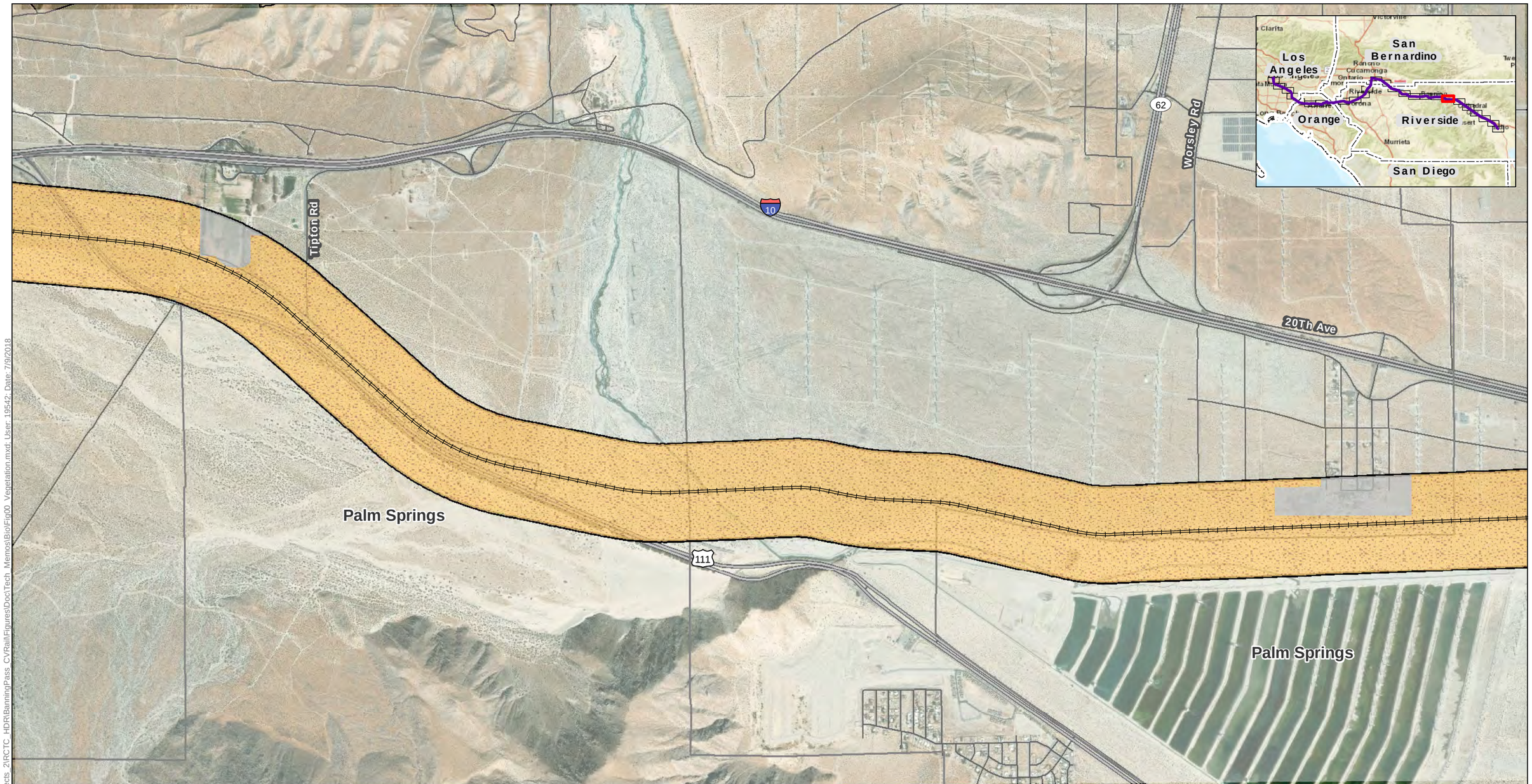
Figure 19
Vegetation Communities within Study Area
Coachella Valley-San Gorgonio Pass Rail Corridor Service Study



Path: \\PDCCITRDSGIS1\Projects_2\RCTC_HDR\BanningPass_CVRailFigures\DocTech_Memos\BioFig00_Vegetation.mxd; User: 19542; Date: 7/9/2018

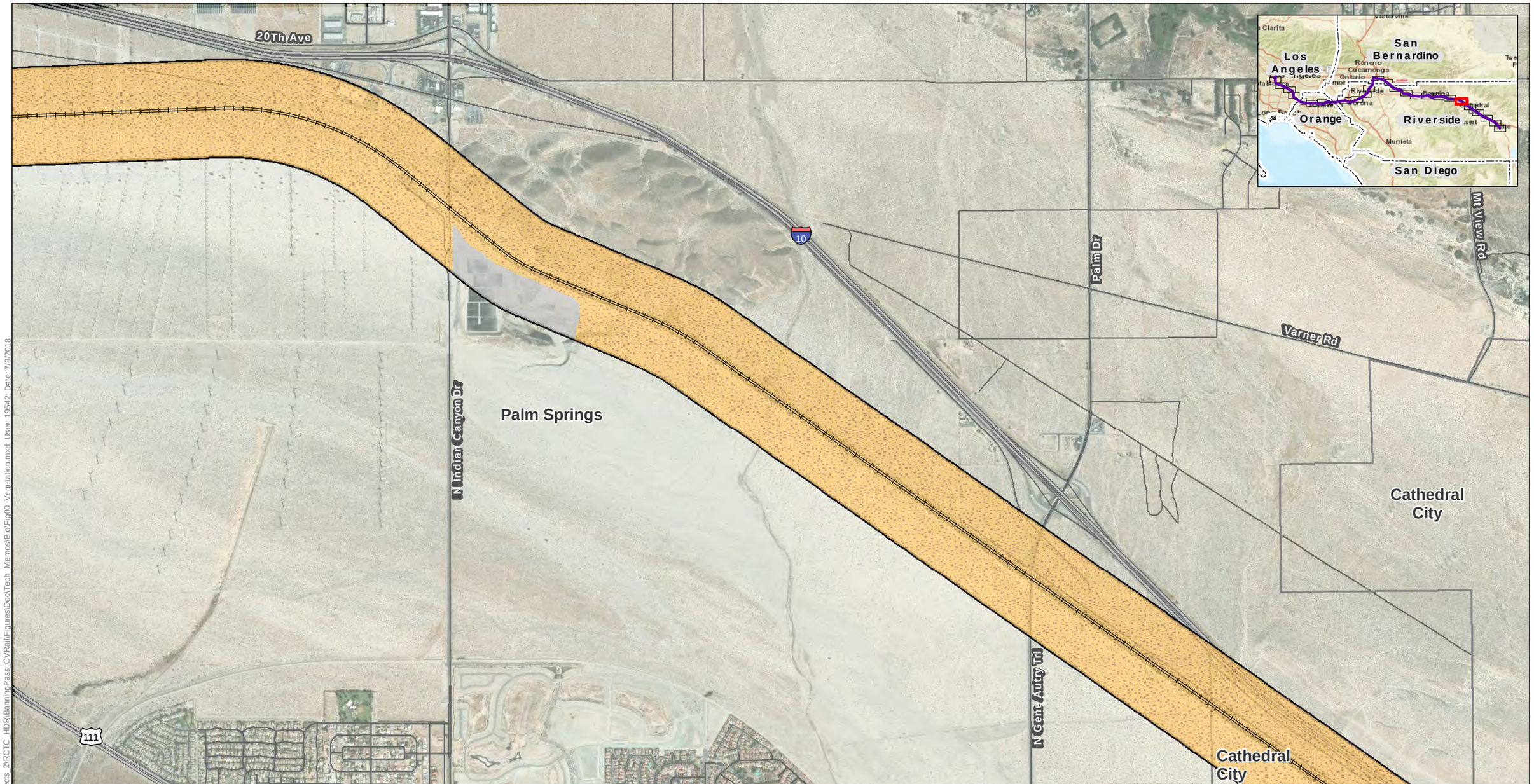
ICF

Figure 20
Vegetation Communities within Study Area
Coachella Valley-San Gorgonio Pass Rail Corridor Service Study



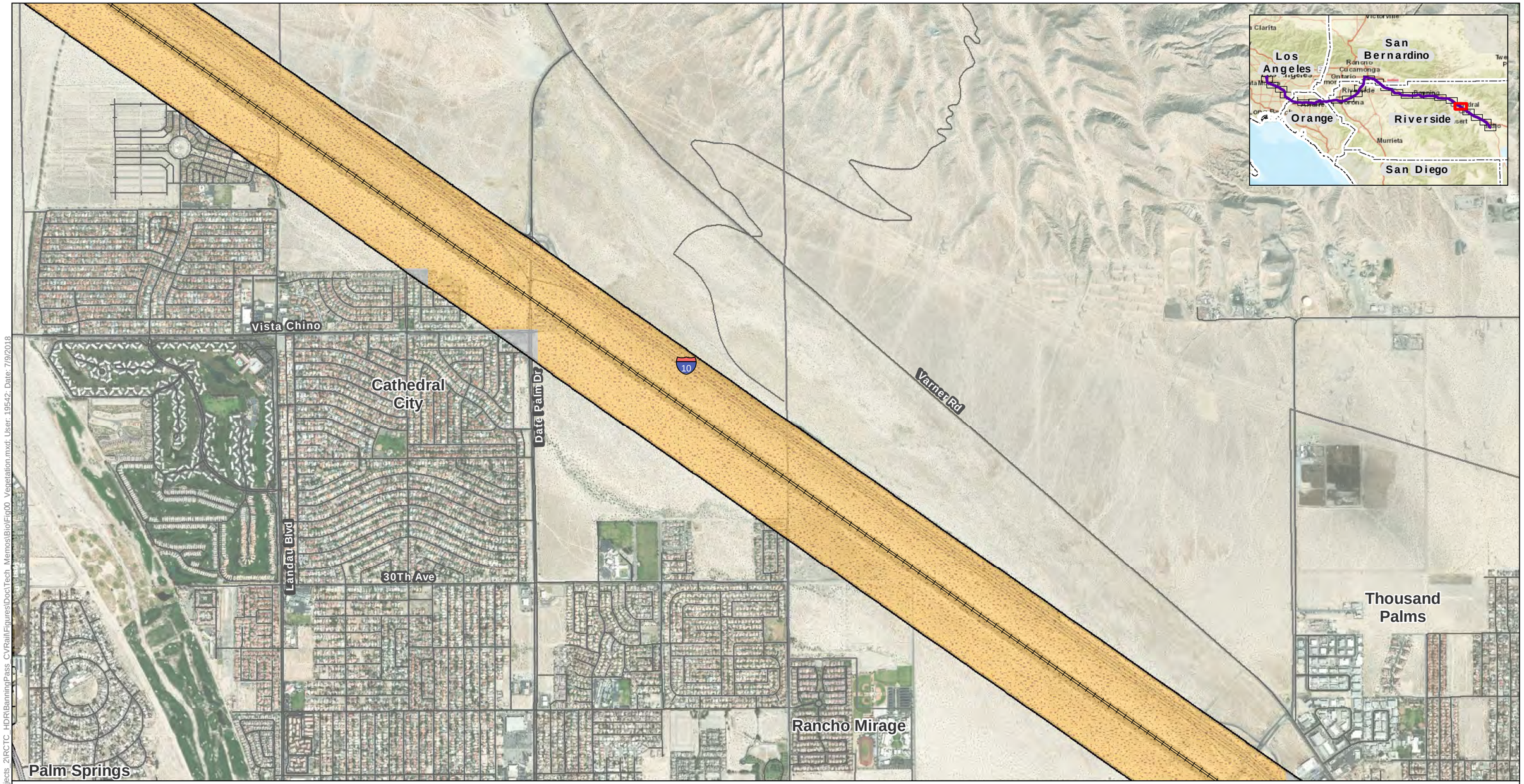
Path: \\PDCCITRDSGIS1\Projects_2\RCTC_HDR\BanningPass_CVRailFigures\DocTech_Memos\BioFig00_Vegetation.mxd; User: 19542; Date: 7/9/2018

Figure 21
Vegetation Communities within Study Area
Coachella Valley-San Gorgonio Pass Rail Corridor Service Study



Path: \\PDCCITRDSGIS1\Projects_2\RCTC_HDR\BanningPass_CVRail\Figures\Doc\Tech Memos\BioFig00_Vegetation.mxd; User: 19542; Date: 7/9/2018

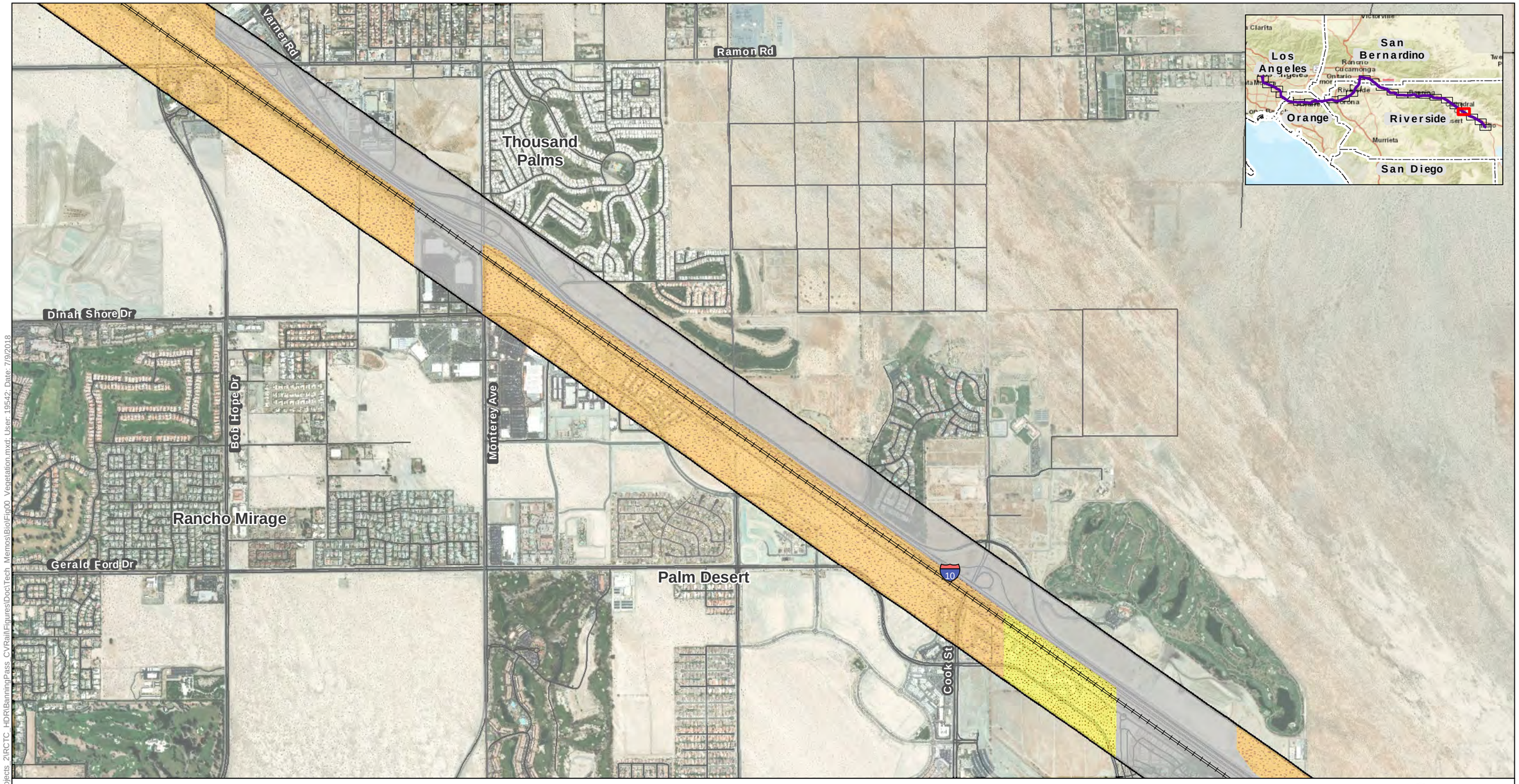
Figure 22
Vegetation Communities within Study Area
Coachella Valley-San Gorgonio Pass Rail Corridor Service Study



Source: Vegetation-CDFW (2012), CVMSHCP (2016), CalVeg (2011); Base Layers-ESRI (2017)

Path: \\PDCCITRDSGIS1\Projects_2\RCTC_HDR\BanningPass_CVRail\Figures\DocTech_Memos\Bio\Fig00_Vegetation.mxd; User: 19542; Date: 7/9/2018

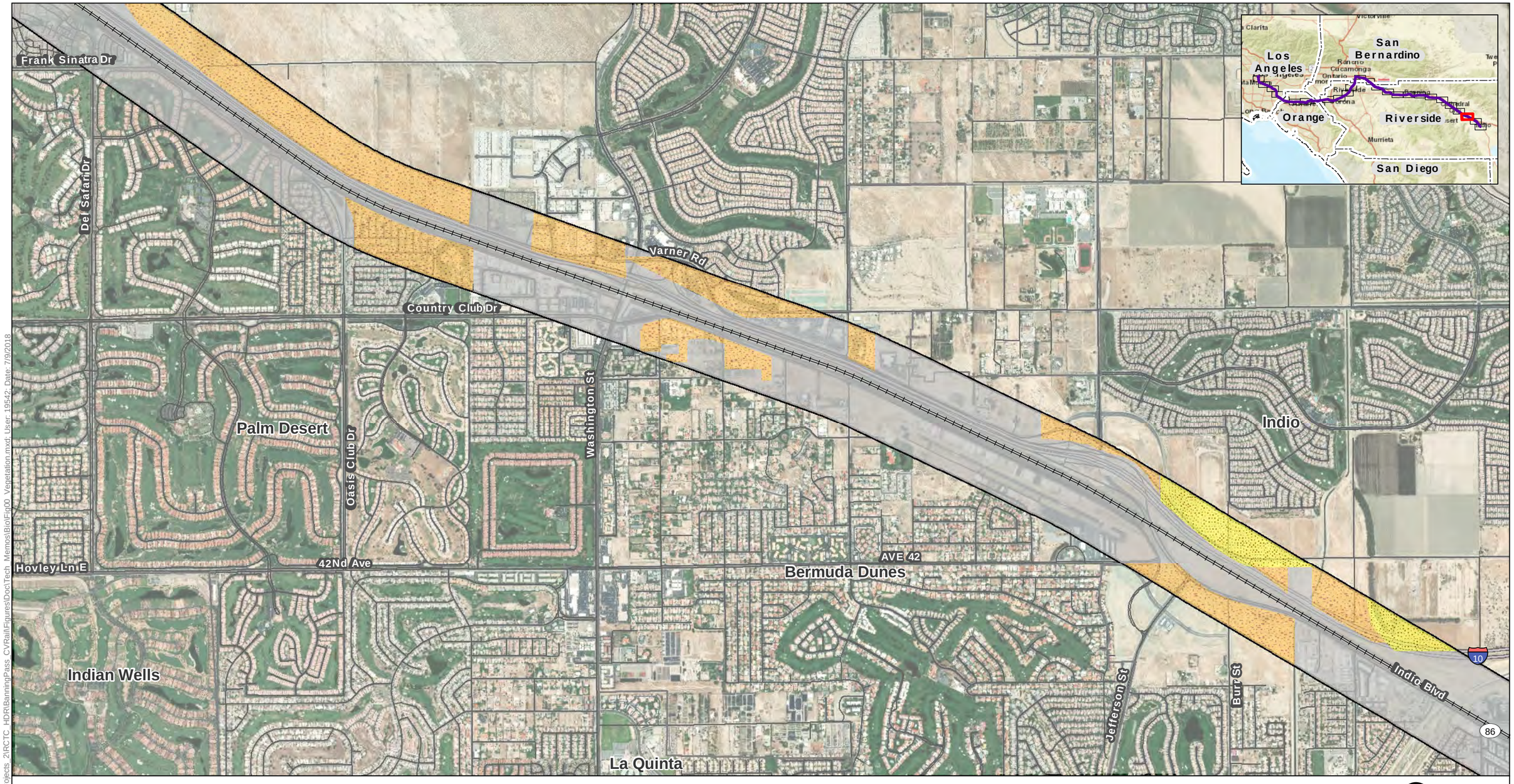
Figure 23
Vegetation Communities within Study Area
Coachella Valley-San Gorgonio Pass Rail Corridor Service Study



Source: Vegetation-CDFW (2012), CVMSHCP (2016), CalVeg (2011); Base Layers-ESRI (2017)

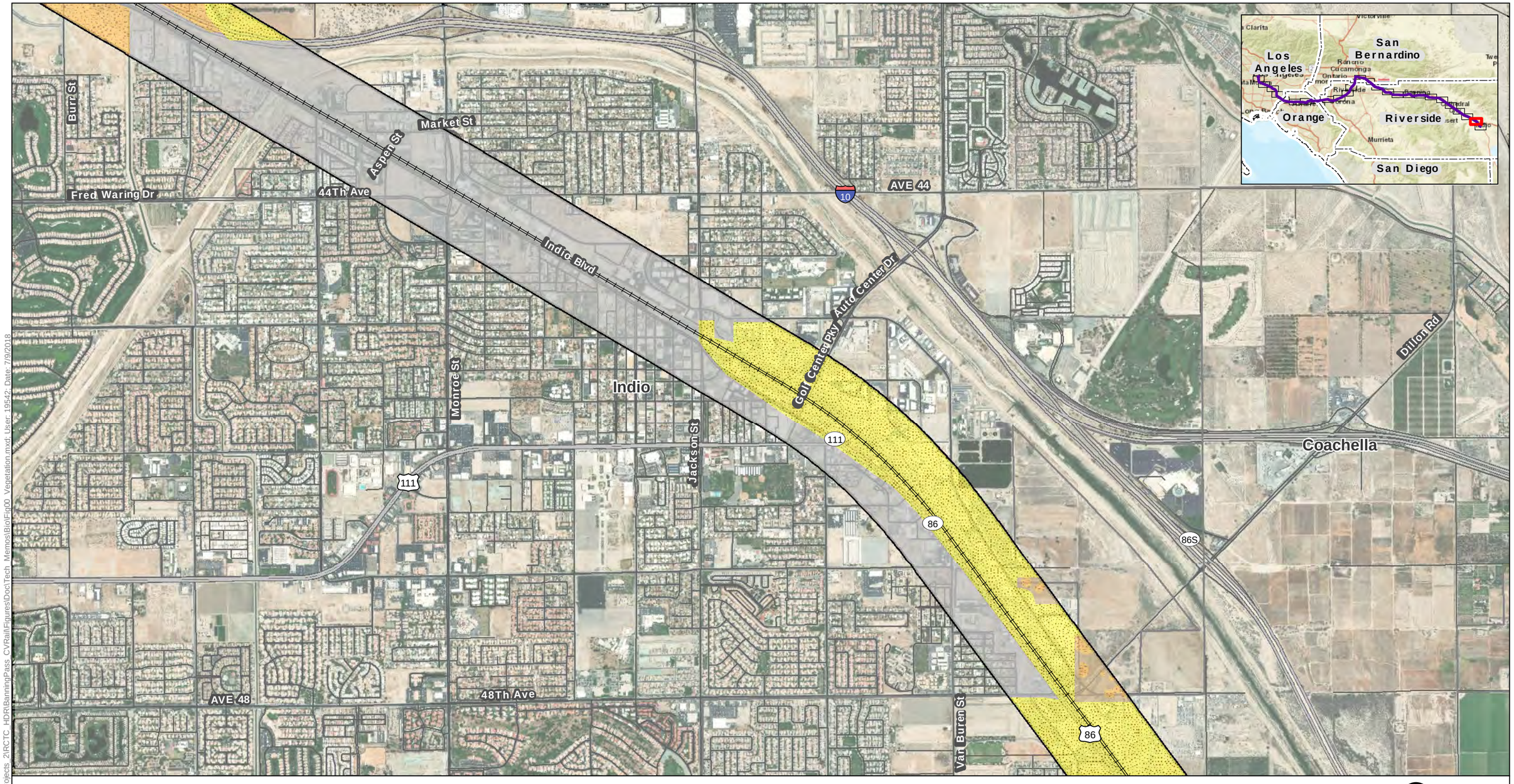
Path: \\PDCCIITRDSGIS11\Projects_2\RCTC_HDR\BanningPass_CVRailFigures\DocTech Memos\BioFig00_Vegetation.mxd; User:19542; Date: 7/9/2018

Figure 24
Vegetation Communities within Study Area
Coachella Valley-San Gorgonio Pass Rail Corridor Service Study



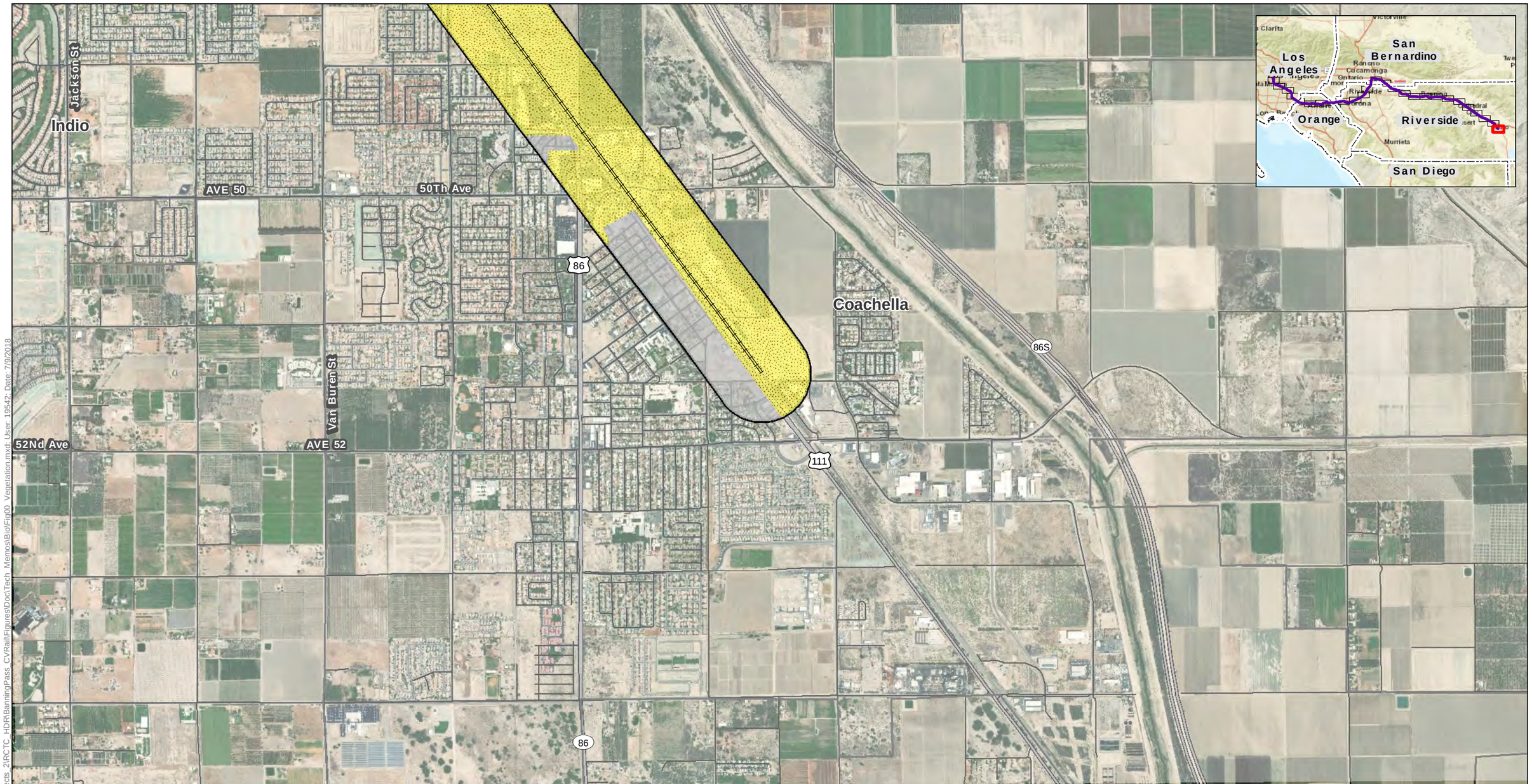
Path: \\PDCCITRDSGIS1\Projects_2\RCTC_HDR\BanningPass_CVRail\Figures\DocTech_Memos\BioFig00_Vegetation.mxd User: 19542 Date: 7/9/2018

Figure 25
Vegetation Communities within Study Area
Coachella Valley-San Gorgonio Pass Rail Corridor Service Study



Path: \\PDCCITRDSGIS1\Projects_2\RCTC_HDR\BanningPass_CVRail\Figures\DocTech_Memos\Bio\Fig00_Vegetation.mxd; User: 19542; Date: 7/9/2018

Figure 26
Vegetation Communities within Study Area
Coachella Valley-San Gorgonio Pass Rail Corridor Service Study



Source: Vegetation-CDFW (2012), CVMSHCP (2016), CalVeg (2011); Base Layers-ESRI (2017)

Path: \\PDCCITRDSGIS1\Projects_2\RCTC_HDR\BanningPass_CVRail\Figures\DocTech_Memos\BioFig00_Vegetation.mxd - User: 19542 - Date: 7/9/2018

Figure 27
Vegetation Communities within Study Area
Coachella Valley-San Gorgonio Pass Rail Corridor Service Study

Appendix D. National Wetland Inventory Maps

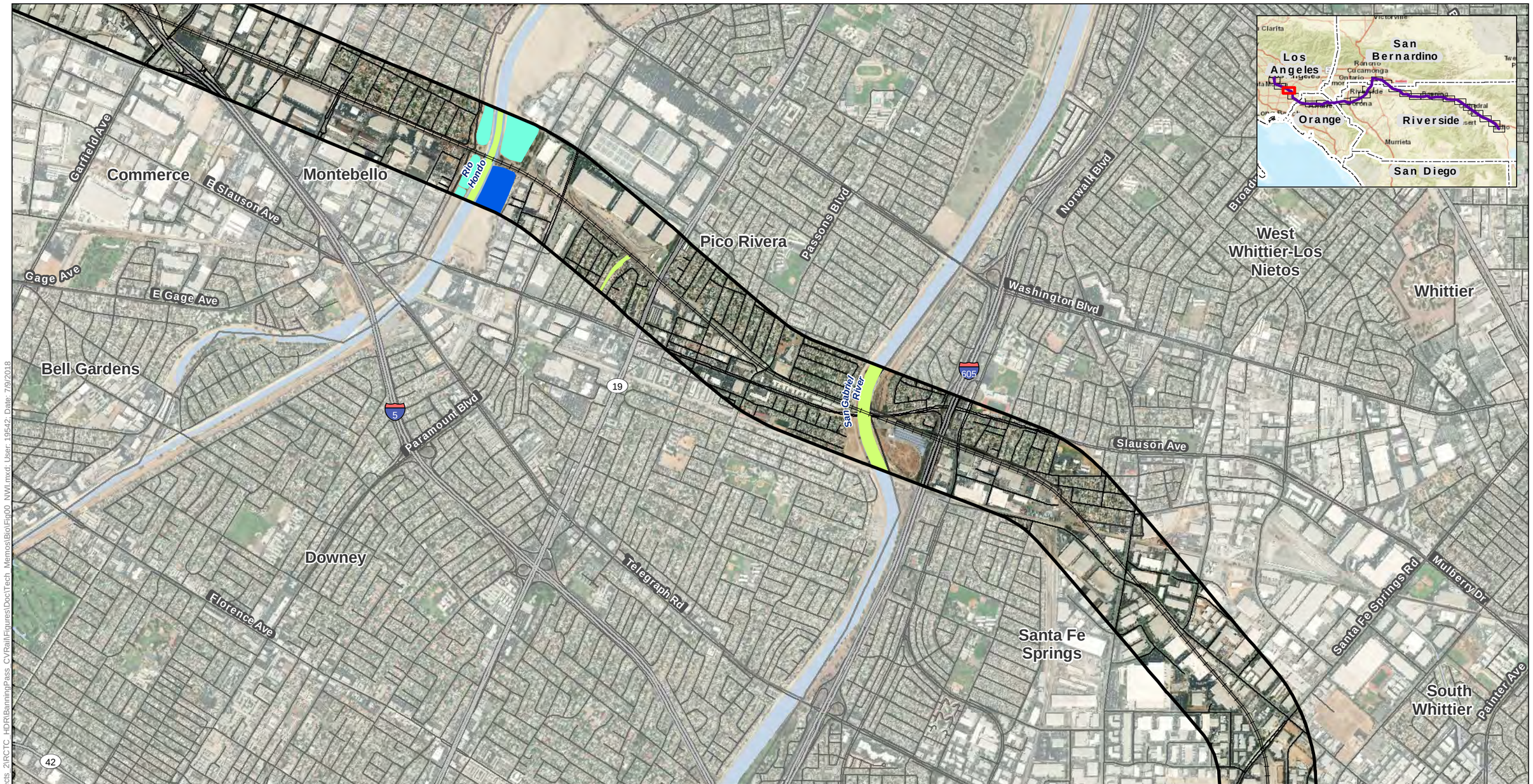
This page is intentionally blank.

Path: \\PDCCITRDSGIS1\Projects_2\RCTC_HDR\BanningPass_CV\RailFigures\DocTech_Memos\BioFig00_NWI.mxd; User: 19542; Date: 7/9/2018

Figure 1
National Wetland Inventory within Study Area
Coachella Valley-San Gorgonio Pass Rail Corridor Service Study

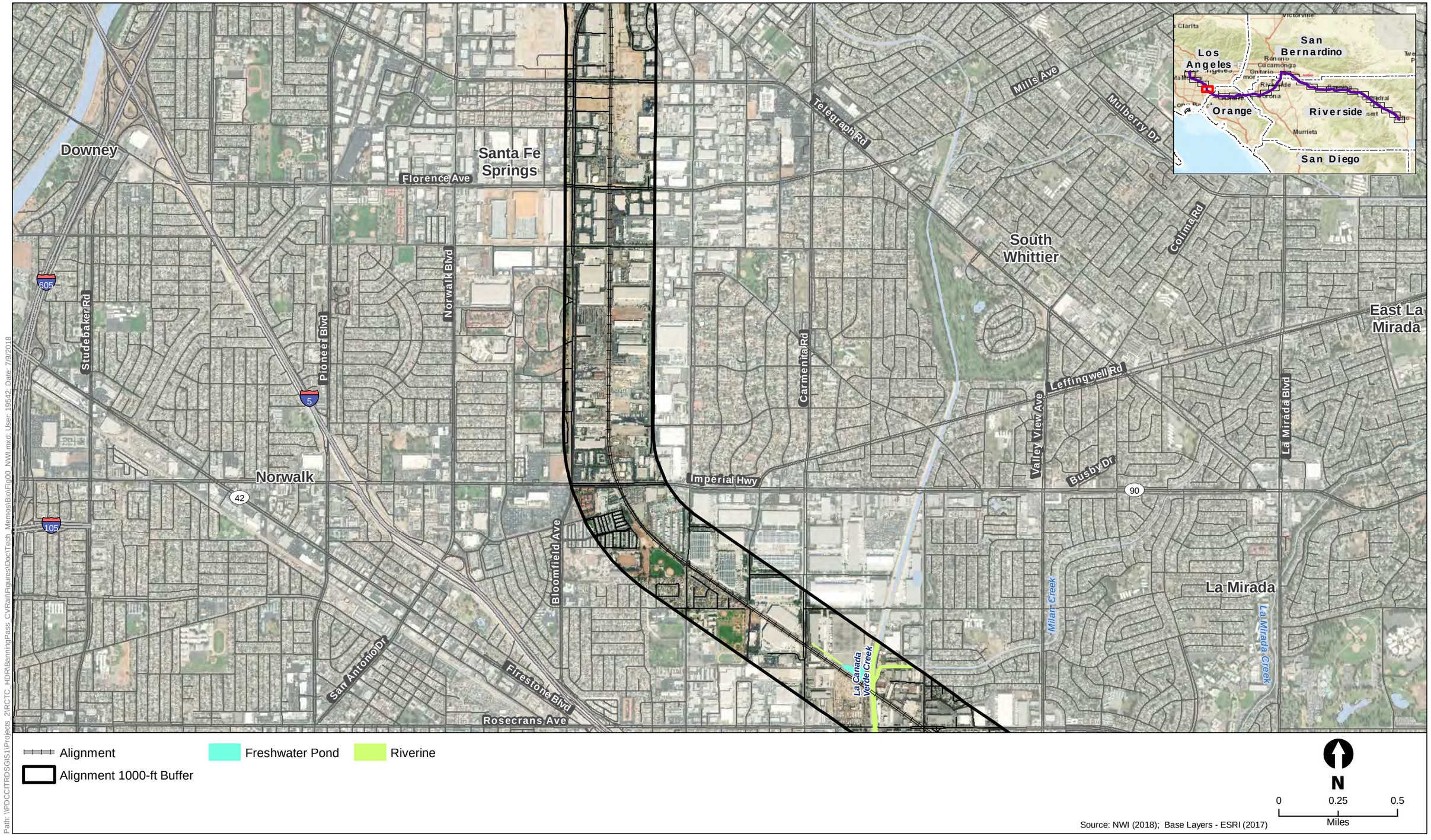
Path: \\PDCCITRDSGIS1\Projects_2\RCTC_HDR\BanningPass_CV\Rail\Figures\DocTech Memos\BioFig00_NWI.mxd User: 19542; Date: 7/9/2018

Figure 2
National Wetland Inventory within Study Area
Coachella Valley-San Gorgonio Pass Rail Corridor Service Study



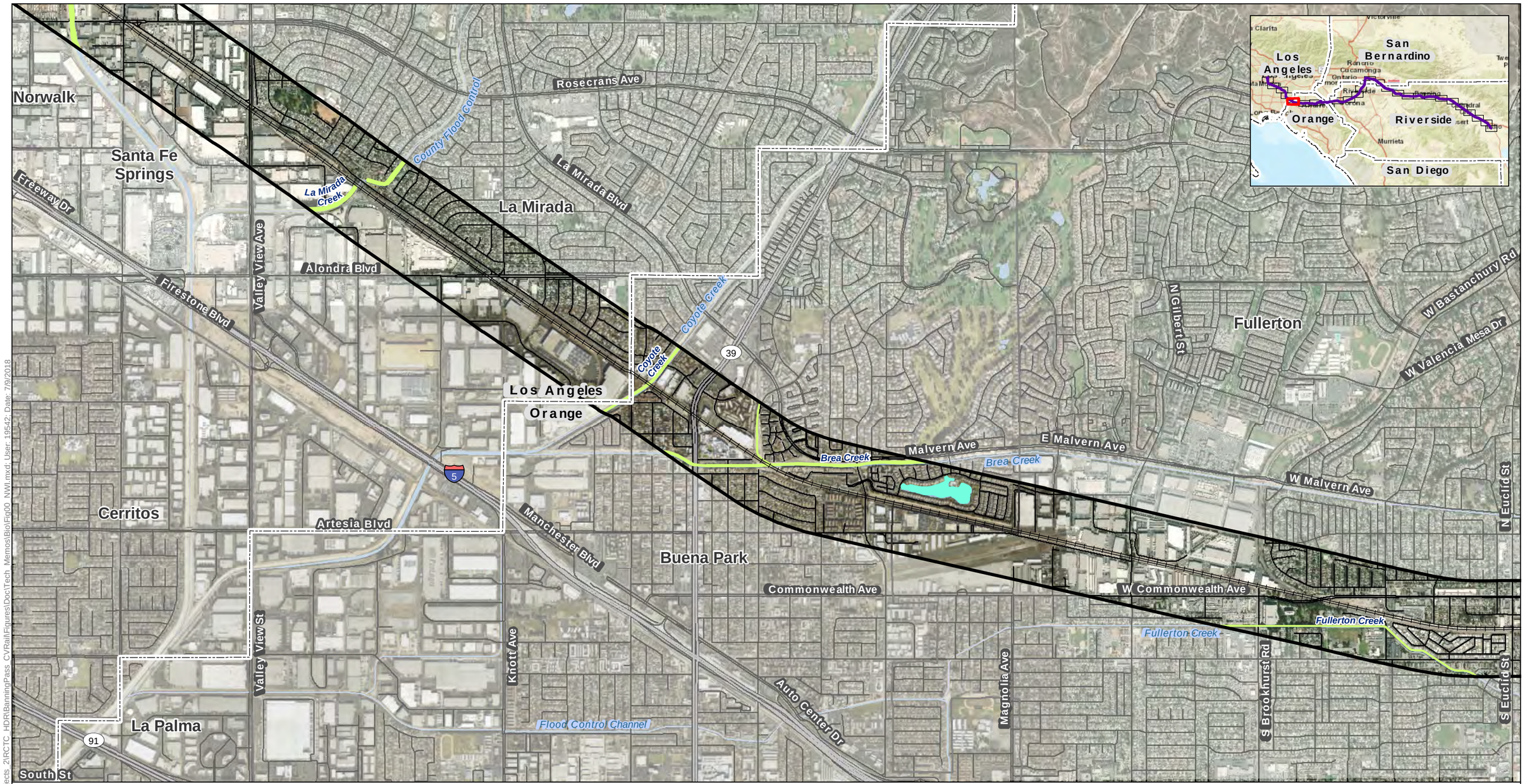
Path: \\PDCCITRDSGIS1\Projects_2\RCTC_HDR\BanningPass_CV\RailFigures\DocTech_Memos\BioFig00_NWI.mxd; User: 19542; Date: 7/9/2018

Figure 3
National Wetland Inventory within Study Area
Coachella Valley-San Gorgonio Pass Rail Corridor Service Study



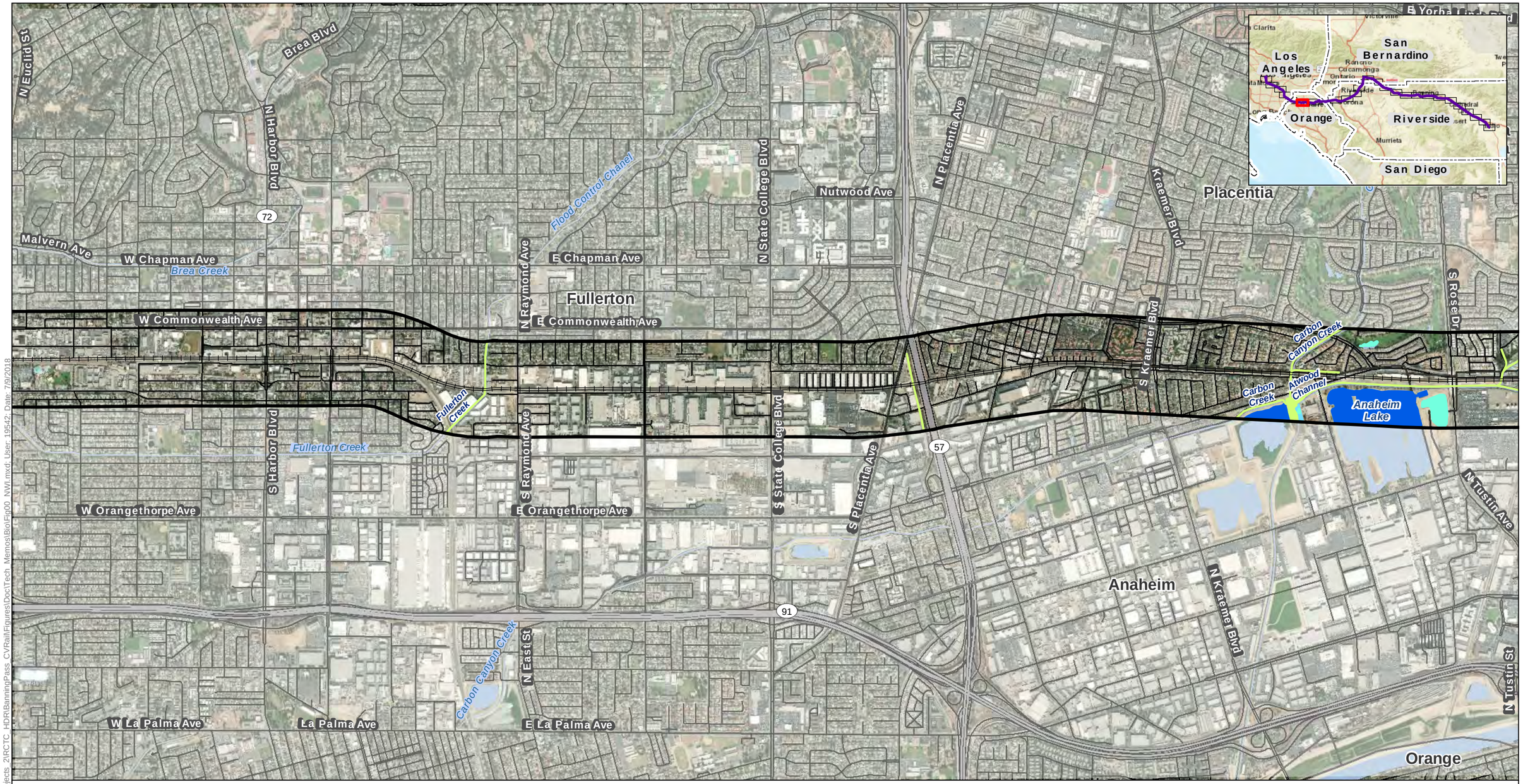
Path: \\PDCCITRDSGIS1\Projects_2\RCTC_HDR\BanningPass_CVRailFigures\Doc\Tech_Memos\Bio\Fig00_NWI.mxd User: 19542; Date: 7/9/2018

Figure 4
National Wetland Inventory within Study Area
Coachella Valley-San Gorgonio Pass Rail Corridor Service Study



Path: \\PDC\CITRDS\GIS1\Projects_2\RCTC_HDR\BanningPass_CVRailFigures\Doc\Tech Memos\BioFig00_NWI.mxd User: 19542; Date: 7/9/2018

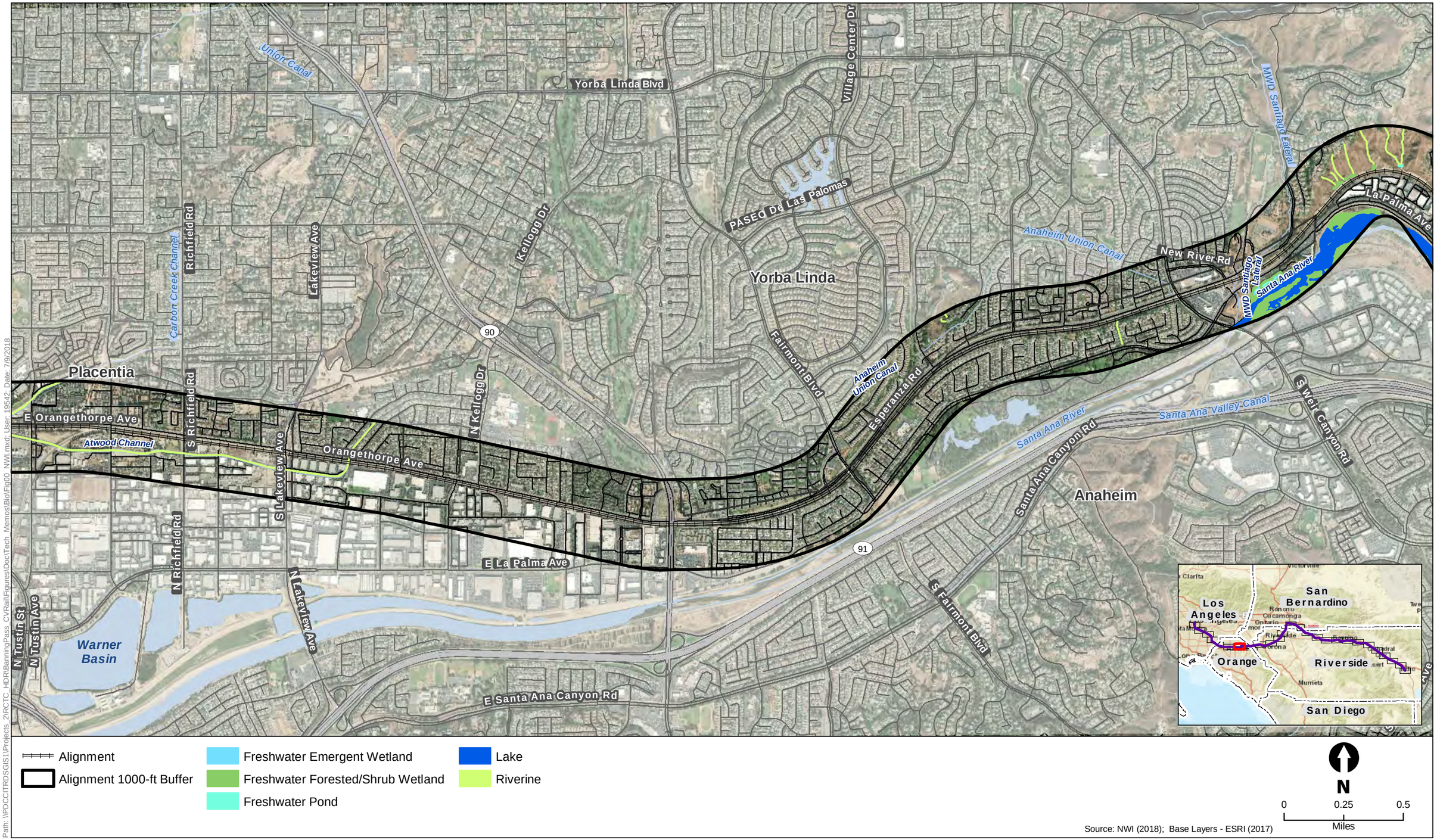
Figure 5
National Wetland Inventory within Study Area
Coachella Valley-San Gorgonio Pass Rail Corridor Service Study



Path: \\PDCCITRDSGIS1\Projects_2\RCTC_HDR\BanningPass_CVRail\Figures\DocTech Memos\BioFig00_NWI.mxd; User: 19542; Date: 7/9/2018

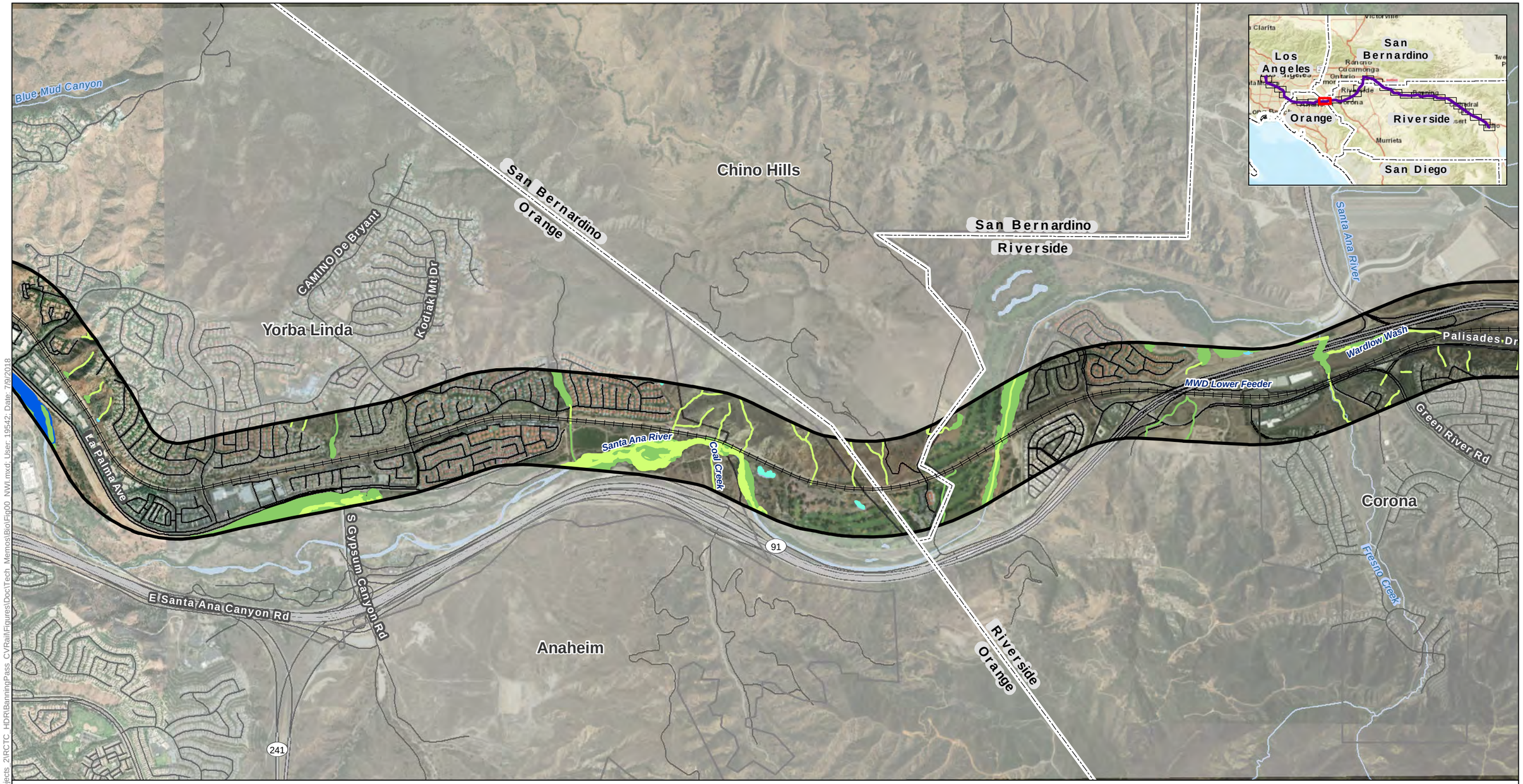
ICF

Figure 6
National Wetland Inventory within Study Area
Coachella Valley-San Gorgonio Pass Rail Corridor Service Study



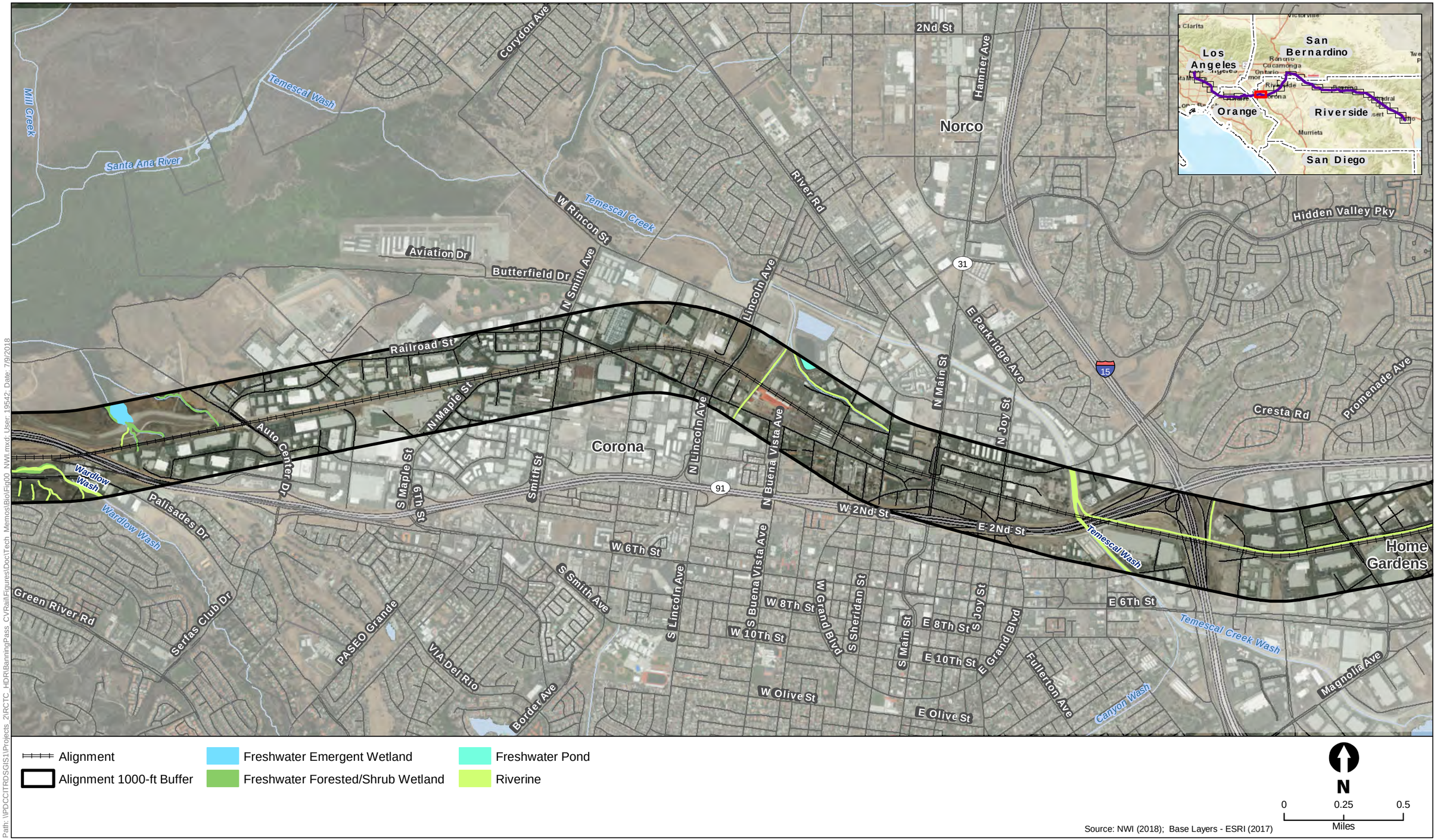
Path: \\PDCCITRDSGIS1\Projects_2\RCTC_HDR\BanningPass_CV\RailFigures\DocTech_Memos\BioFig00_NWI.mxd; User: 19542; Date: 7/9/2018

Figure 7
National Wetland Inventory within Study Area
Coachella Valley-San Gorgonio Pass Rail Corridor Service Study



Path: \\PDCCITRDSGIS1\Projects_2\RCTC_HDR\BanningPass_CV\RailFigures\DocTech_Memos\BioFig00_NWI.mxd; User: 19542; Date: 7/9/2018

Figure 8
National Wetland Inventory within Study Area
Coachella Valley-San Gorgonio Pass Rail Corridor Service Study

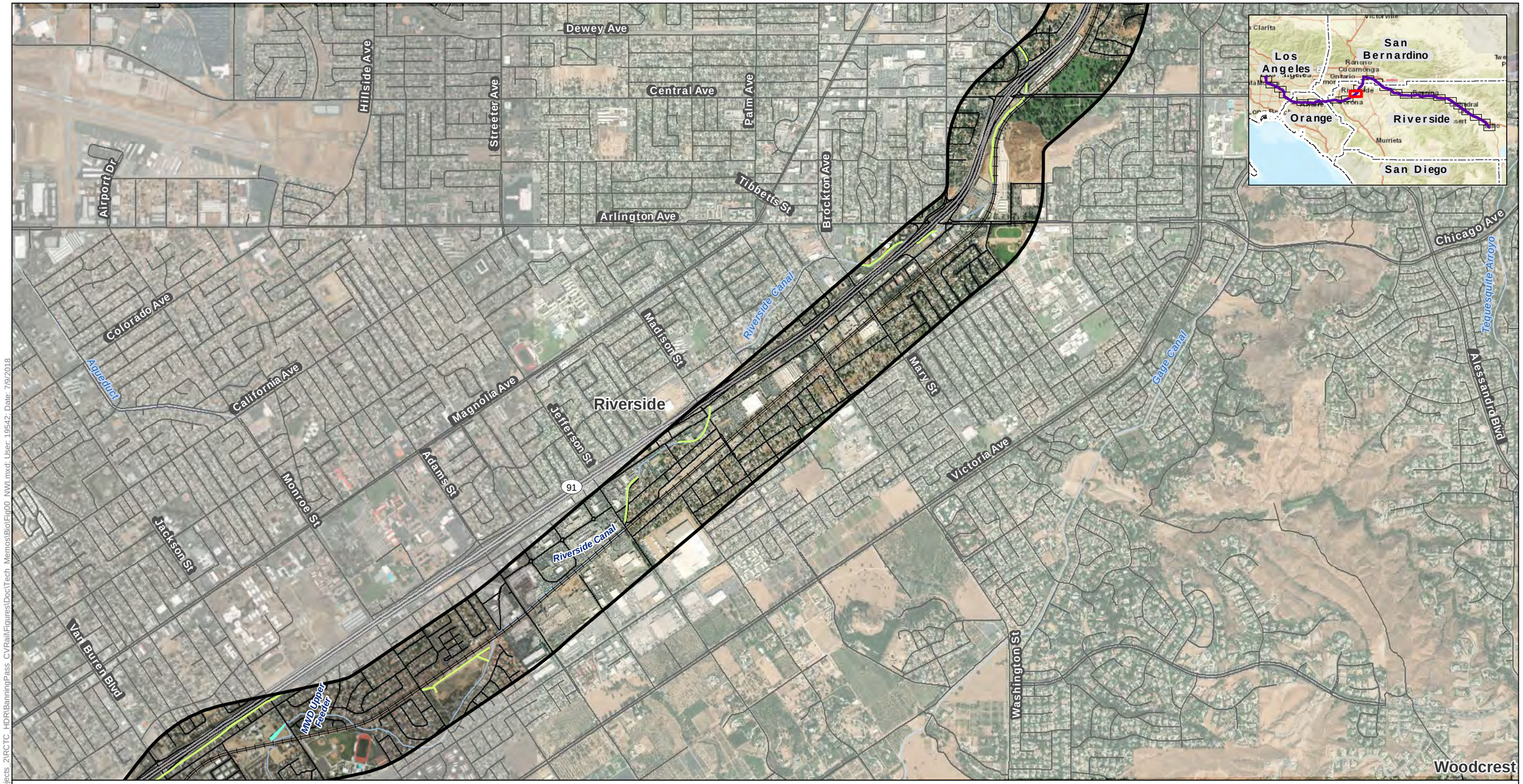


Path: \\PDCCITRDSGIS1\Projects_2\RCTC_HDR\BanningPass_CV\Rail\Figures\DocTech Memos\BioFig00_NWI.mxd; User: 19542; Date: 7/9/2018

Figure 9
National Wetland Inventory within Study Area
Coachella Valley-San Gorgonio Pass Rail Corridor Service Study

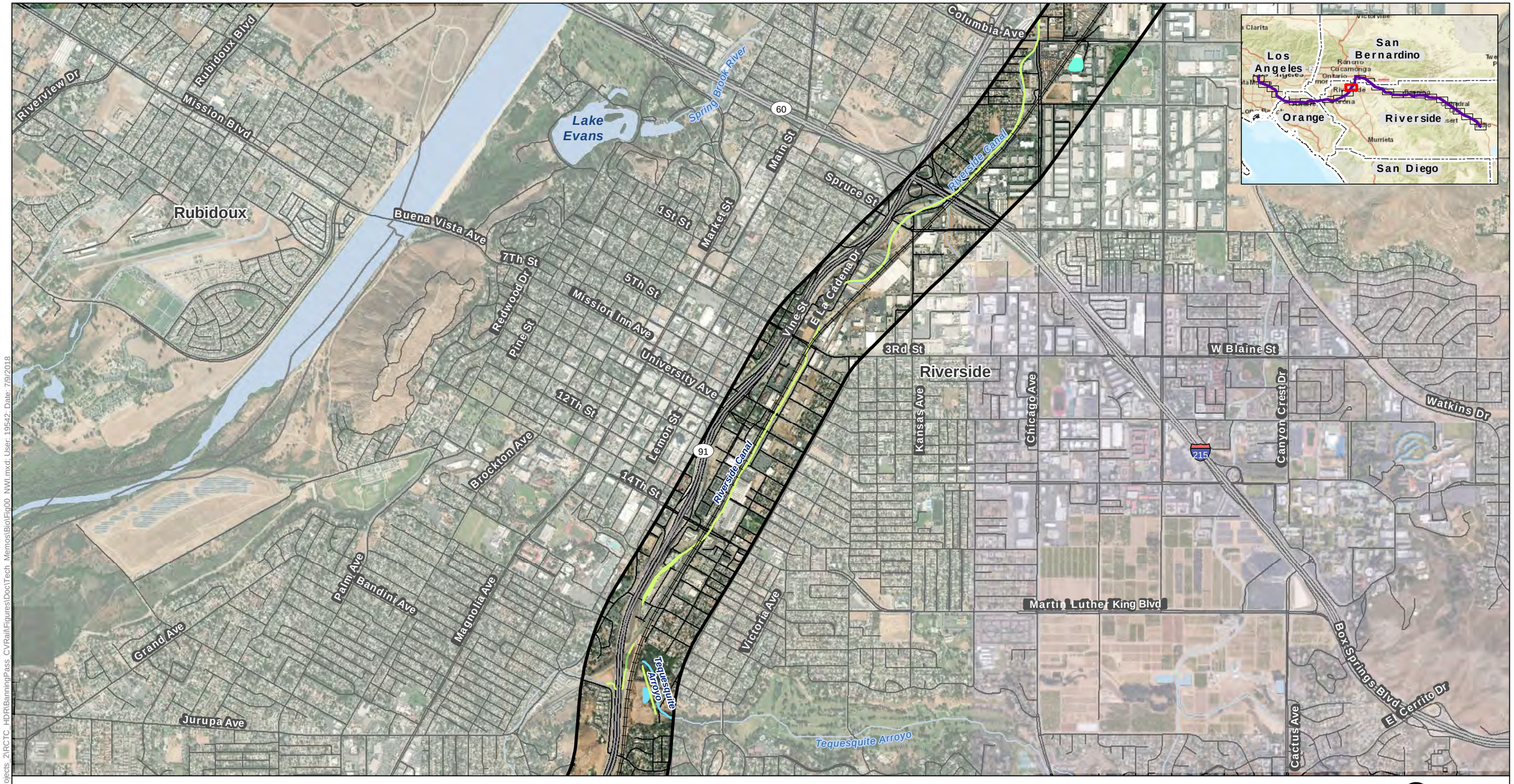
Path: \\PDC\CITRDS\GIS1\Projects_2\RCTC_HDR\BanningPass_CV\Rail\Figures\DocTTech_Memos\Bio\Fig00_NWI.mxd; User: 19542; Date: 7/9/2018

Figure 10
National Wetland Inventory within Study Area
Coachella Valley-San Gorgonio Pass Rail Corridor Service Study



Path: \\PDCCITRDSGIS1\Projects_2\RCTC_HDR\BanningPass_CV\RailFigures\DocTech_Memos\BioFig00_NWI.mxd; User: 19542; Date: 7/9/2018

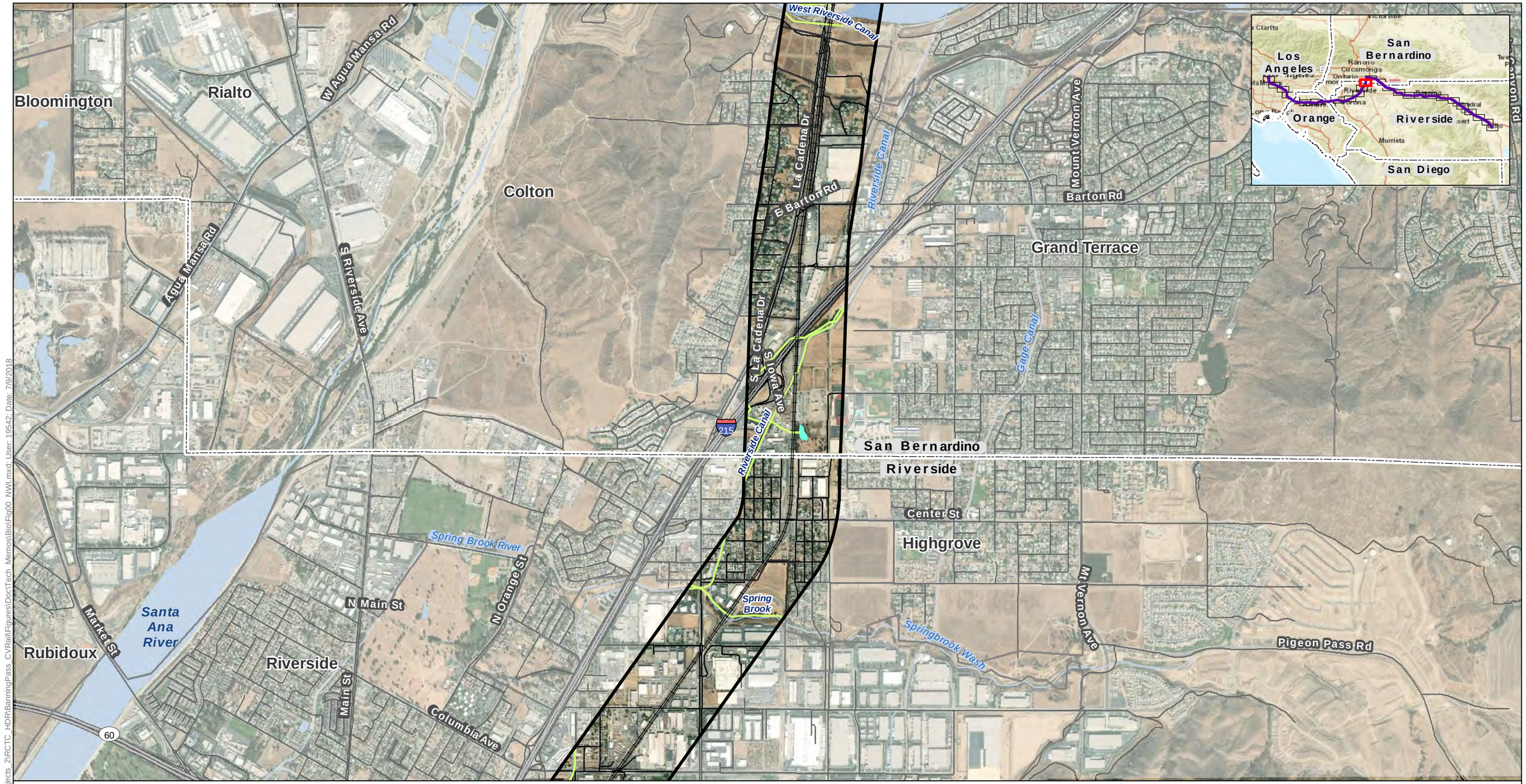
Figure 11
National Wetland Inventory within Study Area
Coachella Valley-San Gorgonio Pass Rail Corridor Service Study



Source: NWI (2018); Base Layers - ESRI (2017)

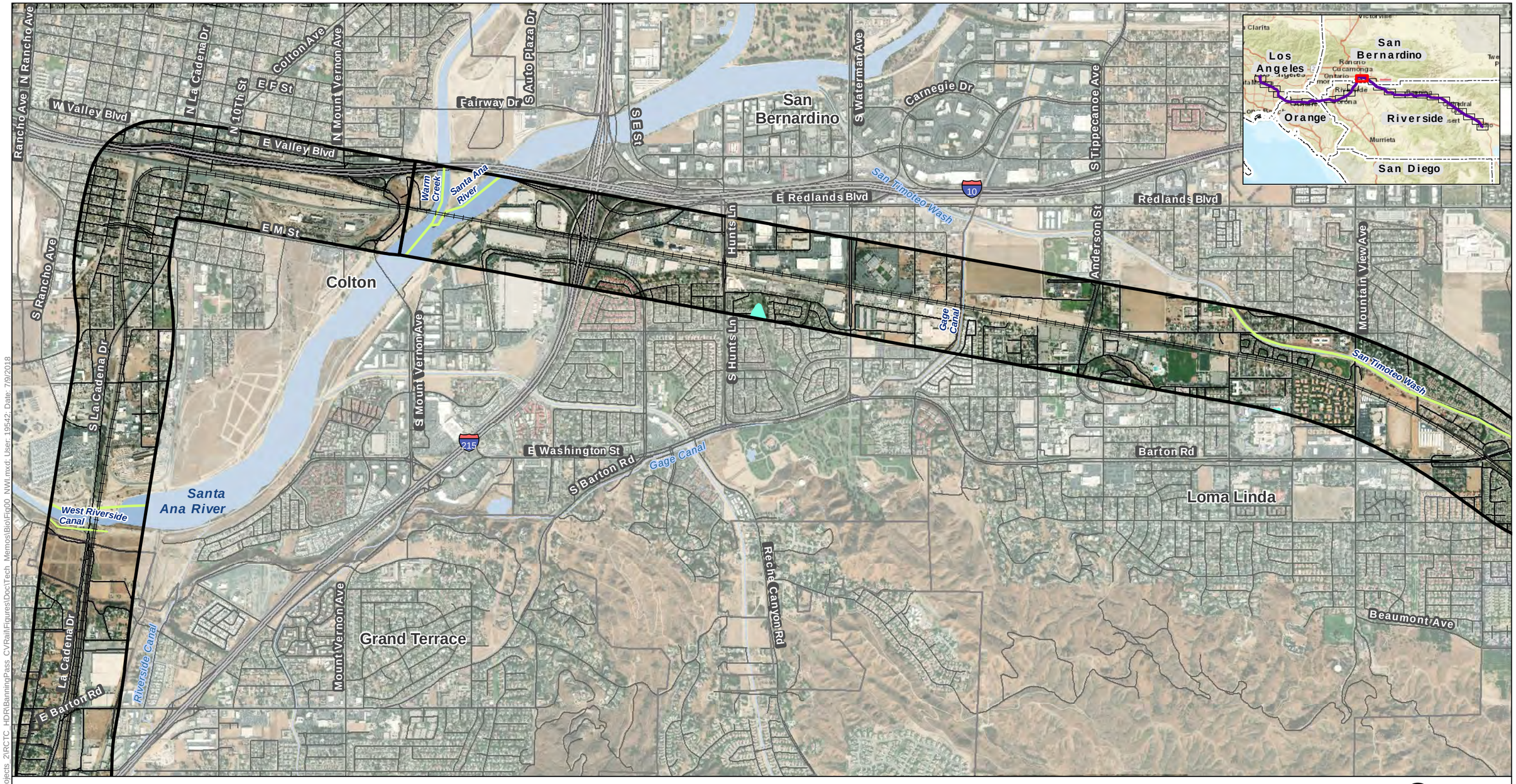
Path: \\PDCCITRDSGIS1\Projects_2\RCTC_HDR\BanningPass_CV\RailFigures\DocTech Memos\BioFig00_NWI.mxd; User: 19542; Date: 7/9/2018

Figure 12
National Wetland Inventory within Study Area
Coachella Valley-San Gorgonio Pass Rail Corridor Service Study



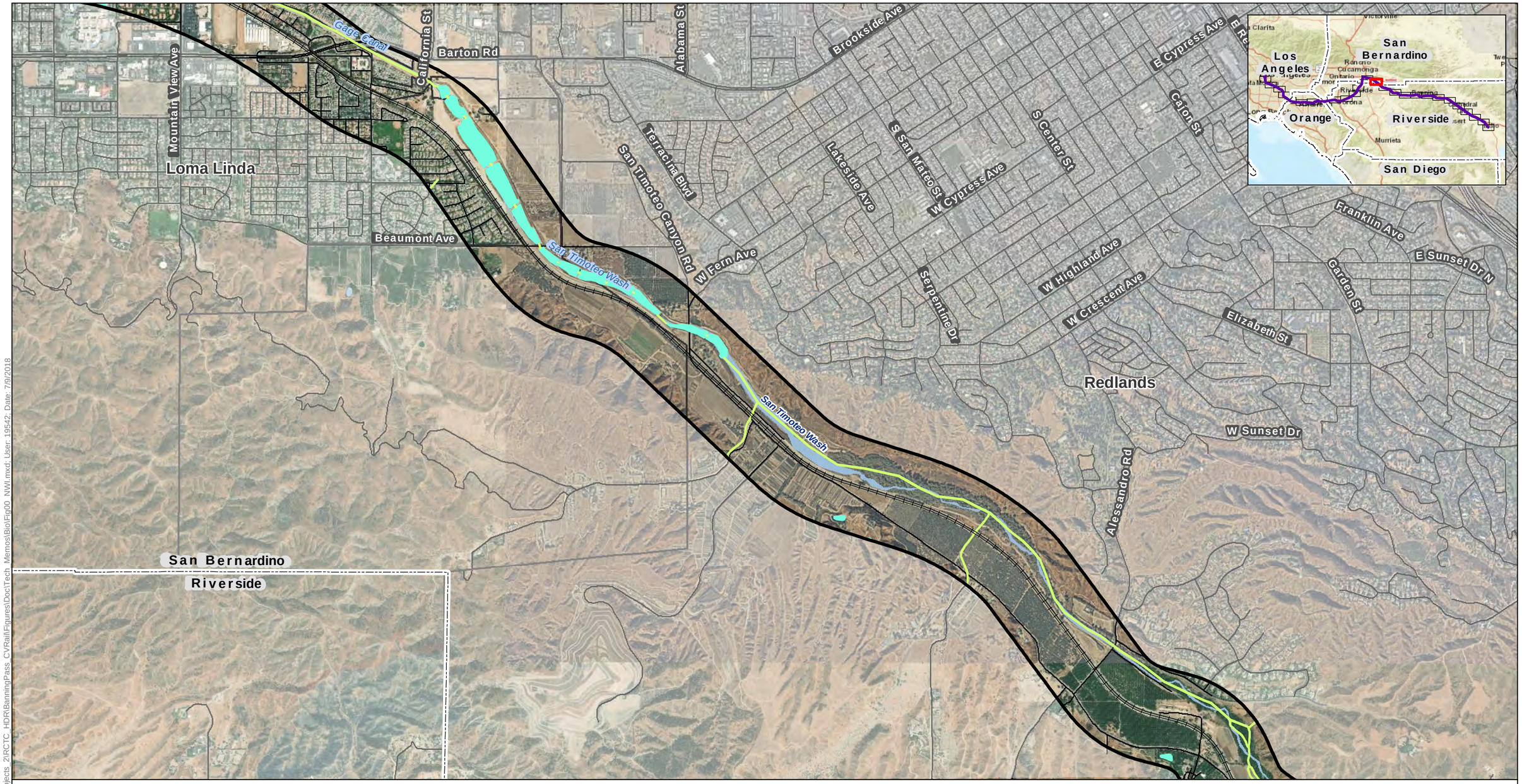
Path: \\PDCCITRDSGIS1\Projects_2\RCTC_HDR\BanningPass_CVRailFigures\DocTech_Memos\BioFig00_NWI.mxd; User: 19542; Date: 7/9/2018

Figure 13
National Wetland Inventory within Study Area
Coachella Valley-San Gorgonio Pass Rail Corridor Service Study



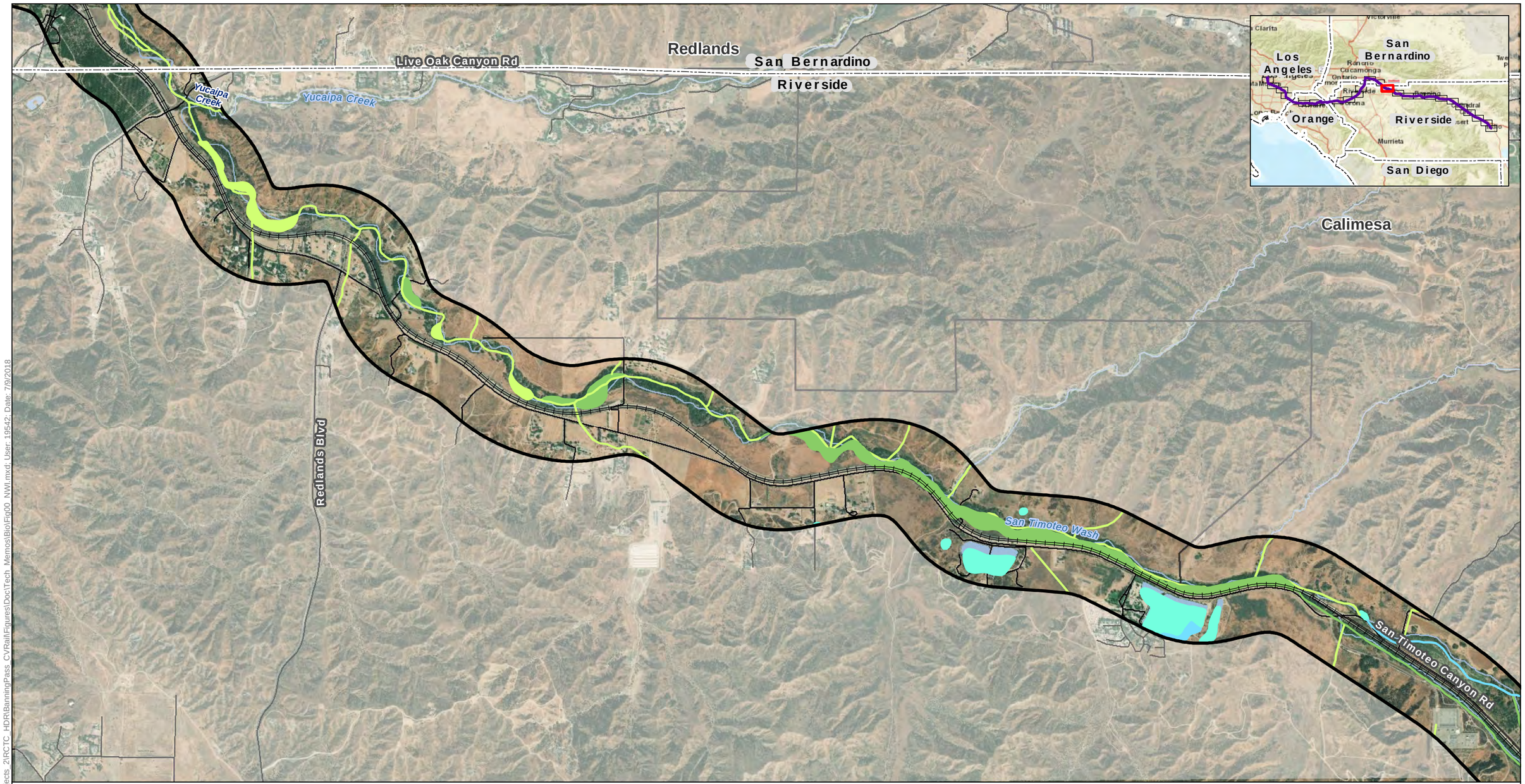
Path: \\PDCCITRDSGIS1\Projects_2\RCTC_HDR\BanningPass_CVRailFigures\Doc\Tech Memos\Bio\Fig00_NWI.mxd; User: 19542; Date: 7/9/2018

Figure 14
National Wetland Inventory within Study Area
Coachella Valley-San Gorgonio Pass Rail Corridor Service Study



Path: \\PDCCITRDSGIS1\Projects_2\RCTC_HDR\BanningPass_CVRail\Figures\DocTech Memos\Bio\Fig00_NWI.mxd; User: 19542; Date: 7/9/2018

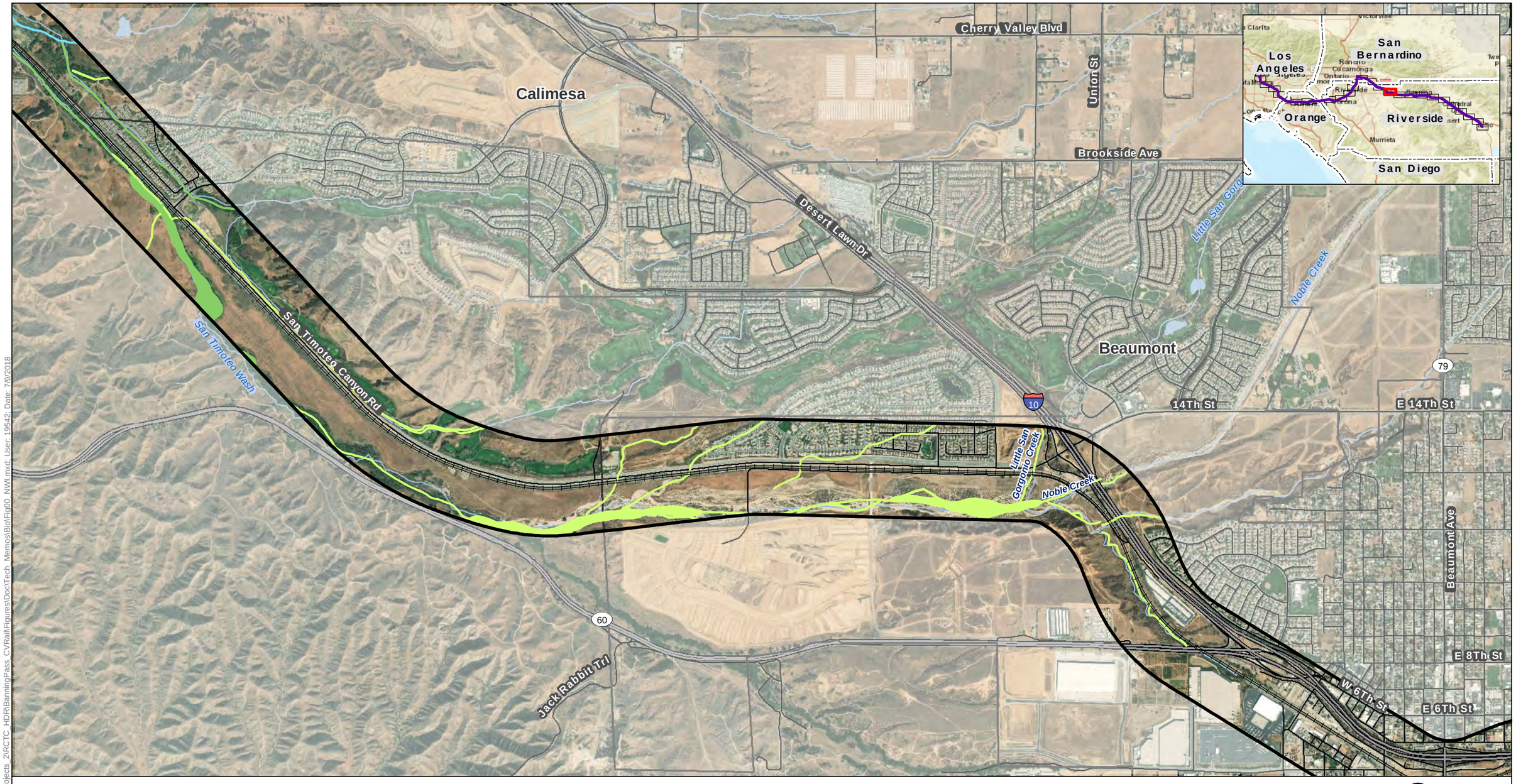
Figure 15
National Wetland Inventory within Study Area
Coachella Valley-San Gorgonio Pass Rail Corridor Service Study



Source: NWI (2018); Base Layers - ESRI (2017)

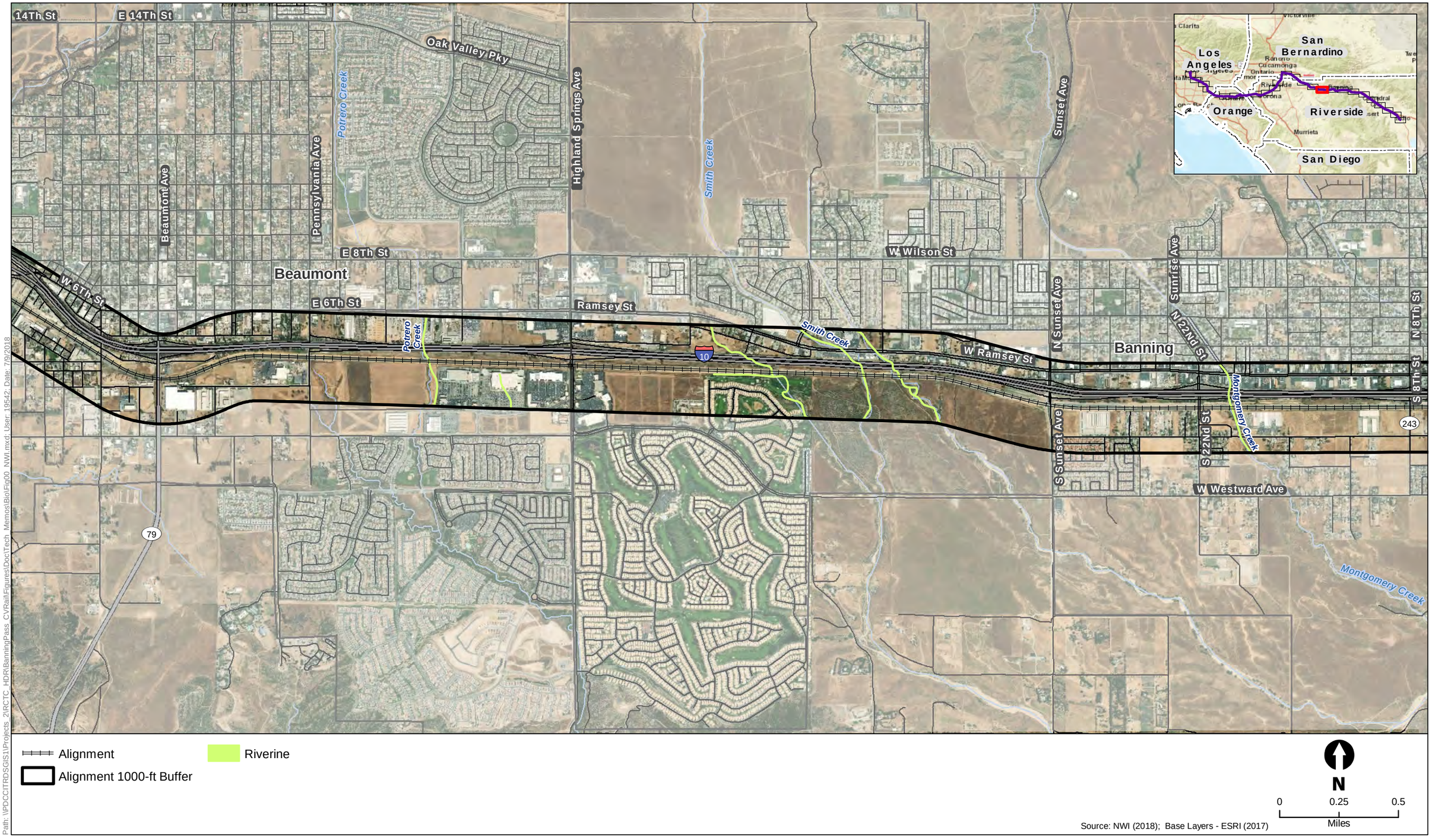
Path: \\PDC\CITRDS\GIS1\Projects_2\RCTC_HDR\BanningPass_CVRail\Figures\Doc\Tech Memos\BioFig00_NWI.mxd User: 19542; Date: 7/9/2018

Figure 16
National Wetland Inventory within Study Area
Coachella Valley-San Gorgonio Pass Rail Corridor Service Study



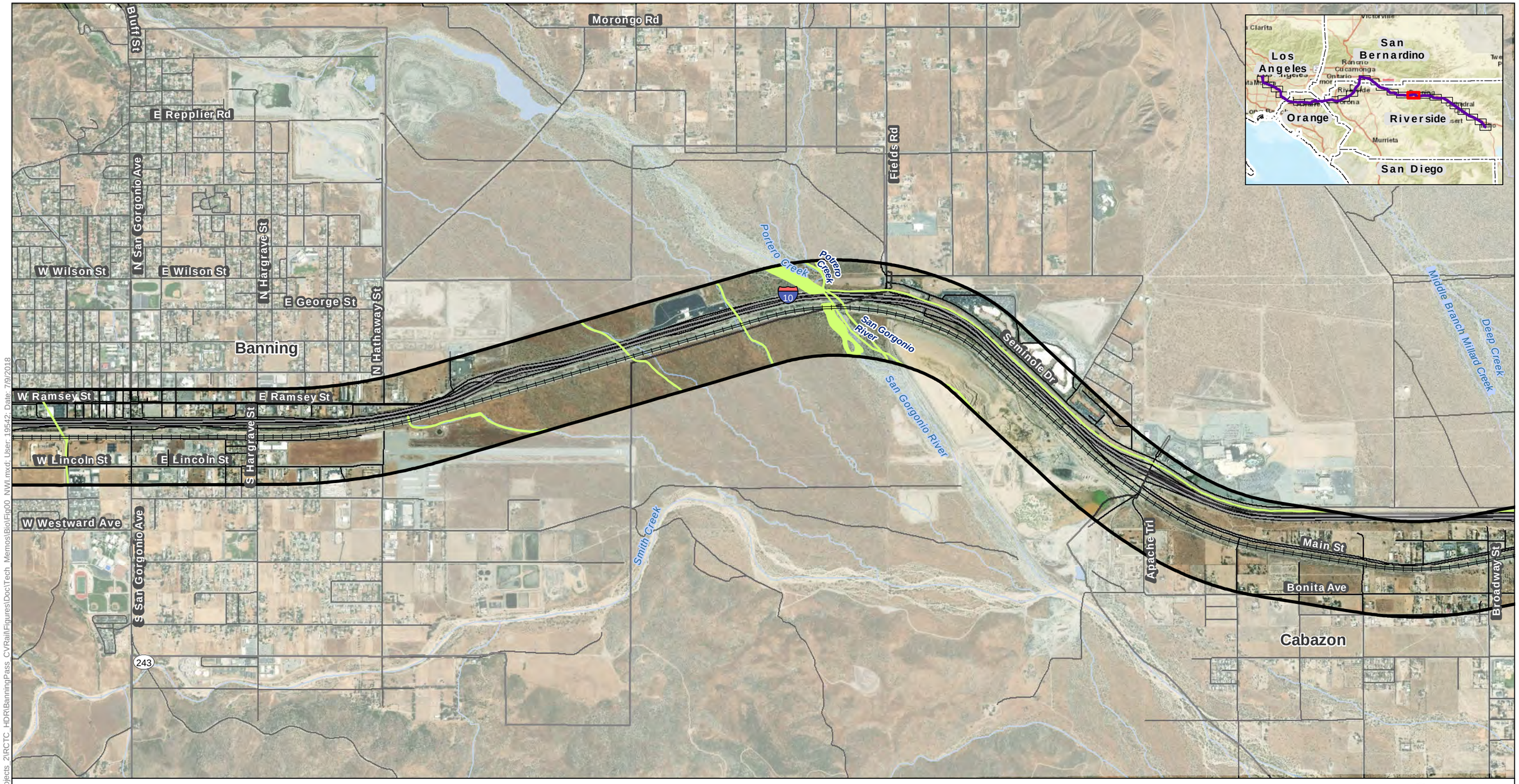
Path: \\PDC\CITRDSGIS1\Projects_2\RCTC_HDR\BanningPass_CVRail\Figures\Doc\Tech Memos\BioFig00_NWI.mxd; User: 19542; Date: 7/9/2018

Figure 17
National Wetland Inventory within Study Area
Coachella Valley-San Gorgonio Pass Rail Corridor Service Study



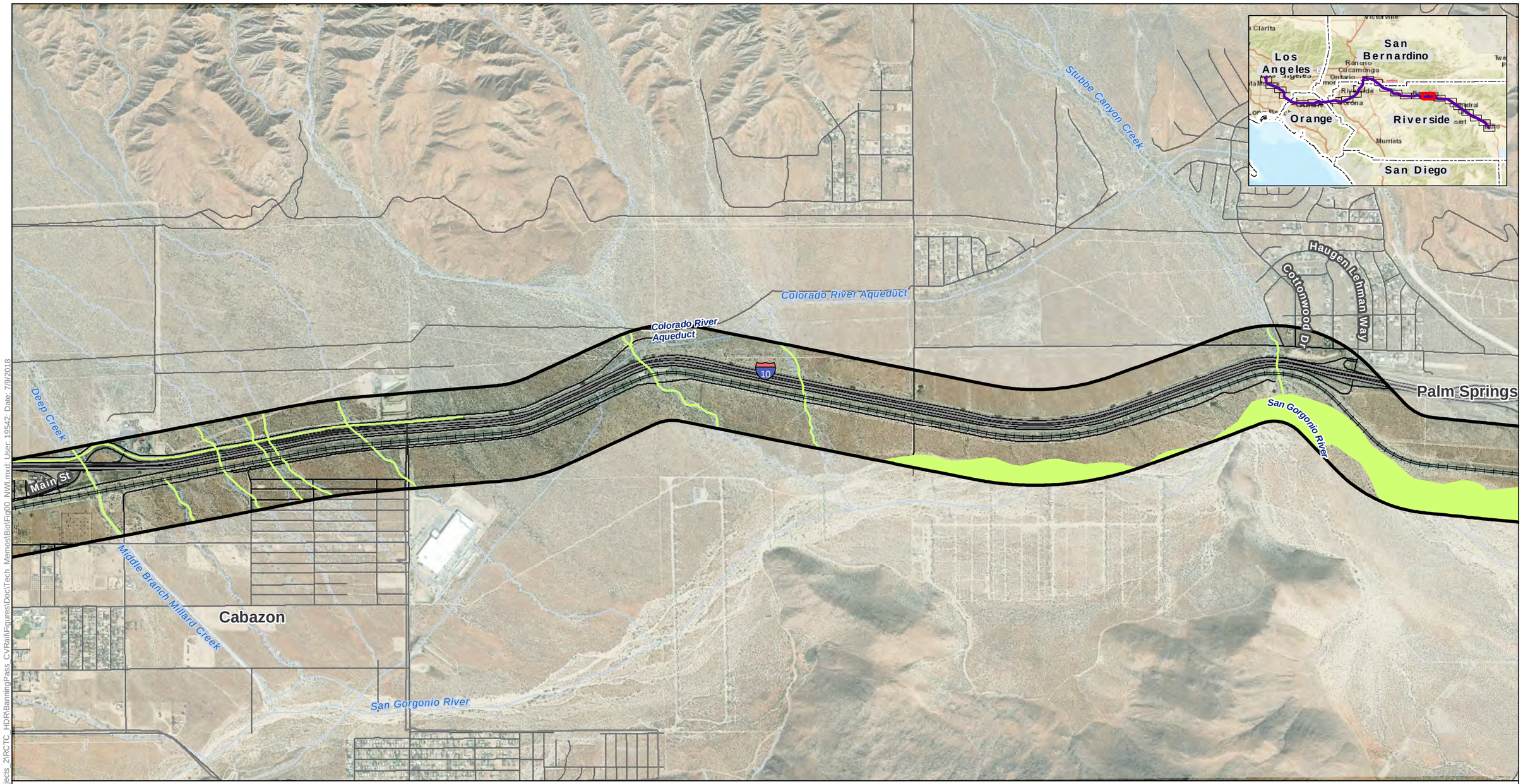
Path: \\PDCCITRDSGIS1\Projects_2\RCTC_HDR\BanningPass_CVRail\Figures\DocTech Memos\Bio\Fig00_NWI.mxd; User: 19542; Date: 7/9/2018

Figure 18
National Wetland Inventory within Study Area
Coachella Valley-San Gorgonio Pass Rail Corridor Service Study



Path: \\PDCCITRDSGIS1\Projects_2\RCTC_HDR\BanningPass_CVRailFigures\DocTech Memos\BioFig00_NWI.mxd; User: 19542; Date: 7/9/2018

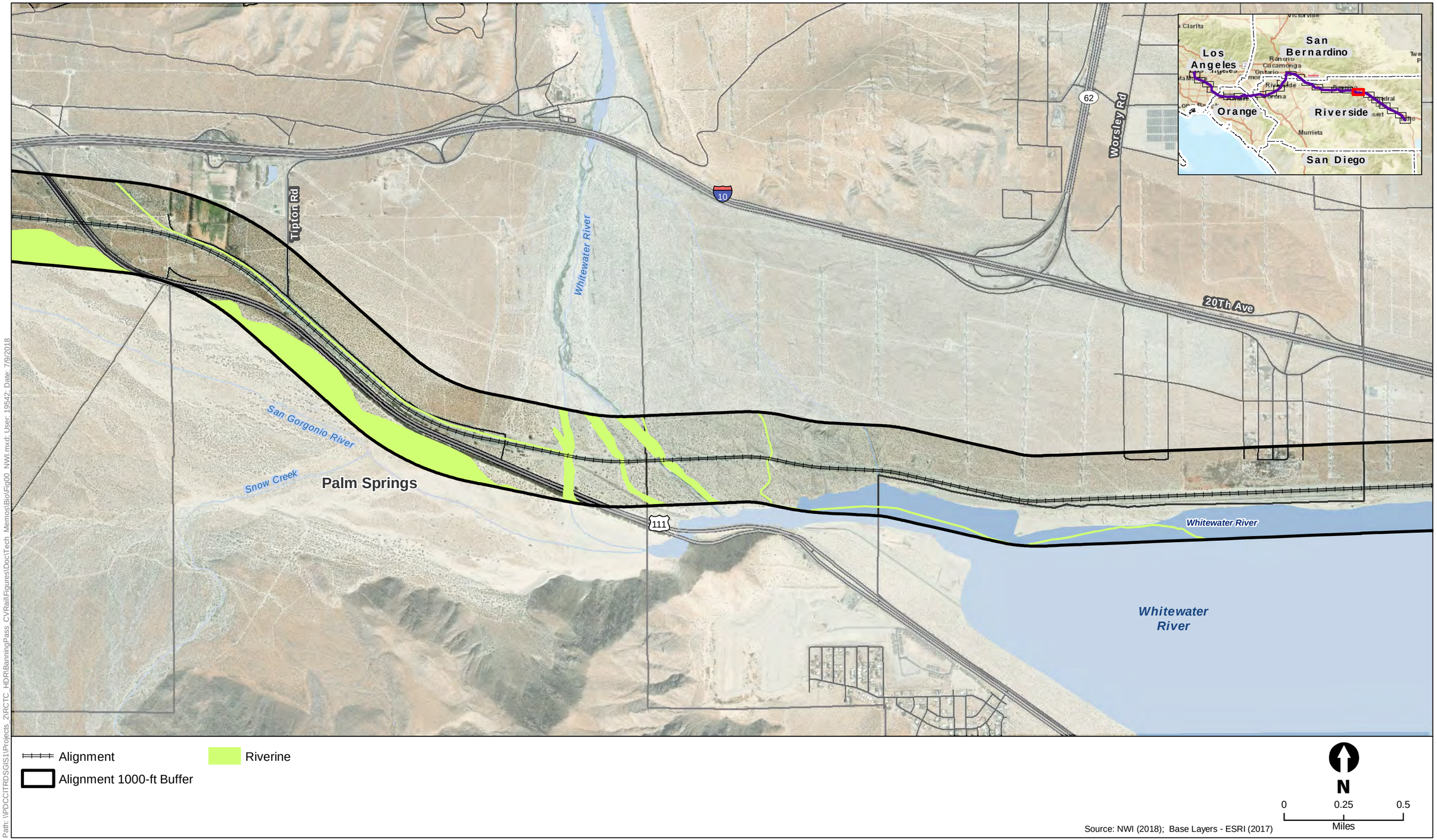
Figure 19
National Wetland Inventory within Study Area
Coachella Valley-San Gorgonio Pass Rail Corridor Service Study



Path: \\PDCCITRDSGIS1\Projects_2\RCTC_HDR\BanningPass_CV\RailFigures\DocTech_Memos\BioFig00_NWI.mxd; User: 19542; Date: 7/9/2018

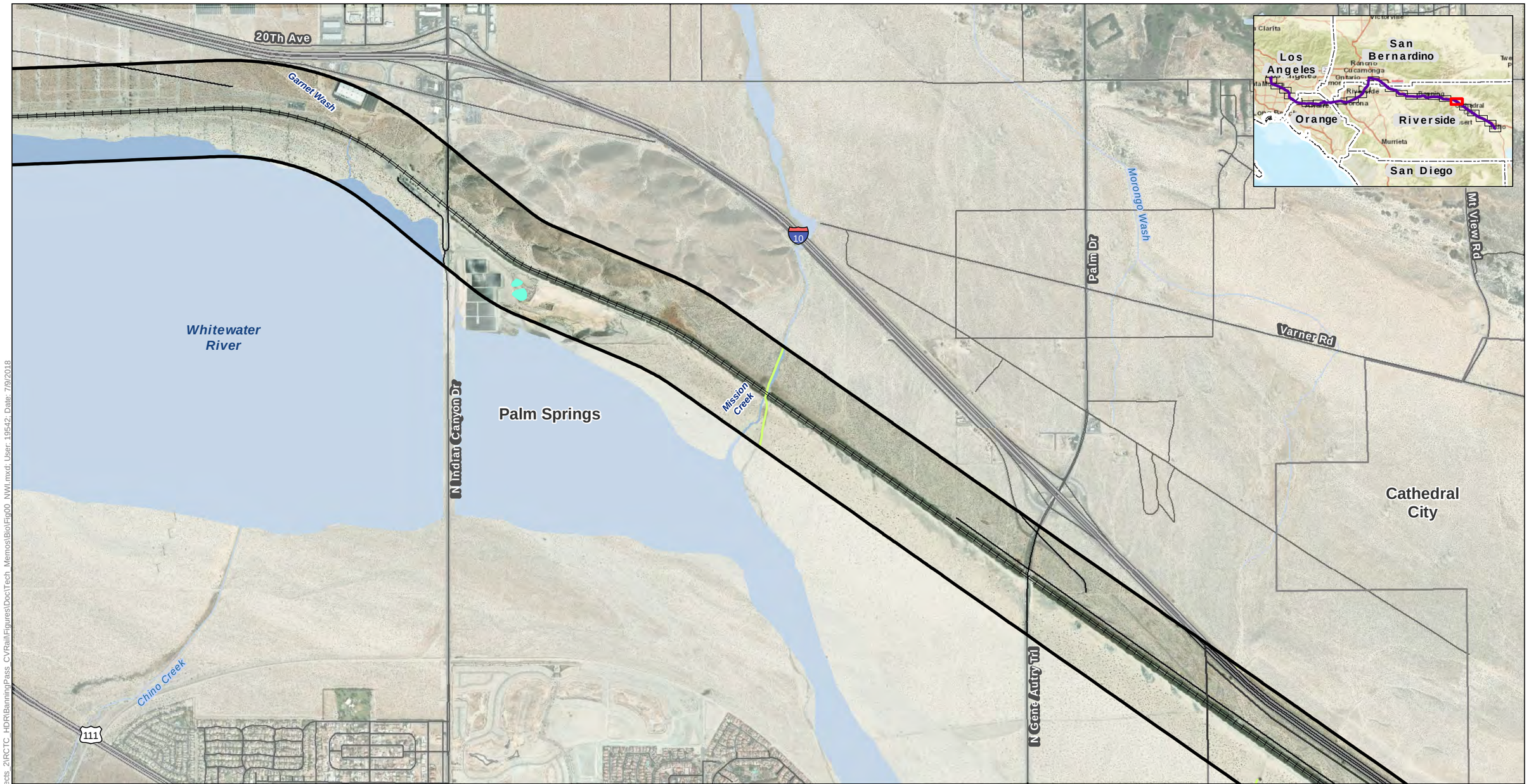
ICF

Figure 20
National Wetland Inventory within Study Area
Coachella Valley-San Gorgonio Pass Rail Corridor Service Study



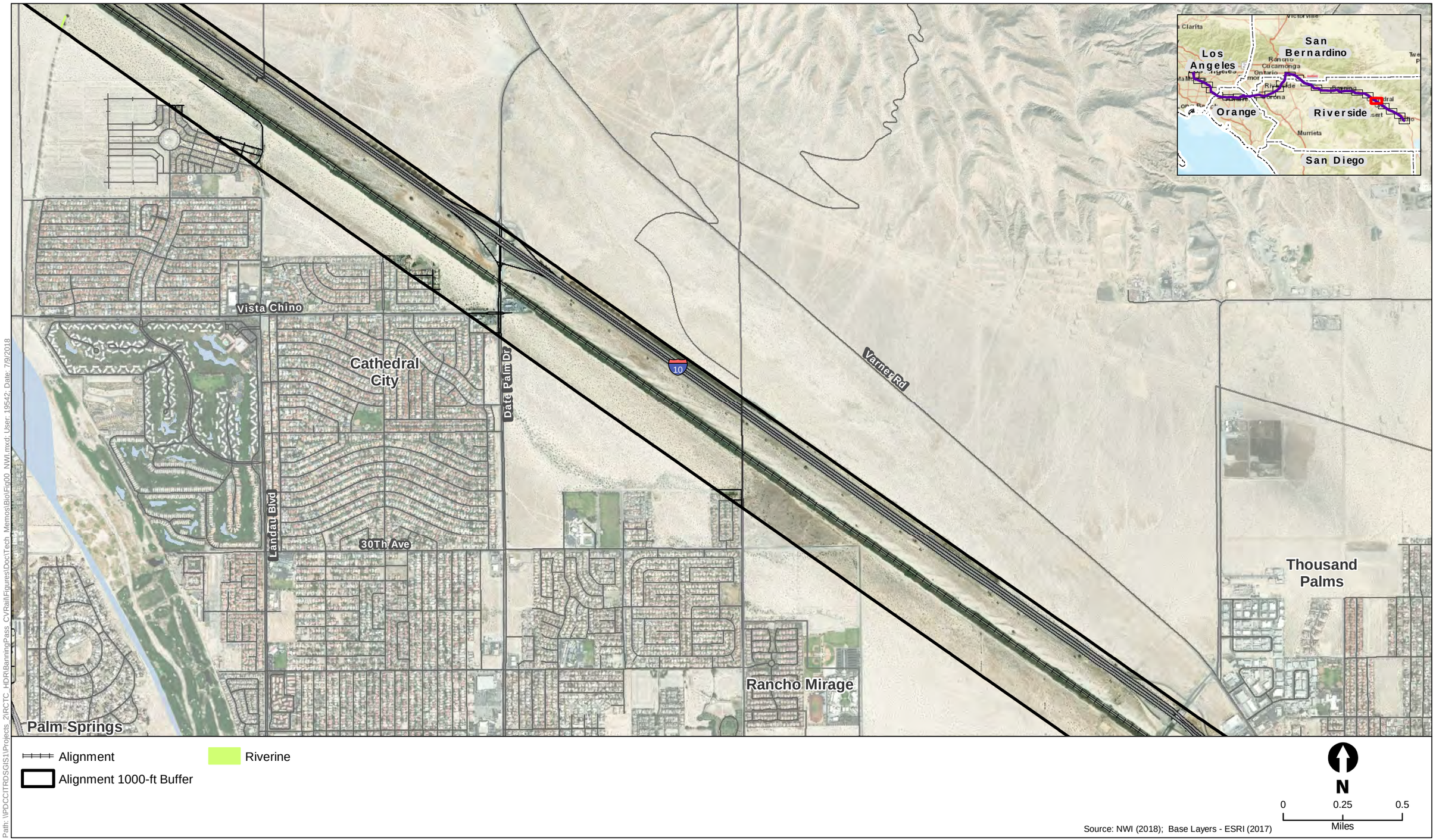
Path: \\PDCCITRDSGIS1\Projects_2\RCTC_HDR\BanningPass_CVRail\Figures\DocTech Memos\Bio\Fig00_NWI.mxd; User: 19542; Date: 7/9/2018

Figure 21
National Wetland Inventory within Study Area
Coachella Valley-San Gorgonio Pass Rail Corridor Service Study



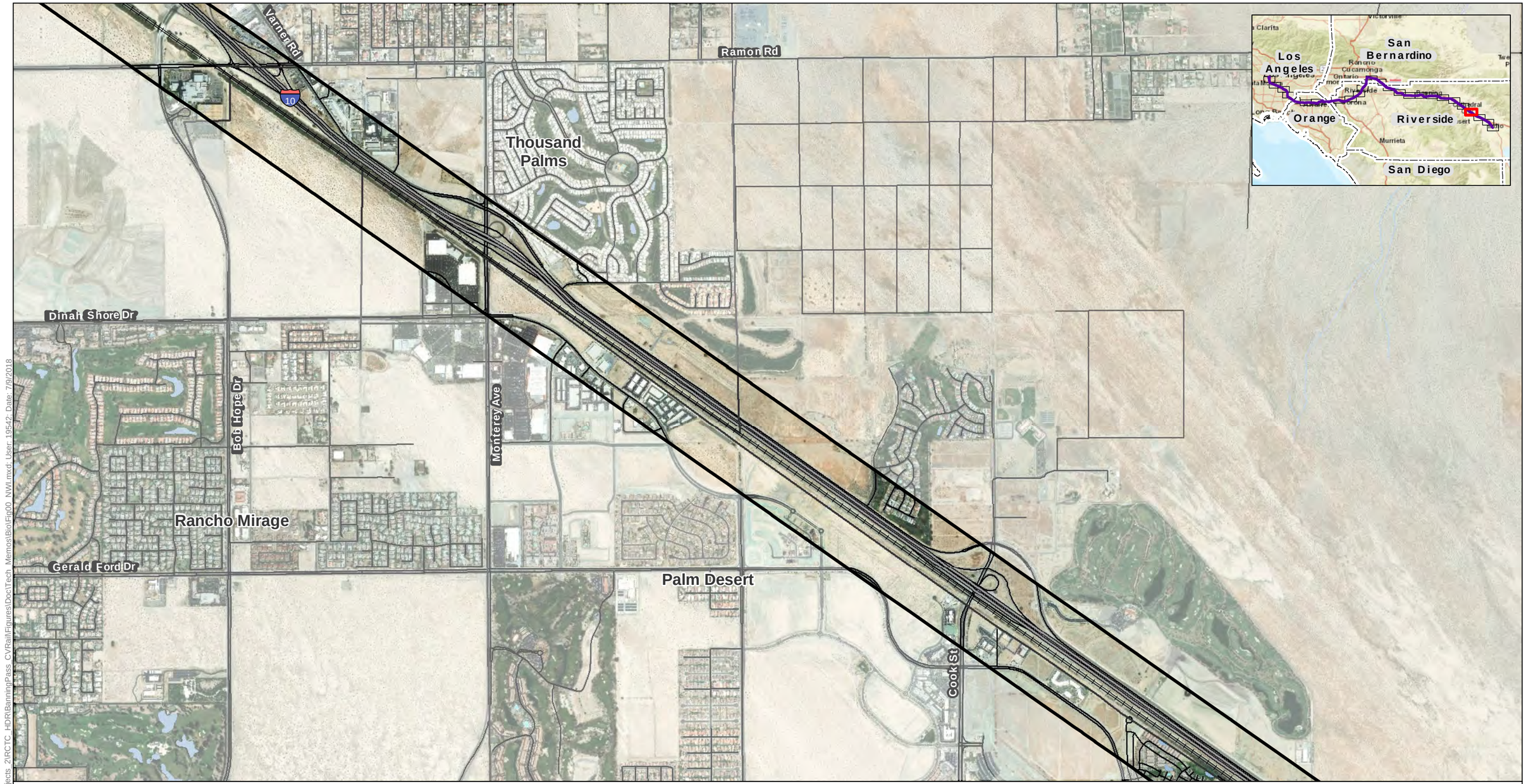
Path: \\PDCCITRDSGIS1\Projects_2\RCTC_HDR\BanningPass_CVRail\Figures\DocTech_Memos\Bio\Fig00_NWI.mxd; User: 19542; Date: 7/9/2018

Figure 22
National Wetland Inventory within Study Area
Coachella Valley-San Gorgonio Pass Rail Corridor Service Study



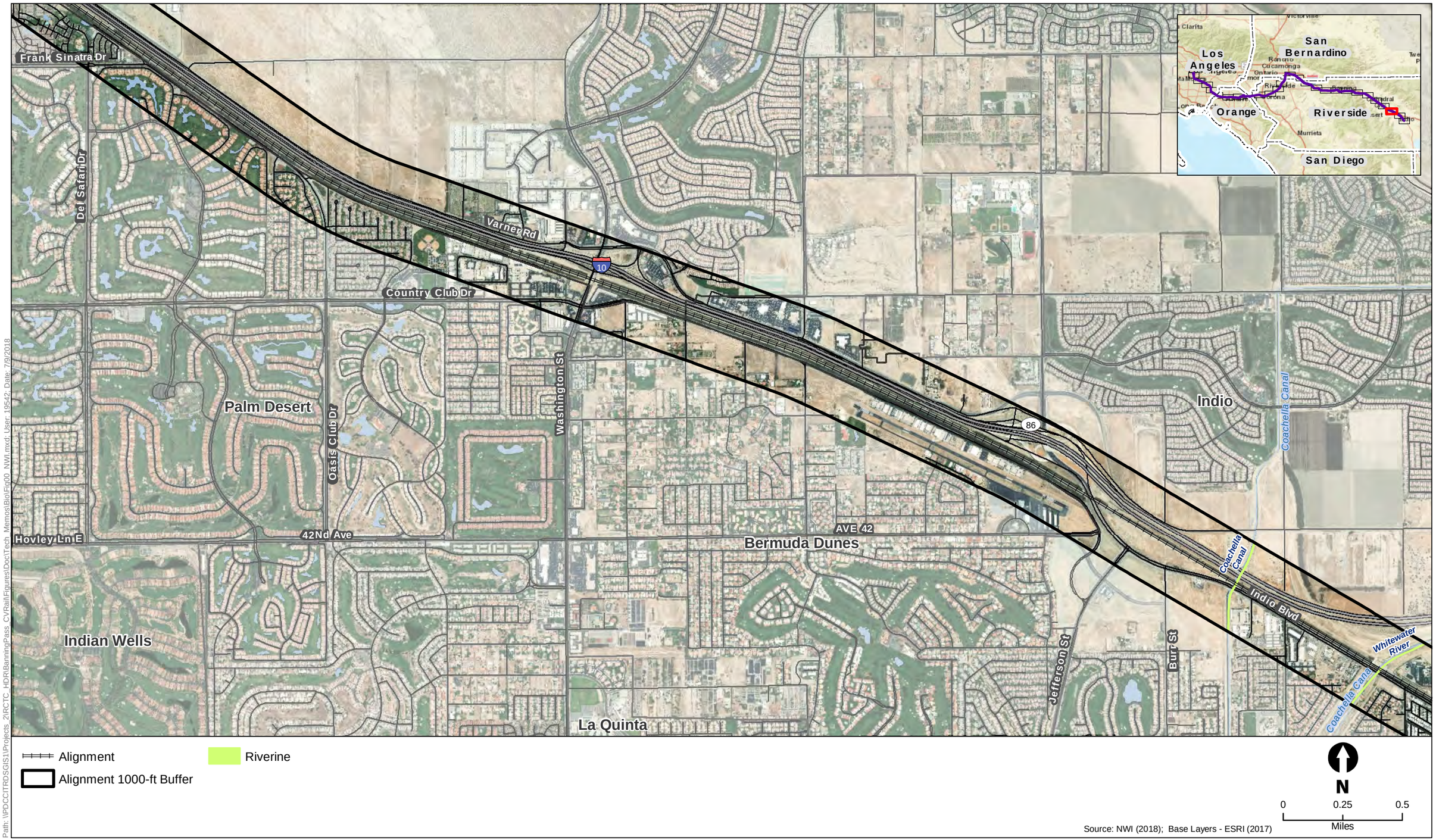
Path: \\PDCCITRDSGIS1\Projects_2\RCTC_HDR\BanningPass_CVRailFigures\DocTech Memos\BioFig00_NWI.mxd; User: 19542; Date: 7/9/2018

Figure 23
National Wetland Inventory within Study Area
Coachella Valley-San Gorgonio Pass Rail Corridor Service Study



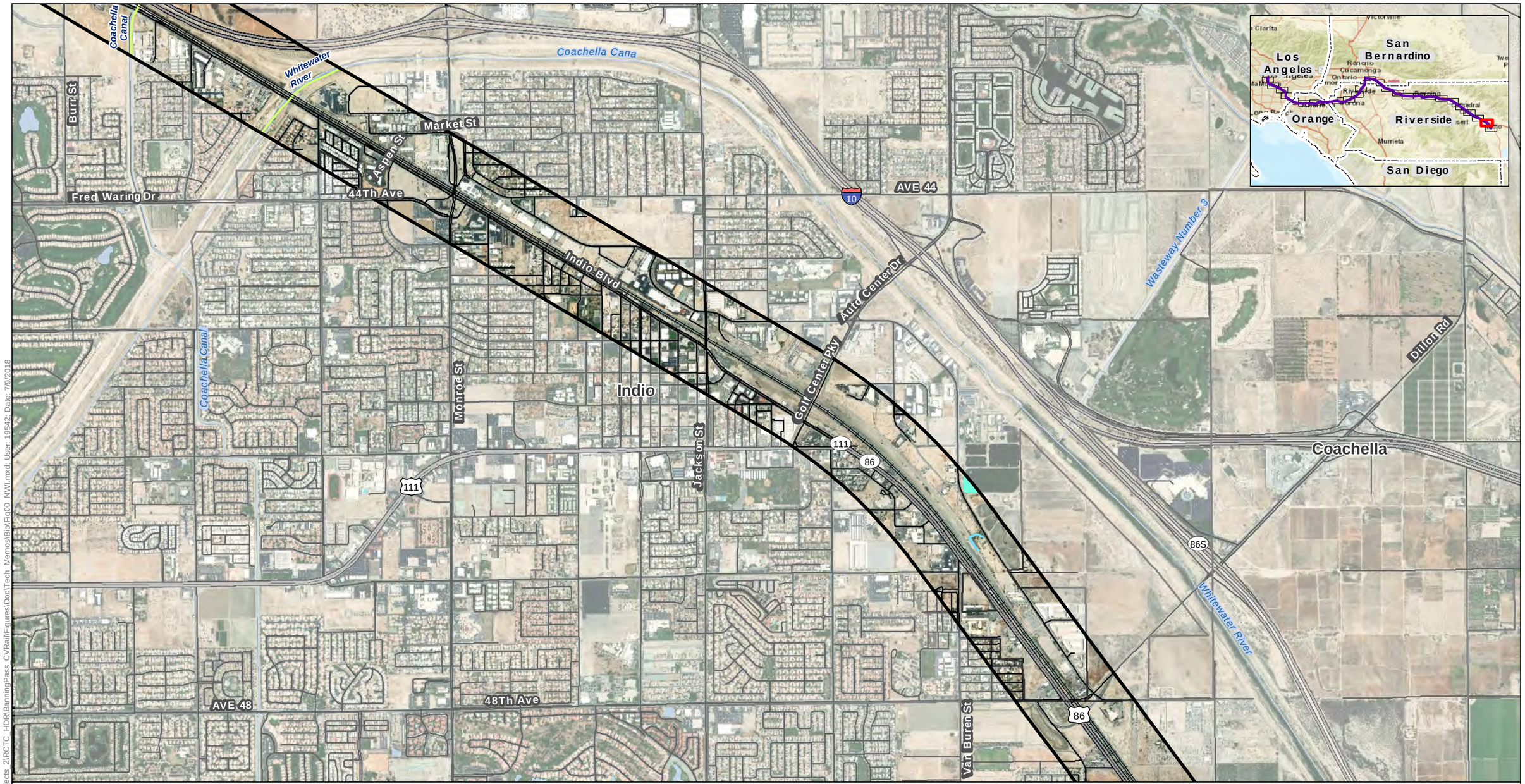
Path: \\PDCCITRDSGIS1\Projects_2\RCTC_HDR\BanningPass_CVRailFigures\DocTech_Memos\BioFig00_NWI.mxd; User: 19542; Date: 7/9/2018

Figure 24
National Wetland Inventory within Study Area
Coachella Valley-San Gorgonio Pass Rail Corridor Service Study



Path: \\PDCCITRDSGIS11\Projects_2\RCTC_HDR\BanningPass_CV\Rail\Figures\DocTech_Memos\BioFig00_NWI.mxd, User: 19542, Date: 7/9/2018

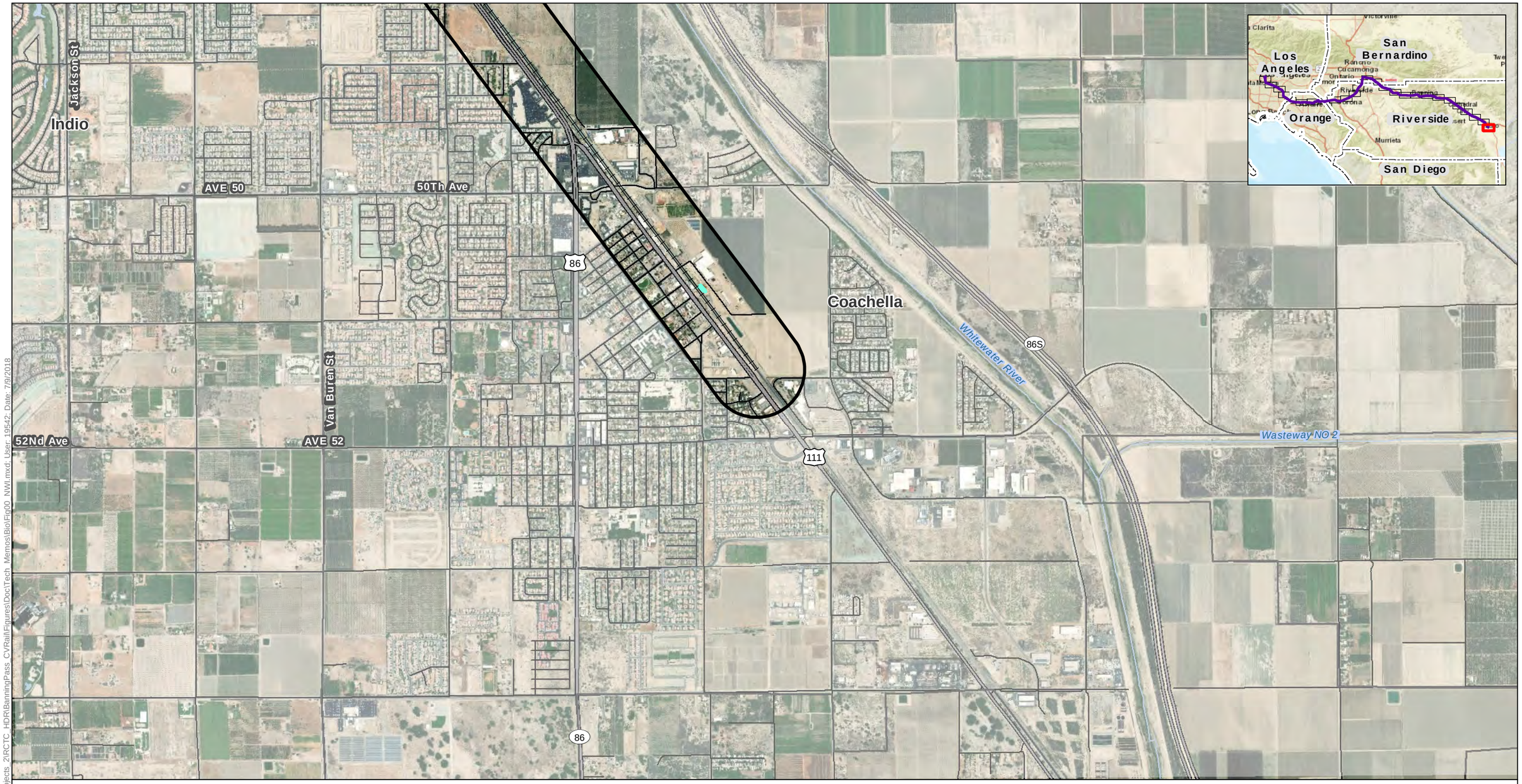
Figure 25
National Wetland Inventory within Study Area
Coachella Valley-San Gorgonio Pass Rail Corridor Service Study



Path: \\PDCCITRDSGIS1\Projects_2\RCTC_HDR\BanningPass_CVRail\Figures\DocTech_Memos\Bio\Fig00_NWI.mxd; User: 19542; Date: 7/9/2018

ICF

Figure 26
National Wetland Inventory within Study Area
Coachella Valley-San Gorgonio Pass Rail Corridor Service Study



Path: \\PDCCITRDSGIS1\Projects_2\RCTC_HDR\BanningPass_CVRailFigures\DocTech_Memos\BioFig\00_NWI.mxd; User: 19542; Date: 7/9/2018

Figure 27
National Wetland Inventory within Study Area
Coachella Valley-San Gorgonio Pass Rail Corridor Service Study