

## 4.4 BIOLOGICAL RESOURCES

This section evaluates the biological resources impacts of the proposed Plan. Appendix E of this EIR provides more detail on the data sources and analysis background.

### 4.4.1 EXISTING CONDITIONS

The following section describes the existing biological resources within the San Diego region, including sensitive vegetation communities, federally and State regulated waters and wetlands, special-status species, and wildlife movement.

#### SENSITIVE VEGETATION COMMUNITIES

Sensitive vegetation communities considered in this EIR are those regulated, protected, or designated as sensitive by any federal, state, or local agency, plan, policy, regulation, or ordinance (see Section 4.4.2, *Regulatory Setting*). Furthermore, sensitive vegetation communities are considered rare within the San Diego region and support habitat for listed or special-status species. Sensitive vegetation communities also include riparian and wetland vegetation communities that are associated with State and federally regulated aquatic resources (in this document, *aquatic resources* generally refers to regulated waters and wetlands, including Section 404 of the Clean Water Act (CWA), California Coastal Act (CCA), the Porter-Cologne Act, Water Quality Control Act, and California Fish and Game Code (CFG) Sections 1600 et seq.

The following agencies and entities identify sensitive vegetation communities in their policies, plans, and programs: California Coastal Commission (CCC); U.S. Fish and Wildlife Service (USFWS) and California Department of Fish and Wildlife (CDFW) (through the California Natural Diversity Database [CNDDDB] and NatureServe Standard Heritage Program methodology [NatureServe 2021]); California Native Plant Society (CNPS); the County of San Diego, and cities in the San Diego region that participate in various Natural Community Conservation Planning (NCCPs) programs, specifically the Multiple Species Conservation Program (MSCP) and the Multiple Habitat Conservation Program (MHCP). The U.S. Army Corps of Engineers (USACE) and Regional Water Quality Control Board (RWQCB) regulate aquatic resources, and while this does not include specific vegetation communities, regulated aquatic resources are often associated with wetland and riparian vegetation communities.

Sensitive vegetation communities that occur anywhere in San Diego County are included in the inventory and analysis in this EIR. The County of San Diego and cities of San Diego, Chula Vista, Encinitas, Carlsbad, Oceanside, Poway, and Escondido identify sensitive vegetation communities in their ordinances and guidelines. Specifically, the County of San Diego regulates sensitive vegetation communities through the Biological Mitigation Ordinance (BMO) for those areas covered by the County's MSCP Subarea Plan, and the Resource Protection Ordinance (RPO) for those areas not covered by the County's MSCP; County of San Diego Guidelines for Determining Significance for Biological Resources (County of San Diego 2010); and Habitat Loss Permit (HLP) ordinance (see Section 4.4.2). The cities of San Diego, Chula Vista and Carlsbad also developed specific guidelines pursuant to their NCCP Subarea Plan, including the City of San Diego's Land Management Code Environmentally Sensitive Lands (ESL) and Biology Guidelines, and the City of Carlsbad's Biological Studies, Habitat Restoration, Preserve Management, and Riparian and Wetlands Buffer Guidelines. In addition, the City of San Diego regulates vernal pools through the Vernal Pool Habitat Conservation Plan (VPHCP, City of San Diego 2017).

For the purpose of this EIR and as identified in the guidelines, plans, and policies listed above, riparian, wetland, and certain upland vegetation communities identified in Table 4.4-1 are considered sensitive, specifically those that are regulated as classified by the NCCP “tier” system. Upland vegetation communities identified as sensitive in the San Diego County NCCPs (including the MHCP and MSCP) are divided into tiers of biological sensitivity based on rarity and ecological importance. Tier I represents the most sensitive (rarest or subject to threats) communities, while Tier IV represents the least sensitive communities. Other cover types—such as agriculture, disturbed habitat (i.e., areas that have been physically disturbed<sup>1</sup> and no longer contain recognizable native or naturalized vegetation communities), eucalyptus woodland and other ornamental or nonnative vegetation, and urban/developed—are not considered sensitive (Table 4.4-1). Disturbed habitat, together with native and nonnative grassland, is considered habitat for the western burrowing owl (*Athene cunicularia*), a CDFW-listed species of special concern and covered species under several NCCPs, and suitable burrowing owl habitat will require mitigation if impacted.

**Table 4.4-1  
Existing Vegetation Communities and Land Cover Types Within the San Diego Region**

| <b>Vegetation Community</b>               | <b>Acres<sup>1</sup></b> | <b>Percent of Total in San Diego County</b> |
|---|--------------------------|---|
| <b>Riparian and Wetlands</b>              |                          |   |
| Beach/Coastal Dunes/Saltpan/Mudflats      | 1,840                    | 0.1   |
| Marsh                                     | 8,172                    | 0.3   |
| Meadows and Seeps                         | 12,648.50                | 0.5   |
| Open Water and Streams                    | 15,764.50                | 0.6   |
| Riparian Forest/Woodland                  | 53,726                   | 2.0   |
| Riparian Scrub                            | 17,448                   | 0.6   |
| Vernal Pools <sup>2</sup>                 | 459.50                   | 0.02  |
| <b><i>Riparian and Wetlands Total</i></b> | <b>110,058.50</b>        | <b>4.1</b>                                  |
| <b>Uplands</b>                            |                          |   |
| Chaparral                                 | 852,540                  | 31.4  |
| Coastal Scrub                             | 287,980                  | 10.6  |
| Desert Dunes                              | 46,661                   | 1.7   |
| Desert Scrub                              | 465,764                  | 17.2  |
| Oak Woodlands                             | 119,552                  | 4.4   |
| Forest/Woodland                           | 134,357                  | 5.0   |
| Grasslands                                | 146,500                  | 5.4   |
| <b><i>Uplands Total</i></b>               | <b>2,053,354</b>         | <b>75.7</b>                                 |
| <b>Other Cover Types</b>                  |                          |   |
| Agriculture                               | 136,748                  | 5.0   |
| Disturbed Habitat                         | 28,692.50                | 1.1   |
| Urban/Developed                           | 383,220                  | 14.1  |
| <b><i>Other Cover Types Total</i></b>     | <b>548,660.50</b>        | <b>20.2</b>                                 |

<sup>1</sup> While disturbed habitat is not considered sensitive it might provide habitat for such sensitive species as the western burrowing owl.

| Vegetation Community | Acres <sup>1</sup> | Percent of Total in San Diego County |
|----------------------|--------------------|--------------------------------------|
| <b>Grand Total</b>   | <b>2,712,073</b>   | <b>100.0</b>                         |

Source: County of San Diego 2021c17.

<sup>1</sup> Groups are based on physiognomic, ecologic, and geographic criteria, such that groups contain vegetation types of similar structure and ecological function. These groups are not defined in the Holland and/or 2015 vegetation classification systems. Appendix E-1 lists the detailed vegetation communities within each aggregated group.

<sup>2</sup> 2003–2011 vernal pool mapping available from the City of San Diego VPHCP (City of San Diego 2017).

### Vegetation Mapping Data Sources and Methods

The description of existing conditions for vegetation communities in the San Diego region is based on a compilation of regionally collected vegetation data, which are aggregated in a geographic information system (GIS) data layer of Existing Vegetation and administered by the County of San Diego (County of San Diego [et al. 2021a](#)). This data set covers the entire San Diego region and uses the modified Holland classification system (Holland 1986, Oberbauer et al. 2008). The data were collected mostly for the development of the MSCP and MHCP, and have been modified and updated over the years from a variety of sources and catalogued by SANDAG and the County of San Diego; the most recent update reflected in this EIR is from 2021a ([County of San Diego et al. 2021](#)).

The 2021a data are combined and collapsed into 17 vegetation groups that are created specifically for this EIR in an effort to streamline the programmatic analysis of the vegetation communities. The groups contain vegetation communities of similar regulatory importance, sensitivity, structure, and ecologic function, and are based on physiognomic (appearance or outward features), ecologic, and geographic criteria. The region's vegetation communities are combined into the 17 vegetation groups in three categories: Riparian and Wetlands (7 groups); Uplands (7 groups); and Other Cover Types (3 groups) (Table 4.4-1). The data sources and analytic techniques described below provide a reasonably accurate description of existing conditions for vegetation and land cover, including sensitive vegetation communities, for the purpose of a programmatic large-scale analysis such as required for the Regional Plan EIR (rather than based on site-specific or project-specific data). Appendix E-1, includes a rationale for the 2021a vegetation classification into the 17 vegetation groups identified in Table 4.4-1.

The County of San Diego 2021a vegetation data (County of San Diego [et al. 2021a](#)) were used as the basis to determine existing vegetation communities occurring within the entire Plan Area. After aggregating the data into one of the 17 vegetation groups described above, the data were overlaid with the land use layer to identify areas that changed in land cover from a vegetation group to urban/developed or agricultural land cover between 2011 and 2021a. Areas that became urban/developed or agricultural land cover were recoded as those designations in the vegetation data layer prepared for this EIR.

### Post-Fire Vegetation

Most common vegetation communities in the San Diego region generally persist unless development and land use pressures, invasion by exotic species, or wildfire cause changes (Barbour et al. 2007, Diffendorfer et al. 2002). Fire recovery in certain vegetation types may require decades (Witter et al. 2007), and some vegetation types recover more readily (e.g., chaparral) than others (e.g., coastal sage scrub) (Witter et al. 2007, Meng et al. 2014). It is generally assumed, and supported by the literature, that the post-fire response of San Diego region vegetation communities such as chaparral is to eventually return to their pre-fire communities; however, most sensitive native vegetation communities (e.g., coastal sage scrub, maritime succulent scrub, vernal pools, and chaparral dominated by self-seeding plants [versus re-sprouting plants]) are assumed to convert to a degraded

condition or nonnative habitat (“type-convert”). Burned habitats within the western one-third of the San Diego region may be prone to increased edge effects and human encroachment and therefore have an increased chance to type-convert to a degraded condition. Vegetation recovery post-wildfires are not often mapped or they are mapped on a small scale related to project-specific mapping efforts.

The existing conditions in this EIR assume that all vegetation communities available in the 2021~~17~~ County data set are identified either as their pre-fire condition or existing condition, depending on the data sources. Some of the vegetation communities affected by fires may have recovered since the fires. However, there is evidence that many sensitive vegetation communities subject to wildfire did not return to their mapped pre-fire condition (i.e., they converted to a degraded or nonnative condition). Therefore, this approach may overestimate the impacts of the proposed Plan on sensitive vegetation communities.

### **Physiographic Subregions**

The 17 vegetation communities identified for this EIR occur within three physiographic subregions: Southern California Coast, Southern California Mountains and Valleys, and Colorado Desert (McNab et al. 2005). The subregions are characterized as follows:

#### ***Southern California Coast Subregion***

The Southern California Coast subregion occurs at elevations ranging from sea level to 2,900 feet above mean sea level (AMSL). It encompasses that area along the immediate coastline of the Pacific Ocean as well as the more easterly mesa and interior foothills (approximately the western third of the San Diego region). Brush and scrub communities such as chaparral and coastal scrub are the most common upland habitats found in this subregion, with chaparral the most widespread (Figure 4.4-1). Nonnative grasslands are widely distributed (often as a result of disturbance or type conversion), whereas native grasslands are a relatively rare occurrence. Riparian woodlands occur throughout the subregion and are predominantly distributed in a linear pattern along rivers and streams. Marshes and wetlands are associated with estuaries but also occur in valleys or along riparian corridors. In addition, this region also includes the unique vegetation community of vernal pools. (Figure 4.4-1).

Vegetation communities characterized by a high level of constituent sensitive species occurring in the coastal subregion include southern foredunes, southern coastal bluff scrub, maritime succulent scrub, Diegan coastal sage scrub, southern maritime chaparral, native grassland, San Diego mesa hardpan/claypan vernal pools, southern coastal salt marsh, coastal brackish marsh, coastal freshwater marsh, riparian woodlands and scrubs, coast live oak woodland, Engelmann oak woodland, and Torrey pine forest. These communities provide habitat for a diversity of sensitive plant and animal species.

#### ***Southern California Mountains and Valleys***

The Southern California Mountains and Valleys subregion occurs at elevations ranging from 100 to 6,500 feet AMSL and includes the major mountain systems of the peninsular range that occur in the San Diego region: San Ysidro, Cuyamaca, Volcan, Laguna, and Vallecitos (approximately the central third of the San Diego region). Vegetation communities that occur in this montane subregion overlap with the chaparral, scrub, riparian, and woodland communities of the coastal subregion; however, others are unique to the mountains (Figure 4.4-1). These include coniferous woodlands, black oak woodlands, and montane meadows. All of these vegetation communities provide habitat for various plant and animal species, and, although fewer than those found in the coastal subregion, sensitive species are well represented.

***Colorado Desert Subregion***

The Colorado Desert subregion is found to the east of the montane subregion at elevations ranging from sea level to 3,400 feet AMSL (approximately the eastern third of the San Diego region). The vegetation communities present in the Colorado Desert subregion are quite distinct from those found within the Coastal and Mountains and Valleys subregions. The majority are desert scrub communities, of which creosote bush scrub is dominant (Figure 4.4-1). This vegetation community is also the second most common vegetation type in the San Diego region. A number of sensitive plant and animal species are also found within these vegetation communities.

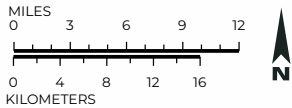
**Existing Vegetation Communities**

This section describes the 17 existing vegetation community groups in the San Diego region derived from the data sets indicated above.

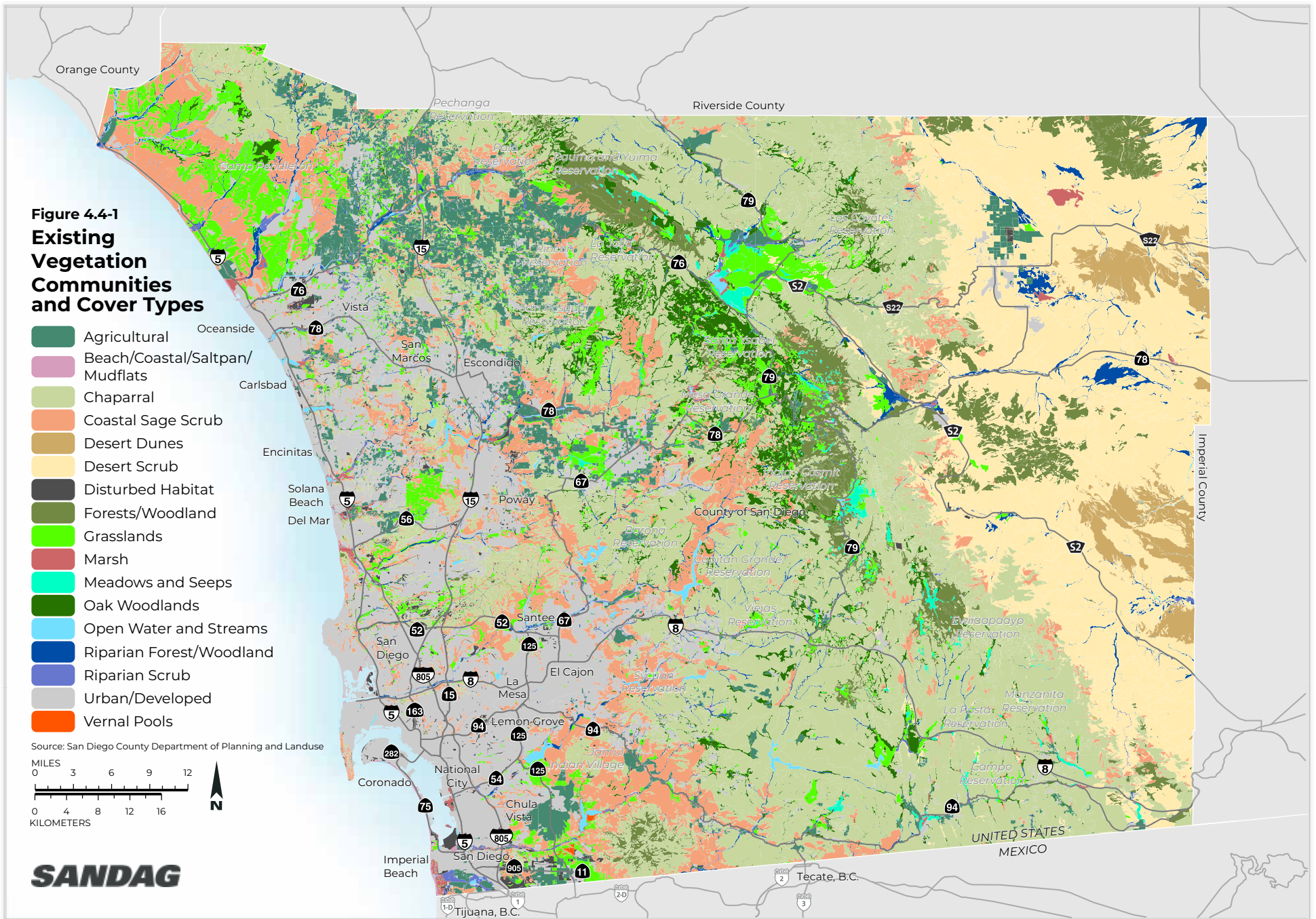
**Figure 4.4-1  
Existing  
Vegetation  
Communities  
and Cover Types**

- Agricultural
- Beach/Coastal/Saltpan/  
Mudflats
- Chaparral
- Coastal Sage Scrub
- Desert Dunes
- Desert Scrub
- Disturbed Habitat
- Forests/Woodland
- Grasslands
- Marsh
- Meadows and Seeps
- Oak Woodlands
- Open Water and Streams
- Riparian Forest/Woodland
- Riparian Scrub
- Urban/Developed
- Vernal Pools

Source: San Diego County Department of Planning and Landuse



**SANDAG**



### ***Riparian and Wetland Vegetation Communities***

Riparian and wetland habitats support vegetation adapted to the periodic presence of or saturation by surface or ground water; therefore, they are relatively rare in the semi-arid climate of Southern California. Riparian and wetland habitats are considered sensitive due to extensive historic losses of wetlands nationwide, their ability to improve and maintain the quality of potable water sources, and their value as habitat for sensitive species and wildlife movement. It is estimated that over half of wetland habitats have been lost in the conterminous United States (SWRCB 2019).

In California, at least 90 percent of wetland habitat has been destroyed (SWRCB 2019). In Southern California, an estimated 90 to 95 percent of riparian wetlands and over 70 percent of coastal wetlands have been lost (CCC 1994, Faber et al. 1989), and over 97 percent of vernal pool habitat has been lost in the San Diego region (Bauder and McMillan 1986, Oberbauer and Vanderwier 1991, Keeler-Wolf et al. 1995).

Of the vegetated habitats, riparian/forest woodland is the largest expanse of riparian/wetland habitat types, followed by riparian scrub, open water and streams, meadows and seeps, and marsh (including coastal salt marsh). Vernal pools are isolated ephemeral depressions surrounded by upland habitat and form a unique vegetation community containing many special-status and endemic species, but cover less than 500 acres of land cover in San Diego County. Open water is ecologically highly productive and includes lakes, reservoirs, estuaries, and the fringes of these types of open water habitats. Open water, riparian woodland, and riparian scrub comprise 79 percent (i.e., 86,937.70 acres out of a total of 110,057.20 acres) of all riparian and wetland vegetation communities (Table 4.4-1).

Riparian ecosystem's highly productive vegetation and ability to buffer the effects of organic nutrients and toxins provide habitat to support a high diversity of species (Peck 1993). Plant density, composition, age structure, and cover within and adjacent to riparian woodlands and forests affect habitat diversity (which may be measured by the degree of vertical and horizontal habitat structure, density, and species richness). Riparian woodlands and forests are composed of several vertical layers, including canopy, shrub, herb, and ground. This complex habitat structure is often positively correlated with wildlife abundance and diversity. In addition, riparian areas usually harbor greater wildlife diversity and abundance than upland areas, and frequently serve as wildlife corridors due to their linear nature and the cover they provide.

Riparian woodland overstory provides valuable roosting, foraging, and breeding areas, while foraging birds and mammals utilize the understory. The trees themselves provide extensive foliage and bark surface for foraging, insectivorous birds. Although overall wildlife diversity is generally greater where vertical vegetation structure is well developed, species-specific occurrence can frequently be linked to the quality or presence of one component of the vertical structure. Riparian and wetlands communities also contribute to the overall soil health and stability, create shade to lower water temperatures and improve water quality for aquatic organisms, return carbon into the soil through detritus and debris deposition, and increase carbon storage and biomass (NRCS 2010). This is particular true for estuarine habitats as a result of deep organic soil deposits that have the ability to sequester relatively large amounts of blue carbon<sup>2</sup> (McTigue et al. 2019, Windham-Myers et al. 2018, Sutton-Grier and Moore 2016). Riparian buffers improve water quality by enhanced infiltration of

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<sup>2</sup> Blue carbon refers to carbon dioxide removed from the atmosphere by the world's ocean ecosystems, mostly algae, mangroves, salt marshes, seagrasses and macroalgae, through plant growth and the accumulation and burial of organic matter in the soil.

surface runoff, and increase surface roughness to slow overland flows. Water is more easily absorbed and allows for groundwater recharge. Functional riparian systems have significant potential to reduce the adverse effects of climate change by enhancing ecosystem resilience (Seavy et al. 2009).

The majority of riparian and wetland communities contain native species, although disturbed wetlands are usually dominated by introduced species; for example, giant reed (*Arundo donax*) is a highly invasive nonnative species that is often found in and along rivers and streams in association with southern willow scrub, but may also occur along the upper terraces of valleys and canyons intermixed with upland habitat or in monocultural stands.

### ***Upland Vegetation Communities***

Southern California is an international biodiversity hotspot due to its varied topography and associated vegetation belts and biomes, and its Mediterranean climate (Dobson et al. 1997, Jennings et al. 2018, Stein et al. 2000). The San Diego region is characterized by a unique mosaic of upland scrub and grassland habitats, many of which are considered sensitive because they provide valuable nesting, breeding, and/or foraging habitat for many special-status wildlife species, including narrow endemic species that occur nowhere else in the world. San Diego County's upland habitats are dominated by chaparral (852,539.70 acres), desert scrub (465,764.30), and coastal sage scrub (287,980.20), comprising 78 percent (i.e., 1,606,284.20 acres out of a total of 2,053,353.90 acres) of all upland vegetation communities (Table 4.4-1).

Unlike riparian corridors, which are linear and occur along rivers and streams, upland habitats typically form a large matrix and provide a broad variety of species structure and composition. Dense sage scrub vegetation or dense-canopied woodlands provide useful habitat and movement corridors for wildlife, while open grasslands provide foraging habitat for raptors and other predators and can also contain a unique diversity of plant species.

The majority of coastal and inland habitats are dominated by shrublands (such as coastal sage scrub and chaparral), most of which are considered sensitive. Upland vegetation communities with soils that have high clay content are known to support special-status endemic plant species, such as those that occur in association with mafic chaparral and gabbro soils. Clay-adapted coastal sage scrub is associated with the federally threatened California gnatcatcher (*Polioptila californica*), the protection of which spearheaded the development of the California NCCP Act and associated subregional multi-species conservation programs such as the San Diego MSCP and North County MHCP. Impermeable clay soils also provide conditions for many narrow endemic plant species and also form vernal pools (specifically on mesa tops and in valley grasslands), which are unique seasonal wetlands that support the highest number of federally and state-listed and narrow endemic species in the San Diego region. Nonnative grasslands provide habitat for special-status plant and animal species, including foraging habitat for many raptor species.

San Diego's upland scrub communities have evolved with natural fires. Many sensitive upland vegetation communities such as coast live oak woodland and Diegan coastal sage scrub are rapidly declining due to urbanization and climate-change effects, including frequent and short-interval wildfires that lead to type conversion and the effects of invasive pest invasions such as the polyphagous and Kuroshio shot hole borers and the goldspotted oak borer beetles.

Forests and woodlands harbor a great wildlife diversity and contribute significantly to carbon sequestration and storage, specifically those considered old growth. Forest and woodlands are mostly distributed in higher elevations and, with a few exceptions, occur in the eastern portion of San Diego County, including the desert



subregion. These exceptions include oak woodlands, Torrey pine forest and coastal closed-cone coniferous forest, all of which are considered sensitive. Oak woodlands are regulated at the State level (Senate Bill 1334) and also considered sensitive by the County of San Diego (Tier I sensitivity level) and the MSCP and MHCP. Oak woodlands are composed of a variety of oak-dominated vegetation communities that span from the coast to the mountains in the eastern part of the County. Engelmann oak (*Quercus engelmannii*) is considered sensitive in San Diego County.

Most forest and woodland communities are not considered sensitive except for Torrey pine forest, which is an NCCP-covered vegetation community regulated as a Tier I vegetation community. Likewise regulated under the Tier I classification, southern interior cypress forest contains sensitive tree species that are protected, such as Tecate cypress (*Hesperocyparis forbesii*), which is restricted to three locations in San Diego County, and Cuyamaca cypress (*Hesperocyparis stephensonii*), which only occurs in one location in the United States, on Cuyamaca peak (Sproul et al. 2011). The forest and woodland community in the region is mainly composed of native vegetation communities with the exception of eucalyptus woodland, which is composed of monocultures of eucalyptus (or gum) trees (*Eucalyptus* sp.) that were imported from Australia to provide a source for timber and that thrive in San Diego's Mediterranean climate. Eucalyptus woodlands do not provide habitat for native species, with the exception of raptor nesting. Some undifferentiated woodlands that occur in the coastal region may consist of nonnative acacia species, also imported from Australia as an ornamental plant; like eucalyptus woodland, they do not provide ecological value to native species.

#### **FEDERALLY AND STATE-REGULATED WATERS AND WETLANDS**

As detailed in Section 4.4.2, waters and wetlands, including riparian habitat, are regulated by federal and State agencies through a variety of different laws and ordinances. The USACE regulates activities in waters of the U.S., and CDFW, RWQCB, and the CCC have various responsibilities for regulating activities in waters of the state; depending on the regulatory program, wetlands and riparian habitat may also be subject to regulation. The extent of each agency's jurisdiction is defined by its respective regulations, guidance, and/or case law. Waters types (including wetlands and riparian habitat) in the San Diego region that may be considered waters of the U.S. and/or State include the following:

- The Pacific Ocean, bays, lagoons, lakes, and reservoirs.
- Perennial and intermittent (and ephemeral<sup>3</sup>) rivers, streams, and washes.
- Tidal, non-tidal, saline, and freshwater wetlands.
- Wetland and non-wetland riparian habitats.

#### **Data Mapping Sources and Methods**

The approximate location of regulated waters (including wetlands, and both non-wetland and wetland riparian habitats) in the San Diego region were mapped using the U.S. Geological Survey's (USGS) National Hydrography Dataset (NHD) (USGS 2021) and the U.S. Fish and Wildlife Service's (USFWS's) National Wetlands Inventory (NWI 2021) dataset. The NHD is the surface-water component of the national map. The NWI is a relatively

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<sup>3</sup> The state of California regulates ephemeral waters. However, as of June 22, 2020, the USACE and the U.S. Environmental Protection Agency no longer regulate ephemeral waters; federal waters are now limited to permanent and intermittent waters.

detailed generalized set of digital spatial data that represents the surface waters of the U.S. These data are designed to be used in general mapping and in the analysis of surface water systems. The NWI is a series of topical maps that show wetlands and deepwater habitats. This geospatial information is used by federal, state, and local agencies; academic institutions; and private industry for management, research, policy development, education, and planning activities.

### Existing Regulated Waters, Wetlands and Riparian Habitat

Figure 4.4-2 depicts the approximate location of surface waters, wetlands, and riparian habitats in the San Diego region. This figure represents the best currently available information (2021). Although this information provides current information for existing conditions for regulated waters, wetlands, and riparian habitat, the maps and figures provided in the EIR are not intended to be used as the final determination of the type, extent, and jurisdictional status of waters in the San Diego region because the information is not site- or project-specific. Furthermore, since the development of the above-referenced data bases, federal wetlands regulations have changed (June 22, 2020) to exclude waters and wetlands that are considered ephemeral. Because this change is not reflected in the data set presented in this EIR, it is possible that the impacts on federally regulated waters, wetlands, and riparian habitats are overestimated.

### SPECIAL-STATUS SPECIES

CEQA Guidelines Section 15380 defines “endangered, rare or threatened species” as “species or subspecies of animal or plant or variety of plant” listed under the Code of Federal Regulations (CFR), Title 50, Part 17.11 or 17.12 or California Code of Regulations (CCR), Title 14, Section 670.2 or 670.5, or a species not included in the above listings but that can be shown to meet the criteria in CEQA Guidelines Section 15380(b). In this circumstance, *endangered* means “when its survival and reproduction in the wild are at risk from one or more causes, including loss of habitat, change in habitat, overexploitation, predation, competition, disease, or other factors”; *rare* means that “although not presently threatened with extinction, the species is existing in such small numbers throughout all or a significant portion of its range that it may become endangered if its environment worsens, or the species is likely to become endangered within the foreseeable future throughout all or a significant portion of its range and may be considered ‘threatened’ as that term is used in the Federal Endangered Species Act.” Species that fall under the above criteria are referred to in this EIR as *special-status species*.

*State Species of Special Concern* and *Fully Protected Species* are animals not necessarily listed under the Federal Endangered Species Act (FESA) or California Endangered Species Act (CESA), but which nonetheless (1) are declining at a rate that could result in listing or (2) have historically occurred in low numbers and known threats to their persistence currently exist. The CNPS Inventory of Rare and Endangered Vascular Plants of California is sanctioned by CDFW, and serves as a Species of Special Concern list for plants. For purposes of analysis in this EIR, special-status species must meet at least one of the following criteria:

- Listed or proposed for listing (including *candidate species*<sup>4</sup>) under the FESA and CESA.

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<sup>4</sup> Candidate species are those petitioned species that are actively being considered for listing under FESA, as well as those species for which USFWS has initiated a FESA status review, as announced in the *Federal Register*. Proposed species are those candidate species that were found to warrant listing and have been officially proposed for listing in the *Federal Register*. Under CESA, candidate species are those species currently petitioned for state-listing status.

- CDFW Species of Special Concern (CDFW 2021).
- CDFW Fully Protected Species (CDFW 2021).
- CDFW Watch List Species (CDFW 2021).
- California Rare Plant Rank Species (CRPR) are ranked as 1A (presumed extinct in California and rare/extinct elsewhere), 1B (rare, threatened, and endangered in California and elsewhere), 2A (presumed extinct in California, but more common elsewhere), 2B (rare, threatened, or endangered in California, but more common elsewhere), or 3 (plants are those for which more information is needed [a review list]) (CNPS 2018). All plants constituting CRPR 1A, 1B, 2A, 2B, and 3 meet the definitions of Sections 2062 and 2067 (CESA) of the CFGC (CNPS 2018).
- Some, but not all, CRPR 4 plant species meet the definitions of Sections 2062 and 2067 (CESA) of the CFGC (CNPS 2018). CRPR 4 plants are those of limited distribution (watch list) (CNPS 2018).
- Species considered sensitive or narrow endemic by ~~approved~~ adopted NCCPs and Habitat Conservation Plans (HCPs).

### Data Sources and Methods

The occurrence and location of special-status species changes based on climate, seasonality, habitat suitability, and other site-specific factors. The special-status species identified in this EIR are those that are contained within the most recent versions of the data sources described above. However, there are areas in the San Diego region for which no data are available because they have not been surveyed and/or recorded. Therefore, site-specific surveys would be required at the project level to determine presence of special-status species.

San Diego is one of the global biodiversity hot spots, and contains a high diversity of species, many of which are considered sensitive. For this programmatic level of analysis, collecting site-specific information is not practicable, because information collected now does not guarantee presence or absence of a species in the future. Therefore, for the purpose of this EIR, widely available databases were used. Suitable species habitat was ascertained from the ~~2014~~ 2017 County of San Diego vegetation layer. Critical Habitat data (USFWS 2021) was used to identify regulated habitat of federally listed species; however, critical habitat does not translate into actual occupancy of the associated listed species. The analysis in this EIR uses GIS data for recent (i.e., within the last 10 years) known locations of listed plant and animal species to determine species potential to occur in a given area. Recorded occurrences of special-status species in the San Diego region were compiled from the CNDDB (CDFW 2021), County of San Diego's SanBios data (~~SanGIS 20~~ SanGIS 20 County of San Diego 2021c17), and USFWS Occurrence Information (USFWS 2020) as well as species habitat models developed by the County of San Diego LUEG-GIS (accessed in 2021). Occurrence data provide an overview of the historic presence of species; however, it is understood that not all known species are included in these data sets; therefore, project-specific information must be collected at the time of or immediately prior to project construction (during the most opportune season for maximum detection) to verify presence or absence of sensitive species. Suitable habitat or designated critical habitat alone does not guarantee that the species occupies said suitable habitat.

Botanical species nomenclature in this EIR follows Rebman and Simpson's (2014) *Checklist of the Vascular Plants of San Diego County*. Avian species nomenclature follows the American Ornithologists Union (2018). Non-avian species nomenclature follows the CDFW Online Special Animals List (CDFW 2021).



## Special-Status Species

### Federally and/or State-Listed Plant Species

There are 34 federally or state-listed or candidate plant species with potential to occur in the San Diego region (Table 4.4-2), including 14 that are federally listed as endangered, 6 that are federally listed as threatened, 22 that are State listed as endangered, 2 that are State listed as threatened, and 6 that are State listed as rare (Table 4.4-2). Table 4.4-2 also lists the habitat typically used by each species and any rarity information, if available. Figure 4.4-3 illustrates the results of regional database information for federally and/or state-listed plant species in the San Diego region.

**Table 4.4-2  
Listed Plant Species Potentially Occurring Within the San Diego Region**

| Common Name              | Scientific Name  | Listing Status <sup>1</sup> |       | Habitat  |
|--------------------------|--|-----------------------------|-------|--|
|                          |  | Federal                     | State |  |
| San Diego thorn-mint     | <i>Acanthomintha ilicifolia</i>                          | FT                          | SE    | Chaparral, coastal sage scrub, valley and foothill grassland, vernal pools.  |
| San Diego ambrosia       | <i>Ambrosia pumila</i>                                   | FE                          |       | Coastal sage scrub, valley and foothill grassland. Elevation range 20–415 meters. Only 12 populations remain in San Diego County.  |
| Del Mar manzanita        | <i>Arctostaphylos glandulosa</i> ssp. <i>crassifolia</i> | FE                          |       | Coastal chaparral, closed-coned coniferous forest. Found on sandy coastal mesas and ocean bluffs; in chaparral or Torrey pine forest. Elevation range 0–365 meters.                                |
| Peirson's milk-vetch     | <i>Astragalus magdalенаe</i> var. <i>peirsonii</i>       | FT                          | SE    | Desert sand dune habitat with loose sand. Several collections from 2005 near Borrego Mountain at 224 meters.   |
| coastal dunes milk-vetch | <i>Astragalus tener</i> var. <i>titi</i>                 | FE                          | SE    | Coastal bluff scrub, coastal dunes. Found in moist, sandy depressions of bluffs or dunes along and near the Pacific Ocean; one recorded occurrence on a clay terrace. Elevation range 1–50 meters. |
| Encinitas baccharis      | <i>Baccharis vanessae</i>                                | FT                          | SE    | Chaparral. Found on sandstone soils in steep, open, rocky areas with chaparral associates. Elevation range 60–720 meters.  |
| Nevin's barberry         | <i>Berberis nevinii</i>                                  | FE                          | SE    | Chaparral, cismontane woodland, coastal scrub, riparian scrub. Found on steep, north-facing slopes or in low grade sandy washes. Elevation range 290–1,575 meters.                                 |

| Common Name            | Scientific Name                                    | Listing Status <sup>1</sup> |       | Habitat   |
|------------------------|--|-----------------------------|-------|---|
|                        |  | Federal                     | State |   |
| thread-leaved brodiaea | <i>Brodiaea filifolia</i>                          | FT                          | SE    | Cismontane woodland, coastal scrub, playas, valley and foothill grassland, vernal pools. Usually associated with annual grassland and vernal pools; often surrounded by shrubland habitats. Found in clay soils. Elevation range 25–860 meters. |
| Dunn's mariposa lily   | <i>Calochortus dunnii</i>                          |                             | SR    | Closed-cone coniferous forest, chaparral. Found in gabbro or metavolcanic soils; also known from sandstone; often associated with chaparral. Elevation range 375–1,830 meters.  |
| salt marsh bird's-beak | <i>Chloropyron maritimum</i> ssp. <i>Maritimum</i> | FE                          | SE    | Coastal salt marsh, coastal dunes. Limited to the higher zones of the salt marsh habitat. Elevation range 0–30 meters.  |
| Orcutt's spineflower   | <i>Chorizanthe orcuttiana</i>                      | FE                          | SE    | Coastal scrub, chaparral, closed-cone coniferous forest. Found from Del Mar to Point Loma, in the San Diego region. Found in sandy sites and openings; sometimes in transition zones. Elevation range 3–125 meters.                             |
| Otay tarplant          | <i>Deinandra conjugens</i>                         | FT                          | SE    | Coastal scrub, valley and foothill grassland. Found on coastal plains, mesas, and river bottoms; often in open, disturbed areas; clay soils. Elevation range 25–300 meters.   |
| Mojave tarplant        | <i>Deinandra mohavensis</i>                        |                             | SE    | Riparian scrub, chaparral. Found in low sand bars in river beds; mostly in riparian areas or ephemeral grassy areas. Elevation range 850–1,600 meters.  |
| Cuyamaca larkspur      | <i>Delphinium hesperium</i> ssp. <i>Cuyamaca</i>   |                             | SR    | Lower montane coniferous forest, meadows. Found on dried edge of grassy meadows and mesic sites. Elevation range 1,210–1,630 meters.  |
| Mount Laguna aster     | <i>Dieteria asteroides</i> var. <i>lagunensis</i>  |                             | SR    | Cismontane woodland, lower montane coniferous forest. Found in openings in woodland or forest. Elevation range 800–2,400 meters.  |

| Common Name               | Scientific Name                                     | Listing Status <sup>1</sup> |       | Habitat   |
|---------------------------|---|-----------------------------|-------|---|
|                           |   | Federal                     | State |   |
| Cuyamaca Lake downingia   | <i>Downingia concolor</i> var. <i>brevior</i>       |                             | SE    | Meadows (mesic), vernal pools. Found on shores of Cuyamaca Lake in San Diego region. Located in vernal seeps, lakes, and pools, and on mudflats, with <i>Orthocarpus</i> , <i>Limnanthes</i> , and <i>Collinsia</i> . Elevation range 1,400–1,500 meters. |
| short-leaved dudleya      | <i>Dudleya brevifolia</i>                           |                             | SE    | Chaparral, coastal scrub. Found on Torrey sandstone soils; in pebbly openings. Elevation range 30–250 meters.   |
| San Diego button-celery   | <i>Eryngium aristulatum</i> var. <i>parishii</i>    | FE                          | SE    | Vernal pools, coastal scrub, valley and foothill grassland. Found in San Diego mesa hardpan and claypan vernal pools, and in southern interior basalt flow vernal pools; usually surrounded by scrub. Elevation range 15–620 meters.                      |
| Mexican flannelbush       | <i>Fremontodendron mexicanum</i>                    | FE                          | SR    | Closed-cone coniferous forest, chaparral, cismontane woodland. Usually scattered along the borders of creeks or in dry canyons; sometimes on gabbro soils. Elevation range 10–490 meters.   |
| Borrego bedstraw          | <i>Galium angustifolium</i> ssp. <i>borregoense</i> |                             | SR    | Sonoran desert scrub. Found on steep walls and (usually north-facing) slopes in rocky watersheds or canyons. Elevation range 350–1,100 meters.  |
| Orcutt's hazardia         | <i>Hazardia orcuttii</i>                            |                             | ST    | Chaparral, coastal scrub, often on clay; in grassy edges of chaparral and coastal scrub. Elevation range 0–85 meters. Only one population remains in San Diego County.  |
| Algodones Dunes sunflower | <i>Helianthus niveus</i> ssp. <i>tephrodes</i>      |                             | SE    | Desert dunes. Elevation range 50–100 meters.  |
| Parish's meadowfoam       | <i>Limnanthes alba</i> ssp. <i>parishii</i>         |                             | SE    | Meadows and seeps, vernal pools. Vernal moist areas and temporary seeps of highland meadows and plateaus; often bordering lakes and streams. Elevation range 600–1,760 meters.  |
| willowy monardella        | <i>Monardella viminea</i>                           | FE                          | SE    | Coastal scrub/alluvial ephemeral washes with adjacent coastal scrub, chaparral, or sycamore woodland. In canyons, in rocky and sandy places, sometimes in washes or floodplains. Elevation range 50–225 meters.   |

| Common Name               | Scientific Name                       | Listing Status <sup>1</sup> |       | Habitat   |
|---------------------------|---------------------------------------|-----------------------------|-------|---|
|                           |                                       | Federal                     | State |   |
| Gambel's water cress      | <i>Nasturtium gambelii</i>            | FE                          | ST    | Marshes and swamps. Freshwater and brackish marshes at the margins of lakes and along streams, in or just above the water level. Elevation range 5–1,305 meters.  |
| spreading navarretia      | <i>Navarretia fossalis</i>            | FT                          |       | Vernal pools, chenopod scrub, marshes and swamps, and playas. San Diego hardpan and San Diego claypan vernal pools; in swales and vernal pools, often surrounded by other habitat types. Elevation range 30–1,300 meters. |
| Dehesa nolina             | <i>Nolina interrata</i>               |                             | SE    | Chaparral. Typically on rocky hillsides or ravines on ultramafic soils (gabbro or metavolcanic). Elevation range 180–855 meters.  |
| California orcutt grass   | <i>Orcuttia californica</i>           | FE                          | SE    | Vernal pools. Elevation range 15–660 meters.  |
| Baja California birdbush  | <i>Ornithostaphylos oppositifolia</i> |                             | SE    | Chaparral. Associated with <i>Ceanothus verrucosus</i> and <i>Salvia mellifera</i> in California. Elevation range 55–800 meters.  |
| Gander's ragwort          | <i>Packera ganderi</i>                |                             | SR    | Recently burned sites and gabbro outcrops. Elevation range 400–1,200 meters.  |
| San Bernardino blue grass | <i>Poa atropurpurea</i>               | FE                          |       | Meadows and seeps. Mesic meadows of open pine forests and grassy slopes, loamy alluvial to sandy loam soil. Elevation range 1,350–2,455 meters.   |
| San Diego mesa mint       | <i>Pogogyne abramsii</i>              | FE                          | SE    | Vernal pools. Vernal pools within grasslands, chamise chaparral or coastal sage scrub communities; with other rare plants. Elevation range 90–200 meters.   |
| Otay Mesa mint            | <i>Pogogyne nudiuscula</i>            | FE                          | SE    | Vernal pools. Dry beds of vernal pools and moist swales with <i>Eryngium aristulatum</i> var. <i>parishii</i> and <i>Orcuttia californica</i> . Elevation range 85–250 meters.  |
| small-leaved rose         | <i>Rosa minutifolia</i>               |                             | SE    | Coastal scrub, chaparral. In California on cobbly soil at the head of a small, dry canyon on Otay Mesa. Elevation range 150–160 meters.   |

Sources: USFWS 2021, CDFW 2021, Baldwin et al. 2012, Jepson 2018, Rebman and Simpson 2014.

FE = Federally Endangered, FT = Federally Threatened, SE = State Endangered, ST = State Threatened, SR = State Rare.



**Figure 4.4-3  
Federally and/or  
State Listed Plant  
Species**

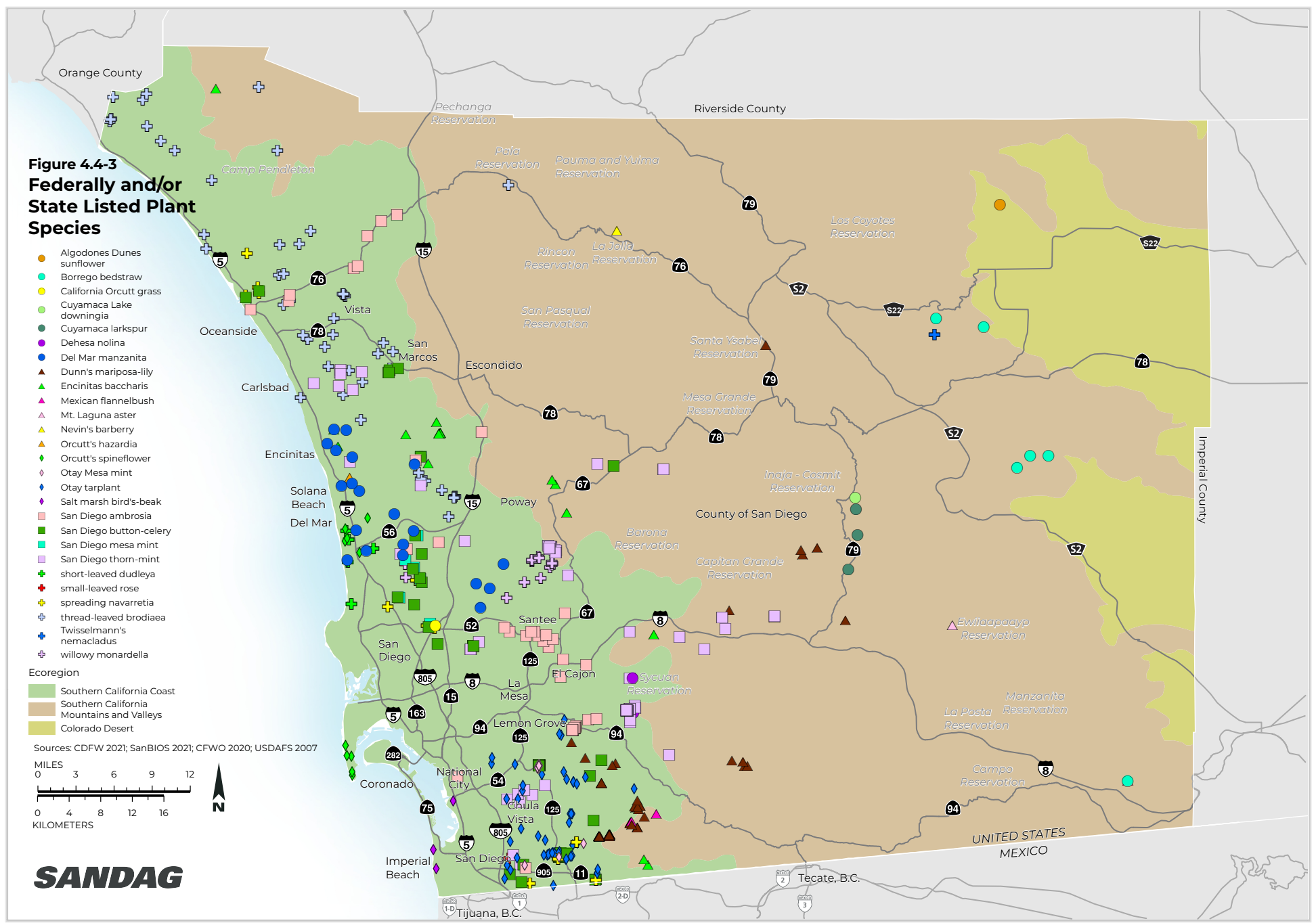
- Algodones Dunes sunflower
- Borrego bedstraw
- California Orcutt grass
- Cuyamaca Lake downingia
- Cuyamaca larkspur
- Dehesa nolina
- Del Mar manzanita
- ▲ Dunn's mariposa-lily
- ▲ Encinitas baccharis
- ▲ Mexican flannelbush
- ▲ Mt. Laguna aster
- ▲ Nevin's barberry
- ▲ Orcutt's hazardia
- ▲ Orcutt's spineflower
- ◆ Otay Mesa mint
- ◆ Otay tarplant
- ◆ Salt marsh bird's-beak
- San Diego ambrosia
- San Diego button-celery
- San Diego mesa mint
- San Diego thorn-mint
- + short-leaved dudleya
- + small-leaved rose
- + spreading navarretia
- + thread-leaved brodiaea
- + Twisselmann's nemacladus
- + willowy monardella

- Ecoregion**
- Southern California Coast
  - Southern California Mountains and Valleys
  - Colorado Desert

Sources: CDFW 2021; SanBIOS 2021; CFWO 2020; USDAFS 2007



**SANDAG**



### ***Non-Federally and/or Non-State-Listed Special-Status Plant Species***

In addition to federally and/or state-listed plants, approximately 244 additional special-status plant species have known distributions within the San Diego region. These species include CRPR species, non-listed NCCP-covered species (e.g., narrow, endemic species), or species that otherwise meet the special-status species criteria, as discussed above. These non-listed special-status plant species have the potential to occur throughout the San Diego region in their respective riparian, wetland, and upland habitats. A list of these additional special-status plant species and their general habitat affinities is presented in Appendix E-2.

### ***Federally and/or State-Listed Animal Species***

There are 29 federally and/or state-listed or candidate animal species that have potential to be found within the San Diego region, as year-round residents or as migrants that reoccur seasonally to breed (Table 4.4-3). These 29 species include 5 invertebrate, 4 fish, 4 reptile and amphibian, 13 bird, and 3 mammal species. Of these, 4 are considered extirpated from the San Diego region: California red-legged frog (*Rana draytonii*), southern mountain yellow-legged frog (*Rana muscosa*), California black rail (*Laterallus jamaicensis coturiculus*), and the bank swallow (*Riparia riparia*), which is known to occur in the San Diego region as a rare migrant, but for which the last breeding colony in the San Diego region has been extirpated. Figures 4.4-4 through 4.4-8 illustrate the results of regional database information for federally and/or state-listed wildlife species in the San Diego region.

### ***Non-Federally and/or Non-State-Listed Special-Status Wildlife Species***

In addition to federally and/or state-listed wildlife, approximately 138 additional special-status wildlife species have known distributions within the San Diego region. These species include those considered special status by CDFW or species classified by the MSCP/MHCP as covered species, or otherwise meet the criteria discussed above. This list includes an additional 18 invertebrate, 1 fish, 3 amphibian, 18 reptile, 68 bird, and 47 mammal species. These non-listed special-status wildlife species have the potential to occur throughout the San Diego region in each of their respective riparian, wetland, and upland habitats. A list of these additional special-status wildlife species and their general habitat affinities is presented in Appendix E-3.

**Table 4.4-3  
Listed Wildlife Species Potentially Occurring Within the San Diego Region**

| Common Name            | Scientific Name                    | Listing Status <sup>1</sup> |       | Habitat   |
|------------------------|------------------------------------|-----------------------------|-------|---|
|                        |                                    | Federal                     | State |   |
| <b>Invertebrates</b>   |                                    |                             |       |   |
| San Diego fairy shrimp | <i>Branchinecta sandiegonensis</i> | FE                          |       | Restricted to vernal pools, hardpan and claypan pools. Orange and San Diego counties, Baja California.  |
| Riverside fairy shrimp | <i>Streptocephalus woottonii</i>   | FE                          |       | Restricted to deep, large vernal pools with long periods of inundation. San Diego (within 15 kilometers of the ocean) and Riverside counties. |

| Common Name                      | Scientific Name                           | Listing Status <sup>1</sup> |       | Habitat   |
|----------------------------------|---|-----------------------------|-------|---|
|                                  |   | Federal                     | State |   |
| Laguna Mountains skipper         | <i>Pyrgus ruralis lagunae</i>             | FE                          |       | Only in a few open meadows in yellow pine forest between an elevation of 1,524 and 1,828 meters in the vicinity of Mt Laguna and Palomar mountains. Host plant is <i>Horkelia bolanderi clevelandi</i> .  |
| Quino checkerspot butterfly      | <i>Euphydryas editha quino</i>            | FE                          |       | Native and nonnative grasslands, coastal sage scrub, open chaparral, and other open vegetation community types.   |
| Hermes copper butterfly          | <i>Lycaena hermes</i>                     | Candidate                   |       | Southern mixed chaparral and coastal sage scrub at the western edge of Laguna Mountains. Host plant is <i>Rhamnus crocea</i> .  |
| <b>Fish</b>                      |   |                             |       |   |
| desert pupfish                   | <i>Cyprinodon macularius</i>              | FE                          | SE    | Desert ponds, springs, marshes, and streams in Southern California.   |
| tidewater goby                   | <i>Eucyclogobius newberryi</i>            | FE                          |       | Brackish shallow lagoons and lower stream reaches with still water.   |
| unarmored threespine stickleback | <i>Gasterosteus aculeatus williamsoni</i> | FE                          | SE    | Found in weedy pools, backwaters, and among emergent vegetation at the stream edge in small streams.  |
| southern steelhead               | <i>Oncorhynchus mykiss irideus</i>        | FE                          |       | Coastal rivers. Federal listing refers to populations from Santa Maria River south to southern extent of range (San Mateo Creek in San Diego region though species was detected in San Luis Rey in 2005 and 2007; previously occurred in Santa Margarita, San Dieguito, San Diego, Sweetwater and Otay rivers, where apparently extirpated; recently observed by USGS in Sandia Creek). |
| <b>Amphibians</b>                |   |                             |       |   |
| arroyo toad                      | <i>Anaxyrus californicus</i>              | FE                          |       | Gravelly or sandy washes, stream and river banks. Upland habitat near washes and streams such as sage scrub and mixed chaparral habitats.   |
| California red-legged frog       | <i>Rana draytonii</i>                     | FT                          |       | Slow parts of streams, lakes, reservoirs, ponds, and other usually permanent water sources; primarily in wooded areas in lowlands and foothills, but also can be found in grassland. Typical habitat consists of deep-water pools ringed by thick vegetation (especially arroyo willow or native cattails). Extirpated in San Diego region.   |

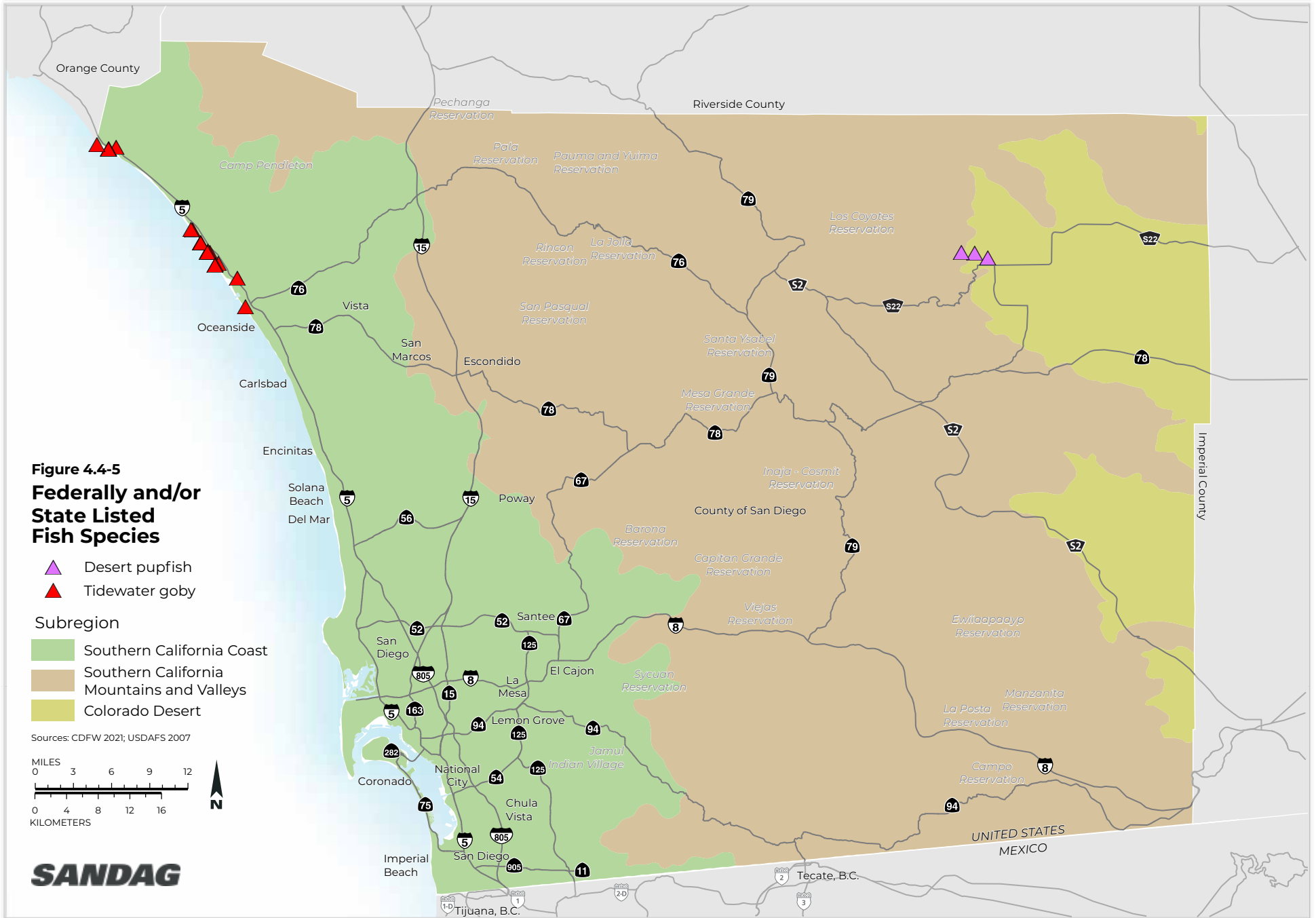
| Common Name  | Scientific Name                           | Listing Status <sup>1</sup> |       | Habitat   |
|--|---|-----------------------------|-------|---|
|  |   | Federal                     | State |   |
| southern mountain yellow-legged frog                               | <i>Rana muscosa</i>                       | FT                          | SE    | Always encountered within a few feet of water. Federal listing includes populations in the San Gabriel, San Jacinto, and San Bernardino mountains. Population formerly on Palomar Mountain considered extirpated. |
| <b>Reptiles</b>  |   |                             |       |   |
| barefoot gecko   | <i>Coleonyx switaki</i>                   |                             | ST    | Found in arid rocky areas on flatlands, canyons, and thornscrub, especially where there are large boulders and rock outcrops, and where vegetation is sparse.   |
| <b>Birds</b>   |   |                             |       |   |
| golden eagle   | <i>Aquila chrysaetos</i>                  | BGEPA                       | FP    | Occurs over large expanses of landscape and forages in diverse habitat types. Nests on cliffs and in large trees.   |
| bald eagle   | <i>Haliaeetus leucocephalus</i>           | FDR, BGEPA                  | SE    | Occurs primarily near large lakes with open water. Also known to nest in grasslands near small ponds.   |
| California black rail  | <i>Laterallus jamaicensis coturiculus</i> |                             | ST    | Inhabits freshwater marshes, wet meadows, and shallow margins of saltwater marshes bordering larger bays. Extirpated in San Diego region.   |
| light-footed Ridgway's rail  | <i>Rallus obsoletus levipes</i>           | FE                          | SE    | Found in Southern California in coastal salt marshes, especially those dominated by cordgrass.  |
| western snowy plover   | <i>Charadrius nivosus</i>                 | FT                          |       | Nests on beaches, dunes, and salt flats in San Diego region, with the highest concentrations in two areas: Marine Corps Base (MCB) Camp Pendleton and the Silver Strand.  |
| California least tern  | <i>Sternula antillarum browni</i>         | FE                          | SE    | A ground nesting bird that requires undisturbed stretches of beach and coastline.   |
| western yellow-billed cuckoo (western distinct population segment) | <i>Coccyzus americanus</i>                | FT                          | SE    | Broadleaf riparian forests.   |
| southwestern willow flycatcher                                     | <i>Empidonax trailli extimus</i>          | FE                          | SE    | Restricted to a few colonies in riparian woodlands scattered throughout Southern California. Riparian forests are integral to this species' persistence.  |

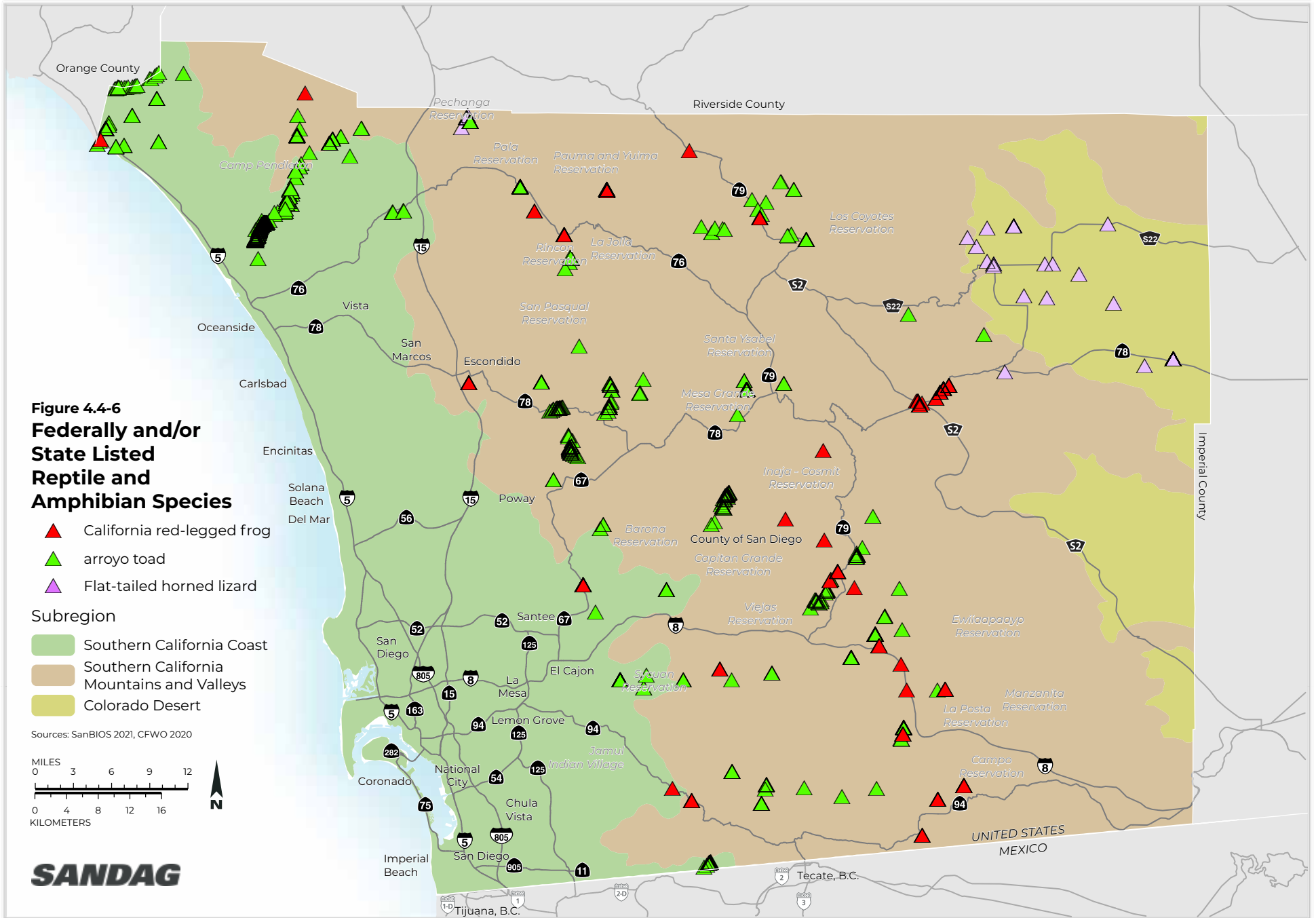
| Common Name   | Scientific Name   | Listing Status <sup>1</sup> |       | Habitat   |
|---|---|-----------------------------|-------|---|
|   |   | Federal                     | State |   |
| tricolored blackbird  | <i>Agelaius tricolor</i>  |                             | ST    | Freshwater marshes with cattails and other emergent vegetation.   |
| least Bell's vireo  | <i>Vireo belli pusillus</i>   | FE                          | SE    | Riparian woodland with understory of dense young willows or mulefat and willow canopy.  |
| bank swallow  | <i>Riparia</i>  |                             | ST    | Colonial nester; nests primarily in riparian and other lowland habitats west of the desert.<br>Requires vertical banks/cliffs with fine-textured/sandy soils near streams, rivers, lakes, or ocean to dig nesting hole. Only known colony extirpated from San Diego region. |
| coastal California gnatcatcher  | <i>Polioptila californica californica</i>                                   | FT                          |       | Diegan coastal sage scrub dominated by California sagebrush and flat-topped buckwheat below 762 meters elevation in Riverside County and below 305 meters elevation along the coastal slope.  |
| Belding's savannah sparrow  | <i>Passerculus sandwichensis beldingi</i>                                   |                             | SE    | Occurs primarily in grassland, saline emergent wetland, and wet meadow habitats.  |
| <b>Mammals</b>  |   |                             |       |   |
| Stephens' kangaroo rat  | <i>Dipodomys stephensi</i>  | FE                          | ST    | Open grassy and weedy areas adjacent to sage scrub.   |
| Pacific pocket mouse  | <i>Perognathus longimembris pacificus</i>                                   | FE                          |       | Coastal sage scrub, coastal strand, and river alluvium on MCB Camp Pendleton.   |
| peninsular bighorn sheep (distinct population segment - population 2) | <i>Ovis canadensis nelsoni</i> (distinct population segment - population 2) | FE                          | ST    | Optimal habitat includes steep-walled canyons and ridges bisected by rocky or sandy washes, with available water.   |

Sources: USFWS 2021, CDFW 2021.

<sup>1</sup> BGEPA = Bald and Gold Eagle Act, FDR=Federally delisted, recovered, FP=State fully protected, FE = Federally Endangered, FT= Federally Threatened, SE = State Endangered, ST = State Threatened.

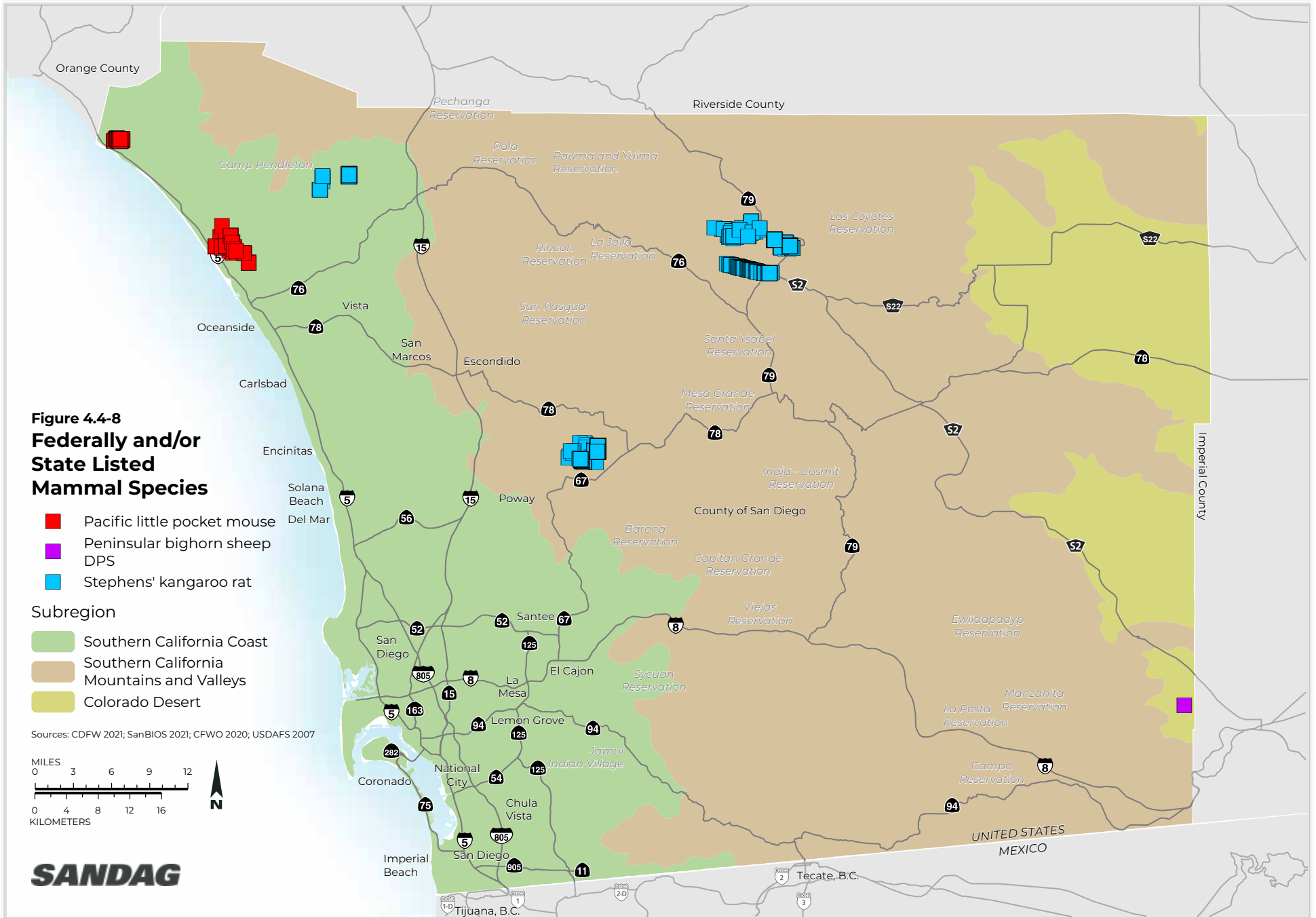












## Critical Habitat

USFWS-designated critical habitat for endangered and threatened species is defined as the geographic areas that contain the physical or biological features that are essential to the conservation of federally-listed endangered and threatened species and that may need special management or protection (16 U.S. Code (USC) 1532(5)(A)). The San Diego region (with the exception of military bases) includes species-specific USFWS-designated critical habitat for 20 species (Table 4.4-4). Plant, invertebrate, fish, reptile and amphibian, bird, and mammal species final critical habitat in the San Diego region is displayed on Figures 4.4-9 through 4.4-14.

**Table 4.4-4**  
**Critical Habitat<sup>1</sup> Within the San Diego Region**

| Common Name                 | Scientific Name                    | Total Acres <sup>2</sup> | General Location  |
|-----------------------------|------------------------------------|--------------------------|---|
| <b>Plants</b>               |                                    |                          |   |
| San Diego thorn-mint        | <i>Acanthomintha ilicifolia</i>    | 1,749                    | North of Willows Road near Viejas Indian Reservation  |
| San Diego ambrosia          | <i>Ambrosia pumila</i>             | 806                      | Largest areas south of Rancho San Diego along State Route (SR ) 94 and Sweetwater River and southwest of Lake Hodges along Del Dios Highway                             |
| thread-leaved brodiaea      | <i>Brodiaea filifolia</i>          | 985                      | Small patches of vernal pool habitat along the northern coastal area of San Diego region  |
| Otay tarplant               | <i>Deinandra conjugens</i>         | 6,333                    | Coastal scrub and grassland habitat in southwest San Diego region   |
| Mexican flannelbush         | <i>Fremontodendron mexicanum</i>   | 228                      | Cedar and Little Cedar canyons just west of Dulzura   |
| willowy monardella          | <i>Monardella viminea</i>          | 122                      | Sycamore and Clark Canyon northeast of Santee Lakes   |
| spreading navarretia        | <i>Navarretia fossalis</i>         | 1,068                    | Small patches of vernal pool habitat along the coastal area of San Diego region   |
| San Bernardino blue grass   | <i>Poa atropurpurea</i>            | 1,115                    | Laguna meadow west of Mount Laguna and Mendenhall Valley northeast of Palomar Mountain  |
| <b>Invertebrates</b>        |                                    |                          |   |
| San Diego fairy shrimp      | <i>Branchinecta sandiegonensis</i> | 2,918                    | Vernal pools and basins located on mesa tops or in grasslands in the San Diego region   |
| Hermes copper butterfly     | <i>Lycaena hermes</i>              | 35,236                   | South from State Route 56 in three distinct units: Lopez Canyon, between Miramar and Santee, and in Southeast San Diego south of Interstate 8, east of State Route 125. |
| Riverside fairy shrimp      | <i>Streptocephalus woottoni</i>    | 807                      | Vernal pools and basins in the southern coastal area of San Diego region  |
| Quino checkerspot butterfly | <i>Euphydryas editha quino</i>     | 40,136                   | U.S.-Mexican border, including the San Ysidro Mountain region; along SR 94 near the Campo and La Posta Indian Reservations, and northwest of Jacumba                    |
| Laguna Mountains skipper    | <i>Pyrgus ruralis lagunae</i>      | 6,259                    | West of Mount Laguna in the Laguna Mountains and north of Palomar Mountain  |

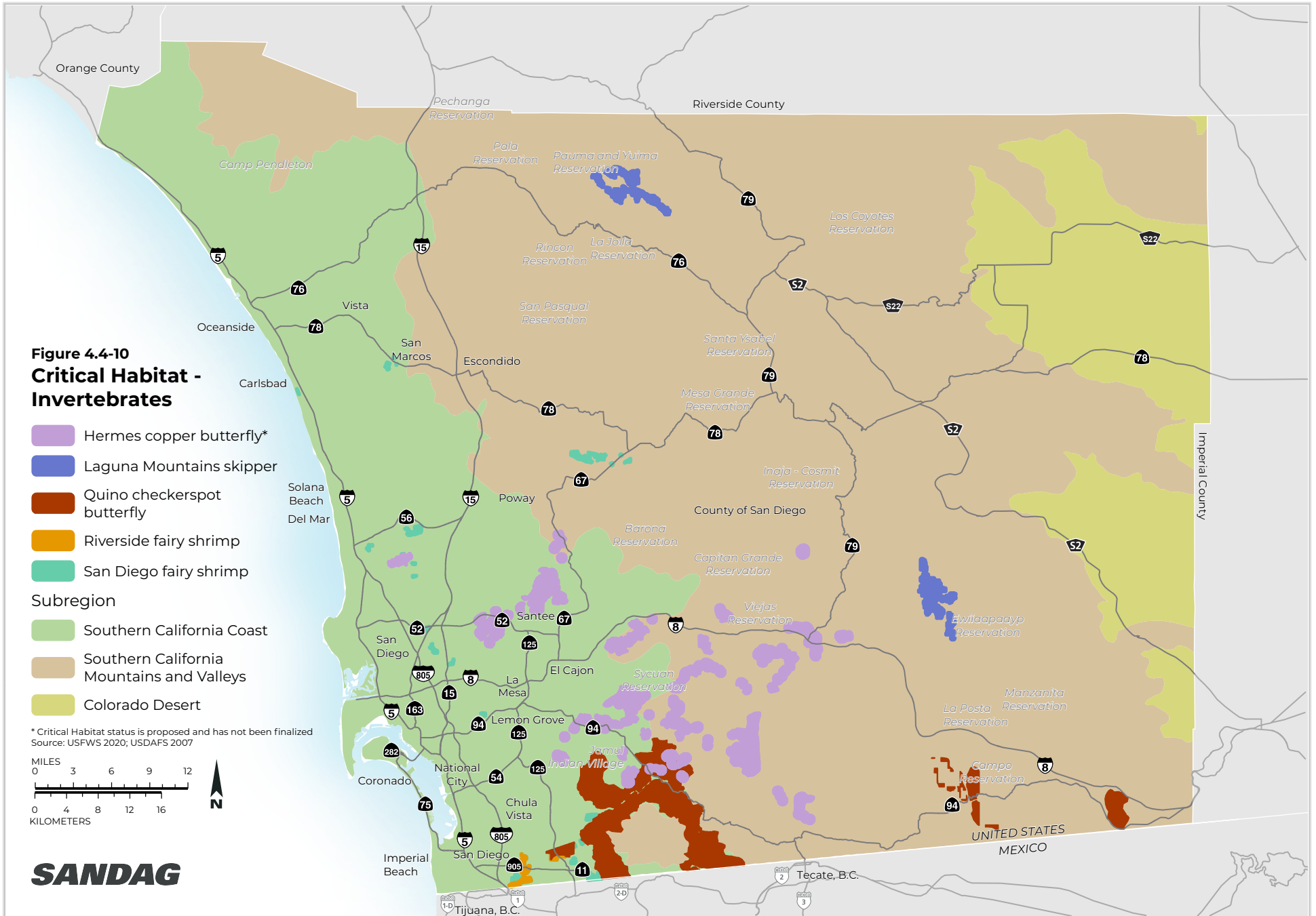
| Common Name   | Scientific Name  | Total Acres <sup>2</sup> | General Location   |
|---|--|--------------------------|--|
| <b>Fish</b>   |  |                          |  |
| tidewater goby  | <i>Eucyclogobius newberryi</i>   | 55                       | Mouth of the San Luis Rey River  |
| <b>Reptiles and Amphibians</b>  |  |                          |  |
| arroyo toad   | <i>Anaxyrus californicus</i>   | 60,798                   | San Juan Creek; San Mateo Creek; Lower and Upper Santa Margarita River; Lower, Middle, and Upper San Luis Rey River; Santa Ysabel Creek; San Diego River; San Vicente Creek; Sweetwater River; and Cottonwood Creek  |
| <b>Birds</b>  |  |                          |  |
| least Bell's vireo  | <i>Vireo belli pusillus</i>  | 13,416                   | San Luis Rey River, Santa Margarita River, San Diego River, Sweetwater River, Tijuana River, Coyote Creek, and Jamul-Dulzura creeks  |
| southwestern willow flycatcher  | <i>Empidonax trailli extimus</i>   | 5,373                    | Santa Margarita River, DeLuz Creek, San Luis Rey River, Pilgrim Creek, Agua Hedionda Creek, Santa Ysabel Creek, Temescal Creek, Temecula Creek, Sweetwater River, and San Diego River.   |
| western snowy plover  | <i>Charadrius nivosus</i>  | 406                      | San Dieguito Lagoon, San Elijo Lagoon Coronado Beach, Silver Strand State Beach, San Diego National Wildlife Refuge, and Tijuana Estuary and Border Field State Park   |
| coastal California gnatcatcher  | <i>Poliptila californica</i>   | 76,423                   | Largest contiguous areas of critical habitat for coastal California gnatcatcher include the San Diego National Wildlife Refuge and surrounding area; the upper San Diego River drainage area as well as areas surrounding the El Capitan Reservoir; open space north of the City of Santee; open space northwest of the City of Ramona; habitat within the MHCP planning area in the northwest San Diego region; and habitat along the Interstate 15 corridor from Escondido to Riverside County |
| <b>Mammals</b>  |  |                          |  |
| peninsular bighorn sheep (distinct population segment - population 2) | <i>Ovis canadensis nelson</i> (distinct population segment - population 2) | 261,133                  | Santa Rosa Mountains, Coyote Canyon, San Ysidro Mountains, Pinyon Mountains, Vallecito Mountains, Carrizo Canyon, In-Ko-Pah Mountains, Jacumba Mountains, Coyote Mountains, and Tierra Blanca Mountains  |

Source: USFWS 2021.

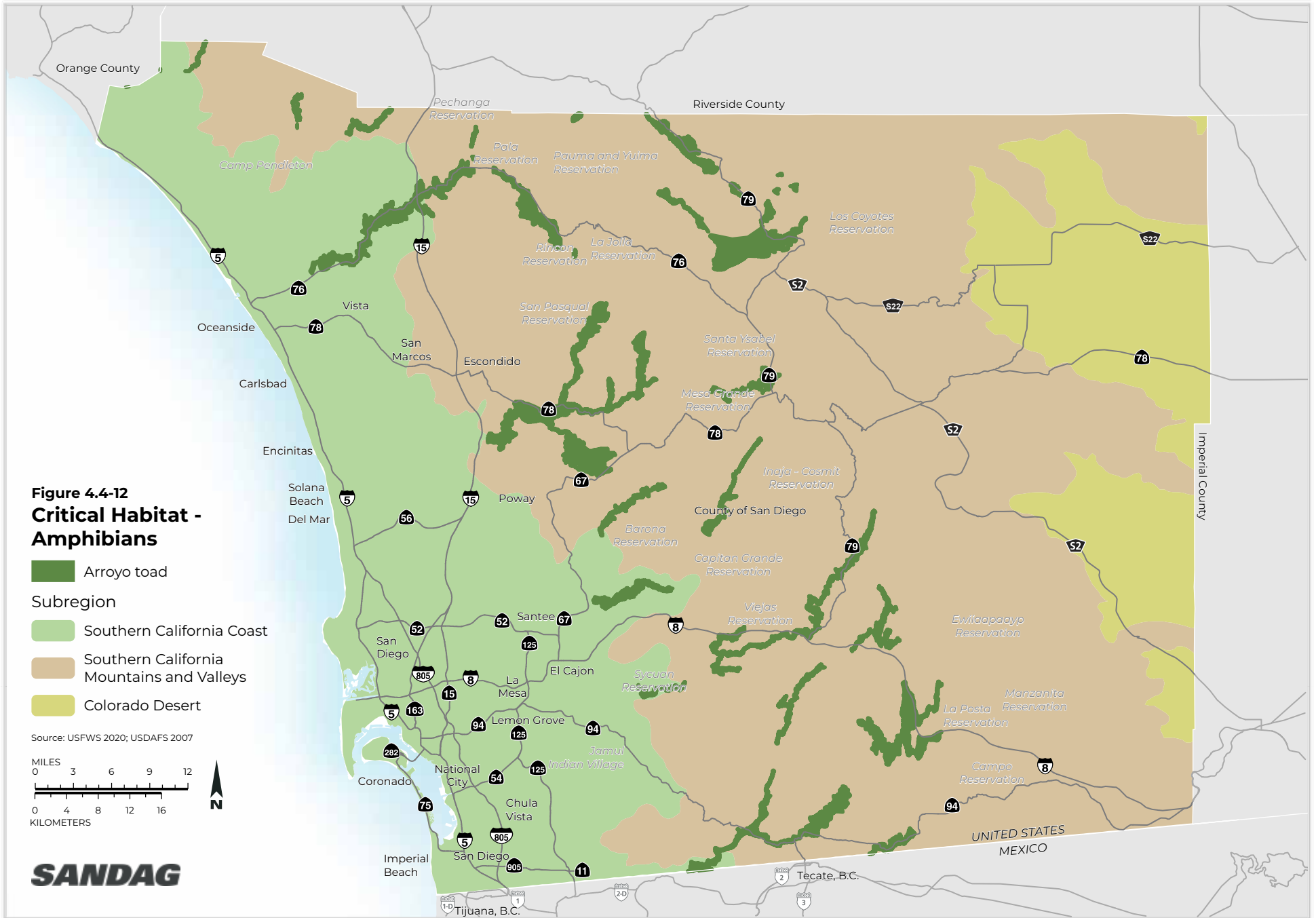
<sup>1</sup> Critical habitat in this table includes final designated critical habitat and proposed designated critical habitat as of July 2021.

<sup>2</sup> Acres are rounded up or down to the next acre.

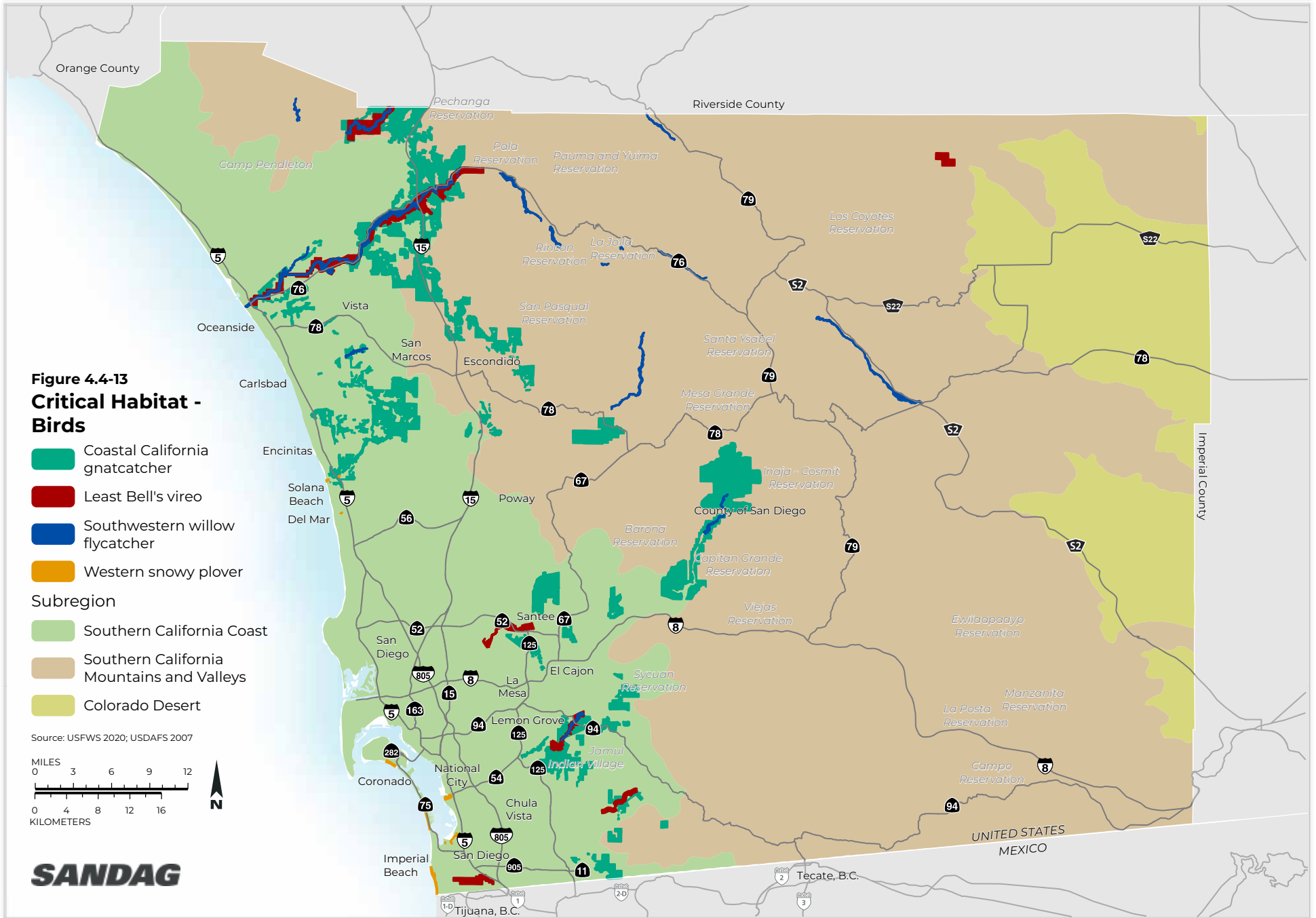




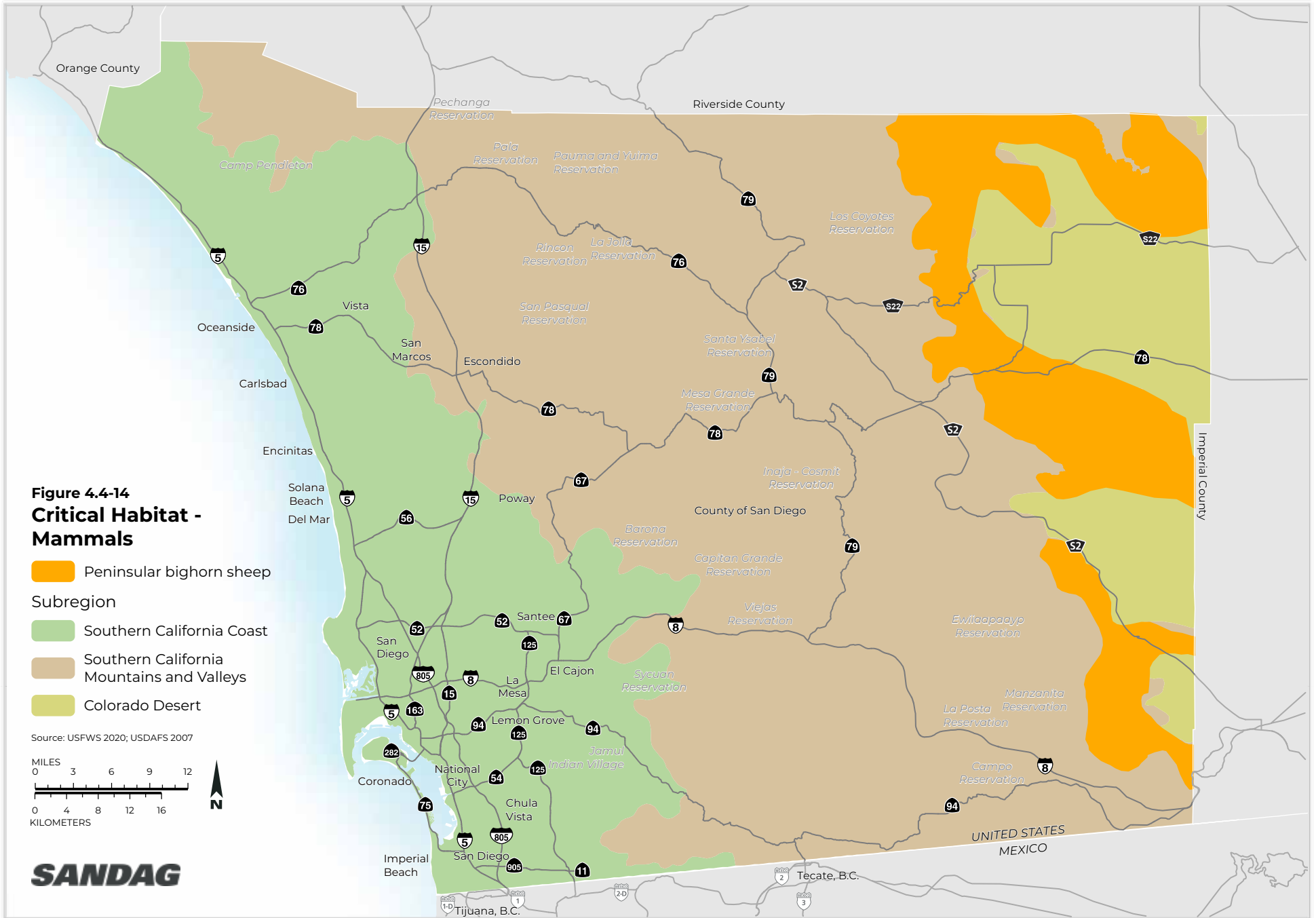








**SANDAG**



### Essential Fish Habitat

Essential Fish Habitat (EFH), which is defined as those “waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity” (16 USC 1801 et seq.), is displayed on Figure 4.4-11. EFH in the San Diego region has been identified for federally managed fisheries of Pacific Coast groundfish and associated species, including rockfish, cabezon, California sheephead, ocean whitefish, and greenlings of genus *Hexagrammos* (NOAA 2015, CDFW 2017). The Southern Groundfish Management Area is defined as ocean waters between 34° 27' North latitude (from Point Conception, Santa Barbara County to the U.S./Mexico border) and areas designated as Habitat Areas of Particular Concern (HAPCs). Under the Pacific Coast Groundfish Fisheries Management Plan (FMP), HAPCs include estuary, seagrass, kelp canopy, and rocky reef.

### WILDLIFE MOVEMENT

Wildlife movement may occur along landscape features (e.g., wildlife corridors, habitat linkages) that allow for species movement over time between two habitat patches that would otherwise be disconnected (Beier and Noss 1998, Lidicker and Peterson 1999, CBI 2003, Beier et al. 2008). For some species, such as the California gnatcatcher and other bird species, dispersal may also occur within line-of-sight along fragmented habitat patches (stepping stones) between larger habitat blocks (Bailey and Mock 1998).

Wildlife corridors contribute to population viability by (1) assuring continual exchange of genes between populations, which helps maintain genetic diversity; (2) providing access to adjacent habitat areas representing additional territory for foraging and mating; (3) allowing for a greater carrying capacity; and (4) providing routes for colonization of habitat lands following local population extinctions or habitat recovery from ecological catastrophes. Corridors also allow species to adapt to climate change because many habitats could lose their original value as the climate changes and force species range shifts into more hospitable areas or climates (National Fish, Wildlife and Plants Climate Adaptation Partnership 2012). Because many wildlife species have species-specific habitat requirements for survival and dispersal, corridors types and usage may be species specific.

A primary landscape features known to provide wildlife movement are ridgelines and drainages. Riparian corridors provide sufficient structural vegetative cover to allow the passage of many different types of wildlife. For some species, such as mountain lions, riparian habitat is often preferred for movement, and the presence of this habitat may reduce some of the negative impacts of roads as a deterrent for movement (Dickson and Beier 2002). In many parts of Southern California, the linear habitat provided by riparian corridors is the only habitat left providing connectivity to core areas or unfragmented habitat patches.

The Regional Plan, through land use and regional growth and climate adaptation and resiliency policies, intends to include wildlife movement corridors in the planned transportation network by conserving existing known corridors, identifying local corridors, and facilitating wildlife movement through project design.

### Data Sources and Methods

The program-level description of existing conditions focuses on the qualitative and quantitative analysis of landscape level regional wildlife movement and habitat linkages rather than specific local corridors (e.g., small canyons, ephemeral drainages); the latter would be evaluated individually during project-level CEQA review. Regional corridors are described as a result of state-wide habitat connectivity modeling (Spencer et al. 2010) and in regional planning documents and regional studies, including the San Diego NCCP documents (City of San Diego 1998, SANDAG 2003, SCW 2008, Jennings 2020). Most of the regional data compiled as part of the state-

wide habitat connectivity model and the South Coast Wildlands Linkages modeling efforts are relatively coarse-scaled and were, therefore, not used for the analysis presented in this EIR. More finer-scaled models, including the MSCP cores and linkages maps (City of San Diego 1998) and the climate resilient wildlife movement models developed by San Diego State University (SDSU 2019), were used for the quantitative analysis described in this EIR. These modeled wildlife movement corridors in San Diego County are depicted on Figure 4.4-15. Additionally, cross-border linkages identified by the Las Californias Binational Conservation Initiative between the U.S. and Mexico, and the Pacific Flyway (a major regional north-south migration route for birds that travel between North and South America) are discussed qualitatively. Furthermore, the Audubon Society identifies, monitors, and protects Important Bird Areas (IBA). There are several IBAs located in San Diego County, including USFWS Wildlife Refuges, the Tijuana River Reserve, Mission Bay, all San Diego lagoons, and San Pasqual Valley, to name a few. Most of the areas in the study area are either not developable (i.e., lakes and bays) or are already conserved, and are included in the EIR's analysis.

### ***Southern California Climate Resilient Connectivity Linkage Network***

As part of developing a climate resilient connectivity strategy, a team of researchers from San Diego State University (SDSU), University of Washington, and Point Blue Conservation Science have identified landscape connectivity patches and corridors in the south coast ecoregion of Southern California (from Santa Barbara County to the international border between San Diego County and Mexico) to address threats of climate change, habitat fragmentation, and intensifying development (Jennings et al. 2020). Using a scenario-based approach, the team used available data to model species distribution (occurrence data) of five representative species and habitat connectivity to inform connectivity planning for a wide range of species and also account for climate change, land use shifts, and uncertainty. The models used an analytical process based on patch, linkage, and metapopulation modeling generated under historic (Year 2000) and future conditions. Linkage modeling used the GIS modeling approaches: least-cost corridor analysis, focal species flow models, and species geo-diversity land facet analysis (Jennings et al. 2013). The models were based on static representation of land use (note that this is a different data set than the data set that was used to model land use for the proposed Plan; see below) to incorporate any important linkages and corridors prior to development, and were prioritized using the Environmental Evaluation Management System, which is a GIS-based decision-making model. In the Southern California study area, over 55 percent of the multi-species linkage network is already conserved, and an additional 5 percent is on military and tribal lands with relative low possibility of development; therefore, just under 40 percent of the linkage network remains on unconserved lands (Jennings et al. 2020). The model output identifies a network of linkages and their conservation status, and provides the most recent comprehensively modeled connectivity corridors and linkages in San Diego County. However, the model is based on different land use data than the proposed Plan and the County General Plan. This may lead to an overestimation of impacts, because the model includes developed lands that would be impact-neutral.

SDSU's Institute for Ecological Monitoring and Management has published the GIS data for multi-species linkages and the Climate Resilient Connectivity Prioritized Linkages Network (SDSU 2019), which were used as the most current available information on wildlife corridors and linkages for the analysis in this EIR. The model output is provided on Figure 4.4-15.

### ***Multiple Species Conservation Plan***




The MSCP (City of San Diego 1998) identifies landscape-level biological linkages that serve to connect large tracts of core habitat within the MSCP South County Subarea (the southwestern portion of the San Diego region) study area and to areas outside the MSCP South County Subarea study area. These linkages generally are formed by river valleys or mesa tops in the coastal plain. At times the linkages, particularly those formed by

relatively narrow river valleys coursing through urbanizing areas, are identified as being constrained due to encroaching infrastructure or land development. Farther inland, the linkages become less constrained, as there is far less encroachment. A total of 24 linkages are identified, as shown in Figure 4.4-15.

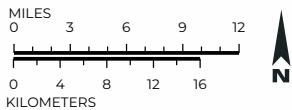
**Figure 4.4-15  
Regional  
Wildlife  
Movement  
Corridors**

-  Geo-diversity Land Facet Linkage
-  Focal Species Linkage
-  Conserved Focal Species Linkage
-  MSCP Cores Linkages
-  MHCP Biological Cores and Linkages

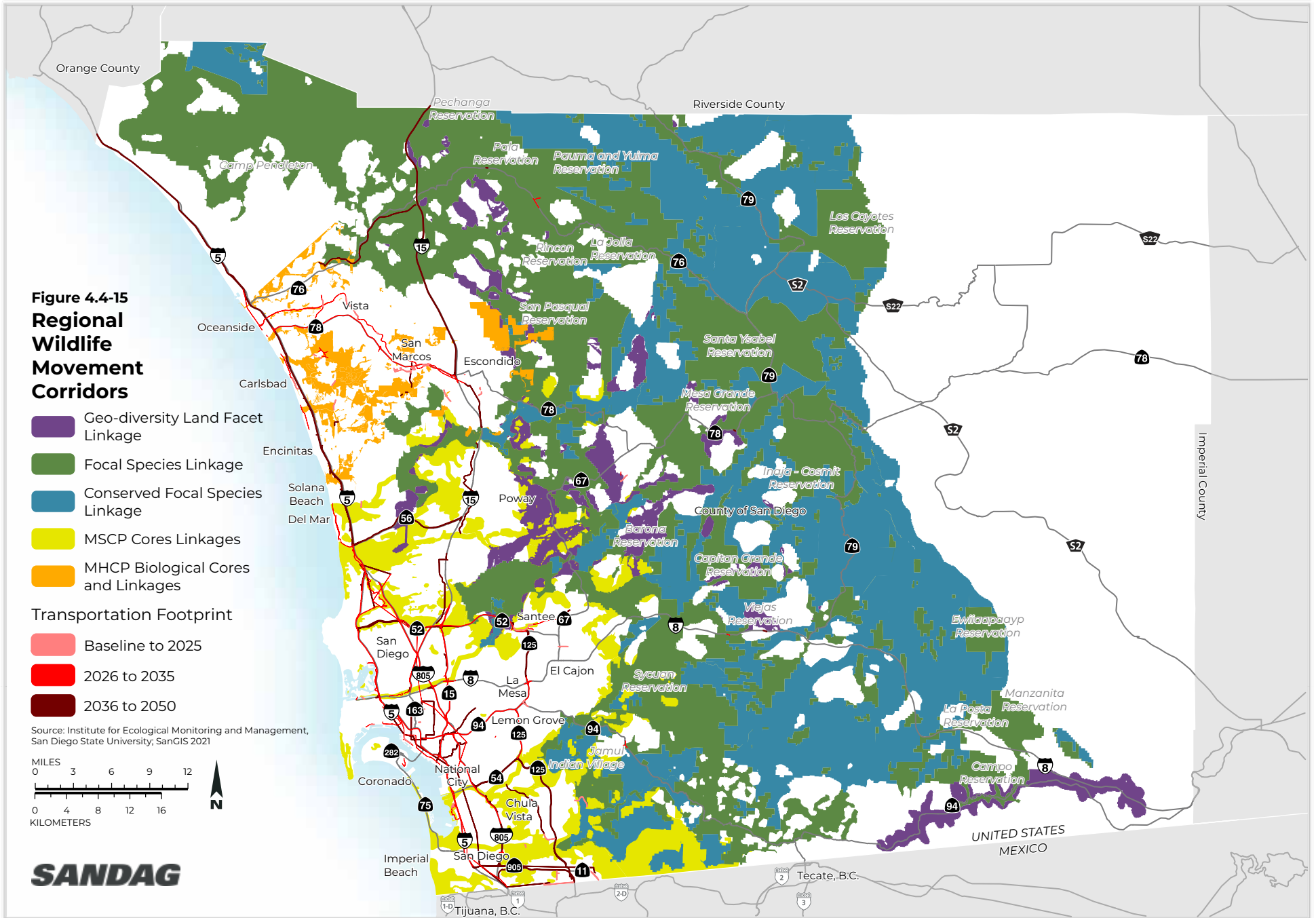
**Transportation Footprint**

-  Baseline to 2025
-  2026 to 2035
-  2036 to 2050

Source: Institute for Ecological Monitoring and Management, San Diego State University; SanGIS 2021



**SANDAG**



These linkages are formed by various landscape features. Some are formed by westward-flowing drainages descending from the mountains and foothills. These consist of, from north to south, the San Dieguito River, Los Peñasquitos Creek, Poway Creek, the San Diego River, the Sweetwater River, and the Otay River. These and other drainages, including Santa Ysabel Creek, Dulzura Creek, and Cottonwood Creek, also provide linkages with core habitat outside the MSCP area. Additional linkages are formed by other diverse terrain features, such as the coastal mesa and ridgeline formed by Del Mar Mesa and Black Mountain and the foothills surrounding Poway Valley, as well as hilly terrain connecting various large blocks of inland habitat such as the ridges connecting San Miguel Mountain with Rancho del Rey and the foothills surrounding Otay Lakes to the north, east, and south (San Miguel Mountain, Sequan Peak, the Jamul Mountains, and Otay Mountain). Linkages to habitat areas outside of the MSCP area are provided by the hilly terrain north of Lake Hodges, Boden Canyon, the San Vicente River Valley, Long's Gulch, Lake Jennings, Wildcat Canyon, Dehesa Valley, Lyons Valley, and Marron Valley.

### ***Multiple Habitat Conservation Plan***

The MHCP is the Subregional Plan for the northwestern portion of the San Diego region (SANDAG 2003). The preserve design incorporated linkages between the coastal lagoons and inland habitat areas (generally east-west corridors associated with riparian habitats). North-south linkages consist of fragmented habitat that provides stepping-stone connectivity for avian species with limited dispersal abilities, such as the federally threatened coastal California gnatcatcher (Bailey and Mock 1998); the stepping stone concept was considered and is included in the modeling that resulted in the MHCP core and linkages maps. The matrix of urban and agriculture areas between the core habitats creates a major barrier for north-south movement of most terrestrial species. However, some large blocks of habitat inside the MHCP area (e.g., south San Marcos and north Escondido) are contiguous with larger blocks of habitat beyond the MHCP boundaries and provide habitat connectivity at a regional scale.

### ***Las Californias Binational Conservation Initiative***

The Las Californias Binational Conservation Initiative identified three important linkages along the international border with Mexico using a digital land cover Spatial Portfolio Optimization Tool (CBI 2004). These linkages connect the Sweetwater River and Otay River watersheds in the southern part of the San Diego region, the binational Tijuana River watershed, and the Rio Guadalupe watershed in Baja California (SCW 2008). The goal was to conserve the integrity and biological diversity of the Las Californias region across the coast-mountain-desert gradient and urban-wildland gradient.

### ***Pacific Flyway***

The San Diego region is part of the Pacific Flyway, a major north-south migration route for birds that travel between North and South America. In Southern California, this migratory pathway spans a broad front, and migrating birds are not uniformly distributed across the landscape. In the spring, many birds migrating from their winter range in western mainland Mexico to their breeding range in northern California, the Pacific Northwest, or Alaska use the San Diego region as a corridor for crossing from the desert to the coastal slope (Aspen 2008). Large numbers of waterfowl and shorebirds winter in San Diego's protected bays and lagoons, which contain shallow aquatic habitat used by many birds migrating along the Pacific Flyway. Conversely, raptors and other soaring birds typically follow mountain ridges during migration to take advantage of updrafts created by the topography.

## ANTICIPATED EFFECTS FROM CLIMATE CHANGE

The San Diego region is likely to experience a variety of climate change impacts that affect biological resources. These include sea-level rise of up to 1.2 feet by 2050 and up to 4.6 feet by 2100, wetter winters and more intense precipitation that can lead to increased flooding, a 12 percent decrease in runoff and streamflow due to less snowpack and greater evaporation, more intense heat waves and annual average temperatures increases of up to 4.8°F by 2050, a longer and less predictable fire season, fewer coastal low clouds and less fog (marine layer), longer and more humid heat waves, and increased pests and pathogens as a result of drought (CEP and SDF 2015, Kalansky et al. 2018, OPC 2018, Jennings et al. 2018). More details on future climate projections are available in Appendix C.

As discussed in Appendix C, during the timeframe of the proposed Plan, climate change effects are likely to have a substantial impact on biological resources. These effects include, but are not limited to, sea-level rise and associated flooding and saltwater intrusion, less frequent and more intense rainstorms, less coastal low clouds and fog (marine layer), changes in seasonality (precipitation regime variability, including summer rains and winter droughts), higher annual average temperatures, more days of extreme high temperatures, longer and more humid heat waves, and more intense and more frequent drought, increased frequency and severity of wildfires as a result of drought and shift in Santa Ana wind patterns, and increased pests and pathogens as a result of drought (Jennings et al. 2018). These types of changes can result in conditions that either stress biological resources resulting in lower fitness or productivity (i.e., higher temperatures may reduce plant growth or plant reproduction rates resulting in lower plant biomass and potentially lower soil carbon levels (Bradford et al. 2016, Hatfield and Prueger 2015, Ren et al. 2020) or may push organisms beyond their biological limits resulting in complete loss. While some biological resources may be able to adapt to changes, long-term climate trends may significantly affect the persistence of many species and their habitats in the San Diego region.

Climate change may result in significant impacts on biological resources, including adverse effects on habitats and wetlands, species health and productivity, and migratory pathways and timing. For example, a study of San Luis Obispo County found that sea-level rise along the coast could lead to increased erosion of coastal bluffs and beaches, coastal flooding, permanent inundation of coastal wetlands, and saltwater intrusion into freshwater supplies, all of which affect ecosystem health (Moser and Ekstrom 2012).

The combination of human-driven land use change and changing climatic conditions could negatively affect available habitat areas, including San Diego's scrublands and forests. As the habitat areas change, the species that depend on them could be negatively affected (USFWS 2010). More details on climate impacts on upland and inland habitat are available in Appendix C.

Sea-level rise, temperature, erosion, droughts, and precipitation-related flooding driven by climate change may all have far-reaching consequences for California's wetlands and riparian and coastal habitats (Griggs and Russell 2012). In riparian habitats, sea-level rise may increase saltwater intrusion into freshwater ecosystems, which may threaten species living in these environments (ICLEI 2012). Higher water temperatures in streams and estuaries, particularly in the San Diego region where water levels are relatively shallow, may cause thermal stress for species living there, making the habitat unsuitable (Jennings et al. 2018). Also, more frequent or intense drought conditions can change stream levels, particularly in areas with seasonal waterways like Southern California, which could damage riparian habitats (Hilberg et al. 2017, Jennings et al. 2018). The specific consequences of climate change on riparian habitats in the San Diego region have not been quantified. More details on climate impacts on riparian and coastal habitat are available in Appendix C.



The San Diego region is a recognized biodiversity hotspot, with more taxa of plants and mammals than any other county in the country (Jennings et al. 2018). Climate change is projected to compound environmental stressors from human-caused disturbances, habitat fragmentation, and landscape changes (Jennings et al. 2018). Changes such as warmer temperatures, more variable precipitation resulting in high intensity flooding, more frequent droughts, destructive fires, and sea-level rise could all affect species success. More details on climate impacts on species are available in Appendix C.

If habitats change and species face environmental stresses due to changing temperature and precipitation patterns, plant and animal species may migrate to new habitats. While animals can move rather quickly to new habitats, unless blocked by other factors, rapidly changing conditions may surpass the pace that vegetation can move. Some climates, such as alpine climates, could disappear entirely in the future, while desert climates could expand significantly (Moser et al. 2012). Some habitats may expand while others are lost (Moser et al. 2012). If there is no suitable habitat nearby, species will be unable to migrate. The extent to which habitat migration causes negative and/or positive impacts is unknown at this point, although studies tend to acknowledge risks to certain industries like agriculture or fishing. More details on climate impacts on migratory pathways are available in Appendix C.

#### **4.4.2 REGULATORY SETTING**

##### **FEDERAL LAWS, REGULATIONS, PLANS, AND POLICIES**

###### **Federal Endangered Species Act**

Administered by the USFWS and National Oceanographic and Atmospheric Administration (NOAA), National Marine Fisheries Service (NMFS), the FESA provides the legal framework for the listing and protection of species (and their habitats) that are identified as being endangered or threatened with extinction. Pursuant to FESA (7 USC 136, 16 USC 1531 et seq.), USFWS and NMFS have regulatory authority over species listed as endangered or threatened as well as habitat of such species that has been designated as critical (i.e., Critical Habitat). Under FESA, authorization is required to “take” a listed species or adversely modify critical habitat. *Take* is defined under FESA Section 3 as “to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct.” Under federal regulation (50 CFR 17.3, 222.102), *harm* is further defined to include habitat modification or degradation where it would be expected to result in death or injury to listed wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering. Designated critical habitat for endangered and threatened species is defined as a specific geographic area that is essential for species recovery and conservation of a threatened or endangered species and that may require special management and protection. Critical habitat is generally designated when a species is listed pursuant to the FESA. Critical habitat may include an area that is not currently occupied by the species but that will be needed for its recovery. Critical habitat designations are not made for every species listed under FESA. The designation process also takes into account economic, national security, and other impacts and may result in the exclusion of some habitat areas from critical habitat designation (16 USC 1533(b)(2)). Military installations are generally excluded from critical habitat designations; however, they are required by the Sikes Act (16 USC 670a–670f, as amended) to prepare Integrated Natural Resource Management Plans (INRMPs).

Specifically, Sections 7 and 10(a) of the FESA regulate actions that could jeopardize endangered or threatened species. FESA Section 7 outlines procedures for federal interagency cooperation to conserve federally listed species and designated critical habitat. Section 7(a)(2) and its implementing regulations require federal agencies to consult with USFWS and/or NMFS to ensure that they are not undertaking, funding, permitting, or

authorizing actions likely to jeopardize the continued existence of listed species, or result in the destruction or adverse modification of critical habitat.

For projects where federal action is not involved and take of a listed species may occur, the project proponent may seek to obtain an incidental take permit under FESA Section 10(a), which allows issuance of permits for incidental take of endangered or threatened species. The term “incidental” applies if the taking of a listed species is incidental to and not the purpose of an otherwise lawful activity. An HCP demonstrating how the taking would be minimized and what steps taken would ensure the species’ survival must be submitted for issuance of Section 10(a) permits.

### **Sikes Act**

Congress established the Sikes Act in 1960 to manage military lands for wildlife conservation and human access (16 USC 670 et seq.). The Sikes Act was amended in 1997 to require development and implementation of mutually agreed upon INRMPs through voluntary cooperative agreements between the Department of Defense (DOD) installations, USFWS, and the respective state fish and Wildlife Agencies (e.g., CDFW). INRMPs are planning documents used to implement planning, development, maintenance, and coordination of natural resource conservation and rehabilitation on military lands in consideration of the military’s missions and obligations.

### **Migratory Bird Treaty Act**

The Migratory Bird Treaty Act (MBTA) domestically implements a series of international treaties that provide for migratory bird protection (16 USC 703 et seq.). The MBTA authorizes the Secretary of the Interior to regulate the taking of migratory birds. The act provides that it is unlawful, except as permitted by regulations, “to pursue, hunt, take, capture, kill, attempt to take, capture, or kill, possess, [...] any migratory bird, or any part, nest, or egg of any such bird” (16 USC 703(a)). Species protected under the MBTA are listed in 50 CFR 10.13. Most native birds in the San Diego region are protected under the MBTA. The USFWS issues permits under the MBTA to qualified applicants for the following types of activities: falconry, raptor propagation, scientific collecting, special purposes (rehabilitation, educational, migratory game bird propagation, and salvage), take of depredating birds, taxidermy, and waterfowl sale and disposal; USFWS does not issue permits for “incidental take” of migratory birds that results from otherwise lawful activities such as infrastructure, transportation projects, facility structures, or other activities.

### **Bald and Golden Eagle Protection Act**

The Bald and Golden Eagle Protection Act (BGEPA) is the primary law protecting eagles, including individuals, and their nests and eggs (16 USC 668 et seq.). It defines take to include “pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, destroy, molest, or disturb” (16 USC 668c). *Disturb* was defined by regulation at 50 CFR 22.3 in 2007 as “to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause... (1) injury to an eagle, (2) a decrease in productivity..., or (3) nest abandonment...”(USFWS 2009a). Under the BGEPA Eagle Permit Rule (50 CFR 22.26), USFWS may issue permits to authorize limited, non-purposeful take of bald eagles and golden eagles.

### **Marine Mammal Protection Act**

The Marine Mammal Protection Act (MMPA) of 1972 prohibits, with certain exceptions, the take of marine mammals. The MMPA defines take to mean the harassment, hunting, capture, or killing of any marine mammal, or attempt to harass, hunt, capture, or kill any marine mammal (16 USC 31). The primary authority for

implementing the act belongs to NMFS. Harassment is defined in 16 USC 1362 (18) as any act of pursuit, torment, or annoyance which:

- Has the potential to injure a marine mammal or marine mammal stock in the wild (Level A Harassment); or,
- Has the potential to disturb a marine mammal or marine mammal stock in the wild by causing disruption of behavioral patterns, including, but not limited to, migration, breathing, nursing, breeding, feeding, or sheltering but which does not have the potential to injure a marine mammal or marine mammal stock in the wild (Level B Harassment).

### **Magnuson-Stevens Fishery Conservation and Management Act**

The Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act), as amended by the Sustainable Fisheries Act of 1996 (Public Law 104-267), establishes procedures designed to identify, conserve, and enhance EFH for those species regulated under a federal FMP. EFH is defined as those “waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity” (16 USC 1801 et seq.). The Magnuson-Stevens Act also requires federal agencies to consult with NMFS on all actions or proposed actions permitted, funded, or undertaken by the agency that may adversely affect EFH.

NMFS encourages streamlining the consultation process by using review procedures under the National Environmental Policy Act (NEPA), Fish and Wildlife Coordination Act, CWA, and/or FESA provided the documents meet the requirements for EFH assessments under 50 CFR 600.920(e). EFH assessments must include (1) a description of the proposed action; (2) an analysis of effects, including cumulative effects; (3) the federal agency’s views regarding the effects of the action on EFH; and (4) proposed mitigation, if applicable.

### **Marine Protection, Research, and Sanctuaries Act**

In 1972, Congress enacted the Marine Protection, Research, and Sanctuaries Act (MPRSA) (also known as the Ocean Dumping Act). Permitting standards under the MPRSA prohibit the dumping of material into the ocean that would unreasonably degrade or endanger human health or the marine environment (16 USC 1431 et seq.; 33 USC 1401 et seq.; 40 CFR 227). MPRSA regulates the ocean dumping of all material beyond the territorial limit (3 miles from shore) and prevents or strictly limits dumping material that “would adversely affect human health, welfare, or amenities, or the marine environment, ecological systems, or economic potentialities.” Virtually all material ocean dumped today is dredged material (sediments) removed from the bottom of waterbodies in order to maintain navigation channels and berthing areas.

Ocean dumping cannot occur unless a permit is issued pursuant to Section 103 of the MPRSA (33 USC 1413), which authorizes USACE to issue permits, subject to U.S. Environmental Protection Agency (EPA) approval, for transport and disposal of dredged material (e.g., material excavated from navigable U.S. waters) at designated ocean disposal sites. For other materials, EPA is the permitting agency. EPA is also responsible for designating recommended ocean dumping sites for all types of materials.

### **Rivers and Harbors Act**

#### ***Section 10 of the Rivers and Harbors Act***

Section 10 of the Rivers and Harbors Act of 1899 (RHA) (33 USC 403), administered by the USACE, requires USACE authorization for structures in, over, or under navigable waters of the U.S. or the accomplishment of

work affecting the course, location condition or capacity of navigable waters of the U.S. *Navigable waters of the U.S.* generally describes those waters that are subject to the ebb and flow of the tide shoreward to the mean high water mark, and/or presently used, or have been used in the past, or may be susceptible to use to transport interstate or foreign commerce. *Work* typically includes any dredging or disposal of dredged material, excavation, filling, or other modification of navigable waters of the U.S. *Structure* typically refers to any pier, boat dock, boat ramp, wharf, dolphin, weir, boom, breakwater, bulkhead, revetment, riprap, jetty, artificial reef, permanent mooring structure, power transmission line, or any other obstacle or obstruction. Typical activities requiring authorization pursuant to Section 10 of the RHA are construction of piers, wharves, bulkheads, dolphins, marinas, ramps, floats, intake structures, and cable or pipeline crossings, as well as dredging and excavation.

### **Section 9 of the Rivers and Harbors Act**

Section 9 of the RHA (33 USC 491) prohibits the construction of any bridge, dam, dike or causeway over or in navigable waterways of the U.S. without Congressional approval. The United States Coast Guard (USCG) administers Section 9 and issues permits under the General Bridge Act (see below) over navigable waters. Navigable waters that require a USCG bridge permit are defined as “(1) tidal and used by recreational boating, fishing, and other small vessels 21 feet or greater in length or (2) used or susceptible to use in their natural condition or by reasonable improvement as a means to transport interstate or foreign commerce.” It is to the discretion of the USCG to determine the navigability of these waters.

### **General Bridge Act of 1946**

The USCG administers the Bridge Administration permit process. A USCG bridge permit is needed for the construction, reconstruction, or modification of any bridge or causeway across navigable waters of the U.S. A bridge is usually defined as the entire span plus footings, typically from abutment to abutment. For the purposes of bridge permitting, a navigable waterway is defined as any waterway that is subject to tidal action or is presently used or could be used for the transport of interstate or foreign commerce. The USCG issues bridge permits under the authorities of both Section 9 of the RHA (see above), and the General Bridge Act of 1946. In cases when the USCG issues a bridge permit, authorization from the USACE pursuant to Section 10 of the RHA is not required. However, authorization pursuant to Section 404 of the CWA may still be required. The issuance of a bridge permit is relevant to biological resources because it would constitute a federal action, subject to NEPA (42 USC 4321–4347, as amended) that would trigger Section 7 consultation if federally listed endangered or threatened species are present, and consultation with NMFS should EFH be present.

### **Clean Water Act**

The principal law that serves to protect the nation’s waters is the 1948 Federal Water Pollution Control Act. This legislation, more commonly referred to as the Clean Water Act (CWA), underwent significant revision when Congress, in response to the public’s growing concern of widespread water pollution, passed the Federal Water Pollution Control Act Amendments of 1972. The purpose of the CWA is to restore and maintain the chemical, physical, and biological integrity of all waters of the U.S. for the conservation of the nation’s potable water sources. Since the enactment of the CWA the definition of waters of the U.S. has undergone several revisions and updates. On April 21, 2020 the EPA and USACE published the Navigable Waters Protection Rule in the Federal Register to finalize a revised definition of waters of the U.S. under the CWA. The rule became effective on June 22, 2020. At the time for Draft EIR preparation, the WOTUS rule was being litigated in several lawsuits, including *State of California et al. v. Wheeler* (N.D. Cal, Case No. 3:20-cv-3005). In June 2021, the USACE and EPA announced their intention to replace the 2020 WOTUS rule with a broader definition of waters

of the U.S. At that time, the Department of Justice filed a motion requesting remand of the Navigable Waters Protection Rule (EPA 2021).

The 2020 definition defines four categories of waters of the U.S. as well as identifies several waters and/or features that are excluded from the definition of waters of the U.S. Most notably, the 2020 definition excludes ephemeral features, including streams that only support surface water flows in direct response to precipitation. The 2020 definition of waters of the U.S. supersedes the 1986 and 2015 definitions of waters of the U.S. Section 404 of the CWA (33 USC 401 et seq.; 33 USC 1344; 33 USC 1413; and DoD, Department of the Army, USACE 33 CFR 323), as implemented by the USACE, requires authorization by the USACE for the discharge of dredged and/or fill material into waters of the U.S. (as defined at 33 CFR 328.3(a)). *Dredged material* means material that is excavated or dredged from waters of the U.S. *Fill material* means material placed in waters of the U.S. where the material has the effect of replacing any portion of a waters of the U.S. with dry land or changing the bottom elevation of waters of the U.S. Examples of fill material include rock, sand, soil, clay, plastics, woodchips, concrete, and materials used to create any structure or infrastructure in waters of the U.S.

Section 401 of the CWA requires a water quality certification or waiver thereof before any federal permit can be issued “to conduct any activity including, but not limited to, the construction or operation of facilities, which may result in any discharge.” Therefore, projects requiring authorization by the USACE pursuant to Section 404 of the CWA and/or Section 10 of the RHA may need to obtain water quality certification. California’s State Water Resources Control Board (SWRCB) and RWQCBs, and the EPA are responsible for issuing Section 401 Water Quality Certifications.

### **Coastal Zone Management Act**

The Federal Consistency Unit of the California Coastal Commission (CCC) implements the federal Coastal Zone Management Act (CZMA) of 1972, Section 307 (c)(1) as amended, for federal activities, development projects, permits, licenses, and support to state and local governments. In the CZMA, Congress created a federal and state partnership for management of coastal resources as the primary federal law enacted to preserve and protect coastal resources (33 USC 1451 et seq.). The federal CZMA, as amended, requires that federal actions that affect any land or water use or natural resource of a state’s coastal zone be consistent, to the maximum extent practicable, with the enforceable policies of a federally approved state coastal zone management plan. The California Coastal Management Program, which includes the California Coastal Act (CCA) of 1976, is the federally approved coastal zone management plan for California.

Regulatory authority, including federal consistency review, is granted to the CCC. One of the most significant provisions of the federal CZMA gives state coastal management agencies regulatory control (federal consistency review authority) over all federal activities and federally licensed, permitted, or assisted activities, wherever they may occur (i.e., landward or seaward of the respective coastal zone boundaries fixed under state law) if the activity affects coastal resources.

### **Executive Order 11988, Floodplain Management**

Executive Order (EO) 11988 requires federal agencies to avoid, to the extent possible, the long- and short-term adverse impacts associated with the occupancy and modification of floodplains, and to avoid direct and indirect support of floodplain development wherever there is a practicable alternative. This EO provides an eight-step process that agencies carry out as part of their decision-making process for projects that have potential impacts on or within a floodplain.

### **Executive Order 11990, Protection of Wetlands**

Pursuant to EO 11990, each federal agency is responsible for preparing implementing procedures for carrying out the provisions of the EO. The purpose of this EO is to “minimize the destruction, loss, or degradation of wetlands, and to preserve and enhance the natural and beneficial values of wetlands.” Each agency, to the extent permitted by law, must avoid undertaking or providing assistance for any activity located in wetlands, unless the head of the agency finds that there is no practical alternative to such activity, and the proposed action includes all practical measures to minimize harm to wetlands that may result from such actions.

### **Executive Order 13112, Invasive Species**

EO 13112 requires federal agencies to “prevent the introduction of invasive species and provide for their control and to minimize the economic, ecological, and human health effects that invasive species cause.” An *invasive species* is defined by the EO as “an alien species whose introduction does or is likely to cause economic or environmental harm or harm to human health.” *Alien species* are defined, with respect to a particular ecosystem, as any species (including its seeds, eggs, spores, or other biological material capable of propagating that species) that is not native to that ecosystem.

### **Executive Order 13186, Migratory Birds**

EO 13186 requires federal agencies to develop a comprehensive strategy for the conservation of migratory birds by the federal government, thereby fulfilling the government’s duty to lead in the protection of this international resource. Each federal agency is required to enter into a Memorandum of Understanding (MOU) with USFWS outlining how the agency will promote conservation of migratory birds. The EO also requires federal agencies to incorporate migratory bird conservation measures into their agency activities. The EO does not affect federal-aid projects because actions delegated to or assumed by nonfederal entities, or carried out by nonfederal entities with federal assistance, are not subject to the EO, although such actions continue to be subject to the MBTA itself.

## **STATE LAWS, REGULATIONS, PLANS, AND POLICIES**

### **California Endangered Species Act**

The California Endangered Species Act (CESA) provides a process by which plants and animals can be recognized as being endangered or threatened with extinction. Pursuant to the CESA, a permit from CDFW is required for projects that could result in the taking of a plant or animal species that is State listed as threatened or endangered (CFGF Section 2050 et seq.). Under CESA, *take* means hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill (CFGF Section 86). The CESA definition of take does not include “harm” or “harass,” as the FESA definition does. As a result, the threshold for take is higher under CESA than under FESA. Authorization for take of state-listed species may be obtained through a CFGF Section 2080.1 consistency determination (for applicants who have already obtained a federal incidental take statement or permit for the same species) or a Section 2081 Incidental Take Permit.

### **Natural Community Conservation Planning Act**

The NCCP Act of 1991, amended 2003, is a federal and State cooperative effort to engage in regional multiple species conservation planning. The ESA Section 4(d) special rule for interim take of coastal California gnatcatchers was promulgated in response to California’s NCCP Act of 1991 and the initiation of NCCP plans targeting coastal sage scrub (gnatcatcher habitat). NCCPs provide regional or area-wide protection of plants

and animals, reconcile urban development and wildlife needs, “conserve” state-listed species to the point where they can be delisted, and maintain or enhance conditions for covered species such that listing will not become necessary (CFGF Section 2800 et seq.). The NCCP Act was amended again in 2011 to allow CDFW to authorize incidental take of “fully protected” species if they are “covered species” under an ~~approved~~adopted NCCP.

### **California Fish and Game Code Section 1602 – Lake or Streambed Alteration**

CDFW regulates alterations to or impacts on streambeds or lakes under Section 1602 of the CFGF. All diversions, obstructions, or changes to the natural flow or bed, channel, or bank of any river, stream, or lake in California that supports wildlife resources are subject to regulation by CDFW under CFGF Section 1602. Under Section 1602, it is unlawful for any person, governmental agency, or public utility to do the following without first submitting a complete Notification of Lake or Streambed Alteration to CDFW:

- Substantially divert or obstruct the natural flow of, or substantially change or use any material from, the bed, channel, or bank of any river, stream, or lake.
- 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.

The California Fish and Game Commission defines *stream* as a body of water that flows at least periodically or intermittently through a bed or channel that has banks and supports fish or other aquatic life. This definition includes watercourses with a surface or subsurface flow that supports or has supported riparian vegetation. CDFW’s jurisdiction within altered or artificial waterways is based on the value of those waterways to fish and wildlife. CDFW requires a Streambed Alteration Agreement (SAA) for projects that would result in an impact on a river, stream, or lake; divert or obstruct the natural flow of water; change the bed, channel, or bank of any stream; or use any material from a streambed. The SAA is a contract between the applicant and CDFW stating what activities can occur in the riparian zone and stream course.

### **California Fish and Game Code Sections 3503 and 3503.5 – Protection of Birds, Nests, and Raptors**

CFGF Section 3503 states that it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird. Section 3503.5 specifically states that it is unlawful to take, possess, or destroy any raptors (i.e., species in the orders Falconiformes and Strigiformes), including their nests or eggs. Typical violations of these codes include destruction of active nests resulting from removal of vegetation in which the nests are located. Violation of Section 3503.5 could also include failure of active raptor nests resulting from disturbance of nesting pairs by nearby project construction. These code sections do not provide for the issuance of any type of incidental take permit.

### **Fully Protected Species under the California Fish and Game Code (California Fish and Game Code Sections 3511, 4700, 5050, and 5515)**

Protection of fully protected species is described in CFGF Sections 3511, 4700, 5050, and 5515. These statutes prohibit take or possession of fully protected species. Incidental take of fully protected species may be authorized under an ~~approved~~adopted NCCP.

### **California Native Plant Protection Act**

The Native Plant Protection Act (NPPA) of 1977 (CFGF Section 1900 et seq.) directed CDFW to carry out the legislature’s intent to “preserve, protect and enhance rare and endangered plants in this State.” The NPPA gave

the California Fish and Game Commission the power to designate native plants as “endangered” or “rare,” and to protect endangered and rare plants from take.

#### **Porter-Cologne Water Quality Control Act – California Water Code Section 13000 et seq.**

The SWRCB and RWQCBs, as appropriate, have the responsibility to implement and enforce the Porter-Cologne Water Quality Control Act (Porter-Cologne Act), which regulates waste discharge into waters of the state. Porter-Cologne grants the RWQCBs the authority to implement and enforce the water quality laws, regulations, policies, and plans to protect the groundwater and surface water of the state. The RWQCB regulates the “discharge of waste” to waters of the state. *Discharge of waste* is also broadly defined in Porter-Cologne, such that discharges of waste include fill, any material resulting from human activity, or any other “discharge” that may directly or indirectly impact waters of the State relative to implementation of Section 401 of the CWA.

Under Porter-Cologne, all parties proposing to discharge waste that could affect the quality of waters of the state, other than into a community sewer system, are required to file with the appropriate RWQCB a Report of Waste Discharge (ROWD) containing such information and data as may be required by the RWQCB. The RWQCB will then respond to the ROWD by issuing a waste discharge requirement (WDR) in a public hearing, or by waiving WDRs (with or without conditions) for that proposed discharge.

The RWQCB collaborates with other agencies on the enforcement of the act, such as CDFW and USACE. Generally, when staff issue or waive 401 certification, WDRs are simultaneously waived. However, for large or multiyear projects that are being reviewed under Section 401 of the CWA, staff may determine that WDRs should also be issued, whereby additional review by the RWQCB and a public hearing will be necessary.

On April 2, 2019, the SWRCB adopted a State wetland definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State (Procedures), which became effective on May 28, 2020. The SWRCB developed the Procedures to address multiple issues, including the need to strengthen protections of waters of the state that are not protected under CWA due to past Supreme Court Rulings. The Procedures define an area as a wetland if it meets three criteria: wetland hydrology, wetlands substrate, and wetland plants. The State wetland definition varies slightly from the federal definition to account for wetlands in arid portions of the state and clarifies that under normal circumstances an area may be a wetland even if it lacks wetland vegetation. The Procedures further clarify when a wetland is a water of the state. In light of the 2020 waters of the U.S. rule, wetlands that are no longer regulated under the CWA will likely remain waters of the state requiring issuance of a WDR. In December 2020, a Sacramento trial court enjoined SWRCB implementation of the Procedures due to errors in the adoption process. The SWRCB responded to several legal challenges and approved a resolution on April 6, 2021 to apply the Procedures to waters of the state as a matter of State policy for water quality control. Therefore, the Porter-Cologne Act continues to require WDRs for discharges to waters of the state, as implemented through the 2019 Procedures as revised on April 26, 2021.

#### **California Coastal Act**

Pursuant to California Public Resource Code Section 30000 et seq., the CCC regulates coastal resources within the coastal zone under jurisdiction of the CCA (as amended). The coastal zone is identified as the land and water area of the State of California extending seaward to the state's outer limit of jurisdiction (3 miles offshore) including all offshore islands, and extending inland generally 1,000 yards from the mean high tide line of the sea. In significant coastal estuarine habitat and recreational areas it extends inland to the first major ridgeline paralleling the sea or 5 miles from the mean high tide line of the sea, whichever is less, and in developed urban areas the zone generally extends inland less than 1,000 yards.



The CCC, through provisions of the CCA, is authorized to issue a Coastal Development Permit (CDP) for projects located within the Coastal Zone. In areas where a local entity has a certified Local Coastal Program (LCP), the local entity can issue a CDP only if it is consistent with the LCP. The CCC, however, has permit and appeal authority for portions of LCPs and retains jurisdiction over certain public trust lands and in areas without an LCP (CCC 1994).

With respect to biological resources, Section 30240 of the CCA states that Environmentally Sensitive Habitat Areas (ESHAs) “shall be protected against any significant disruption of habitat values, and only uses dependent on those resources shall be allowed within those areas.” It further states that development in areas adjacent to ESHAs and parks and recreation areas must be sited and designed to prevent impacts that would significantly degrade those areas, and must be compatible with the continuance of those habitat and recreation areas. Section 30233 of the CCA addresses the diking, filing, or dredging of open coastal waters, wetlands, estuaries.

## **REGIONAL AND LOCAL LAWS, REGULATIONS, PLANS, AND POLICIES**

### **Natural Community Conservation Planning Program and Habitat Conservation Plans**

California’s NCCP Program focuses largely on conserving large areas of native habitat and the habitats that link those areas to help preserve California’s native fauna and flora at the landscape and regional levels. While NCCPs are governed by the California NCCP Act, the FESA requires the issuance of HCPs. NCCPs and HCPs are prepared to be compliant with the requirements under CESA, the NCCP Act, the NPPA, and Section 10(a)(1)(B) of FESA, respectively. NCCPs and HCPs may be combined to provide take authorization under federal and State law.

The following sections describe approved and adopted Subarea or Subregional Plans under the NCCP within the San Diego region. Conflicts with unapproved or unadopted plans do not require analysis under CEQA (see CEQA Guidelines Section 15125(d)(e)). In March 2021, the County of San Diego reinstated the Planning Agreement with the USFWS and CDFW for the North and East County MSCP plans (County of San Diego 2021a). The reinstatement sets the parameters, goals, and completion schedule for both plans, which will include impacts on aquatic resources under federal and State jurisdictions. Under the interim project processing guidelines outlined in the Planning Agreement, the County of San Diego considers impacts on the proposed preserve design of the Draft North County MSCP (County of San Diego 2019) during the projects’ CEQA process to ensure that proposed projects are consistent with the preliminary conservation objectives and do not compromise the successful completion of the plans. These NCCPs are included in Appendix E-4.

### ***Multiple Species Conservation Program***

The MSCP (City of San Diego 1998) was approved in August 1997~~8~~ as a cooperative effort by the City of San Diego, County of San Diego, and other jurisdictions in the southwestern San Diego region to implement a regional NCCP and HCP (see Table 4.4-5); ~~the updated document was printed~~ the document was updated in 1998. The MSCP serves as an umbrella document for local jurisdictions that implement their portions of the MSCP Plan through subarea plans. The MSCP subarea plans contribute collectively to the landscape-level conservation of vegetation communities and species in the MSCP study area by identifying contiguous preserves and setting conservation goals and schedules. Entities with ~~approved~~ adopted subarea plans employ a tracking system that tracks habitat gains and losses over time toward their conservation goals, which are included in annual reports for each subarea plan. Annual reports are available to the public.

The USFWS and CDFW ~~have issued a permits (50-year permit term) to five of the nine jurisdictions within the MSCP plan boundary. incidental take authorization through planning permits (Implementing Agreements, IA), the signatories to which included multiple agencies.~~ The cities of Chula Vista, La Mesa, Poway, and San Diego (City of San Diego 1997), and the County of San Diego (South County) have adopted subarea plans under the County of San Diego MSCP and have developed municipal guidelines and ordinances to implement their subarea plans. The cities of Coronado, Del Mar, El Cajon, and Santee do not have ~~approved~~ adopted subarea plans under the MSCP (the City of Santee is currently preparing a subarea plan for approval), thereby requiring project-based regulatory approvals under FESA and CESA.

The City of San Diego, in response to the revocation of federal coverage under the City's MSCP Subarea Plan for vernal pool species, has developed a VPHCP (City of San Diego 2017) covering seven threatened and endangered vernal pool species, including five plant and two crustacean (fairy shrimp) species. The VPHCP provides take authorization for these species and expands the City's existing MHPA to conserve additional vernal pools. The VPHCP also includes a Management and Monitoring Plan to provide for long-term protection, management, and enhancement of vernal pool habitat and the seven covered species.

The County of San Diego developed the South County MSCP Subarea Plan (County of San Diego 1997) to cover all unincorporated areas of the County south of Lake Hodges. The MSCP Subarea Plan identified ~~hardline preserves~~ MSCP Preserves, which include those areas that were negotiated to be preserve land prior to or concurrently with the approval of the South County MSCP Subarea Plan; and soft-line preserve areas that are identified to contain future preserved lands as part of the Plan's conservation cores and linkages. The County of San Diego is also currently finalizing the North County MSCP, which includes lands within the unincorporated County that are not covered under the MHCP or South County MSCP. While the County is not yet implementing the North County MSCP, it has completed the conservation design and identified priority areas for conservation that are being considered in the CEQA analysis of development projects within the North County MSCP planning area. While a planning effort for the eastern portions of the San Diego region was considered by the County of San Diego in 2008, the East County MSCP planning efforts have slowed because of staffing constraints. Preliminary conservation design has been completed for this area and has identified focused areas for conservation that are considered during CEQA analysis of development projects, as described above for the North County. Neither the North County nor the East County MSCPs have been adopted.

While the County is not yet implementing the North County MSCP, it has developed a preserve system consisting of hardline and softline preserves (Pre-Approved Mitigation Area [PAMA]) that is being considered in the CEQA analysis of development projects within the North County MSCP planning area. While a planning effort for the eastern portions of the San Diego region was considered by the County of San Diego in 2008, the East County MSCP planning efforts have slowed because the majority of the eastern San Diego region is occupied by federal lands (e.g., U.S. Forest Service and Bureau of Land Management) and already receives an appreciable degree of conservation under federal laws, ordinances, and guidelines.

In March 2021, the County of San Diego reinstated their planning agreement with the USFWS and CDFW regarding the North and East County MSCPs. The planning agreement includes milestones for the finalization of the MSCPs and a draft covered species list. ~~The plans also intend to cover wetland habitats, in contrast to the other approved adopted NCCPs that are limited to upland habitats.~~ The North County MSCP's adoption is anticipated in 2024.

A summary of ~~approved~~ adopted subarea plans under the County of San Diego MSCP Subregional Plan is provided in Table 4.4-5. Regional habitat conservation planning areas and conserved lands are illustrated on Figure 4.4-16.

### **Multiple Habitat Conservation Program**

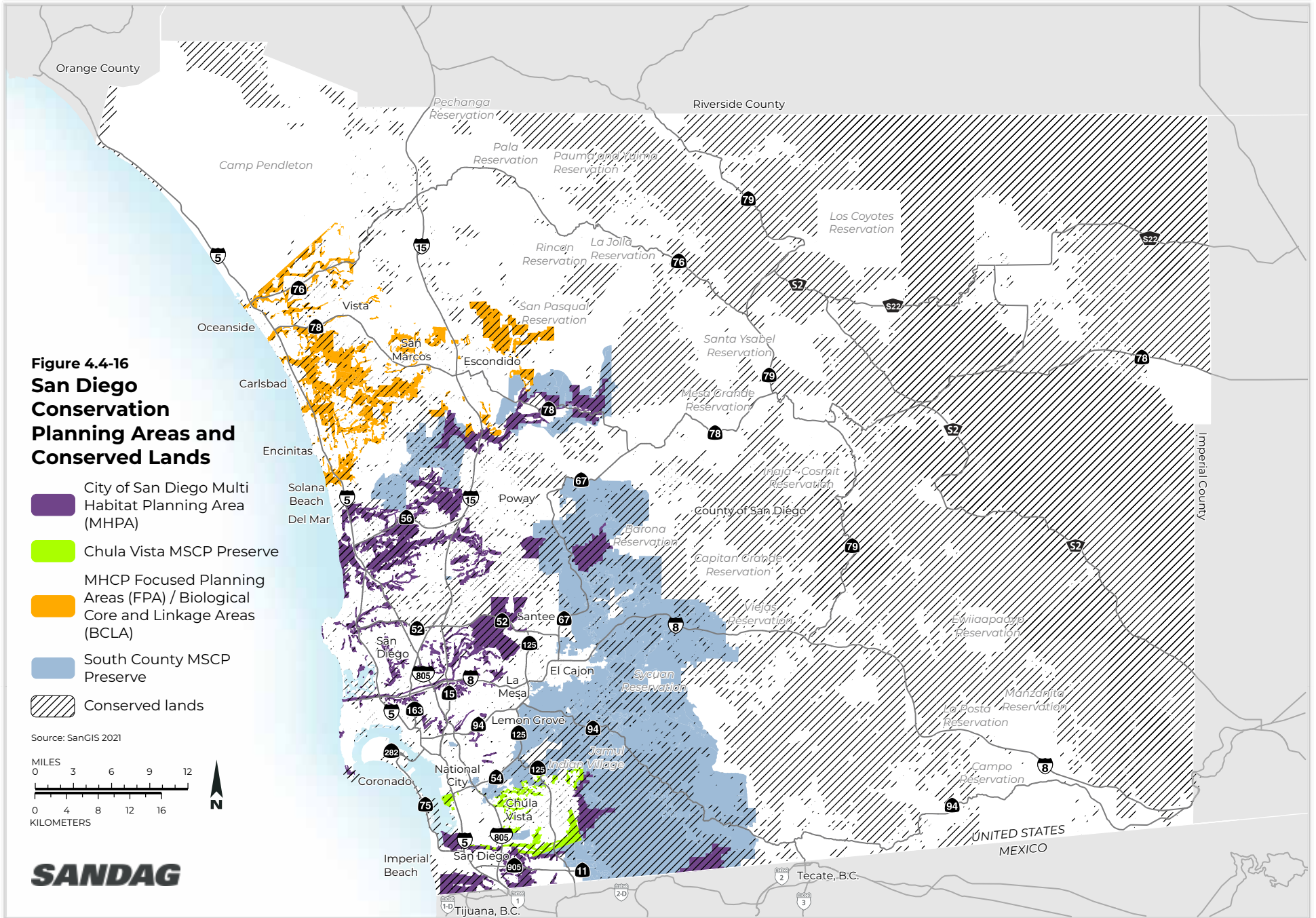
The MHCP is an NCCP and HCP for the northwestern portion of the San Diego region (cities of Carlsbad, Encinitas, Escondido, Oceanside, San Marcos, Solana Beach, and Vista) and was approved by the SANDAG Board of Directors on March 28, 2003 (SANDAG 2003). The MHCP encompasses 111,908 acres (29,962 acres of natural habitat) and provides conservation for 77 species in a 20,593-acre reserve. Similar to the MSCP, the MHCP serves as an umbrella document for local jurisdictions that implement their respective portions of the MHCP through subarea plans. The MHCP subarea plans contribute collectively to the conservation of vegetation communities and species in the MSCP study area. The MHCP also received a 50-year IA from USFWS and CDFW; gains and losses to the overall preserve system is tracked similarly as those for the MSCP.

On November 15, 2004, the City of Carlsbad HMP was approved, and State and federal permits were issued. The cities of Encinitas, Escondido, Oceanside, San Marcos, and Vista do not have ~~approved~~adopted subarea plans under the MHCP. The City of Encinitas implements an Open Space Management Plan that identifies local conservation goals pursuant to the MHCP. The City of Oceanside in collaboration with the USFWS and CDFW implements the Oceanside Draft MHCP Subarea Plan through the City's plan check approvals (City of Oceanside pers. comm. 2018, 2021). The City of Solana Beach does not require take authorizations and therefore did not prepare a subarea plan. The status of the subarea plans under the MHCP is summarized in Table 4.4-5. Regional habitat conservation planning areas and conservation lands are illustrated on Figure 4.4-16.

**Table 4.4-5  
Summary of Approved or Implemented Subarea Plans Under Adopted MSCP/MHCP Subregional Plans  
in the San Diego Region**

| <b>Plan</b>   | <b>Effective Date</b> | <b>Description</b>   |
|---|-----------------------|--|
| City of San Diego MSCP Subarea Plan                             | 1997                  | The subarea plan encompasses 206,124 acres and was approved in July 1997. The City of San Diego's Subarea Plan developed an MHPA that delineates core biological resource areas and corridors targeted for conservation. Specific policies and directives have been developed for different areas within the MHPA, which is largely composed of core biological resource areas and regional linkages leading to biological core areas within existing reserves and parks. The MHPA covers approximately 56,831 acres, of which 90 percent will be preserved for biological purposes. |
| City of San Diego Vernal Pool Habitat Conservation Plan (VPHCP) | 2018                  | <del>In October of 2009, the City and USFWS entered into a Planning Agreement for the development of an HCP covering vernal pool habitats and associated species in the City. The Vernal Pool HCP was developed as a response to legal action that removed all vernal pool-associated covered species from the City's MSCP Subarea Plan. The VPHCP was finalized in 2017, approved by the City in January of 2018, and permitted by CDFW and USFWS (Wildlife Agencies) in August 3, 2018. It covers the same plan area as the City's MSCP Subarea Plan.</del>                        |

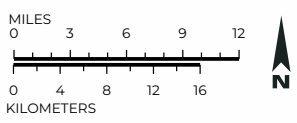
| Plan   | Effective Date | Description  |
|--|----------------|--|
| County of San Diego (South County) MSCP Subarea Plan               | 1997           | The County subarea is located in the eastern part of the MSCP Subregion. The subarea encompasses 252,132 acres (184,248 acres is habitat), of which 101,268 acres will be conserved. The County MSCP Subarea Plan was approved by the Wildlife Agencies in March 1998. Three segments are included in the plan: Lake Hodges, South County, and Metro-Lakeside-Jamul. <del>The County of San Diego requested an amendment for Otay Ranch in 2020, and is also pursuing a major amendment to add the Quino checkerspot butterfly as a covered species to the southern subarea. An administrative draft amendment has been reviewed by the Wildlife Agencies.</del> |
| City of Chula Vista MSCP Subarea Plan                              | 2005           | This subarea plan covers approximately 57,828 acres and seeks to preserve 5,000 acres within the city's jurisdiction, while 4,200 acres outside the city's jurisdiction is proposed for preservation. The plan will preserve approximately 9,201 acres. Approved in 2003, the Final MSCP Subarea Plan was completed in 2005.   |
| City of La Mesa MSCP Subarea Plan                                  | 2000           | Remaining habitat in this subarea consists largely of coastal sage scrub, and all losses will be mitigated elsewhere. Approved in 1999, permits were issued in 2000.   |
| City of Poway MSCP Subarea Plan                                    | 1996           | The City of Poway MSCP Subarea Plan provides for incidental take coverage for 43 plant and animal species. It encompasses 35,000 acres and establishes a 13,300-acre mitigation area. This was the first subarea plan approved under the Subregional MSCP.   |
| City of Carlsbad Habitat Management Plan (HMP) – MHCP Subarea Plan | 2004           | On November 15, 2004, the City of Carlsbad HMP was approved, and State and federal permits were issued to implement the city's MHCP. The Carlsbad Subarea Plan is the first to be approved and permitted under the MHCP Subregional Plan. The subarea encompasses 24,570 acres (8,758 acres is habitat). At build-out, the preserve system is expected to cover approximately 6,786 acres, consisting mostly of natural upland and wetland habitats, including coastal sage scrub, chaparral, oak woodland, riparian scrub, riparian forest, freshwater marsh, and grasslands. The Carlsbad Subarea Plan provides for the conservation of 43 species.            |



**Figure 4.4-16  
San Diego  
Conservation  
Planning Areas and  
Conserved Lands**

- City of San Diego Multi-Habitat Planning Area (MHPA)
- Chula Vista MSCP Preserve
- MHCP Focused Planning Areas (FPA) / Biological Core and Linkage Areas (BCLA)
- South County MSCP Preserve
- Conserved lands

Source: SanGIS 2021



**SANDAG**

### ***San Diego County Water Authority Natural Community Conservation Plan/Habitat Conservation Plan***

The San Diego County Water Authority (SDCWA) adopted a combined NCCP/HCP (SDCWA 2011) to address potential impacts on sensitive resources associated with new construction and typical expansion of existing infrastructure; ongoing installation, use, maintenance, and repair of its aqueduct and water conveyance, treatment, and storage systems; and acquisition of new and management/monitoring of all existing Preserve Area lands throughout the plan area. The plan area covers approximately 992,000 acres in western San Diego and southwestern Riverside counties. The implementing agreement for the plan was issued by USFWS and CDFW on September 28, 2011. The plan covers 28 plant species and 38 wildlife species for a total of 66 covered species. Of the approximately 1,920 acres of preserve area committed to be conserved by the plan, 1,220 acres have been set aside as compensation for previously permitted projects and approximately 700 acres are available or will be created to be used as credits to compensate for project impacts on upland and wetland habitats. In addition, the SDCWA has previously conserved 1,147 acres of regionally important habitat lands (i.e., Managed Mitigation Areas) that contribute to the baseline of conservation within the plan area.

### ***San Diego Gas & Electric Subregional NCCP***

In 1995, San Diego Gas & Electric (SDG&E 1995) developed the first NCCP in the region for linear projects and specified operation and maintenance activities in SDG&E's service area from southern Orange County south to the Mexican border. The NCCP covers 110 plant and animal species and emphasizes avoidance of impacts, while establishing mitigation requirements that may include revegetation or use of mitigation credits set aside in several land parcels purchased by SDG&E as a conservation bank. SDG&E's properties and easements play an important role in the NCCP region in providing habitat connectivity in areas where little natural habitat remains. The NCCP authorizes up to 400 acres of permanent and temporary impacts on habitat for covered species; an amendment would be required to authorize additional take. SDG&E received approval of a low-effect HCP for Quino checkerspot butterfly (*Euphydryas editha quino*) in 2008. On March 15, 2017, the USFWS issued permit no. TE26660C-0, which included an additional 60 acres and extended the permit term by 5 years (USFWS 2017). The USFWS and CDFW are coordinating with SDG&E on an amendment to their HCP/NCCP.

### **TransNet Environmental Mitigation Program**

An important component in regional conservation planning is the *TransNet* Extension Ordinance and Expenditure Plan, which was approved countywide by voters in November 2004 and includes the Environmental Mitigation Program (EMP) administered by SANDAG. The EMP consists of direct mitigation of planned transportation projects and the regional habitat acquisition, management, and monitoring activities necessary to implement ongoing regional habitat conservation planning efforts (SANDAG 2019). The EMP is a collaborative effort among SANDAG, the cities, the County, the Wildlife Agencies (CDFW and USFWS), and other regulatory agencies (CCC, USACE, EPA, and RWQCB) and representatives of various stakeholder groups, including the environmental community and the science/technical community (SANDAG 2019). The EMP provides funding for the acquisition, restoration, and management costs associated with mitigation for impacts on habitat resulting from regional and transportation projects and local streets and road, and for the implementation of the local NCCPs.

The San Diego Management and Monitoring Program (SDMMP), established in 2008, facilitates and assists SANDAG, local jurisdictions, Wildlife Agencies, and other regional stakeholders and land managers in the implementation of conservation management and monitoring within the San Diego region. This region-wide

effort was created to implement long-term management strategies identified in the San Diego NCCPs and is partially funded through SANDAG's EMP. The SDMMMP's goal is to assist with the alignment of regional efforts to implement activities identified in the Management Strategic Plan (MSP, SDMMMP 2017). The MSP identifies priority species, and has developed and is currently developing, best management practices (BMPs) and protocols for sensitive plants and animals, wildlife movement, fire management, and grazing management.

### Local Jurisdiction General Plan Policies and Ordinances

Local jurisdictions have adopted ordinances or general plan policies to protect and preserve open space, trees, sensitive habitats, and waters and wetlands. The County of San Diego has promulgated biological protection ordinances, regulations, and guidelines, including the BMO for implementing the South County MSCP Subarea Plan; the RPO for regulating impacts on sensitive biological resources and wetlands; the HLP Ordinance pursuant to the Special 4(d) Rule under FESA (50 CFR 17.41(b)); and the Zoning Ordinance that applies specific restrictions and provisions.

Several ordinances or regulations, such as the City of Chula Vista's Habitat Loss and Incidental Take regulations, and the City of San Diego's Land Development Code for Environmentally Sensitive Lands and accompanying Biology, Steep Hillside, and Coastal Bluffs and Beaches Guidelines, are used to implement their respective city's adopted subarea plans. Local jurisdictions have general plan policies and various resource protection ordinances that must be addressed on a project-specific level and may result in added level of protection of biological resources.

**Table 4.4-6  
Relevant General Plan Policies and Biological Resource Protection Ordinances in the San Diego Region  
by Local Jurisdiction**

| <b>Ordinance/General Plan</b>                                    | <b>Purpose</b>  |
|--|---|
| <b>Carlsbad</b>  |   |
| Chapter 21.210, Habitat Preservation and Management Requirements | Preserve the diversity of natural habitats and unique biological resources in Carlsbad through implementing the goals and objectives of the land use and the open space/conservation elements of the City of Carlsbad General Plan and the City's HMP under the MHCP (see Table 4.4-5); and the regulations for development review. |
| Chapter 21.203, Coastal Resource Protection Overlay Zone         | Preserve, protect, and enhance the habitat resource values; provide regulations in areas that provide the best wildlife habitat characteristics; deter soil erosion; and implement conservation of sensitive habitats and the approved Carlsbad local coastal program.  |
| Chapter 21.95, Hillside Development Regulations                  | When grading occurs, assure that alteration of natural hillsides is done in an environmentally sensitive manner to reduce impacts on lagoons, riparian systems, wildlife habitats, and native vegetation.   |
| Chapter 21.33, Open Space Zone                                   | Provide for open space and recreational uses. This zone also protects areas preserved as natural habitat and the biological resources located in the areas in conformance with the Carlsbad HMP.  |
| Chapter 21.45, Planned Developments                              | Provides a method for clustered property development on environmentally and topographically constrained land.   |
| Chapter 20.22, Environmental Subdivisions                        | Provides provisions for perpetual maintenance of the habitat and that perpetual easement will be recorded that prohibits construction of improvements except for those specifically identified.   |

| <b>Ordinance/General Plan</b>  | <b>Purpose</b>   |
|--|--|
| Chapter 15.16, Grading and Erosion Control                               | Requires compliance with grading regulations, protection of public facilities, protection of adjacent property, and preservation of adjacent environmental resources from impacts of the grading operation.  |
| Chapter 21.42, Minor Conditional Use Permits and Conditional Use Permits | Guides the minor use permit process including the application of a biological habitat preserve.  |
| General Plan   | The Open Space, Conservation, and Recreation Element of the Carlsbad General Plan contains Goal 4-G.3, which aims to protect environmentally sensitive lands, wildlife habitats, and sensitive plant and animal communities; and Policy 4-G.4, which aims to promote conservation of hillsides and ridgelines. Policies 4-P.9 through 4-P.19 include habitat and open space conservation policies. |
| <b>Chula Vista</b>   |  |
| Chapter 17.30, Otay Ranch Grazing  | Implements the Otay Ranch general development plan and resource management plan within Chula Vista.  |
| Chapter 17.35, Habitat Loss and Incidental Take                          | Protect and conserve native habitat within Chula Vista and the viability of the species supported by those habitats.   |
| Chapter 19.86, Bayfront Specific Plan - Environmental Management Program | Reduce and mitigate impacts on the refuge from new development within the Bayfront.  |
| General Plan   | The Environment Element of the Chula Vista General Plan contains Policy E 1.1 to implement the MSCP Subarea Plan, and Policy E 5.3 to ensure that approved mining reclamation plans fully comply with applicable requirements regarding the restoration of biological habitats and the creation of trails and parkland.  |
| <b>Coronado</b>  |  |
| Chapter 86.38, Open Space Zone   | Provides for the protection and preservation of open space areas within Coronado that are unique due to natural resources, visual amenities, public safety purposes, or recreational opportunities.  |
| Chapter 86.64, Wildlife Preserve Zone (Modifying Overlay Zone)           | Protect and preserve valuable and unique environmental resources for the enjoyment and benefit of present and future generations of Californians.  |
| Chapter 86.72, Diking, Dredging, Filling, and Dredge Spoils Disposal     | Require that diking, dredging, filling, and dredge spoils disposal in open coastal waters and wetlands require City of Coronado issuance of a coastal permit.  |
| Chapter 86.76, Protection of Natural Ocean and Bay Processes             | Requires the issuance of a coastal permit from the City for the construction or placement of any improvement that may significantly affect the natural erosion process resultant from the interaction of water bodies upon their shores, or cause significant adverse alteration of the bay or ocean environment.  |
| Chapter 61.04, Stormwater and Urban Runoff Management Program            | Establishes requirements for the management of stormwater flows from development projects, both to prevent erosion and to protect and enhance existing water-dependent habitats.   |
| Chapter 61.08, Discharge Regulations and Requirements                    | Implement post-construction best management practices for permanent control of erosion from slopes, including structures to convey water, vegetation to stabilize disturbed slopes, and velocity controls.   |
| General Plan   | The Open Space and Conservation Elements of the Coronado General Plan contain objectives to protect biological resources, natural resources, wildlife, and promote habitat preservation.   |



| <b>Ordinance/General Plan</b>                                | <b>Purpose</b>   |
|--|--|
| <b>Del Mar</b>   |  |
| Chapter 30.53, Lagoon Overlay Zone                           | Protects the wetland resources of these lagoon areas and their sensitive upland habitats by requiring that all development activities are designed and implemented in a manner that is consistent with wetland habitat protection and enhancement.   |
| <u>Chapter 30.52, Bluff, Slope, and Canyon Overlay Zone</u>  | <u>Protects downstream resources from the adverse impacts of erosion and sedimentation.</u>  |
| Chapter 23.50, Trees   | Encourages conservation of trees and the application of management techniques to create a healthy, diverse urban forest.   |
| <u>Chapter 23.33, Land Conservation Ordinance</u>            | <u>Regulates soil disturbances of existing or natural terrain and vegetation and does not create soil erosion, silting of lower slopes, slide damage, flooding problems, or severe cutting or scarring.</u>  |
| General Plan   | The Del Mar Community Plan contains objectives to preserve or restore habitat and biological resources.  |
| <b>El Cajon</b>  |  |
| Chapter 17.155, O-S (Open Space) Zone                        | Protect and preserve open space land as a limited and valuable resource, permit a reasonable use of open space while preserving and protecting inherent open space characteristics, and implement the open space provisions of the general plan.   |
| Chapter 16.60, Standard Urban Stormwater Mitigation Plan     | Require a drainage study report prepared by a registered civil engineer of downstream conditions following field reconnaissance, including the susceptibility to erosion or habitat alteration from altered flow.  |
| General Plan   | The City of El Cajon General Plan does not contain policies or regulations specific to biological resources.   |
| <b>Encinitas</b>   |  |
| Chapter 23.24, Grading, Erosion, and Sediment Control        | Establishes minimum requirements for grading, excavating and filling of land, to provide for the issuance of grading permits.  |
| General Plan   | The Resource Management Element of the Encinitas General Plan contains policies to preserve significant mature trees, vegetation, and wildlife habitat.  |
| <b>Escondido</b>   |  |
| Chapter 33-3, Open Space Zone                                | To implement the open space/conservation element of the general plan and the public lands/parks land use designation, while also including protection of unique or rare plant and/or animal habitat.   |
| Chapter 33-75: San Dieguito River Valley Focus Planning Area | Establishes appropriate design guidelines and provides for comprehensive planning of the San Dieguito River Valley Focus Planning Area in conjunction with general plan policies and preservation of significant natural resources.  |
| Chapter 33-55, Grading and Erosion Control                   | Ensures that development occurs in a manner that protects the natural and topographic character and identity of the environment.   |
| Chapter 33-5: Open Space Development Standards               | Establishes standards for the development of lands identified by the open space/conservation element of the general plan.  |
| General Plan   | Policy 5.6 of the Land Use and Community Form Element and Biological and Open Space Resources Policies 1.1 through 1.12 of the Resource Conservation Element of the Escondido General Plan aim to protect biological resources. <u>In addition, as stated in the Land Use and Community Form Element of the General Plan, core themes including,</u> |

| <b>Ordinance/General Plan</b>                   | <b>Purpose</b>  |
|---|---|
|   | <u>“smart growth principles [that] represent a shift in focus from how to development vacant land to how to reinvest in existing neighborhoods.”</u>  |
| <b>Imperial Beach</b>                           |   |
| Chapter 19.29, OS Open Space Zone               | Provides for land set aside for the protection of sensitive and fragile natural resources. This zone is intended to limit and control access and intensity of uses in these areas. This zone applies to the Tijuana River Valley.   |
| General Plan                                    | The City of Imperial Beach General Plan and Local Coastal Plan contain Policies 4.3.1 through 4.3.5 to protect, restore, and enhance the viability of key coastal habitats and species.   |
| <b>La Mesa</b>                                  |   |
| Chapter 24.09, Scenic Preservation Overlay Zone | To retain and incorporate into each proposed development natural topography, vegetation, and scenic features of the site.   |
| General Plan                                    | The Recreation and Open Space Element of the La Mesa General Plan contain policies and conservation objectives to preserve and restore open space and natural features consistent with the City’s Habitat Conservation Plan.  |
| <b>Lemon Grove</b>                              |   |
| Chapter 18.08, Grading and Excavating           | Ensures that development occurs in a manner that protects environmentally sensitive areas as defined as areas designated as Areas of Special Biological Significance by the SWRCB and the RWQCB.  |
| General Plan                                    | The Conservation and Recreation Element of the Lemon Grove General Plan contains Policy 3.1, which aims to limit impacts on biological habitats.  |
| <b>National City</b>                            |   |
| Chapter 18.28, Open Space Reserve Zone          | To provide a use category to uses shown in the open space and conservation element of National City’s general plan and local coastal program.   |
| Chapter 18.27, Open Space Zone                  | To provide for public and private improved and unimproved open space.   |
| General Plan                                    | The Open Space and Agriculture Element of the National City General Plan contains Policies OS-1.1 through OS 1.4, which protect and conserve the landforms and open spaces that serve as core biological areas and wildlife linkages, or are wetland habitats; encourage the removal of invasive plant species and the planting of native plants; and limits development of open spaces; and Policies OS-2.1 through OS-2.8, which require the preservation of sensitive habitat areas. |
| <b>Oceanside</b>                                |   |
| Chapter 6, Building Construction Regulations    | Section 6.44 includes provisions for flood hazard reduction   |
| General Plan                                    | The Environmental Resource Management Element of the Oceanside General Plan contains implementation strategies and policies for preservation of natural resources.  |
| <b>Poway</b>                                    |   |
| Chapter 12.32, Urban Forestry                   | Sets forth all tree-related policies, regulations, and generally accepted standards on public property and public rights-of-way. Maintains the practice of protecting native trees and heritage trees.  |

| <b>Ordinance/General Plan</b>   | <b>Purpose</b>  |
|---|---|
| Chapter 17.24, OS-RM Open Space - Resource Management Zone  | This zone is intended for lands where valuable natural resources are located. The mountainous areas, prominent ridges, riparian areas, wildlife corridors, areas of high biological value, areas with geologic hazards, and areas with valuable historic and prehistoric resources are included within this zone.   |
| General Plan  | The Natural Resources Element of the City of Poway General Plan identifies biological resources within the City.  |
| <b>City of San Diego</b>  |   |
| Chapter 14, General Regulations; Article 2, General Development Regulations; Division 4, Landscape Regulations                            | Minimize the erosion of slopes and disturbed lands through revegetation; conserve energy by the provision of shade trees; conserve water; reduce the risk of fire; and improve the appearance of the built environment by increasing the quality and quantity of landscaping.   |
| Chapter 13, Zones; Article 2, Overlay Zones; Division 6, Sensitive Coastal Overlay Zone   | Help protect and enhance the quality of sensitive coastal bluffs, coastal beaches, and wetlands.  |
| Chapter 14, General Regulations; Article 3, Supplemental Development Regulations; Division 1, Environmentally Sensitive Lands Regulations | To protect, preserve and, where damaged restore, the environmentally sensitive lands of San Diego and the viability of the species supported by those lands.<br>Includes development regulations for Environmentally Sensitive Lands to serve as standards for the determination of impacts and mitigation. These standards also serve to implement the City's MSCP by placing priority on the preservation of biological resources within the MHPA, as identified in the City of San Diego Subarea Plan (see Table 4.4-5). |
| General Plan  | The Conservation Element of the City of San Diego General Plan includes the goal for the preservation and long-term management of spaces that serve as core biological areas and wildlife linkages. Policy CE-B.1 protects and conserves important landforms, canyon lands, and open spaces; and Policy CE-B.2 applies the appropriate zoning and regulations to limit development of floodplains and sensitive biological areas.   |
| <b>San Marcos</b>   |   |
| Chapter 18.04, Environmental Protection   | Provides for enhancement and protection of the environment within the city by establishing principles, objectives, criteria, definitions, and procedures for evaluation of the environmental impact of public and private projects in an orderly manner.  |
| Chapter 23.330, Water Efficient Landscape Standards   | Establishes that landscape plans must address all BMPs, coincide with grading plans, address brush management Zones, and address biological constraints.  |
| Chapter 20.260, Ridgeline Protection and Management Overlay Zone  | To interface with Biological Reserves/Subarea Plan (Focused Planning Areas) Preserved Design. All development within the zone must be consistent with the city's Multiple Habitat Conservation/Subarea Plan.  |
| General Plan  | The City of San Marcos General Plan, in the Conservation Element, includes Policies COS-1.1 to support the protection of biological resources; COS 1.2 to ensure that new development maintain the value of sensitive biological habitats and COS 1.3 to continue to implement SANDAG's MHCP; COS-2.2 to limit the conversion of open space to urban uses; and COS-2.6 to preserve healthy mature trees where feasible.   |

| <b>Ordinance/General Plan</b>                       | <b>Purpose</b>   |
|---|--|
| <b>Santee</b>                                       |  |
| Chapter 13.22.040, Hillside Overlay District        | Maintain natural open space character; protect natural land forms; minimize erosion; provide for public safety; protect water, flora, and fauna resources; and establish design standards to provide for limited development in harmony with the environment.  |
| General Plan  | The Conservation Element of the Santee General Plan includes Policies 2.1 through 2.7 and Policies 7.1 through 7.4 to protect biological resources.  |
| <b>Solana Beach</b>                                 |  |
| Chapter 17.40, Open Space/Recreation Zone           | Preserve, protect, and enhance the value of natural resources including topographical and geological features, plant and wildlife habitats, coastal wetlands, beaches, coastal bluffs, watershed areas, resource buffer areas, and scenic areas.   |
| Chapter 17.42, Open Space/Preserve                  | Preserve and protect open space; scenic views; the natural environment; and habitat for aesthetic, conservation, and ecological purposes.  |
| Chapter 18.04, Environmental Protection             | Provide for enhancement and protection of the environment within the city by establishing principles, objectives, criteria, definitions, and procedures for evaluation of the environmental impact of public and private projects in an orderly manner.  |
| General Plan  | The City of Solana Beach Municipal Code contains Objective 5.0 to preserve important biological habitat and protect sensitive, rare, and endangered species of flora and fauna. Policies 5.a through 5.f identify specific requirements to protect biological resources.   |
| <u>Local Coastal Program – Land Use Plan</u>        | <u>The land use policies in the City of Solana Beach map ESHA and identify policies to protect ESHAs. ESHAs shall be protected against any significant disruption of habitat values, and development in areas adjacent to ESHAs and parks and recreation areas shall be sited and designed to prevent impacts.</u>   |
| <b>Vista</b>  |  |
| Chapter 15.04, Environment                          | To implement CEQA and the CEQA Guidelines for the city by applying the provisions and procedures contained in CEQA to development projects proposed within the city.   |
| Chapter 18.15, BPO Biological Preserve Overlay Zone | Establishes the biological preserve overlay zone to protect valuable natural resources in accordance with the provisions of the MSCP, ensure that development minimizes disturbance to sensitive natural habitats, as feasible, and enhance or improve natural resources.  |
| General Plan  | The City of Vista General Plan contains policies specific to Resource Conservation and Sustainability (RCS) Element Goal 5 to preserve and protect the range of natural biological communities and species native to the City and region, and conserve viable populations of key sensitive species and their habitats; RCS Goal 6 to implement the provisions of the regional MHCP; and RCS Goal 7 to conserve, enhance, and restore open space areas. |
| <b>County of San Diego</b>                          |  |
| Chapter 5, Biological Mitigation Ordinance          | Protects the County's biological resources and prevents their degradation and loss by guiding development outside of biological resource core areas, and by establishing mitigation standards. Chapter 5 also enables the County of San Diego to achieve the conservation goals set forth in the Subarea Plan for the MSCP.  |

| Ordinance/General Plan                     | Purpose  |
|--|--|
| Chapter 6, Resource Protection Ordinance   | Protects sensitive lands and prevents their degradation. Chapter 6 also preserves and protects the County's unique topography, natural beauty, diversity, and natural resources.   |
| General Plan                               | The San Diego County General Plan includes several policies in the Conservation and Open Space (COS) Element related to the protection of biological resources. Policies COS-1.1 through COS-1.11 relate to a regionally managed, inter-connected preserve system; Policies COS-2.1 and COS-2.2 are related to sustainable ecosystems; and Policies COS-3.1 and COS-3.2 ensure protection and enhancement of wetlands. |
| <u>Subregional Plan for the Otay Ranch</u> | <u>Implements the Otay Ranch general development plan and resources management plan within the County of San Diego.</u>  |

Sources: City of Carlsbad 2015, 2021; City of Chula Vista 2005, 2021; City of Coronado 2003, 2021; City of Del Mar 1976, 2021; City of El Cajon 2001, 2021; City of Encinitas 1995, 2021; City of Escondido 2012, 2021; City of Imperial Beach 2019, 2021; City of La Mesa 2013, 2021; City of Lemon Grove 2015, 2021; City of National City 2011, 2021; City of Oceanside 2002, 2021; City of Poway 1991, 2020; City of San Diego 2015, 2021; City of San Marcos 2021, 2021; City of Santee 2003, 2021; City of Solana Beach 2014, 2020; City of Vista 2012, 2021; County of San Diego 2015, 2021b.

#### 4.4.3 SIGNIFICANCE CRITERIA

Appendix G of the CEQA Guidelines provides criteria for determining the significance of a project's environmental impacts in the form of Initial Study checklist questions. Unless otherwise noted, the significance criteria specifically developed for this EIR are based on the CEQA Guidelines Appendix G checklist questions. In some cases, SANDAG has combined checklist questions, edited their wording, or changed their location in the document in an effort to develop significance criteria that reflect the programmatic level of analysis in this EIR, and the unique characteristics of the proposed Plan.

Checklist questions for biological resources are provided in Section IV (a-f) of CEQA Guidelines Appendix G. To better focus the potential impacts associated with the proposed Plan, the CEQA Guidelines Appendix G questions have been combined and modified. Specifically, checklist questions (b) and (c), which address impacts on sensitive natural communities and protected aquatic resources, are addressed in BIO-1. Question (a), effects on special-status species, is addressed in BIO-2. Question (d), effects on migration and wildlife nurseries, is addressed in BIO-3. Questions (e) and (f), conflicts with local policies, ordinances, or habitat conservation plans, are addressed in BIO-4.

Therefore, implementation of the proposed Plan would have a significant biological resources impact if it would:

- BIO-1** Have a substantial adverse effect on any sensitive natural communities identified in local or regional plans, policies, regulations, or by CDFW or USFWS; or have a substantial adverse effect on state or federally regulated waters and wetlands through direct removal, filling, hydrological interruption, or other means.
- BIO-2** Have a substantial adverse effect, either directly or indirectly, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or listed by CDFW or USFWS, including their federally designated critical habitat, or species that are considered sensitive in CEQA Guidelines Section 15380.
- BIO-3** Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.

- BIO-4** Conflict with the provisions of an adopted HCP, NCCP, or other conservation plan, or with any local policies or ordinances protecting biological resources.

#### 4.4.4 ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

##### GENERAL ANALYSIS METHODS

This analysis examines whether regional growth and land use change or planned transportation network improvements would physically displace or alter biological resources. Direct impacts are evaluated using GIS methods by overlaying transportation improvement project footprints (i.e., area encompassing permanent and temporary land disturbance) and regional growth and land use change onto the baseline biological datasets identified in Analysis Methodology subsections for each significance criterion (BIO-1 through BIO-4) below. The analysis evaluates permanent and temporary direct and indirect impacts as defined in Chapter 4, *Environmental Impact Analysis*.

- *Direct*: Direct impacts are caused by the project and occur at the same time and place as the project.
- *Indirect*: Indirect impacts may have an effect later in time or are farther removed in distance but are still reasonably foreseeable and attributable to project-related activities.
- *Permanent*: All impacts that result in irreversible effects or removal of biological resources are considered permanent.

*Temporary*: Any impacts considered to have reversible effects on biological resources may be viewed as temporary. The period of time under which an impact would be viewed as “temporary” will vary by habitat type, project context, and local regulations. As a general rule, impacts are considered temporary only if timely efforts would ensure the impact is corrected to conditions equal to or superior to the conditions that existed prior to impact.

- BIO-1 HAVE A SUBSTANTIAL ADVERSE EFFECT ON ANY RIPARIAN HABITAT OR OTHER SENSITIVE NATURAL COMMUNITIES IDENTIFIED IN LOCAL OR REGIONAL PLANS, POLICIES, REGULATIONS, OR BY CDFW OR USFWS ; OR HAVE A SUBSTANTIAL ADVERSE EFFECT ON STATE OR FEDERALLY REGULATED WATERS AND WETLANDS THROUGH DIRECT REMOVAL, FILLING, HYDROLOGICAL INTERRUPTION, OR OTHER MEANS**

##### ANALYSIS METHODOLOGY

###### Direct Impacts

Direct impacts on sensitive natural communities and regulated aquatic resources are quantified using the GIS methods outlined below. Direct impacts include permanent and temporary impacts. Temporary impacts were not analyzed using GIS methods as they are not known until project-specific plans are prepared that identify such temporary impact areas as equipment staging, trenching, etc.

###### ***Regional Growth and Land Use Change***

Regional growth and land use change impacts are evaluated by identifying the extent of currently undeveloped areas (2021-27 data) that are occupied with sensitive vegetation communities and regulated aquatic resources and that would be converted to developed land uses for each horizon year. Polygon layers from the land use layers up to years 2025, 2026 through 2035, and 2036 through 2050 that include all developed land use

categories are created in GIS. The developed land use layers are overlaid on the baseline vegetation layer (see Section 4.4.1, *Existing Conditions/Sensitive Vegetation Communities*) to determine the areas that would be converted from undeveloped to developed land uses for each horizon year.

Regional growth and land use impacts are quantified based on two categories of land use: spaced rural residential land use and all other developed land uses. Impacts from these two categories are summed together to present an estimate of the total impact from regional growth and land use. Rural residential land use impacts were quantified by determining the maximum portion of those areas that would be developed based on required MSCP, MHCP, General Plan, County Guidelines, and respective identified mitigation ratios. The adopted NCCPs and their subarea plans contain percentages of the amount of land to be conserved<sup>5</sup> within identified preserve categories. All ~~hardline preserves~~ MSCP Preserves are considered 90–100 percent conserved. Softline preserves and Subarea Plan preservation areas (including the MHPA for the City of San Diego MSCP, Focused Planning Area [FPA], and Biological Core and Linkage Area [BCLA] for the MHCP, PAMA, and Major and Minor Amendment areas for the County MSCP) were assigned a range of conservation values. For the purpose of the programmatic evaluation of this EIR, ~~all~~ softline and Subarea Plan preserves were assigned a 50–75 percent conservation value. Pursuant to County of San Diego Guidelines, single family residential development within the unincorporated areas of the County on parcels of 10 acres or less within the PAMA were considered 80 percent conserved, and outside the PAMA 50 percent conserved. All other developed land use categories are considered 100 percent developed; that is, the entire parcel would be considered permanently converted from its previous condition to fully developed, with no habitat value. Some preserve designations, specifically the MHCP FPA, the City of Chula Vista MSCP Preserve, and City of San Diego MHPA, have varying degrees of conservation percentages. For the purpose of this programmatic analysis, the most conservation percentages were used, resulting in an overestimation of impacts. This is a conservative approach and assumes that impacts on sensitive vegetation communities would be mitigated at approved offsite mitigation banks, which has become common practice in San Diego County. The rationale and detailed methodology to quantify impacts for each category are described below. Appendix E-5 details which land use classifications are categorized as undeveloped and developed (i.e., spaced rural residential land use and other developed land uses) for purposes of this EIR.

Development under the spaced rural residential land use designation occurs at a much lower density than other developed areas. The majority of this type of development occurs within the unincorporated county and is subject to County of San Diego ordinances that restrict development to varying degrees; none set a limit on the amount of parcel or lot that can be developed with the exception of those areas covered by the South County and North County MSCPs. Habitat mitigation ratios or conservation levels, determined by MSCP guidance or County of San Diego Guidelines for Determining Significance for Biological Resources, ultimately limit the amount of habitat that can be developed within the unincorporated areas.

Other developed land use areas, (i.e., not designated spaced rural residential) would also require mitigation for biological resources impacts, but development in these areas typically occurs at a higher density than spaced

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<sup>5</sup> The term “conserved” reflects the projected conservation of habitats and biological resources as identified in the HCPs. Hard-line preserves cannot be developed and impacts will be avoided. When allowed development occurs in other preserve dedications such as the PAMA, FPA, or MHPA, the conservation component required by the respective HCP will be implemented through the dedication of conservation easements or other site protection instruments that require the conservation, management, and monitoring of the conserved resources in perpetuity.

rural residential lands. All assumptions detailed above may overestimate biological resources impacts on vegetation communities and regulated aquatic resources because exact conservation and mitigation measures can only be quantified once a specific site and footprint has been identified and evaluated against conservation and mitigation requirements identified in plans, policies and ordinances.

### ***Transportation Network Improvements and Programs***

Sensitive vegetation community and regulated aquatic resources impacts are evaluated through GIS by overlaying transportation improvement project footprints onto the baseline vegetation dataset described in Section 4.4.1. Transportation improvement project vegetation impacts are calculated for each project that requires new construction in undeveloped areas. Transportation improvement project footprints are based on what is known about planned transportation network improvements contained in the proposed Plan at the time of analysis (see Appendix B). Refer to Section 4.2, *Agricultural and Forestry Resources*, for a detailed discussion regarding the development of the transportation network footprint used for this analysis.

### **Indirect Impacts**

Indirect impacts that may occur on sensitive vegetation communities and regulated aquatic resources in proximity to areas experiencing regional growth and land use change and/or transportation network improvements cannot be quantified because they may be project-specific and are not always foreseeable. They are, therefore, qualitatively analyzed on a broad scale.

## **IMPACT ANALYSIS**

### **2025**

#### ***Regional Growth and Land Use Change***

##### *Direct Impacts*

Regional growth and land use change is associated with ground disturbance resulting from the construction of housing, employment centers, transportation, and other infrastructure development and expansion. Ground-disturbance is synonymous with direct impacts on biological resources. Implementation of the proposed Plan would cause adverse impacts on sensitive natural communities and regulated aquatic resources. Direct impacts are those resulting in damage to or removal of vegetation from the direct actions of construction within the actual permanent or construction footprint and include impacts from grading, paving, structures, clearing and grubbing, landscaping, staging and access routes, or similar activities. Fuel management zones, as long as placed outside an open space preserve or conservation area, are considered impact neutral by the City and County of San Diego.

Any permanent or temporary impacts on the sensitive vegetation communities described in Section 4.4.1 would be considered significant. Impacts on vegetation communities that do not meet the definition of sensitive would not be considered significant. Implementation of the proposed Plan would also directly impact regulated aquatic resources described in Section 4.4.1.

Direct impacts on regulated aquatic resources would occur from removal, filling, hydrological changes, or other disturbance to these resources. However, impacts would be quantified on a project-specific level based on jurisdictional delineation and concurrence from regulatory agencies, which would also include the determination of the type of aquatic resource, including whether the resource would be considered ephemeral,



intermittent, or permanent. Estimated direct impacts on sensitive vegetation communities and regulated aquatic resources due to regional growth and land use change between 2016 and 2025 are identified in Table 4.4-7.

**Table 4.4-7**  
**Estimated Direct Impacts on Sensitive Vegetation Communities and Regulated Aquatic Resources Within the San Diego Region (acres) up to Year 2025**

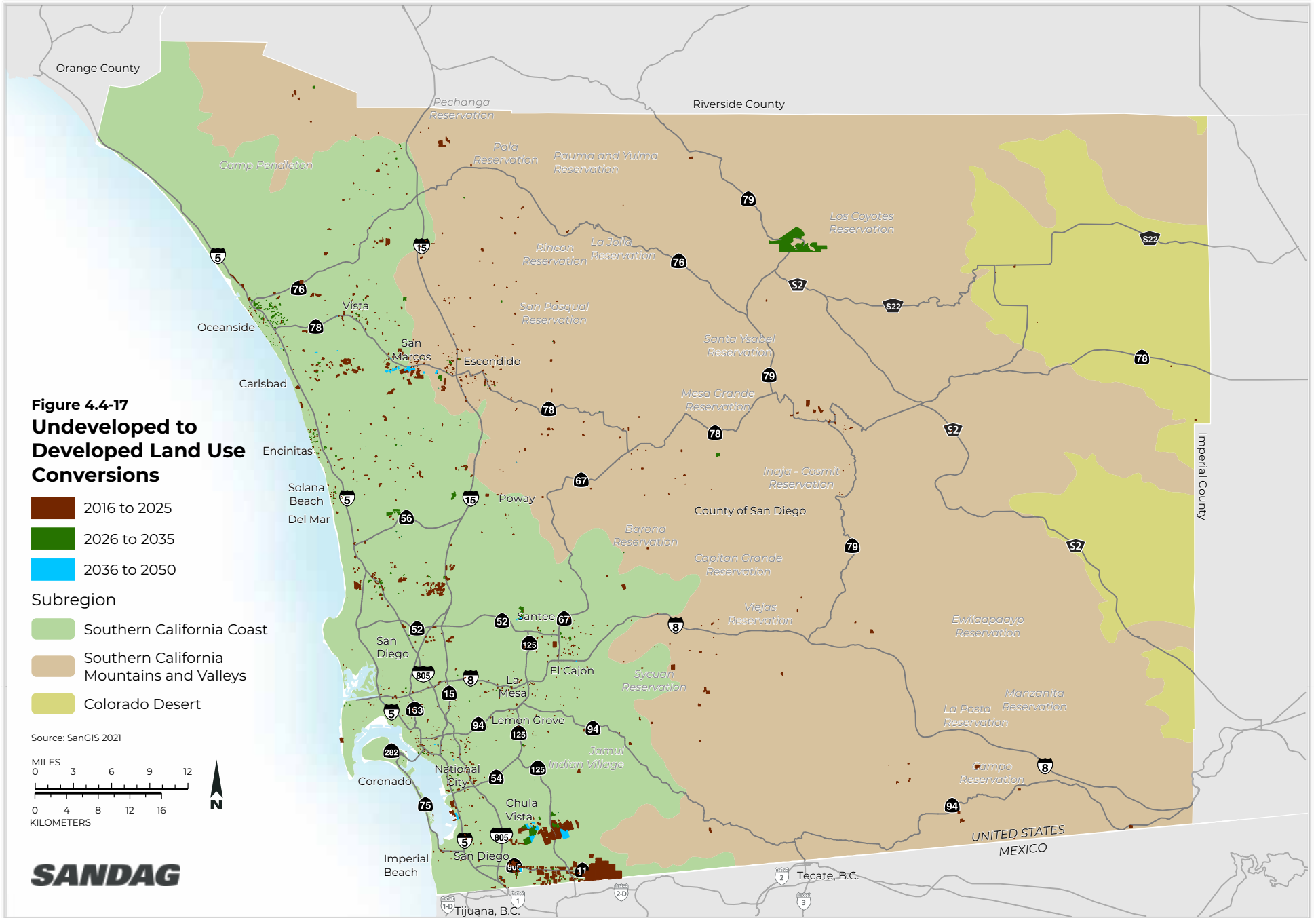
| Vegetation Community                                   | Regional Growth and Land Use Change | Transportation Network Improvements | Total          |
|--|-------------------------------------|-------------------------------------|----------------|
| <b>Riparian, Wetlands, and Other Aquatic Resources</b> |                                     |                                     |                |
| Beach/Coastal Dunes/Saltpan/Mudflats*                  | 10.8                                | --                                  | 10.8           |
| Disturbed Wetland*                                     | 10.7                                | --                                  | 10.7           |
| Marsh*   | 54.5                                | 2.6                                 | 57.1           |
| Meadows and Seeps*                                     | 0.8                                 | --                                  | 0.8            |
| Open Water and Streams*                                | 37.6                                | 1.1                                 | 38.7           |
| Riparian Forest/Woodland*                              | 46.5                                | 4.1                                 | 50.6           |
| Riparian Scrub*  | 47.0                                | 1.6                                 | 48.6           |
| Vernal Pools*  | 0.5                                 | --                                  | 0.5            |
| <b>Riparian and Wetlands Total</b>                     | <b>208.4</b>                        | <b>9.4</b>                          | <b>217.8</b>   |
| <b>Uplands</b>   |                                     |                                     |                |
| Chaparral*   | 885.3                               | --                                  | 885.3          |
| Coastal Sage Scrub*                                    | 1,895.0                             | 5.0                                 | 1,900.0        |
| Desert Dunes   | 0.3                                 | --                                  | 0.3            |
| Desert Scrub   | 19.4                                | --                                  | 19.4           |
| Oak Woodlands*   | 115.6                               | 2.0                                 | 117.6          |
| Forest/Woodland  | 154.6                               | 2.3                                 | 156.9          |
| Grasslands*  | 2,176.4                             | 23.8                                | 2,200.2        |
| <b>Uplands Total</b>                                   | <b>5,246.6</b>                      | <b>33.1</b>                         | <b>5,279.7</b> |
| <b>Grand Total</b>                                     | <b>5,455.0</b>                      | <b>42.5</b>                         | <b>5,497.5</b> |

\* Indicates vegetation community aggregations that include impacts on sensitive vegetation communities or potentially regulated aquatic resources, and that may require mitigation.

The three riparian and wetland vegetation communities with the largest impact acreage as a result of land use change between 2016 and 2025 include marsh (the majority of which, 41.3 acres, occurs to coastal salt marshes), riparian scrub, and riparian forest/woodland (Table 4.4-7). The upland vegetation communities with the greatest amount of impacts are grasslands and coastal sage scrub, followed by chaparral (Table 4.4-7). The impacts on forests and woodlands identified in Table 4.4-7 are limited to eucalyptus woodlands, which are not considered sensitive vegetation communities themselves, but impacts on these resources may affect nesting raptors and other migratory birds and would require mitigation under the Migratory Bird Treaty Act. Appendix E-1 lists the detailed classifications of the 2021~~147~~ vegetation data that were organized into aggregated vegetation groups. Between 2016 and 2025, regional growth and land use change is primarily focused in existing urban areas and currently undeveloped areas adjacent to the existing urbanized area in the western third of the County (Figure 4.4-17). Therefore, coastal and shrubland vegetation communities bear the majority of projected impacts. These habitats are generally limited in distribution and unique to the San Diego region,

and therefore are important for the survival of many special-status plant and animal species. Specifically, coastal sage scrub, one of the most sensitive vegetation communities in the County, receives the second highest impact quantities (after grasslands).

Much of the forecasted growth will be focused around the proposed Mobility Hubs. The highest percentage of regional population increase between 2016 and 2025 is in the City of San Diego (58 percent), and of this, the densest growth in the 2025 horizon year will occur in the Otay Mesa area with commercial and industrial development. The next tier of regional growth in the 2025 horizon year will occur in the City of Chula Vista (12 percent), specifically at Otay Ranch and the San Diego Bay, and the City of Escondido (9 percent). Additional significant growth is expected in the communities of National City, La Mesa, and San Marcos. Most of these cities are relatively built-out, and growth would occur mainly through infill development. Consequently, locations projected to experience the most extensive loss of sensitive vegetation communities between 2016 and 2025 would include areas of significant open space, such as the Otay community planning area; areas between I-805 and SR 125 in the cities of National City and Chula Vista; areas surrounding the cities of Santee (i.e., Fanita Ranch), Lakeside, and El Cajon; areas north and south of the SR 56 corridor in the San Diego planning areas of Mira Mesa and Carmel Valley, Del Mar Mesa, Pacific Highlands Ranch, Torrey Highlands, and Rancho Peñasquitos; areas between the City of Oceanside and Vista north and south of SR 76 and SR 78; the areas between San Marcos and Escondido; and the unincorporated County in the North County Metro and Warner Springs areas. Small developments are forecasted for the communities of Pauma Valley, Valley Center, Julian, Ramona, Descanso, Crest, Boulevard, and Potrero; in addition to unincorporated areas southeast of Rancho San Diego and east of Jamul. Furthermore, the University of California San Diego and California State University San Marcos are planning campus improvements and additional development by the 2025 horizon year that may affect sensitive vegetation.



### *Indirect Impacts*

Indirect impacts may occur on sensitive vegetation communities and regulated aquatic resources in proximity to areas converted from undeveloped to developed land uses from regional growth and land use change. Changes in hydrology, runoff, sedimentation, fugitive dust, and edge effects (e.g., exotic plant invasion, parasites, disturbance from human activities, pesticides, fuel modification) can degrade vegetation communities. Additional impervious surface area would increase stormwater runoff, peak discharges, and flood magnitude downstream. Such hydrological changes can cause stream and bank erosion, and change the type and extent of habitats that occur along the stream corridor.

Alteration of the natural fire regime could lead to an elimination of fire in small habitat fragments adjacent to development or to an increase in fire frequency and/or intensity from anthropogenic ignition. These alterations can lead to type conversion (replacement of one habitat with another). Type conversion is a complex issue with many variables, but in most cases when it occurs, the conversion is from a higher quality native habitat (e.g., coastal sage scrub) to a lower quality habitat or nonnative community (e.g., nonnative grassland), thereby potentially and drastically reducing habitats for sensitive species such as the California coastal gnatcatcher, which is directly associated with coastal sage scrub habitat. These indirect impacts are also described as they pertain to special-status species under Impact BIO-2 below. In addition to habitat conversions, increased fire frequency and temperature could also permanently affect the ability of vegetation communities and associated soils to store carbon and to provide climate change resiliency.

### *Summary*

As discussed in Section 4.4.2, numerous federal, state, and local laws, regulations, and programs are in place to protect biological and aquatic resources. Due to CFGC Section 1600 et seq., Section 404 of the federal CWA, and CCA regulation of State waters up to the mean high tide line, permanent wetland impacts would likely be minimal. Additionally, local ordinances, plans, and habitat mitigation requirements (e.g., RPO, HLP Ordinance, ESL regulations, tree protection ordinances, etc.) would reduce impacts on sensitive vegetation communities. Regional NCCPs and HCPs that have been adopted with the goal of creating development patterns address the impacts of urban growth and natural habitat loss in order to preserve sensitive vegetation communities at the ecosystem level to maintain biological integrity and connectivity while accommodating compatible land use. While adherence to the existing laws, regulations, and programs discussed above would reduce impacts on biological resources from implementation of the proposed Plan, it cannot be concluded that adherence would ensure impacts would be less than significant for all projects.

Considering both direct and indirect impacts, ground-disturbing activities related to land use change associated with the proposed Plan would result in a substantial adverse change to sensitive natural communities and regulated aquatic resources. This would be a significant impact.

### ***Transportation Network Improvements and Programs***

#### *Direct Impacts*

Transportation network improvements are developed to accommodate the projected growth and increases in population, housing, and employment from the implementation of the 5 Big Moves. A summary of key transportation network improvements is provided in Chapter 2, Section 2.5, *Project Characteristics*. Transportation network improvements are primarily focused within and adjacent to existing urbanized areas in the western one-third of the San Diego region. The rural eastern region of San Diego County would

experience rural corridor improvements. Transportation network improvement locations are illustrated on Figures 2-1 through 2-21 in Chapter 2, *Project Description*.

The nature of direct impacts would be the same as those described above for regional growth and land use change. Although many of the proposed transportation improvements would occur within already established transportation corridors, many of the components of the new integrated transportation system, specifically the construction of Complete Corridors, the new transit network, and Mobility Hubs will require significant ground-disturbance; specifically, the construction of Mobility Hubs; additional managed lanes; additional transit tracks associated with the Trolley, LOSSAN, or SPRINTER; regional arterial improvements; and new bikeways. These ground-disturbing activities would include vegetation removal, brush clearing, grading, trenching, excavation, and/or soil removal of any kind associated with transportation extensions and expansions, and would impact regulated aquatic resources and sensitive vegetation communities. The types and nature of direct and indirect impacts that may occur on regulated waters and vegetation communities are discussed above.

Estimated direct impacts that would occur on vegetation communities as a result of transportation network improvements between 2016 and 2025 are provided in Table 4.4-7. The riparian and wetland vegetation communities with the greatest amount of impacts as a result of transportation network improvements are riparian forest and marsh, specifically southern coastal salt marsh (1.6 acres), which is an extremely sensitive vegetation community in the context of providing climate change resiliency, followed by riparian scrub (Table 4.4-7). The upland vegetation communities with the greatest amount of impacts are grasslands, followed by coastal scrub (Table 4.4-7). Most transportation network improvements in the 2025 horizon year are focused on local street improvements and bikeways, and most have direct impacts on sensitive vegetation of approximately 5 acres or less. These include arterial road improvements and/or extensions in the City of Carlsbad (including College Boulevard and El Camino Real over Batiquitos Lagoon, across Escondido Creek at Via de la Valle in the City of San Diego; and the widening of La Media Road south of SR 905 along habitats protected by the VPHCP. ~~One of the larger impacts on sensitive vegetation from transportation network projects in the 2025 horizon year is from the construction of the new four-lane toll road SR 11/Otay Mesa East Port of Entry (POE) from SR 125 to Mexico.~~

#### *Indirect Impacts*

The type and nature of indirect impacts would be the same as those described above for regional growth and land use change.

#### *Summary*

By 2025, implementation of the transportation network improvements included as part of the proposed Plan would impact both regulated aquatic resources, including wetlands, and sensitive vegetation communities, specifically coastal sage scrub. Adherence to existing federal, state, and local laws, regulations, and programs would help reduce impacts but would not ensure impacts would be less than significant.

Considering both direct and indirect impacts, ground-disturbing activities related to transportation network improvements proposed by the proposed Plan would result in a substantial adverse change to sensitive natural communities and regulated aquatic resources. This would be a significant impact.

### 2025 Conclusion

Implementation of regional growth and land uses changes and transportation network improvements between 2016 and 2025 would result in substantial adverse effects on sensitive natural communities and regulated aquatic resources. While adherence to the existing laws, regulations, and programs discussed above would reduce impacts on biological resources from implementation of the proposed Plan, it cannot be concluded that adherence would ensure impacts would be less than significant for all projects. Considering both direct and indirect impacts, ground-disturbing activities related to land use change associated with the proposed Plan would result in a substantial adverse change to sensitive natural communities and regulated aquatic resources. Therefore, this impact (BIO-1) in the year 2025 would be significant.

### 2035

#### Regional Growth and Land Use Change

##### Direct Impacts

The type and nature of direct impacts on regional growth and land uses changes would be same as described above for the 2025 horizon year. Estimated direct impacts on vegetation communities and regulated aquatic resources for the 2035 horizon year are provided in Table 4.4-8. Tables E-6-1 through E-6-3 in Appendix E-6 summarizes the project-by-project impacts on vegetation communities for each horizon year.

**Table 4.4-8**  
**Estimated Direct Impacts on Sensitive Vegetation Communities and Regulated Aquatic Resources**  
**Within the San Diego Region (acres) up to Year 2035**

| Vegetation Community                  | Regional Growth and Land Use Change | Transportation Network Improvements | Total        |
|---------------------------------------|-------------------------------------|-------------------------------------|--------------|
| <b>Riparian and Wetlands</b>          |                                     |                                     |              |
| Beach/Coastal Dunes/Saltpan/Mudflats* | 10.8                                | --                                  | 10.8         |
| Disturbed Wetland*                    | 10.7                                | --                                  | 10.7         |
| Marsh*                                | 55.7                                | 1.5                                 | 57.2         |
| Meadows and Seeps*                    | 0.8                                 | --                                  | 0.8          |
| Open Water and Streams*               | 42.1                                | 1.5                                 | 43.6         |
| Riparian Forest/Woodland*             | 64.1                                | 11.3                                | 75.4         |
| Riparian Scrub*                       | 64.6                                | 8.6                                 | 73.2         |
| Vernal Pools*                         | 0.2                                 | --                                  | 0.2          |
| <b>Riparian and Wetlands Total</b>    | <b>249.0</b>                        | <b>22.9</b>                         | <b>271.9</b> |
| <b>Uplands</b>                        |                                     |                                     |              |
| Chaparral*                            | 1,556.9                             | 12.7                                | 1,569.6      |
| Coastal Sage Scrub*                   | 2,086.1                             | 45.3                                | 2,131.4      |
| Desert Dunes                          | 0.3                                 | --                                  | 0.3          |
| Desert Scrub                          | 52.4                                | --                                  | 52.4         |
| Oak Woodlands*                        | 223.0                               | 0.1                                 | 223.1        |

| <b>Vegetation Community</b> | <b>Regional Growth and Land Use Change</b> | <b>Transportation Network Improvements</b> | <b>Total</b>   |
|-----------------------------|--|--|----------------|
| Forest/Woodland             | 157.1                                      | 0.7  | 157.8          |
| Grasslands*                 | 2,754.3                                    | 35.8                                       | 2790.1         |
| <b>Uplands Total</b>        | <b>6,830.1</b>                             | <b>94.6</b>                                | <b>6,924.7</b> |
| <b>Grand Total</b>          | <b>7,196.6</b>                             | <b>117.5</b>                               | <b>7,314.1</b> |

\*Indicates vegetation community aggregations that include impacts to sensitive vegetation communities or potentially regulated aquatic resources, and that may require mitigation.

The riparian and wetland vegetation communities with the largest impact acreage as a result of land use change through 2035 are riparian forest/woodland and riparian scrub, followed by marsh (including coastal salt marshes with 41.7 acres) and open water and streams (Table 4.4-8). The upland vegetation communities with the greatest amount of impacts are grasslands and coastal sage scrub (Table 4.4-8) in the same order as impacted for the 2025 horizon year, except the impacts are higher than in 2025.

Between 2026 and 2035, regional growth and land use change is concentrated in a manner similar to that noted for the 2025 horizon year; however, more intense growth is centered around the corridor between National City and El Cajon south of SR 94, and around Warner Springs/SR 79. Much like in 2025, regional growth and land use change is primarily focused in existing urban areas and currently undeveloped areas adjacent to the existing urbanized area in the western third of the County, except for Otay Mesa, which will continue to encroach into currently undeveloped land (Figure 4.4-17). Impacts on riparian communities are higher than in 2025, and coastal and shrubland vegetation communities again bear the majority of projected impacts. These habitats are generally limited in distribution and unique to the San Diego region, and therefore are important for the survival of many special-status plant and animal species. Similar to the 2025 horizon year, coastal sage scrub, one of the most sensitive vegetation communities in the County, receives the second highest impact quantities (after grasslands).

#### *Indirect Impacts*

The type and nature of indirect impacts would be similar to those described above for 2025.

#### *Summary*

As discussed for 2025, while adherence to the existing laws, regulations, and programs detailed in Section 4.4.2 would reduce impacts of the proposed Plan on biological resources, it cannot be concluded that adherence would ensure impacts would be less than significant for all projects.

Considering both direct and indirect impacts, ground-disturbing activities related to land use change under the proposed Plan would result in substantial adverse change to sensitive natural communities and regulated aquatic resources. This would be a significant impact.

#### ***Transportation Network Improvements and Programs***

##### *Direct Impacts*

Similar to 2025, transportation network improvements are primarily focused within and adjacent to existing urbanized areas in the western one-third of the San Diego Region, but new ground-disturbing activities would impact sensitive vegetation communities and regulated waters, including wetlands. Estimated direct impacts

on vegetation communities due to transportation network improvements between 2026 and 2035 are provided in Table 4.4-8. The riparian and wetland vegetation communities with the greatest amount of impacts as a result of transportation network improvements are riparian forest/woodland and riparian scrub (Table 4.4-8). The upland vegetation communities with the greatest amount of impacts as a result of transportation network improvements are coastal scrub and grasslands (Table 4.4-8).

Between 2026 and 2035, many improvement projects are not expected to result in greater than a 5-acre loss of sensitive vegetation communities. However, those that are expected to exceed 5 acres of impacts include two new managed lanes along SR 78 from I-5 to Twin Oaks Valley Road, specifically between El Camino Real and College Boulevard; I-805 to SR 56 along Los Penasquitos Lagoon; I-805 from SR 52 to Carroll Canyon Road; SR 52 from SR 163 to SR 125, specifically through undeveloped portions of the Marine Corps Air Station Miramar; I-15 from SR 163 to Miramar; I-5 widening along Rose Canyon; and I-5 widening in the South Bay across Otay Valley and the South Bay salt ponds and estuaries.

Rail improvements that could potentially significantly impact sensitive vegetation include the SPRINTER double-tracking from Oceanside to Escondido; and LOSSAN double-tracking and associated improvements from Del Mar to Sorrento Valley along Los Penasquitos Lagoon. Tables E-6-1 through E-6-3 in Appendix E-6 summarizes the project-by-project impacts on sensitive vegetation communities for transportation network improvements for each horizon year.

#### *Indirect Impacts*

The type and nature of indirect impacts would be similar to those described above for 2025.

#### *Summary*

By 2035, implementation of the transportation network improvements included as part of the proposed Plan would impact both regulated aquatic resources, including wetlands, and sensitive vegetation communities, specifically coastal sage scrub. As discussed for the 2025 horizon year, adherence to existing federal, state, and local laws, regulations, and programs would help reduce impacts but would not ensure impacts would be less than significant.

Considering both direct and indirect impacts, ground-disturbing activities related to transportation network improvements proposed by the proposed Plan would result in a substantial adverse change to sensitive natural communities and regulated aquatic resources. This would be a significant impact.

#### **2035 Conclusion**

Implementation of the regional growth and land uses changes and the transportation network improvements for between 2026 and 2035 would result in substantial adverse effects on sensitive natural communities and regulated aquatic resources. These impacts (BIO-1) would be significant.



## 2050

**Regional Growth and Land Use Change***Direct Impacts*

The type and nature of direct impacts on regional growth and land uses changes would be same as described above for the 2035 horizon year. Estimated direct impacts on vegetation communities and regulated aquatic resources are provided in Table 4.4-9 for the 2050 horizon year. Tables E-6-1 through E-6-3 in Appendix E-6 summarizes the project-by-project impacts on vegetation communities for each horizon year.

**Table 4.4-9  
Estimated Direct Impacts on Sensitive Vegetation Communities and Regulated Aquatic Resources  
Within the San Diego Region (acres) up to Year 2050**

| <b>Vegetation Community</b>           | <b>Regional Growth and Land Use Change</b> | <b>Transportation Network Improvements</b> | <b>Total</b>       |
|---------------------------------------|--|--|--------------------|
| <b>Riparian and Wetlands</b>          |  |  |                    |
| Beach/Coastal Dunes/Saltpan/Mudflats* | 10.9                                       | --   | 10.9               |
| Disturbed Wetland*                    | 10.7                                       | --   | 10.7               |
| Marsh*                                | 50.1                                       | 12.10                                      | 72.12              |
| Meadows and Seeps*                    | 0.8  | --   | 0.8                |
| -Open Water and Streams*              | 42.1                                       | 7.02                                       | 49.13              |
| Riparian Forest/Woodland*             | 68.1                                       | 11.6                                       | 79.7               |
| Riparian Scrub*                       | 64.5                                       | 13.67                                      | 78.12              |
| Vernal Pools*                         | 0.1  | 0.2  | 0.317              |
| <b>Riparian and Wetlands Total</b>    | <b>247.3</b>                               | <b>44.4</b>                                | <b>302.9217</b>    |
| <b>Uplands</b>                        |  |  |                    |
| Chaparral*                            | 1,565.2                                    | 12.1                                       | 1,577.3            |
| Coastal Sage Scrub*                   | 2,165.4                                    | 75.08                                      | 2,240.24142        |
| Desert Dunes                          | 0.3  | --   | 0.3                |
| Desert Scrub                          | 52.4                                       | --   | 52.4               |
| Oak Woodlands*                        | 224.0                                      | 0.1  | 224.1              |
| Forest/Woodland                       | 159.6                                      | 1.1  | 160.7              |
| Grasslands*                           | 2,958.4                                    | 150.0                                      | 3,108.4            |
| <b>Uplands Total</b>                  | <b>7,125.3</b>                             | <b>238.3</b>                               | <b>7,363.36464</b> |
| <b>Grand Total</b>                    | <b>7,372.6</b>                             | <b>282.7</b>                               | <b>7,655.66653</b> |

\*Indicates vegetation community aggregations that include impacts to sensitive vegetation communities or potentially regulated aquatic resources, and that may require mitigation.

The three riparian and wetland vegetation communities with the largest impact acreage as a result of land use change through 2050 are riparian forest/woodland, riparian scrub, and marsh (including coastal salt marshes with 35.9 acres of impact); waters and streams would also be significantly impacted (Table 4.4-9). The three upland vegetation communities with the greatest amount of impacts are grasslands, coastal sage scrub, and

chaparral (Table 4.4-9) in the same order as impacted for the 2025 and 2035 horizon years, except the impacts are higher than in either of those years. In total, by 2050 the region will have lost approximately 1 percent of all sensitive upland scrub habitats.

By 2050, regional growth and land use change is primarily focused in existing urban areas and currently undeveloped areas adjacent to the existing urbanized area in the western third of the County (Figure 4.4-17), with the highest concentrations in the same areas as seen for 2035. Coastal and shrubland vegetation communities again bear the majority of the projected impacts. These habitats are generally limited in distribution and unique to the San Diego region, and therefore are important for the survival of many special-status plant and animal species. Again, coastal sage scrub, one of the most sensitive vegetation communities in the region, receives the second highest impact quantities (after grasslands).

#### *Indirect Impacts*

The type and nature of indirect impacts would be similar to those described above for 2025 and 2035.

#### *Summary*

As discussed for 2025 and 2035, while adherence to the existing laws, regulations, and programs detailed in Section 4.4.2 would reduce impacts of the proposed Plan on biological resources, it cannot be concluded that adherence would ensure impacts would be less than significant for all projects.

Considering both direct and indirect impacts, ground-disturbing activities related to land use change under the proposed Plan would result in substantial adverse change to sensitive natural communities and regulated aquatic resources. This would be a significant impact.

### ***Transportation Network Improvements and Programs***

#### *Direct Impacts*

Similar to 2025 and 2035, transportation network improvements are primarily focused within and adjacent to existing urbanized areas in the western one-third of the San Diego Region for the 2050 horizon year (see Figures 2-1 through 2-21); however, new ground-disturbing activities would impact sensitive vegetation communities and regulated aquatic resources. The types and nature of the direct impacts are similar to the 2025 and 2035 analysis. Estimated direct impacts that would occur on vegetation communities as a result of transportation network improvements up to the 2050 horizon year are provided in Table 4.4-9. The three riparian and wetland vegetation communities with the greatest amount of impacts as a result of transportation network improvements are riparian scrub, marsh (including coastal salt marsh of 11.4 acres of impact), and riparian forest/woodland (Table 4.4-9). The upland vegetation communities with the greatest amount of impacts are grasslands and coastal scrub (Table 4.4-9).

For the 2050 horizon year, impacts to sensitive vegetation communities would occur from the following road improvements: SR 125 to SR 52 along Mission Trails Park; SR 54 to SR 125, and SR 125 along Sweetwater Reservoir; I-805 across Otay River Valley; SR 125 across Otay River Valley and in undeveloped portions of the Otay Mesa; and SR 905 between I-805 and the international border along undeveloped sensitive habitats. The most significant impacts on sensitive vegetation by the 2050 horizon year would occur from the Complete Corridor and widening of I-5 across several lagoons, including from Manchester Avenue to SR 78; two new general purpose lanes on SR 76 and North River Road to I-15 through the San Luis Rey River Valley; and the Complete Corridor development of I-15 north of SR 76 through undeveloped lands and important wildlife

movement corridors. Minor impacts would occur from construction of the North Coast Bike Trail: Gilman Drive to San Luis Rey River Trail (remaining segments) and AT152 the Chollas Creek Bikeways: North Fork – Bayshore Bikeway to University Bikeway and South Fork – Petway Park to Market Creek Plaza.

### *Indirect Impacts*

The type and nature of indirect impacts would be similar to those described above for 2025 and 2035.

### *Summary*

By 2050, transportation network improvements included as part of the proposed Plan would impact both regulated aquatic resources and sensitive vegetation communities. As discussed under regional growth and land use change for 2050, adherence to existing federal, state, and local laws, regulations, and programs discussed in Section 4.4.2 would help reduce impacts but would not ensure impacts would be less than significant.

Considering both direct and indirect impacts, ground-disturbing activities related to transportation network improvements under the proposed Plan would result in substantial adverse change to sensitive natural communities and regulated aquatic resources. This would be a significant impact.

### **2050 Conclusion**

Implementation of the regional growth and land uses changes and the transportation network improvements for the 2050 horizon year would result in substantial adverse effects on sensitive natural communities and regulated aquatic resources. These impacts (BIO-1) would be significant.

### **Exacerbation of Climate Change Effects**

The proposed Plan could exacerbate climate change effects on sensitive natural communities or regulated waters and wetlands. The vegetation communities most affected by regional growth and land use change include riparian forest/woodland, riparian scrub, marsh, waters and streams, grasslands, coastal sage scrub, and chaparral. Climate change is also expected to have an impact on these vegetation communities:

- High temperatures and extended periods of drought could affect forests, and warmer winter temperatures may promote survival and reproduction of pests that can cause damage to trees (Messner et al. 2011)
- Coastal sage scrub in Southern California is moderately vulnerable to climate change due to its sensitivity to climate stressors; increased wildfire frequency and intensity could shift scrublands to nonnative grasslands (EcoAdapt 2017).
- Sea-level rise could increase saltwater intrusion into freshwater ecosystems and higher temperatures could cause thermal stress in streams (ICLEI 2012, Jennings et al. 2018). More frequent and intense drought conditions may also change stream levels and damage riparian habitats (Hillberg et al. 2017, Jennings et al. 2018). Sea-level rise could also result in coastal flooding and inundate coastal wetlands (Heberger et al. 2009).
- For all vegetation communities, higher temperatures and shifting rainfall patterns could affect plant germination and habitat composition, which in turn may also impact soil carbon sequestration levels and rates (EcoAdapt 2017, Bradford et al. 2016, Ren et al. 2020).

Development could worsen these effects; some human activities could also worsen specific climate change risks, such as wildfire, due to the higher risk of human ignition from population and housing growth. Thus, development from the proposed Plan can exacerbate climate change effects on sensitive natural communities and regulated waters and wetlands.

## MITIGATION MEASURES

**BIO-1 HAVE A SUBSTANTIAL ADVERSE EFFECT ON ANY RIPARIAN HABITAT OR OTHER SENSITIVE NATURAL COMMUNITIES IDENTIFIED IN LOCAL OR REGIONAL PLANS, POLICIES, REGULATIONS, OR BY CDFW OR USFWS; OR HAVE A SUBSTANTIAL ADVERSE EFFECT ON STATE OR FEDERALLY REGULATED WATERS AND WETLANDS THROUGH DIRECT REMOVAL, FILLING, HYDROLOGICAL INTERRUPTION, OR OTHER MEANS**

**2025, 2035, and 2050**

**BIO-1a Implement Design, Minimization, and Avoidance Measures for Sensitive Natural Vegetation Communities and Regulated Aquatic Resources.** During project planning, design, project-level CEQA review, and construction of transportation network improvements or development projects, SANDAG shall, and other transportation project sponsors, the County of San Diego, cities, and other local jurisdictions can and should, avoid impacts on sensitive natural communities and regulated aquatic resources when feasible. Avoidance measures include, but are not limited to, the following:

- Conduct early coordination with the Wildlife Agencies and the respective local jurisdictions to design alignments that avoid sensitive resources and preserved lands.
- During the site identification and project design process, to the extent feasible, prioritize the least environmentally constrained site, and select a design that avoids and minimizes impacts on biological resources and NCCP lands, and maintains habitat integrity.
- Confine development footprints to the minimum amount of undeveloped area necessary for construction and safe, reliable operation. Limit access routes and staging areas to existing roadways, and developed or disturbed areas. Direct drainages away from sensitive habitats, such as canyons. Clearly delineate all construction areas, staging areas, and access routes in the final engineering plans.
- Limit grading and earth-moving activities to the permitted impact footprint. Install environmentally sensitive area fencing or flagging along the limits of disturbance prior to the start of construction to avoid incidental loss of sensitive habitat types.
- Require biological monitoring and regular inspections for construction in the vicinity of and adjacent to sensitive habitats to avoid impacts on these habitats. Report any special-status species and natural communities detected during project surveys to the CNDDDB.

**BIO-1b Provide Compensatory Mitigation.** Where impacts are unavoidable, during project planning, design and project-level CEQA review of transportation network improvements or development projects, SANDAG shall, and other transportation project sponsors, the County of San Diego, cities, and other local jurisdictions can and should, provide compensatory mitigation, as specified by and consistent with ~~approved~~adopted MSCP or MHCP guidelines and agreements, applicable federal and State regulatory requirements for mitigating impacts on regulated aquatic resources, applicable local regulations protecting sensitive natural communities, or through consultation with resource agencies. SANDAG shall, and other implementing agencies can and should, establish appropriate mitigation ratios where ratios have not already been established through ordinances and guidelines, specifically for impacts on sensitive coastal, riparian, and shrubland communities.

SANDAG shall, and other implementing agencies can and should, design compensatory mitigation to result in the conservation, establishment, or creation of self-sustaining sensitive natural and native communities, replacing the lost habitat and/or habitat value as required to offset those lost from project implementation. ~~Mitigation through officially approved and established mitigation banks should be prioritized as feasible.~~ Otherwise, mitigation measures would include the requirement for and financing of long-term conservation and management requirements of the mitigation projects.

#### *Sensitive Vegetation Communities*

For impacts outside the Coastal Zone, provide compensatory mitigation in the form of project- and habitat-specific onsite or offsite mitigation. Offsite mitigation would occur through several options, including (1) the purchase of credits at an existing authorized mitigation bank within or adjacent to the ecoregion or watershed within which the impacts occurred; (2) in lieu fee program; or (3) project-specific (permittee responsible) mitigation, such as habitat enhancement, establishment (creation), or re-establishment (restoration). Mitigation should occur as close to the impact and in the same local watershed as feasible, unless compelling ecological benefits, as supported by the State and federal wildlife agencies, would result from mitigation located in another area.

Compensatory mitigation for impacts inside the North Coast Public Works Plan/Transportation and Resource Enhancement Program (PWP/TREP 2014) should be consistent with Chapter 6B Resources Enhancement and Mitigation Program. Compensatory mitigation for impacts inside the Coastal Zone and outside the PWP/TREP should be provided within the Coastal Zone as close as feasible to the impact. Consistent with the resource agencies approval and applicable adopted plans, ordinances, and policies, provide compensatory mitigation for sensitive upland vegetation communities through the following:

- Onsite restoration and post-restoration monitoring for temporary impacts using appropriate native species and natural habitat configurations similar to or better than those impacted.
- On- or offsite preservation of existing habitats through acquisition and/or restoration using EMP and other (e.g., project-specific) mitigation funds for permanent impacts. Protect mitigation lands in perpetuity (e.g., through a conservation easement or similar legal conservation assurance to be approved by the regulatory agencies), fund long-term management (e.g., through the establishment of an endowment for habitat management and for easement management), and adequately manage such lands to maintain the originally intended biological quality and function in perpetuity.
- Offsite mitigation requirements met through EMP and/or other (e.g., project specific) mitigation funds. When mitigation is provided outside of an adopted NCCP/HCP plan area the following conditions should apply:
  - Give priority to mitigation lands connected to existing conserved open space.
  - Consider contributing to the establishment of large blocks of habitat or lands that are otherwise critical for covered species and/or providing for biological core areas and habitat linkages consistent with current regional conservation planning goals.
  - Mitigate impacts on critical habitat within the same Critical Habitat Unit where the impacts occurred.
- Purchase of habitat credits at an approved mitigation bank, or through payment into an in-lieu mitigation fee program applicable to the impacts and as approved by the Wildlife Agencies.

#### *Regulated Aquatic Resources.*

Construction within regulated aquatic resources would be subject to prior authorization by USACE, RWQCB, CDFW, and CCC (as applicable in the coastal zone). Consistent with the resource agencies' permitting and applicable adopted plans, ordinances, and policies, provide project-specific mitigation for impacts on regulated aquatic resources, including waters and wetlands, and associated state-regulated riparian habitat, through one of the following, in order of priority:

- Purchase of credits at an existing authorized mitigation bank or in lieu fee program, except within the coastal zone. Provide compensatory mitigation for impacts inside the coastal zone at sites within the coastal zone close to the impact. Mitigation of impacts on aquatic resources within the coastal zone may require offsets outside the coastal zone and would be negotiated with the CCC on a case-by-case basis.
- Project-specific (permittee responsible) mitigation. Apply an appropriate mitigation ratio for regulated aquatic resources in consultation with the regulatory agencies (i.e., following the USACE Standard Operating Procedure and any other applicable standards) to ensure no net loss of wetlands functions and services, account for temporal losses, and set in coordination with USACE, RWQCB and CDFW. Impacts on vernal pools within the City of San Diego would require mitigation consistent with the VPHCP (City of San Diego 2017); impacts on vernal pools outside the City of San Diego would require permitting through the RWQCB.

**BIO-1c Prepare a Habitat Restoration Plan.** During planning, design, and project-level CEQA review of transportation network improvements or development projects, and as part of the regulatory permitting process, SANDAG shall, and other transportation project sponsors, the County of San Diego, cities, and other local jurisdictions can and should—as specified through consultation with and as approved by the resource agencies, and consistent with ~~approved~~adopted MSCP or MHCP guidelines and agreements, and applicable federal and State regulatory requirements—prepare and implement a habitat restoration plan for impacts on sensitive natural communities or a Habitat Mitigation and Monitoring Plan (HMMP) consistent with the requirements of and approved by USACE, RWQCB, and CDFW for all impacts on regulated waters, including wetlands. This mitigation measure applies provided that mitigation does not occur through credit purchase at a mitigation bank. The restoration plan should include the following:

- Details regarding the location of the site, site conditions and functions, site preparation (e.g., grading, bio-engineering methods), recontouring, planting specifications (including native seed mixes and plant palettes), irrigation design (if determined necessary), and measures to control exotic vegetation.
- Details on avoidance of impacts on any extant sensitive biological resources that may occur as the result of habitat restoration, including direct loss and indirect effects related to changes in hydrology and associated potential effects on species composition.
- Identification of locally appropriate plant species for the plan, sourcing (e.g., seed collection, contract-growing of container plants), and outline of performance standards (success criteria). Success should be measured by comparing a similar, natural (undisturbed) reference site containing the same vegetation communities and located within the same watershed as the restoration site, and should use statistical metrics in consideration of the temporal difference between an established reference site and an immature restoration site.
- Performance standards sufficient to create self-sustaining habitat providing the functions and values required to offset those lost to the impacts and meet the requirements of applicable agency and adopted plans, ordinances, and policies. After final performance standards have been met and any relevant permitting agencies have approved the mitigation project as complete, the mitigation areas must be conserved and managed in perpetuity (see BIO-1d).

- Maintenance and monitoring procedures (including post-restoration monitoring and reporting). Any habitat restoration and mitigation site should be monitored for a minimum of 5 years or as required by regulatory agencies, but continue maintenance and monitoring until performance standards are met.
- Identification of remedial measures if the mitigation efforts fall short of the performance standards. Remedial measures typically include, but are not limited to, replanting, reseeding, topographical/surface contour adjustments, supplemental irrigation, access control, increased weed control, and extended maintenance and monitoring periods.
- Climate science and climate change resiliency and adaptation measures, to be developed as adaptive management strategies for restoration and long-term management planning to reflect the latest available information on climate change impacts and adaptation measures, such as seed storage and adaptation of the seed mixes and planting palettes to adapt to changing climate conditions and sea-level rise.

**BIO-1d Prepare Habitat/Long-Term Management Plans.** During project-level CEQA review of transportation network improvements or development projects and as part of the regulatory permitting process, SANDAG shall, and other transportation project sponsors, the County of San Diego, cities, and other local jurisdictions should—as specified through consultation with ~~and approved by the~~ resource agencies, and consistent with ~~approved/adopted~~ MSCP or MHCP guidelines and agreements, and applicable federal and State regulatory requirements—prepare and implement a Long-Term Management Plan (LTMP) consistent with the requirements of USACE, RWQCB, and CDFW for all impacts on regulated waters, including wetlands; or a Habitat Management Plan (HMP) or Resources Management Plan (RMP) for upland mitigation areas. The management plans can and should be consistent with the SDMMMP MSP (SDMMMP 2017), be prepared by qualified and experienced ecologists to develop appropriate management and monitoring measures. The management plans should outline describe management in perpetuity of the mitigation and conservation areas, ~~identify-illustrate~~ adaptive management measures (Atkinson et al. 2004), outline management goals and objectives, and identify management tasks pursuant to these goals and objectives. Management goals should include adaptive management measures for climate adaptation and resiliency. Furthermore, SANDAG shall, and other transportation project sponsors, the County of San Diego, cities, and other local jurisdictions can and should, prepare a management cost analysis to identify long-term management costs pursuant to measures outlined in the LTMP, HMP, or RMP. Long-term management should be funded using endowments or other financial assurances to generate sufficient annual interest to manage mitigation areas in perpetuity. In addition to the funding requirements, the management plans should also identify the habitat manager and propose a site protection instrument, such as an agency-approved Conservation Easement (CE), restrictive covenant or other title restriction that identifies the mitigation site to be conserved in perpetuity. In some cases, compensatory mitigation would occur through adding lands through public lands that are already preserved (e.g., National Wildlife Refuge).

**BIO-1e Implement Best Management Practices to Avoid Indirect Impacts.** During planning, design, project-level CEQA review, and construction of transportation network improvements or development projects, SANDAG shall, and other transportation project sponsors, the County of San Diego, cities, and other local jurisdictions can and should, include location-specific measures to avoid and minimize construction-generated dust, erosion, runoff, and sedimentation, and exotic plant invasion, within or into sensitive natural habitats and jurisdictional waters. Location-specific measures include, but are not limited to, the following:

- Place construction materials, staging, storage, dispensing, fueling, and maintenance activities in upland areas outside of sensitive habitat, and take adequate measures to prevent any runoff from entering regulated waters, including wetlands.

- Fuel equipment on existing paved roads. Check contractor equipment for leaks prior to operation and repaired as necessary.
- Monitor construction activities using a qualified biologist when construction is occurring in, or adjacent to, sensitive natural communities and grant the biologist the authority to stop work if it deviates from approved plans and mitigation measures.
- Prohibit planting or seeding of invasive plant species that appear on the most recent version of the California Invasive Plant Council (Cal-IPC) California Invasive Plant Inventory, including the development of an integrated invasive plant control plan describing protocols and enforcement schedules for maintenance, construction, and emergency activities working within and moving between important habitat areas.

## **SIGNIFICANCE AFTER MITIGATION**

### **2025, 2035, and 2050**

Implementation of mitigation measures BIO-1a through BIO-1e would reduce or minimize this impact (BIO-1). However, while projects under SANDAG's control would adhere to these measures, there is no assurance that these mitigation measures would be implemented by non-SANDAG project sponsors or would be equally effective for all projects due to the wide variety of circumstances, such as lack of available mitigation sites, shortage of acreage at mitigation banks, mitigation complexity and cost, lack of long-term management and monitoring, and lack of enforcement. Instances may occur in which impacts are not reduced to less-than-significant levels. Therefore, this impact (BIO-1) would remain significant and unavoidable.

**BIO-2            HAVE A SUBSTANTIAL ADVERSE EFFECT, EITHER DIRECTLY OR INDIRECTLY, ON ANY SPECIES IDENTIFIED AS A CANDIDATE, SENSITIVE, OR SPECIAL-STATUS SPECIES IN LOCAL OR REGIONAL PLANS, POLICIES, OR REGULATIONS, OR LISTED BY CDFW OR USFWS, INCLUDING THEIR FEDERALLY DESIGNATED CRITICAL HABITAT, OR SPECIES THAT ARE CONSIDERED SENSITIVE IN CEQA GUIDELINES SECTION 15380**

## **ANALYSIS METHODOLOGY**

### **Direct Impacts**

As described in the above *Data Sources and Methods* subsections in Section 4.4.1, the identification of species locations requires direct field observations. In order to quantify impacts on special-status species populations, project-specific focused surveys would need to be conducted when project-level detail is available. This EIR's analysis considers impacts on non-listed special-status species based on a more general habitat level and qualitative analysis, including impacts on those regionally sensitive, but not listed, species, such as the southwestern pond turtle (*Actinemys pallida*), western burrowing owl, and coastal cactus wren (*Campylorhynchus brunneicapillus*), in addition to narrow endemic plant species and other NCCP-covered species. Direct impacts on the habitats of listed special-status plant and animal species (which for purposes of this EIR include species proposed for listing) and designated critical habitat are quantified using the GIS methods described under Impact BIO-1. Impacts identified for vegetation communities in the GIS analysis described under Impact BIO-1 are used to classify habitats and generally describe direct impacts that may occur on non-listed special-status species based on their habitat preferences. This method provides a conservative estimate of impacts on special-status species.



Temporary impacts were not analyzed using GIS methods as they are not known until project-specific plans have been prepared. It is assumed that all temporary impacts would be restored to or superior to preconstruction conditions

### ***Regional Growth and Land Use Change***

Special-status species impacts were evaluated using both GIS and qualitative methods. Typically, USFWS protocol surveys would be required to identify presence and quantify impacts for these species; however, these data are not practical or necessary on a programmatic level. In lieu of species- and site-specific information, analysis in this EIR conservatively assumes that special-status species are present within the areas that would be converted from undeveloped to developed land use (i.e., regional growth and land use change data) if there are mapped special-status species occurrences or suitable habitat present within these areas or within 500 feet thereof (taking into consideration any impacts on sensitive species from such sources as noise and lighting, as commonly required by the Wildlife Agencies and pursuant to local regulations and ordinances, such as the implementation documents for the local NCCPs).

Specifically, the GIS analysis used data on known occurrences of plant and animal species listed or proposed for listing (including candidate species) under FESA and CESA. GIS layers were developed to identify the extent of undeveloped areas that would be converted to developed land uses or rural residential land uses, and rural residential land uses that would be converted to developed land uses for each horizon year (see *Regional Growth and Land Use Change* under Impact BIO-1, *Analysis Methodology*). These layers were superimposed over known occurrences for special-status plant and animal species and USFWS-designated critical habitat layers developed from the dataset identified in Section 4.4.1.

The EIR analysis considers impacts on non-listed and non-proposed-for-listing special-status species based on a more general habitat level and qualitative analysis. Impacts on vegetation communities identified in the GIS analysis are used to generally identify direct impacts that may occur on non-listed special-status species that inhabit these vegetation communities. Impacts on non-listed special-status species that are covered by an NCCP typically require mitigation pursuant to and in accordance with the implementing entity's guidelines.

### ***Transportation Network Improvements and Programs***

Analysis in the EIR conservatively assumes that special-status species would be present within the transportation project footprint if there are known special-status species occurrences or suitable habitat present within project footprints or within 500 feet thereof (understanding that special-status species may occur outside the 500-foot buffer). For each horizon year, species occurrences from three regional species occurrence databases—the CNDDDB, the SanBIOS ([County of San Diego 2021c](#)) points and areas, and the USFWS Carlsbad Field Office sensitive species occurrences—were overlaid within 500 feet of the identified projects and tabulated. Special-status species impacts were evaluated using both GIS and qualitative methods described for the regional growth and land use change. GIS layers were developed for transportation project footprints (see *Transportation Network Improvements and Programs* under Impact BIO-1, *Analysis Methodology*) and analyzed as discussed for the regional growth and land use change methods.

### **Indirect Impacts**

Indirect impacts that may occur on special-status species or their habitat (including critical habitat) in proximity to areas experiencing regional growth and land use change as well as transportation network improvements are qualitatively described on a broad scale.

## IMPACT ANALYSIS

2025

### ***Regional Growth and Land Use Change***

#### *Direct Impacts*

Direct impacts are those resulting in direct losses of special-status animal and plant species. Specifically, direct impacts may include injury, death, and/or harassment, which ultimately would lead to the loss of the species or their ability to successfully reproduce. Direct impacts may also include the destruction of habitats necessary for species breeding, feeding, dispersal, or sheltering. Direct impacts on plants can include the direct removal of above- and below-ground portions of plants, or crushing of adult plants, bulbs, or seeds. These direct impacts would predominately occur during construction of developed land uses. Construction would require vegetation-clearing activities that would remove special-status species habitat. Construction may also result in impacts on special-status animal species from vehicle or construction equipment collisions.

After construction, operation and maintenance within urban development may result in impacts on special-status animal species from vehicular strikes with individuals crossing the roads. Vegetation management along urban areas may impact special-status species residing in those areas.

The total number of listed species occurrences (based on available occurrence data and species/suitable habitat models) impacted by regional growth and land use change by 2025 includes 11 listed plant species and 9 listed animal species. Tables E-7-1 and E-7-2 in Appendix E-7 provides a detailed list of listed plant and animal species that would be impacted by regional growth and land use change by 2025, respectively. Locations that would have the most impacts on listed species would coincide with the areas that would experience the most extensive loss of sensitive vegetation communities and regulated waters, including wetlands, by 2050, as described in Impact BIO-1, because these areas provide habitat for listed species.

Estimated direct impacts that would occur on critical habitat as a result of regional growth and land use change between 2016 and 2025 are provided in Table 4.4-10. Of species that have designated critical habitat, the largest impacts would occur on Otay tarplant (*Deinandra conjugens*), spreading navarretia (*Navarretia fossalis*), and thread-leaved brodiaea (*Brodiaea filifolia*). Impacts would also occur on San Diego thornmint (*Acanthomintha ilicifolia*) and Otay tarplant. Wildlife species affected include San Diego fairy shrimp (*Branchinecta sandiegonensis*), western snowy plover (*Charadrius nivosus*), California least tern (*Sternula antillarum browni*), light-footed Ridgway's rail (*Rallus obsoletus brevipes*), southwestern willow flycatcher (*Empidonax traillii extimus*), least Bell's vireo (*Vireo bellii pusillus*), Quino checkerspot butterfly, San Diego fairy shrimp, and coastal California gnatcatcher. The largest impacts would occur on Quino checkerspot butterfly and coastal California gnatcatcher (Table 4.4-10).

In addition to listed species, many non-listed special-status species would be impacted by regional growth and land use change because non-listed special-status species inhabit sensitive vegetation communities and regulated aquatic resources that would be impacted, as described in Impact BIO-1; many of these species are regulated through the local and regional NCCPs. In general, non-listed special-status species that would be most impacted are those that inhabit the vegetation communities most impacted. Because forecasted development is concentrated in the western third of the San Diego region, coastal and shrublands would bear the majority of projected impacts. Species with larger home ranges, such as raptors, bats, and large mammals, may be more susceptible to impacts from regional growth and land use changes that occur away from current urban areas

as opposed to regional growth and land use change that is concentrated around urban areas. Appendices E-2 and E-3 describe the vegetation communities where non-listed special-status species may occur.

### *Indirect Impacts*

Indirect impacts would occur on special-status animal and/or plant species inhabiting habitat adjacent to areas converted from undeveloped to developed land uses under the proposed Plan's regional growth and land use change. Examples of indirect impacts on special-status species include the following:

- **Habitat Fragmentation:** Fragmented, smaller areas of habitat usually contain fewer species, have proportionally larger perimeters (making them more vulnerable to edge effects), are more likely to be biologically isolated from other habitat areas, and tend to be more vulnerable to adverse stochastic (i.e., random) events.
- **Changes in Hydrology:** Changes in hydrology, runoff, and sedimentation could indirectly affect surface water-dependent species. Increased runoff into native habitat and channelization for flood control could result in increased erosion and rates of scouring, which could result in downstream habitat loss for some species. Similarly, increased magnitude and frequency of high flows from urbanization could cause bank erosion and channel widening, and adversely affect species that rely on natural flow regimes for their persistence. Urban runoff can increase the temperature of adjacent streams due to higher water temperatures from streets, rooftops, and parking lots, and increases the variety and amount of pollutants carried into streams, rivers, and lakes. Perennial water sources may favor exotic species that can prey on and/or compete with native species.
- **Edge Effects:** The biological integrity of habitats adjoining development can be diminished by the effects of noise, lighting, exotic plant and animal invasion, dust/air pollution, predators, parasites, disturbance from human activities (i.e., increased mortality caused by encounters with humans or their pets), pesticides, fuel modification, and other factors:
  - **Predators:** Numerous predators such as snakes, opossums, raccoons, skunks, ground squirrels, and various corvids thrive on edges by making use of the additional food and water sources provided by residential development adjacent to open space habitat resulting in increased predation rates.
  - **Noise:** Higher ambient noise levels often result from development (construction and operation), which can adversely affect species that rely on sound to communicate (e.g., birds, frogs). The impact of noise on wildlife likely differs from species to species and is dependent on the source of the noise (e.g., aircraft versus blasting) and the decibel level, duration, and timing.
  - **Exotic Species:** Nonnative plant and animal species have few natural predators or other ecological controls on their population sizes, and they often thrive in disturbed habitats. Nonnative species may aggressively outcompete native species or otherwise harm special-status species; e.g., exotic plant species, such as giant reed, can rapidly invade native habitat areas and alter water flow and/or quantities as well as vegetation diversity and/or composition.
  - **Lighting:** Artificial night lighting could affect the habitat value for some species, particularly for nocturnal species, by modifying predation rates, obscuring lunar cycles, and/or causing direct habitat avoidance.
- **Fugitive Dust:** Construction-generated fugitive dust can adversely affect plants by reducing the rates of metabolic processes such as photosynthesis and respiration.

- **Alteration of Fire Regimes:** Alteration of the natural fire regime could lead to an elimination of fire in small habitat fragments adjacent to development or to an increase in fire frequency and/or intensity from anthropogenic ignition. These alterations can lead to the conversion of one habitat to another. Type conversion is a complex issue with many variables; however, in most cases when type conversion occurs, it results in the conversion of a higher quality native habitat (e.g., chaparral or coastal sage scrub) to a lower quality disturbed condition or nonnative community (e.g., nonnative grassland). Such conversion results in the loss of suitable habitat for species that rely upon the pre-fire native habitats for survival.

Permanent, indirect impacts would arise from increased human use of the area and unauthorized trespass, unauthorized trail use, presence of dogs and feral cats, trail-related erosion, direct mortality of species, increased nighttime lighting that may increase predation, increased noise associated with increased traffic volumes, and the increase in exotic species invasion. Permanent, indirect impacts on biological resources may also arise from the conversion of agricultural lands to urban land uses. Raptor species, in particular, often utilize agricultural land for foraging habitat. Orchards can provide nesting as well as foraging habitat for some species of songbirds. Many terrestrial species can utilize agricultural land that is adjacent to native habitat for supplemental forage or cover depending on the intensity and type of the agricultural activity present. Additionally, agricultural land situated between native habitat patches can provide movement corridors for terrestrial species.

Temporary, indirect impacts may arise from construction-related noise levels; construction-generated fugitive dust accumulation on surrounding vegetation; and construction-related erosion, runoff, and sedimentation into vegetation communities. Indirect impacts from these construction-related activities would be temporary, as these impacts would end with cessation of project construction.

Regional growth and land use change in each horizon year are primarily consolidated along existing urbanized areas and transportation corridors. Urban activity in these existing developed areas is currently indirectly impacting habitat adjacent to these areas. However, implementation of the proposed Plan would increase the intensity of indirect impacts by increasing activities that have indirect effects.

### *Summary*

As discussed in Section 4.4.2, numerous federal, state, and local laws, regulations, and programs are in place to protect special-status species and their habitat. Federal laws and regulations including FESA, MBTA, and BGEPA protect federally listed species, migratory birds, and eagles, respectively. State laws and regulations, including CESA and CFGC, protect state-listed and sensitive species. Additionally, NCCP and HCP programs implemented in the San Diego region provide a process to strategically conserve special-status species within their respective plan areas.

By 2025, regional growth and land use change would result in development and redevelopment that would impact special-status species and their habitat. While adherence to the existing federal, state, and local laws, regulations, and programs discussed in Section 4.4.2 would reduce impacts on special-status species, it cannot be concluded that impacts would be less than significant for all projects. Considering both direct and indirect impacts, ground-disturbing activities related to land use change under the proposed Plan would result in substantial adverse change to species identified as candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by CDFW or USFWS, and the habitat of these special-status species. This is a significant impact.

**Table 4.4-10**  
**Forecasted Direct Impacts on Areas Designated as Final Critical Habitat Within the San Diego Region**  
**(acres) up to the Year 2025**

| Common Name                          | Scientific Name                           | Regional Growth and Land Use Change | Transportation Network Improvements | Total          |
|--------------------------------------|---|-------------------------------------|-------------------------------------|----------------|
| <b>Plants</b>                        |   |                                     |                                     |                |
| San Diego thornmint                  | <i>Acanthomintha ilicifolia</i>           | 0.1                                 | --                                  | 0.1            |
| Thread-leaved brodiaea               | <i>Brodiaea filifolia</i>                 | 50.1                                | --                                  | 50.1           |
| Otay tarplant                        | <i>Deinandra conjugens</i>                | 409.2                               | --                                  | 409.2          |
| Spreading navarretia                 | <i>Navarretia fossalis</i>                | 52.8                                | --                                  | 52.8           |
| <b>Plants Total</b>                  |   | <b>512.2</b>                        | <b>--</b>                           | <b>512.2</b>   |
| <b>Invertebrates</b>                 |   |                                     |                                     |                |
| Quino checkerspot butterfly          | <i>Euphydryas editha quino</i>            | 1,022.6                             | --                                  | 1,022.6        |
| Hermes copper butterfly              | <i>Lycaena hermes</i>                     | 24.5                                | --                                  | 24.5           |
| San Diego fairy shrimp               | <i>Branchinecta sandiegonensis</i>        | 306.1                               | 3.3                                 | 309.4          |
| Riverside fairy shrimp               | <i>Streptocephalus woottonii</i>          | 1.6                                 | --                                  | 1.6            |
| <b>Invertebrates Total</b>           |   | <b>1,354.8</b>                      | <b>3.3</b>                          | <b>1,358.1</b> |
| <b>Reptiles and Amphibians</b>       |   |                                     |                                     |                |
| Arroyo toad                          | <i>Anaxyrus californicus</i>              | 18.7                                | --                                  | 18.7           |
| <b>Reptiles and Amphibians Total</b> |   | <b>18.7</b>                         | <b>--</b>                           | <b>18.7</b>    |
| <b>Birds</b>                         |   |                                     |                                     |                |
| Coastal California gnatcatcher       | <i>Polioptila californica californica</i> | 805.0                               | --                                  | 805.0          |
| Least Bell's vireo                   | <i>Vireo bellii pusillus</i>              | 5.8                                 | 3.4                                 | 9.2            |
| <b>Birds Total</b>                   |   | <b>810.8</b>                        | <b>3.4</b>                          | <b>814.2</b>   |
| <b>Grand Total</b>                   |   | <b>2,696.5</b>                      | <b>6.7</b>                          | <b>2,703.2</b> |

### **Transportation Network Improvements and Programs**

#### **Direct Impacts**

Transportation network improvements would be the same as previously described in Impact BIO-1. The types and nature of direct impacts that may occur on special-status species are discussed above. Operation and maintenance of transportation network improvements may result in impacts on special-status animal species from vehicular strikes with individuals crossing the roads.

The total number of listed species occurrences impacted by all transportation network improvements in place by 2025 includes four listed plant species: the San Diego button-button celery (*Eryngium aristulatum*

*parishii*), Otay tarplant, Del Mar manzanita (*Arctostaphylos glandulosa* ssp. *crassifolia*) and San Diego ambrosia (*Ambrosia pumila*); and four listed animal species: the Quino checkerspot butterfly, San Diego fairy shrimp, least Bell's vireo, and California gnatcatcher. Tables E-7-1 and E-7-2 in Appendix E-7 summarizes the project-by-project impact on listed plant and animal species that would occur by 2025. Of species that have designated critical habitat, only two species' critical habitat is impacted as a result of transportation network improvements: San Diego fairy shrimp and least Bell's vireo (Table 4.4-10).

In addition to listed species, many non-listed special-status species would be impacted by regional growth and land use change because non-listed special-status species inhabit sensitive vegetation communities and regulated waters, including wetlands, that would be impacted, as described in Impact BIO-1. In general, non-listed special-status species that would be most impacted are those that inhabit the vegetation communities most impacted, including riparian forest/woodland, riparian scrub, open water, meadows and seeps, coastal sage scrub, chaparral, grasslands, and forest/woodland. Because transportation network improvements are concentrated near the coast, coastal species bear the majority of projected impacts. Appendices E-2 and E-3 describe the vegetation communities where non-listed special-status species may occur.

#### *Indirect Impacts*

The type and nature of indirect impacts would be the same as those described above for regional growth and land use change.

#### *Summary*

By 2025, the transportation network improvements projected in the proposed Plan would impact special-status species and their habitat. As discussed for the regional growth and land use change, adherence to the existing federal, state, and local laws, regulations, and programs discussed in Section 4.4.2 would reduce impacts on special-status species, it cannot, however, be concluded that impacts would be less than significant for all projects. Considering both direct and indirect impacts, ground-disturbing activities related to transportation network improvements under the proposed Plan would result in substantial adverse change to species identified as candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by CDFW or USFWS, and the habitat of these species. This is a significant impact.

#### **2025 Conclusion**

Implementation of the regional growth and land use change as well as transportation improvements and programs would result in substantial adverse change to species identified as candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by CDFW or USFWS, and the habitat of these special-status species. Therefore, this impact (BIO-2) in the year 2025 would be significant.

#### **2035**

##### ***Regional Growth and Land Use Change***

#### *Direct Impacts*

Regional growth and land use change would be the same as previously described under the 2035 analysis for Impact BIO-1. The types and nature of the direct impacts that may occur on special-status species and their habitat are similar to 2025. The total number of listed species occurrences impacted by regional growth and land use change between 2026 and 2035 includes eight listed plant species and six listed wildlife species. Tables

E-7-3 and E-7-4 in Appendix E-7 provides a detailed list of listed plant and wildlife species that would be impacted by regional growth and land use change by 2035, respectively. Locations that would have the most impacts on listed species would coincide with the areas that would experience the most extensive loss of sensitive vegetation communities and regulated waters, including wetlands, by 2035, as described in Impact BIO-1, because these areas provide habitat for listed species.

Estimated direct impacts that would occur on critical habitat as a result of regional growth and land use change between 2026 and 2035 are provided in Table 4.4-11. Of species that have designated critical habitat, the species with the greatest acreage of impacts on critical habitat as a result of regional growth and land use change are Otay tarplant (plant species) and the following animal species: arroyo toad (*Anaxyrus californicus*), coastal California gnatcatcher, and Hermes copper butterfly (Table 4.4-11).

In addition to listed species, many non-listed special-status species and their habitat would be impacted by regional growth and land use change because non-listed special-status species inhabit sensitive vegetation communities and regulated waters, including wetlands, that would be impacted, as described in Impact BIO-1. In general, non-listed special-status species that would be most impacted are those that inhabit the vegetation communities most impacted, including riparian forest/woodland, riparian scrub, meadows and seeps, chaparral, grasslands, forest/woodland, and coastal scrub. Because forecasted development is concentrated in the western third of the San Diego region, coastal and shrublands would bear the majority of projected impacts. Species with larger home ranges, such as raptors, bats, and large mammals, may be more susceptible to impacts from regional growth and land use change that occurs away from current urban areas as opposed to regional growth and land use change that is concentrated around urban areas. Appendices E-2 and E-3 describe the vegetation communities where non-listed special-status species and their habitat may occur.

#### Indirect Impacts

The type and nature of indirect impacts would be similar to those described for 2025.

**Table 4.4-11**  
**Forecasted Direct Impacts on Areas Designated as Final Critical Habitat Within the San Diego Region (acres) Between 2026 and 2035**

| Common Name                 | Scientific Name                    | Regional Growth and Land Use Change | Transportation Network Improvements | Total       |
|-----------------------------|------------------------------------|-------------------------------------|-------------------------------------|-------------|
| <b>Plants</b>               |                                    |                                     |                                     |             |
| San Diego thornmint         | <i>Acanthomintha ilicifolia</i>    | --                                  | --                                  | --          |
| Thread-leaved brodiaea      | <i>Brodiaea filifolia</i>          | --                                  | --                                  | --          |
| Otay tarplant               | <i>Deinandra conjugens</i>         | 35.3                                | --                                  | 35.3        |
| Spreading navarretia        | <i>Navarretia fossalis</i>         | --                                  | --                                  | --          |
| <b>Plants Total</b>         |                                    | <b>35.3</b>                         | <b>--</b>                           | <b>35.3</b> |
| <b>Invertebrates</b>        |                                    |                                     |                                     |             |
| Quino checkerspot butterfly | <i>Euphydryas editha quino</i>     | --                                  | --                                  | --          |
| Hermes copper butterfly     | <i>Lycaena hermes</i>              | 58.1                                | 34.4                                | 92.5        |
| San Diego fairy shrimp      | <i>Branchinecta sandiegonensis</i> | 0.4                                 | 7.4                                 | 7.8         |

| Common Name                          | Scientific Name                           | Regional Growth and Land Use Change | Transportation Network Improvements | Total        |
|--------------------------------------|---|-------------------------------------|-------------------------------------|--------------|
| <b>Invertebrates Total</b>           |   | <b>58.5</b>                         | <b>41.8</b>                         | <b>100.3</b> |
| <b>Fish</b>                          |   |                                     |                                     |              |
| Tidewater goby                       | <i>Eucyclogobius newberryi</i>            | 0.3                                 | 0.8                                 | 1.1          |
| <b>Fish Total</b>                    |   | <b>0.3</b>                          | <b>0.8</b>                          | <b>1.1</b>   |
| <b>Reptiles and Amphibians</b>       |   |                                     |                                     |              |
| Arroyo toad                          | <i>Anaxyrus californicus</i>              | 156.9                               | --                                  | 156.9        |
| <b>Reptiles and Amphibians Total</b> |   | <b>156.9</b>                        | <b>--</b>                           | <b>156.9</b> |
| <b>Birds</b>                         |   |                                     |                                     |              |
| California gnatcatcher               | <i>Polioptila californica californica</i> | 49.0                                | 9.6                                 | 58.6         |
| Least Bell's vireo                   | <i>Vireo bellii pusillus</i>              | 29.6                                | 22.1                                | 51.7         |
| Southwestern willow flycatcher       | <i>Empidonax traillii extimus</i>         | 0.4                                 | 0.8                                 | 1.2          |
| <b>Birds Total</b>                   |   | <b>79.0</b>                         | <b>32.5</b>                         | <b>111.5</b> |
| <b>Grand Total</b>                   |   | <b>330.1</b>                        | <b>76.2</b>                         | <b>406.3</b> |

### Summary

By 2035, regional growth and land use change would result in development and redevelopment that would impact special-status species and their habitat. As discussed for 2025, while adherence to the existing laws, regulations, and programs detailed in Section 4.4.2 would reduce impacts on special-status species and their habitat, it cannot be concluded that impacts would be less than significant for all projects. Considering both direct and indirect impacts, ground-disturbing activities related to land use change under the proposed Plan would result in a substantial adverse change to species identified as candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by CDFW or USFWS. This is a significant impact.

### Transportation Network Improvements and Programs

#### Direct Impacts

Transportation network improvements would be the same as previously described in the 2035 analysis for Impact BIO-1. The types and nature of direct and indirect impacts that may occur on special-status species and their habitat are similar to 2025. The total number of listed species occurrences impacted by all transportation network improvements in place between 2026 and 2035 includes eight listed plant species and eight listed wildlife species; many of these are species associated with vernal pools and riparian habitats. The 2035 horizon year includes the majority of Complete Corridor construction, including river and creek crossings that may result in impacts on least Bell's vireo, and impacts on undeveloped chaparral landscapes, which may affect Hermes copper butterfly (*Lycaena hermes*). Tables E-7-3 and E-7-4 in Appendix E-7 summarizes the project-by-project impact on listed plant and wildlife species that would occur by 2035.

Of species that have designated critical habitat, the three with the greatest acreage of impacts on critical habitat as a result of transportation network improvements are Hermes copper butterfly, least Bell's vireo, and coastal California gnatcatcher (Table 4.4-15).



In addition to listed species, many non-listed special-status species would be impacted by regional growth and land use change because non-listed special-status species inhabit sensitive vegetation communities and regulated waters, including wetlands, that would be impacted, as described in Impact BIO-1. In general, non-listed special-status species that would be most impacted are those that inhabit the vegetation communities most impacted, including riparian forest/woodland, riparian scrub, meadows and seeps, chaparral, grasslands, forest/woodland, and coastal scrub. Appendices E-2 and E-3 describe the vegetation communities where non-listed special-status species and their habitat may occur.

#### *Indirect Impacts*

The type and nature of indirect impacts would be the similar to those described for 2025.

#### *Summary*

By 2035, the transportation network improvements projected in the proposed Plan would impact special-status species. As discussed for 2025, while adherence to the existing laws, regulations, and programs detailed in Section 4.4.2 would reduce impacts on special-status species, it cannot be concluded that impacts would be less than significant for all projects. Considering both direct and indirect impacts, ground-disturbing activities related to transportation network improvements under the proposed Plan would result in a substantial adverse change to species identified as candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by CDFW or USFWS, and the habitat of these species. This is a significant impact.

#### **2035 Conclusion**

Implementation of the regional growth and land use change as well as transportation improvements and programs would result in substantial adverse change to species identified as candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by CDFW or USFWS, and the habitat of these special-status species. Therefore, this impact (BIO-2) in the year 2035 would be significant.

#### **2050**

#### ***Regional Growth and Land Use Change***

#### *Direct Impacts*

Regional growth and land use change would be the same as previously described in the 2050 analysis under Impact BIO-1. The types and nature of the direct impacts that may occur on special-status species and their habitat are similar to 2025 and 2035. The total number of listed species occurrences impacted by regional growth and land use change between 2036 and 2050 includes four listed plant species and four listed wildlife species. Tables E-7-5 and E-7-6 in Appendix E-7 provides a detailed list of listed plant and animal species that would be impacted by regional growth and land use change by 2050.

Estimated direct impacts that would occur on critical habitat as a result of regional growth and land use change between 2036 and 2050 are provided in Table 4.4-12. Of species that have designated critical habitat, the three species with the greatest acreage of impacts on critical habitat as a result of regional growth and land use change are coastal California gnatcatcher, San Diego fairy shrimp, and arroyo toad; Otay tarplant also receives a large share of the impacts (Table 4.4-12).

**Table 4.4-12**  
**Forecasted Direct Impacts on Areas Designated as Final Critical Habitat Within the San Diego Region**  
**(acres) Between 2036 and 2050**

| Common Name                          | Scientific Name                           | Regional Growth and Land Use Change | Transportation Network Improvements | Total            |
|--------------------------------------|---|-------------------------------------|-------------------------------------|------------------|
| <b>Plants</b>                        |   |                                     |                                     |                  |
| Otay tarplant                        | <i>Deinandra conjugens</i>                | 58.9                                | 30.9                                | 89.8             |
| Spreading navarretia                 | <i>Navarretia fossalis</i>                | 7.8                                 | --                                  | 7.8              |
| <b>Plants Total</b>                  |   | <b>66.7</b>                         | <b>30.9</b>                         | <b>97.6</b>      |
| <b>Invertebrates</b>                 |   |                                     |                                     |                  |
| Quino checkerspot butterfly          | <i>Euphydryas editha quino</i>            | --                                  | 10.4                                | 10.4             |
| San Diego fairy shrimp               | <i>Branchinecta sandiegonensis</i>        | 5.1                                 | 98.9                                | 104.0            |
| Riverside fairy shrimp               | <i>Streptocephalus woottonii</i>          | 5.2                                 | 3.7                                 | 8.9              |
| <b>Invertebrates Total</b>           |   | <b>10.3</b>                         | <b>113.0</b>                        | <b>123.3</b>     |
| <b>Fish</b>                          |   |                                     |                                     |                  |
| Tidewater goby                       | <i>Eucyclogobius newberryi</i>            | --                                  | 1.7                                 | 1.7              |
| <b>Fish Total</b>                    |   | <b>--</b>                           | <b>1.7</b>                          | <b>1.7</b>       |
| <b>Reptiles and Amphibians</b>       |   |                                     |                                     |                  |
| Arroyo toad                          | <i>Anaxyrus californicus</i>              | --                                  | 58.5                                | 58.5             |
| <b>Reptiles and Amphibians Total</b> |   | <b>--</b>                           | <b>58.5</b>                         | <b>58.5</b>      |
| <b>Birds</b>                         |   |                                     |                                     |                  |
| California gnatcatcher               | <i>Polioptila californica californica</i> | --                                  | 3674.49                             | 36497.4          |
| Least Bell's vireo                   | <i>Vireo bellii pusillus</i>              | --                                  | 43.7                                | 43.7             |
| Southwestern willow flycatcher       | <i>Empidonax traillii extimus</i>         | --                                  | 17.4                                | 17.4             |
| <b>Birds Total</b>                   |   | <b>--</b>                           | <b>32.5</b>                         | <b>111114.50</b> |
| <b>Grand Total</b>                   |   | <b>330.1</b>                        | <b>630.0</b>                        | <b>9620.16</b>   |

In addition to listed species, many non-listed special-status species and their habitat would be impacted by regional growth and land use change because non-listed special-status species inhabit sensitive vegetation communities and regulated waters, including wetlands, that would be impacted, as described in Impact BIO-1. In general, non-listed special-status species that would be most impacted are those that inhabit the vegetation communities most impacted, including riparian forest/woodland, riparian scrub, meadows and seeps, chaparral, grasslands, forest/woodland, and coastal scrub. Because forecasted development is concentrated in the western third of the San Diego region, coastal and montane non-listed species would bear the majority of projected impacts. Species with larger home ranges, such as raptors, bats, and large mammals, may be more

susceptible to impacts from regional growth and land use change that occurs away from current urban areas as opposed to regional growth and land use change that is concentrated around urban areas. Appendices E-2 and E-3 describe the vegetation communities where non-listed special-status species and their habitat may occur.

#### *Indirect Impacts*

The type and nature of indirect impacts would be similar to those described for 2025 and 2035.

#### *Summary*

By 2050, regional growth and land use change would result in development and redevelopment that would impact special-status species and their habitat. As discussed for 2025 and 2035, while adherence to the existing laws, regulations, and programs detailed in Section 4.4.2 would reduce impacts on special-status species, it cannot be concluded that impacts would be less than significant for all projects. Considering both direct and indirect impacts, ground-disturbing activities related to land use change under the proposed Plan would result in a substantial adverse change to species identified as candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by CDFW or USFWS, and habitat for these species. This is a significant impact.

### **Transportation Network Improvements and Programs**

#### *Direct Impacts*

Transportation network improvements would be the same as previously described in 2050 analysis under Impact BIO-1. The nature and types of direct impacts that may occur on special-status species and their habitat are similar to 2025 and 2035. The total number of listed species occurrences impacted by all transportation network improvements in place between 2036 and 2050 includes 18 listed plant species and 10 listed wildlife species, mainly from the construction of bikeway projects. Tables E-7-5 and E-7-6 in Appendix E-7 summarizes the project-by-project impact on listed plant and wildlife species that would occur by 2050.

Of species that have designated critical habitat, the species with the greatest amount of impacts on critical habitat as a result of transportation network improvements are coastal California gnatcatcher, San Diego fairy shrimp, arroyo toad, and least Bell's vireo; Otay tarplant would also receive large impacts (Table 4.4-12).

In addition to listed species, many non-listed special-status species would be impacted by forecasted regional growth and land use change because non-listed special-status species inhabit sensitive vegetation communities and regulated waters, including wetlands, that would be impacted, as described in Impact BIO-1. In general, non-listed special-status species that would be most impacted are those that inhabit the vegetation communities most impacted, including riparian forest/woodland, riparian scrub, meadows and seeps, chaparral, grasslands, forest/woodland, and coastal scrub. Appendices E-2 and E-3 describe the vegetation communities where non-listed special-status species may occur.

#### *Indirect Impacts*

The type and nature of indirect impacts would be the similar to those described for 2025 and 2035.

#### *Summary*

By 2050, the transportation network improvements projected in the proposed Plan would impact special-status species and their habitat. As discussed for 2025 and 2035, while adherence to the existing laws, regulations, and programs detailed in Section 4.4.2 would reduce impacts on special-status species, it cannot be concluded that impacts would be less than significant for all projects. Considering both direct and indirect impacts, ground-disturbing activities related to transportation network improvements under the proposed Plan would result in substantial adverse change to species identified as candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by CDFW or USFWS, and habitat for these species. This is a significant impact.

### **2050 Conclusion**

Implementation of the regional growth and land use change as well as transportation improvements and programs would result in substantial adverse change to species identified as candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by CDFW or USFWS, and habitat for these species-status species. Therefore, this impact (BIO-2) in the year 2050 would be significant.

### **Exacerbation of Climate Change Effects**

The proposed Plan would exacerbate climate change effects on special-status species and their habitat. Changing temperature and precipitation patterns associated with climate change could force species to shift their ranges to survive, and species may diminish, die, or relocate to new habitats if their current habitats become inhospitable. For example, habitat fragmentation due to land use change and other factors associated with the proposed Plan may reduce the ability for species displaced by climate change to seek refuge (EcoAdapt 2017). Increased temperatures could also cause reduced fitness, increased mortality and reduced reproductive success, and alter timing of breeding, flowering, or emergence of pests and disease incidence (Jennings et al. 2018). Increased drought incidence can cause die-off of plants that serve as sources of food or shelter, and changing fire regimes may damage habitats or create conditions for invasive species to thrive (Jennings et al. 2018). Changes in plant biomass production due to reduced growth rates or increased mortality can also impact soil carbon sequestration levels and rates (Bradford et al. 2016, Ren et al. 2020). For aquatic species, warmer temperatures and changes in stream flow rates could degrade aquatic ecosystems and introduce invasive species (Jennings et al. 2018, California Natural Resources Agency 2009).

The proposed Plan is expected to affect the habitats of many special-status species, including the California gnatcatcher, San Diego fairy shrimp, arroyo toad, least Bell's vireo, and Otay tarplant. Climate change may also have an effect on some of these species:

- Climate change could threaten coastal sage scrub, which serve as habitat to the California gnatcatcher (Messner et al. 2011).
- Climate change may alter hydrology patterns, affecting riparian-dependent species such as the least Bell's vireo (Gardali et al. 2012).
- Hotter and drier conditions could reduce germination rates or misalign plant phenology with pollinator phenology for the Otay tarplant (USFWS 2009b).

Development could worsen these effects; habitat fragmentation due to land use change and other factors associated with the proposed Plan may reduce the ability for species displaced by climate change to seek refuge (EcoAdapt 2017). Some human activities could also worsen specific climate change risks, such as wildfire, due to the higher risk of human ignition from population and housing growth. Thus, development from the proposed Plan can exacerbate climate change effects on special-status species.

## MITIGATION MEASURES

**BIO-2 HAVE A SUBSTANTIAL ADVERSE EFFECT, EITHER DIRECTLY OR INDIRECTLY, ON ANY SPECIES IDENTIFIED AS A CANDIDATE, SENSITIVE, OR SPECIAL-STATUS SPECIES IN LOCAL OR REGIONAL PLANS, POLICIES, OR REGULATIONS, OR LISTED BY CDFW OR USFWS, INCLUDING THEIR FEDERALLY DESIGNATED CRITICAL HABITAT, OR SPECIES THAT ARE CONSIDERED SENSITIVE IN CEQA GUIDELINES SECTION 15380**

### 2025, 2035, and 2050

Mitigation Measures **BIO-1a** through **BIO-1d** are also applicable to, and avoid, minimize, and mitigate impacts on, sensitive vegetation communities that provide habitat for special-status species.

**BIO-2a Implement Design, Minimization, and Avoidance Measures for Special-Status Animal Species.** During planning, design, project-level CEQA review, regulatory permitting process, and construction of transportation network improvements or development projects, SANDAG shall, and other transportation project sponsors, the County of San Diego, cities, and other local jurisdictions can and should, incorporate measures to avoid and minimize impacts on special-status animal species.

#### *Construction*

Construction measures include, but are not limited to, the following:

- Avoid construction during the nesting or breeding season of special-status animal species.
- If the nesting or breeding season cannot be avoided, conduct focused surveys (by certified biologists approved by the Wildlife Agencies) and implement noise attenuation measures (e.g., temporary noise barriers) if construction noise levels are found by the focused survey to disturb special-status animal species, specifically during the breeding season.
- Backfill all wildlife pitfalls (trenches, bores, and other excavations) at the end of each work day. If backfilling is not feasible, slope all trenches, bores, and other excavations at a 3:1 ratio at the ends to provide wildlife escape ramps, or cover completely to prevent wildlife access.
- Delineate permitted work areas, including staging areas, equipment access, and placement of soils, with fencing or stakes prior to construction to prevent access to areas occupied by special-status species.
- Require monitoring of construction activities by qualified or certified biologists when construction occurs in, or adjacent to (i.e., within buffer areas approved by the regulatory agencies), areas suitable for or occupied by special-status species, with authority to stop work if it deviates from approved plans and mitigation measures. Avoidance buffers may vary by species and should be approved by the Wildlife Agencies.
- Avoid nighttime construction or minimize lighting. When activities must occur at night, direct lighting (e.g., staging areas, equipment storage sites, roadway) downward and away from sensitive vegetation communities. Use light glare shields to reduce the extent of illumination into adjoining areas.
- Remove spoils, trash, or any debris to an offsite, approved disposal facility. Contain trash and food items in closed containers and remove daily to reduce the attractiveness to opportunistic predators such as coyotes and feral dogs and cats that may prey on sensitive species. Prohibit workers from bringing pets and firearms to the site.

- Clear vegetation outside of the typical breeding season of special-status animal species as determined by the Wildlife Agencies or qualified biologist. If activities must occur during special-status species breeding season timeframes, conduct a preconstruction survey by a qualified biologist to determine whether the species of concern, including special-status birds protected under the MBTA, are present within the proposed work area or appropriate buffer (buffer distance may vary depending on the type of activity and the species and other site conditions). If the species of concern are found on site, implement measures, surveys, and construction monitoring to avoid impacts as determined by the regulatory agencies and/or the qualified biologist.

#### *Operation and Maintenance*

Operation and maintenance measures include, but are not limited to, the following:

- If permanent lighting is necessary, use motion sensitive lighting rather than steady burning, and direct downward and away from natural vegetation communities. Use light glare shields to reduce the extent of illumination into adjoining areas.
- In the event that vegetation clearing or other vegetation maintenance is required, schedule vegetation clearing outside special-status animal species breeding seasons.
- Implement operational noise reduction measures described in Section 4.13, *Noise and Vibration* (see mitigation measure N-1a).

**BIO-2b Provide Compensatory Mitigation for Special-Status Plant Species.** Where impacts are unavoidable, during planning, design, regulatory permitting, and project-level CEQA review of transportation network improvements or development projects, SANDAG shall, and other transportation project sponsors, the County of San Diego, cities, and other local jurisdictions can and should, provide compensatory mitigation for impacts on special-status plant species as specified through consultation with resource agencies, and consistent with ~~approved~~adopted MSCP or MHCP guidelines and agreements, federal and State regulatory requirements, or local regulations.

#### *Federally and/or State-Listed Plant Species*

- If an individual project would result in take of a federally and/or state-listed plant species, consult with the Wildlife Agencies and/or require the applicant to obtain appropriate take authorizations (e.g., Section 2081 Incidental Take Permit, NCCP, Section 7, Section 10 HCP) prior to construction as required by State and federal law. Federally listed plant species may not fall under this requirement if no federal project nexus is provided. If the area is covered by an ~~approved~~adopted NCCP (e.g., MSCP, MHCP), provide mitigation pursuant to the requirements of the NCCP, subarea plan, and associated ordinances and guidelines.
- Establish appropriate habitat mitigation ratios—depending on the location of the impact and the species—that are also consistent with the requirements of resource agencies and applicable adopted plans, ordinances, and policies that include the appropriate habitat, area, and species in compensation lands. If appropriate, require the applicant to acquire suitable mitigation habitat as part of the SANDAG EMP or use a mitigation bank or in lieu fee program to compensate for impacts.
- Prepare a species and habitat mitigation plan to identify effective methods for reestablishing the affected species and habitat, including, but not limited to, seed collection, salvage of root masses, translocation of transplantation of populations or plant parts, and planting seeds and/or root masses in an area with suitable conditions as approved by the Wildlife Agencies or authorized jurisdiction. Include in the

mitigation plan success criteria for reestablishing the affected species and habitat, and remedial measures that must be implemented if the project is not meeting specified performance criteria.

- Include a monitoring program designed to maintain the resources on lands used as mitigation. Design the monitoring program to evaluate the current and probable future health of the resources, and their ability to sustain populations following the completion of the program.
- Design remedial measures appropriate for the species and habitat. Appropriate remedial measures include, but are not limited to, exotic species management, access control, replanting and reseeding of appropriate habitat elements, and propagation and seed bulking programs.
- Conserve any restoration and translocation sites in perpetuity, fund a long-term management endowment, identify a long-term habitat manager, and provide long-term adaptive habitat management measures through a Habitat Management Plan.

*Non-Federally and/or Non-State-Listed Special-Status Plant Species*

- For plant species covered by adopted NCCPs or other ordinances such as the San Diego County RPO, obtain all appropriate authorizations prior to construction as required by state, federal, and regional conservation plan (NCCP/HCP) regulations and local ordinances. This may include species-specific mitigation for covered narrow endemic plant species pursuant to MSCP or MHCP requirements.
- Mitigate loss of habitat using mitigation banks or through project-specific mitigation. Mitigate habitat impacts through preservation, translocation/transplantation, restoration, or creation of self-sustaining suitable habitat as described above for federally and state-listed species. Establish appropriate habitat mitigation ratios, depending on the location of the impact and the species, to meet the requirements of resource agencies and applicable adopted plans, ordinances, and policies.

**BIO-2c Provide Compensatory Mitigation for Special-Status Animal Species.** Where impacts are unavoidable, during planning, design, regulatory permitting, and project-level CEQA review of transportation network improvements or development projects, SANDAG shall, and other transportation project sponsors, the County of San Diego, cities, and other local jurisdictions can and should, provide compensatory mitigation for impacts on special-status animal species as specified through consultation with resource agencies, and in ~~approved~~ adopted MSCP or MHCP guidelines and agreements, federal and State regulatory requirements, or local regulations.

*Federally and/or State Listed Animal Species*

- If an individual project would result in take of a federally and/or state-listed animal species, consult with the Wildlife Agencies and/or require the project applicant to obtain appropriate take authorizations (e.g., Section 2081 Incidental Take Permit, Section 7, NCCP, HCP) prior to construction as required by State and federal law. If the area is covered by an ~~approved~~ adopted NCCP (e.g., MSCP, MHCP), provide mitigation pursuant to the requirements of the NCCP, subarea plan, and associated ordinances and guidelines. As identified through the appropriate take authorizations, develop mitigation plans and long-term conservation and management strategies, as required and approved by the Wildlife Agencies.
- Mitigate loss of habitat through open space conservation, using mitigation banks (as available) or through project-specific mitigation. Mitigate habitat impacts through preservation, restoration, or creation of self-sustaining suitable habitat following the most recent scientific information and guidance available.
- Establish appropriate habitat mitigation ratios—depending on the location of the impact and the species—that are also consistent with the requirements of resource agencies and applicable adopted NCCP plans,

ordinances, and policies that include the appropriate habitat, area, and species in compensation lands. If appropriate, require the applicant to acquire suitable mitigation habitat as part of the SANDAG EMP or use a mitigation bank or in lieu fee program to compensate for impacts.

- Prepare a species and habitat mitigation plan to identify effective methods for reestablishing the affected species and habitat based on available scientific information and as recommended by the respective species experts. If appropriate and approved by the regulatory agencies, mitigation may include translocation (active or passive) of the species. Include in the mitigation plan success criteria for reestablishing the affected species and habitat, and remedial measures that must be implemented if the project is not meeting specified performance criteria.
- Include a monitoring program designed to maintain the resources on lands used as mitigation. Design the monitoring program to evaluate the current and probable future health of the resources, and their ability to sustain populations following the completion of the program.
- Design remedial measures appropriate for the species and habitat. Appropriate remedial measures include, but are not limited to, exotic species management, access control, habitat restoration, and predator control programs.

*Non-Federally and/or Non-State-Listed Special-Status Animal Species*

- Obtain all appropriate authorizations prior to construction as required by state, federal, and regional conservation plan (NCCP/HCP) regulations and local ordinances (such as the County RPO).
- Follow guidelines that identify mitigation requirements, such as local biology guidelines and mitigation ordinances, or Memoranda of Understanding (MOU) between the respective jurisdiction and Wildlife Agencies.
- Mitigate loss of habitat using mitigation banks or through project-specific mitigation. Mitigate habitat impacts through preservation, restoration, or creation of self-sustaining suitable habitat. Create species-specific breeding opportunities and protect mitigation areas from edge effects (e.g., roadkill). Establish appropriate habitat mitigation ratios, depending on the location of the impact and the species, to meet the requirements of resource agencies and applicable adopted plans, ordinances, and policies.

## **SIGNIFICANCE AFTER MITIGATION**

### **2025, 2035, and 2050**

Implementation of mitigation measures BIO-1a through BIO-1d, and BIO-2a through BIO-2c would reduce this impact (BIO-2). However, there is no assurance that these mitigation measures would be implemented for all projects or be equally effective due to the wide variety of circumstances, complexity of some sites, and complexity of impacts on them. Therefore, this impact (BIO-2) would remain significant and unavoidable.

**BIO-3 INTERFERE SUBSTANTIALLY WITH THE MOVEMENT OF ANY NATIVE RESIDENT OR MIGRATORY FISH OR WILDLIFE SPECIES OR WITH ESTABLISHED NATIVE RESIDENT OR MIGRATORY WILDLIFE CORRIDORS, OR IMPEDE THE USE OF NATIVE WILDLIFE NURSERY SITES**



## ANALYSIS METHODOLOGY

### Regional Growth and Land Use Change

#### *Direct Impacts*

Regional corridor impacts are analyzed by broadly reviewing regional growth and land use change across the region and qualitatively and quantitatively assessing impacts on the wildlife movement corridors described in Section 4.4.1. The review is based on modeled wildlife movement corridors across San Diego County (Jennings et al. 2020, SDSU 2019). Site-specific wildlife movement studies are only available for a small number of isolated projects (e.g., County of San Diego Wildcat Canyon Road and Valley Center Road, SR 94 near Rancho Jamul Ecological Reserve) or planning areas (e.g., City of Carlsbad wildlife movement study). However, wildlife usually moves across large expanses of the landscape, and site-specific information may overlook comprehensive movement corridors and connections. Therefore, for the purpose of the programmatic analysis appropriate for this EIR, the discussion identifies regional corridors that occur in areas that would experience extensive land use change and development. Mapped movement corridors from SDSU's Multi-Species Linkages and Climate Resilient Connectivity Prioritized Linkage Network (SDSU 2019) (see Figure 4.4-15) were overlaid with the GIS layers for those areas that would be converted to developed land uses for each horizon year (see *Regional Growth and Land Use Change* under Impact BIO-1, *Analysis Methodology*). This overlay is used to qualitatively and quantitatively identify where potential conflicts with mapped wildlife corridors could occur. Wildlife nursery sites are generally discussed to note species in Southern California that use specific vegetation communities for nursery sites (i.e., areas for raising offspring). Any direct impact on regional or local wildlife corridors is considered a "substantial adverse effect" on the movement of resident or migratory fish or wildlife species because it could significantly affect the survival of the species and preclude wildlife movement for the purpose of climate change adaptation.

#### *Indirect Impacts*

Indirect impacts that may occur on wildlife corridors in proximity to the areas experiencing regional growth and land use change are qualitatively described on a broad scale. Indirect impacts include noise and light levels that would preclude animals from traveling through a given area. Wildlife movement corridors that lead to a dead end or that would increase roadkill risk (i.e., through lacking or inadequately planned or constructed directional fencing) would also be considered an indirect impact as this could increase mortality or impact breeding success.

### Transportation Network Improvements and Programs

#### *Direct Impacts*

Regional corridor impacts were quantitatively analyzed by overlaying the transportation network footprint on the modeled wildlife movement network developed by SDSU (SDSU 2019) and by reviewing the intersection of the transportation network improvements with mapped wildlife movement corridors described in Section 4.4.1. The analysis overlays the transportation project footprints (see *Transportation Network Improvements and Programs* under Impact BIO-1, *Analysis Methodology*) with the mapped movement corridors described above to calculate where potential conflicts with mapped wildlife corridors could occur. The discussion identifies specific regional corridors that occur in areas with transportation network improvements for each horizon year and quantifies the acreage that could potentially be impacted by the transportation network

improvement program's linear projects. The impact analysis also considers corridors as they relate to movement to and from wildlife nursery sites used by avian, bat, fish, and amphibian species.

### ***Indirect Impacts***

Indirect impacts that may occur on wildlife corridors in proximity to the areas subject to transportation network improvements are qualitatively described on a broad scale, and are similar to those described under regional growth and land use change indirect impacts.

## **IMPACT ANALYSIS**

### **2025**

#### ***Regional Growth and Land Use Change***

##### ***Direct Impacts***

Direct impacts on wildlife corridors reflect physical changes to the corridor itself and typically include the direct removal of habitat or the creation of obstructions that would bisect linear wildlife movement corridors and prevent wildlife from moving across their dispersal habitats. Direct impacts on wildlife corridors are those actions that result in the elimination of a corridor, the creation of a barrier across a corridor, the widening of a barrier, the lengthening of a corridor that might preclude wildlife from reaching habitat, or the narrowing of a corridor through removal of habitat and/or topographical changes. Removal of habitat that narrows wildlife corridors and/or increases the distance wildlife would have to travel through, under, and/or over the urban matrix created by regional growth/land use change and transportation network improvements is a direct impact. Riparian corridors through developed areas are critical to regional connectivity if they function properly and do not result in an ultimate reduction of productivity (e.g., ecological sink). For example, direct impacts on corridors, including urban and riparian corridors, fragment the landscape and can impact species by isolating populations. Additionally, direct impacts on aquatic habitat from dams, diversions, grade-control structures, and highway crossings in streams can inhibit movements of resident or migratory fish and fragment aquatic habitat for native aquatic wildlife. These structures can prevent aquatic species' access to spawning and rearing habitats. Finally, some species in Southern California use specific vegetation communities for nursery sites (i.e., areas for raising offspring). Amphibian species, in particular, require access to upland habitat for foraging and wintering habitat and return to riparian habitat to breed. Other species, such as bats and birds, use particular areas to establish maternity or breeding colonies. Direct impacts adjacent to these areas or between foraging/wintering habitat and breeding habitat can impede the use of these nursery sites.

Direct impacts on wildlife corridors would result from the projects implementing the proposed Plan. Regional growth would constrain some regional movement corridors and eliminate or narrow corridors and further decrease the permeability of existing barriers. Furthermore, the transportation system improvements linked with regional growth and land use change threaten wildlife populations due to highway mortality (Forman and Alexander 1998, Lodé 2000, Trombulak and Frissell 2000). Vehicle collisions have been documented as a major source of mortality for coyotes and bobcats (Tigas et al. 2002), mule deer (Reed 1981), and mountain lions (Dickson and Beier 2002).

The regional growth and land use change expected by 2025 would increase human disturbances, noise, and/or lighting and would directly and indirectly impact several corridors, including some identified in the SDSU Climate Resilient Corridors, South County MSCP, and South Coast Missing Linkage studies. Many of the impacted corridors are already identified as being constrained, and further impacts would reduce corridor

function. In particular, spaced rural residential development would further reduce corridor function of the linkages identified in the South County MSCP between Otay Lakes/Otay Mesa/Otay River Valley and South San Diego Bay Silver Strand.

The quantification of regional growth and land use change impacts on wildlife movement are substantially overestimated due to source data, which were modeled and included already developed areas. The corridors identified by the Las Californias Binational Conservation Initiative between the United States and Mexico would be relatively unaffected by regional growth and land use change because planned development in the U.S. spatially connects with existing development on the Mexico side of the border. The Pacific Flyway and Audubon IBAs would also be largely unaffected by the proposed Plan because most of the movement occurs across the Pacific Ocean, and resting places for water fowl and IBAs would remain mainly undeveloped.

#### *Indirect Impacts*

Indirect impacts on wildlife corridors reflect changes that reduce the suitability of corridors for species that use them. Corridors with degraded functionality can result in species choosing not to use the corridor or in increased rates of mortality or reduced reproduction rates among those individuals that do choose to use the corridor. When the rate of mortality a species experiences within a corridor exceeds the breeding and health benefits provided by the corridor, it acts as a population sink for the species.

Indirect impacts on wildlife corridors would occur as a result of increased human disturbance, noise, and/or lighting due to regional growth and land use change. As noted in Section 4.4.1, riparian corridors are important to regional connectivity in Southern California and often are the only connections left to large core habitat patches. Increased human presence and/or density, noise, and/or lighting may deter wildlife species from using wildlife corridors, including riparian corridors, and impede use of wildlife nursery sites. Indirect impacts driven by edge effects on corridors vary depending on the scale of the corridor. Most edge effects have a given range of influence from the source. A given edge effect (e.g., lighting) may affect the entire width of a narrow local corridor and thus seriously impede its function, but would reach only a short distance into a wide corridor and thus have a negligible effect on its function.

As discussed above, many terrestrial species can utilize agricultural land that is adjacent to native habitat for supplemental forage or cover depending on the intensity and type of the agricultural activity present. Additionally, agricultural land situated between native habitat patches can provide movement corridors for terrestrial species. Conversion of agricultural land to urban uses further limits wildlife movement through these areas. Dredge and fill activities in riverine and riparian habitats can affect fisheries habitat in a number of ways. Indirect impacts can include changes in water flow rates, water quality, and increased predation and can lead to the loss or deterioration of upstream or downstream habitat. These negative changes can be detrimental to upstream and downstream fish migration.

Increased predation from domestic animals and/or mesopredators adapted to urban conditions makes it less likely native species would survive while using a corridor. Roads can function as a particularly hostile matrix to native wildlife species, at times forming an impenetrable barrier to necessary movement. Negative indirect effects of highways on wildlife can include habitat fragmentation and changes in movement and distribution patterns (Trombulak and Frissell 2000, Schaefer et al. 2003, Brehme et al. 2013). Additional effects of roads can also include alteration of chemical environment, spread of exotic species, and increased alteration and use of habitat by humans (Trombulak and Frissell 2000). There have been many studies of carnivores in Southern California reflecting various responses to habitat fragmentation and roads (Crooks 1999, 2002; Crooks and Soule 1999; Lyren 2001; Fedriani et al. 2000; Tigas et al. 2002; Riley et al. 2003; Riley 2006; George and Crooks

2006; Lyren et al. 2006; Riley et al. 2006; Morin 2007). These responses include changes in behavior as well as patterns of spatial occurrence.

Even in regionally preserved core areas of Southern California, continued development and road construction negatively impact and alter general movement patterns and survival of some native species (Lyren et al. 2006). Riley et al. (2006) found a Southern California freeway, US-101, to operate as a genetic barrier to both bobcats and coyotes, suggesting that, even when these animals are crossing the highway, there is still a social barrier reflected in a lack of reproductive success of migrants. These genetic consequences threaten overall population health despite limited structural connectivity. The fact that coyotes, a common, adaptive, and opportunistic predator, are impacted by fragmentation indicates the effects on other more sensitive species may be even more pronounced.

### *Summary*

As discussed in Section 4.4.2, numerous federal, state, and local laws, regulations, and programs are in place that protect sensitive species; however, wildlife movement corridor conservation is not mandated by any federal regulations, and only recommended on the State level where wildlife movement corridors are identified. Federal laws and regulations including FESA, MBTA, and BGEPA specifically protect federally listed species, migratory birds, and eagles, and State laws and regulations, including CESA and CFGC, protect state-listed and other sensitive species and their habitats. The local NCCP and HCP programs implemented in the San Diego region identify core and linkage areas, protect linkages, and provide a process to strategically facilitate connectivity between open space habitats (cores). Conservation of agricultural lands discussed in Section 4.2 may help to maintain connectivity in some locations because many avian species and medium to large mammal species can utilize agricultural lands as habitat for foraging and/or temporary cover to traverse between native habitats.

While adherence to the existing federal, state, and local laws, regulations, and programs discussed in Section 4.4.2 would reduce impacts on wildlife movement, it cannot be concluded that adherence would result in less-than-significant impacts for all projects. Considering both direct and indirect impacts, land use change under the proposed Plan would interfere substantially with fish and wildlife movement, wildlife corridors, and nursery sites. This is a significant impact.

### ***Transportation Network Improvements and Programs***

#### *Direct Impacts*

The types and nature of direct impacts that may occur on wildlife movement are similar to those discussed above for regional growth and land use change. However, whereas regional growth and land use change impacts on wildlife movement occur on a landscape-level in the form of development and local access and connector roads, the impacts of the linear transportation network improvements would cause an overall increase in the barriers to wildlife corridors. Highways and rail alignments pose significant barriers to the movement of animals, particularly as traffic volumes increase to support increasing populations.

Transportation network improvements that would impact wildlife corridors are planned for existing highways, transit projects, or arterials that already act as wildlife barriers. Widening these transportation corridors would not necessarily cut off these corridors because bridges that would be widened would likely be designed to allow for continued wildlife movement. However, as discussed above for regional growth and land use change, they may make existing crossings less attractive for use by wildlife species, and the greater width may lead to

additional highway mortality for terrestrial and avian species that attempt to cross transportation corridors at grade. Specific locations and quantifications of where the transportation network's linear projects might be in conflict with wildlife movement corridors and linkages are presented in Table 4.4-13.

**Table 4.4-13**  
**Forecasted Encroachments Into Wildlife Movement Corridors and Linkages Within the San Diego Region (acres) up to the Year 2025**

| <b>Corridor and Linkage Categories</b>             | <b>Regional Growth and Land Use Change</b> | <b>Transportation Network Improvements</b> | <b>Total</b>     |
|--|--|--|------------------|
| SDSU Climate Resilient Wildlife Movement Corridors | 2,852                                      | 9  | 2,861            |
| MSCP Core and Linkages                             | 3,730                                      | 26   | 3,756            |
| <u>MHCP Core and Linkages (BCLA)</u>               | <u>77</u>                                  | <u>2</u>                                   | <u>79</u>        |
| <b>Total</b>                                       | <b>6,582,659</b>                           | <b>3537</b>                                | <b>6,617,696</b> |

The majority of transportation network improvements in the 2025 horizon year are arterials and local connectors. These are existing roads in highly urbanized areas and do not cross canyons or riparian areas that provide movement corridors for wildlife. Some specific examples of arterial projects that would impact riparian corridors include Via de la Valle over Escondido Creek, including bridge widening that could potentially impact wildlife movement along Escondido Creek; the widening of El Camino Real in Carlsbad over Batiquitos Lagoon, and El Camino Real where it crosses San Dieguito River; Dye Road to San Vicente Road, and road extension from Boundary Avenue to Warnock Drive in Ramona; the Carlton Oaks segment across the San Diego River; the H Street extension on H Street marsh; the Heritage Road Bridge where it crosses the Otay River; Otay Lakes Road around the Upper Otay Lake; and the widening of La Media Road south of SR 905.

Bikeways would have relatively little impact on corridors as most are within or directly adjacent to developed areas; however, the Bayshore Bikeway from Ada Street to Palomar Street affects the MSCP Linkages. The increased presence of humans in some riparian areas (e.g., Coastal Rail Trail, San Diego River Trail) may alter wildlife behavior in excess of current conditions, but considering that these areas are already heavily disturbed by human presence.

#### *Indirect Impacts*

The type and nature of indirect impacts would be the same as those described above for regional growth and land use change.

#### *Summary*

By 2025, the transportation network improvements projected in the proposed Plan would impact wildlife movement. As discussed for the regional growth and land use change, adherence to the existing federal, state, and local laws, regulations, and programs discussed in Section 4.4.2 would reduce impacts on wildlife movement; however, it cannot be concluded that adherence would result in less-than-significant impacts for all projects. Considering both direct and indirect impacts, transportation network improvements under the proposed Plan would interfere substantially with fish and wildlife movement, wildlife corridors, and nursery sites. This would be a significant impact.

### **2025 Conclusion**

Implementation of the regional growth and land use change as well as transportation improvements and programs would interfere substantially with fish and wildlife movement, wildlife corridors, and nursery sites. Therefore, this impact (BIO-3) in the year 2025 would be significant.

### **2035**

#### ***Regional Growth and Land Use Change***

##### *Direct Impacts*

The types and nature of the direct impacts that may occur on wildlife movement by 2035 are similar to 2025. By 2035, as discussed for 2025, regional growth and land use change would directly and indirectly impact several corridors, specifically by spaced rural residential development such as the corridor between Otay Mountain and Cleveland National Forest and riparian corridors along the San Luis Rey River and Santa Margarita River.

##### *Indirect Impacts*

The type and nature of indirect impacts that may occur on wildlife movement are similar to those in 2025.

##### *Summary*

As discussed for 2025, while adherence to the existing laws, regulations, and programs detailed in Section 4.4.2 would reduce impacts on wildlife movement, it cannot be concluded that adherence would result in less-than-significant impacts for all projects. Considering both direct and indirect impacts, land use change under the proposed Plan would interfere substantially with fish and wildlife movement, wildlife corridors, and nursery sites. This is a significant impact.

#### ***Transportation Network Improvements and Programs***

##### *Direct Impacts*

The types and nature of direct impacts that may occur on wildlife movement by 2035 are similar to 2025. However, the transportation network improvement impacts for the 2035 horizon year are significantly larger than those planned for the 2025 horizon year. Additional lanes and improvements planned along major highways by 2035 would impact wildlife corridors and linkages, including riparian corridors as a result of bridge crossings or existing bridge widenings. Transportation network improvements that would impact wildlife corridors are planned for existing highways, transit projects, or arterials that already act as wildlife barriers. Widening these transportation corridors would not necessarily cut off these corridors because bridges that would be widened would likely be designed to allow for continued wildlife movement. However, as discussed above for regional growth and land use change in 2025, they may make existing crossings less attractive for use by wildlife species, and the greater width may lead to additional highway mortality for terrestrial and avian species that attempt to cross transportation corridors at grade. Conflicts between wildlife movement corridors and linkages from the linear transportation network projects are presented in Table 4.4-14.

**Table 4.4-14  
Forecasted Encroachments Into Wildlife Movement Corridors and Linkages Within the San Diego  
Region (acres) 2026-2035**

| <b>Corridor and Linkage Categories</b>             | <b>Regional Growth and Land Use Change</b> | <b>Transportation Network Improvements</b> | <b>Total</b>    |
|--|--|--|-----------------|
| SDSU Climate Resilient Wildlife Movement Corridors | 2,640                                      | 56   | 2,696           |
| MSCP Core and Linkages                             | 325  | 498  | 823             |
| <u>MHCP Core and Linkages (BCLA)</u>               | <u>23</u>                                  | <u>15</u>                                  | <u>38</u>       |
| <b>Total</b>                                       | <b>2,98685</b>                             | <b>554569</b>                              | <b>3,519557</b> |

Almost the entire planned transportation network could potentially affect regional wildlife corridors and linkages. MSCP linkages are conflicted by the Bayshore Bikeway, Coastal Rail Trail, San Diego River Trail, and segments of Complete Corridors, including I-15 at Clairemont Mesa Boulevard; I-805 at Nobel Drive; SR 125 from SR 54 to SR 905; SR 52 through Mission Trails Regional Park, Kearny Mesa, and from I-805 to I-15; I-15 from I-8 to SR 163; I-805 from Balboa Avenue to SR 905; SR 905 to the border; and intermittently the entire I-5 corridor. Rural Complete Corridors that affect wildlife movement include SR 76 at Cole Grade Road and Pauma Reservation Road; I-8 to West Willows Road; and SR 94 intersection improvement at Jamacha and Melody Road.

The majority of arterials are existing roads in highly urbanized areas and do not cross canyons or riparian areas that provide movement corridors for wildlife. Specific examples of arterial projects that would impact riparian corridors include El Camino Real from La Costa Avenue to Arenal Road where it crosses San Marcos Creek, El Camino Real where it crosses San Dieguito River, the Willow Street Bridge Project from Bonita Road to Sweetwater Road where it crosses Sweetwater River, and the Heritage Road Bridge where it crosses the Otay River. Bikeways would have relatively little impact on corridors as most are within or directly adjacent to developed areas. The increased presence of humans in some riparian areas ~~(e.g., Coastal Rail Trail, San Diego River Trail)~~ may alter wildlife behavior relative to current conditions, but considering that these many areas are already heavily disturbed by human presence.

#### *Indirect Impacts*

The type and nature of indirect impacts that may occur on wildlife movement by 2035 are similar to 2025.

#### *Summary*

By 2035, the transportation network improvements projected in the proposed Plan would impact wildlife movement. As discussed for 2025, while adherence to the existing laws, regulations, and programs detailed in Section 4.4.2 would reduce impacts on wildlife movement, it cannot be concluded that adherence would result in less-than-significant impacts for all projects. Considering both direct and indirect impacts, transportation network improvements under the proposed Plan would interfere substantially with fish and wildlife movement, wildlife corridors, and nursery sites. This is a significant impact.

### **2035 Conclusion**

Implementation of the regional growth and land use change as well as transportation improvements and programs would interfere substantially with fish and wildlife movement, wildlife corridors, and nursery sites. Therefore, this impact (BIO-3) in the year 2035 would be significant.

### **2050**

#### ***Regional Growth and Land Use Change***

##### *Direct Impacts*

The types and nature of the direct impacts that may occur on wildlife movement by 2050 are similar to 2025 and 2035. By 2050, as discussed for 2025 and 2035, regional growth and land use change would directly and indirectly impact several corridors. Spaced rural residential development would further impact the corridors already identified as impacted in 2025 and 2035.

##### *Indirect Impacts*

The type and nature of indirect impacts that may occur on wildlife movement are similar to 2025 and 2035.

##### *Summary*

As discussed for 2025 and 2035, while adherence to the existing laws, regulations, and programs detailed in Section 4.4.2 would reduce impacts on wildlife movement, it cannot be concluded that adherence would result in less-than-significant impacts for all projects. Considering both direct and indirect impacts, land use change under the proposed Plan would interfere substantially with fish and wildlife movement, wildlife corridors, and nursery sites. This is a significant impact.

#### ***Transportation Network Improvements and Programs***

##### *Direct Impacts*

The types and nature of direct impacts that may occur on wildlife movement by 2050 are similar to 2025 and 2035. The 2050 horizon year impacts from transportation network improvements are similar in nature but slightly less than those of the 2035 horizon year. Additional lanes and improvements planned along major highways by 2050 would impact riparian corridors. Transportation network improvements that would impact wildlife corridors are planned for existing highways, transit projects, or arterials that already act as wildlife barriers. Widening these transportation corridors would not necessarily cut off these corridors because bridges that would be widened would likely be designed to allow for continued wildlife movement. However, as discussed above for regional growth and land use change, they may make existing crossings less attractive for use by wildlife species, and the greater width may lead to additional highway mortality for terrestrial and avian species that attempt to cross transportation corridors at grade. Conflicts between wildlife movement corridors and linkages from the linear transportation network projects are presented in Table 4.4-15.



**Table 4.4-15  
Forecasted Encroachments Into Wildlife Movement Corridors and Linkages Within the San Diego  
Region (acres), 2036-2050**

| <b>Corridor and Linkage Categories</b>             | <b>Regional Growth and Land Use Change</b> | <b>Transportation Network Improvements</b> | <b>Totals</b>               |
|--|--|--|-----------------------------|
| SDSU Climate Resilient Wildlife Movement Corridors | 2  | 155  | 157                         |
| MSCP Core and Linkages                             | 191  | <del>285</del> <u>288</u>                  | <del>476</del> <u>479</u>   |
| MHCP Core and Linkages                             | 7  | 15   | 22                          |
| <b>Total</b>                                       | <b><u>193</u><u>200</u></b>                | <b><u>440</u><u>458</u></b>                | <b><u>633</u><u>658</u></b> |

Segments of highways that would impact corridors include the Complete Corridor on I-15 across the Santa Ana-Palomar linkage. A significant bottleneck already exists in the link from the Santa Ana Mountains, Palomar Mountains, and inland ranges to the Cleveland National Forest and MCB Camp Pendleton, and a specifically wildlife movement and corridor planning study has been discussed for this linkage. The Complete Corridor on SR 56 (I-5 to I-15) along Carmel Valley between Sorrento Mesa and Fairbanks Ranch would also conflict with modeled wildlife movement corridors, as would the Complete Corridor on SR 76 to Pala Mission Road and Deer Canyon Drive. The San Luis Rey River Trail to I-15 along San Luis Rey River would potentially affect wildlife movement for many federally and state-listed species along the entire reach of the planned improvements.

Bikeways in 2050 would have relatively little impact on corridors as most are within or directly adjacent to developed areas. The increased presence of humans in some riparian areas may alter wildlife behavior, but these areas are already heavily disturbed by human presence.

#### *Indirect Impacts*

The type and nature of indirect impacts that may occur on wildlife movement by 2050 are similar to 2025 and 2035.

#### *Summary*

By 2050, the transportation network improvements projected in the proposed Plan would impact wildlife movement. As discussed for 2025 and 2035, while adherence to the existing laws, regulations, and programs detailed in Section 4.4.2 would reduce impacts on wildlife movement, it cannot be concluded that adherence would result in less-than-significant impacts for all projects.

Considering both direct and indirect impacts, transportation network improvements under the proposed Plan would interfere substantially with fish and wildlife movement, wildlife corridors, and nursery sites. This is a significant impact.

#### **2050 Conclusion**

Implementation of the regional growth and land use change as well as transportation improvements and programs would interfere substantially with fish and wildlife movement, wildlife corridors, and nursery sites. Therefore, this impact (BIO-3) in the year 2050 would be significant.

### Exacerbation of Climate Change Effects

The proposed Plan could exacerbate potential climate change effects on movement of fish or wildlife species or wildlife corridors. Climate change could increase the rate at which plant and animal species require corridors by rapidly changing temperature and precipitation patterns and thus altering habitats. Vegetation especially may not be able to move as quickly to keep up with changing climate, and some habitats may expand while others are lost (Moser et al. 2012). Increased temperatures and drought could also affect the Pacific Flyway, which encompasses the San Diego region and provides areas for migratory birds to stop and feed (Murphy 2018). Climate change could also affect migratory corridors themselves, as changes to temperature, precipitation, drought, and wildfire patterns may affect the vegetation that comprises corridors and fragment or completely remove them.

Development from the proposed Plan could worsen these effects; habitat fragmentation due to land use change, transportation network improvements, and other factors associated with the proposed Plan may interfere more with habitat and migratory corridors and reduce the ability for species displaced by climate change to seek refuge (EcoAdapt 2017). Some human activities could also worsen specific climate change risks, such as wildfire, due to the higher risk of human ignition from population and housing growth associated with the proposed Plan. Thus, development from the proposed Plan can exacerbate climate change effects on migratory corridors.

### MITIGATION MEASURES

#### **BIO-3 INTERFERE SUBSTANTIALLY WITH THE MOVEMENT OF ANY NATIVE RESIDENT OR MIGRATORY FISH OR WILDLIFE SPECIES OR WITH ESTABLISHED NATIVE RESIDENT OR MIGRATORY WILDLIFE CORRIDORS, OR IMPEDE THE USE OF NATIVE WILDLIFE NURSERY SITES**

#### **2025, 2035, and 2050**

**BIO-3a ~~Design Projects to Facilitate Wildlife Movement.~~** During planning, design, and project-level CEQA review of transportation network improvements or development projects, SANDAG shall, and other transportation project sponsors, the County of San Diego, cities, and other local jurisdictions can and should, implement project designs that provide for continued movement of wildlife by limiting edge effects and assisting wildlife navigation through or across barriers in areas where wildlife corridors and nursery sites are impacted, as determined by best available information, modeled wildlife corridors, linkages identified in adopted HCP/NCCPs, studies conducted by San Diego Management and Monitoring Program in collaboration with the USGS Biological Resource Division, or project-specific wildlife movement studies. Conduct wildlife movement studies and Before-After-Control-Impact-Studies (BACI) where data are lacking, identify corridor widths and wildlife crossing structures, and consider balancing conservation and recreation (Mitrovich et al. 2020) in project design. Include adaptive management and monitoring measures in the CEQA review, mitigation measures, and project design. Design measures include, but are not limited to, the following:

- Allow corridor buffer zones and wide movement corridors to remain or incorporate periodic larger habitat patches along a corridor's length.
- Where feasible, site linear projects, including pedestrian trails, away from wildlife corridors and conserved lands or NCCP lands.

- Where feasible, prohibit night-time trail use and enforce seasonal trail closure, and plan access points and infrastructure carefully to minimize the effects on biological resources and wildlife corridors.
- As feasible, within 200 feet of a wildlife corridor, use non-reflective glass or glass treated with non-reflective coating for all exterior windows and building surfaces.
- Use only native species for landscaping within at least 200 feet of identified wildlife corridors.
- Incorporate dimmed, shielded, and directed lighting in areas near corridors that only illuminate the project site; consider high pressure sodium or cut-off fixtures as feasible, and provide vegetative screening to reduce light pollution on corridors.
- Include permanent noise barriers and sound-attenuating features as part of the project design, and incorporate temporary noise barriers and noise-reduction devices on equipment during construction; require the use of hydraulically or electrically powered tools, as feasible. Barriers could be in the form of outdoor barriers, sound walls, buildings, or earth berms to attenuate noise at adjacent sensitive uses.
- Install physical barriers (e.g., wildlife fencing) that prevent human and/or domestic predator entry into the corridor and, if appropriate, limit the amount of noise and lighting that enters the corridor. Use techniques such as grade separation, buffer zones, landscaped berms, dense plantings, sound walls, reduced-noise paving materials (i.e. rubberized asphalt), and traffic calming measures.
- Minimize the number of road crossings through identified wildlife corridors.
  - Incorporate the appropriate wildlife crossing infrastructure into project design. Wildlife crossing infrastructure will be designed following the latest scientific information, and should include upgrading existing culverts to facilitate functional wildlife movement, installing crossing and directional fencing at roadkill hotspots, installing wildlife bridges or undercrossing, and managing in perpetuity both sides of the wildlife crossings. Construct or retrofit with features such as open span bridges instead of closed culverts to allow for wildlife movement under linear transportation corridors.
  - If the construction of or retrofitting with wildlife bridges is infeasible, incorporate undercrossings and/or other crossing structures that use scientifically accepted openness ratios to allow for continued movement of wildlife where transportation facilities create barriers to wildlife movement and use of nursery sites. Evaluate size-class-specific crossing structures and movement enhancement features (e.g., habitat refugia within structure, soft bottom undercrossings) for each species to ensure that crossings are functional for movement. Additionally, within aquatic habitat impacting fish corridors for species such as southern steelhead, create passable aquatic barriers for migratory fish species in order to provide fish access to spawning and rearing habitats.
  - Maintain undercrossings and/or other crossing structures as needed to ensure wildlife movement. Prepare a fencing and wildlife crossing structure maintenance plan for projects with edge effects to maintain permeability for wildlife across corridors.
  - Install directional fencing, where appropriate, to reduce vehicle mortality and guide wildlife to proposed bridges, undercrossings, and/or other crossing structures. Where fencing stops, extend the fence and angle it away from the roadways to deter wildlife from being funneled to roadways. Because it is not possible to install a continuous fence, use one-way gates or jump-outs so animals that do get around fence end runs can safely exit roadways.

The inclusion of the above design features should result in an equal or net-benefit to wildlife movement compared to existing conditions.

In addition, ~~BIO-3b~~ pursuant to the California Ecosystems Protection Act (AB 1788), ban the use of anticoagulant rodenticides near open space, conserved lands and areas identified as core, linkages, wildlife corridors, or other connectivity areas. The use of anticoagulant rodenticides causes secondary poisoning in predators and may contribute to reduced functional connectivity in an already constrained landscape.

## **SIGNIFICANCE AFTER MITIGATION**

### **2025, 2035, and 2050**

Implementation of mitigation measure BIO-3 would reduce this impact (BIO-3). However, there is no assurance that this mitigation measure would be implemented for all projects or equally effective due to the wide variety of circumstances, complexity of some sites, and complexity of impacts on them. Therefore, this impact (BIO-3) would remain significant and unavoidable.

### **BIO-4 CONFLICT WITH THE PROVISIONS OF AN ADOPTED HCP, NCCP, OR OTHER CONSERVATION PLAN, OR WITH ANY LOCAL POLICIES OR ORDINANCES PROTECTING BIOLOGICAL RESOURCES**

## **ANALYSIS METHODOLOGY**

Implementation of the proposed Plan would comply with the provisions of all approved local, regional, state, and federal regulations, policies, ordinances, and finalized conservation plans (HCP/NCCP, specifically the MSCP and MHCP and their respective subregional plans).

The locally adopted MSCP and MHCP and their respective subregional plans identify and map lands that are targeted for conservation in the future but within which some development is allowed (i.e., softline preserves, partial land conservation targets, PAMA, etc.). By the year 2025, additional draft NCCPs and subregional plans (e.g., the City of Oceanside Draft MHCP Subarea Plan and the County of San Diego North County MSCP) would likely be approved. These conservation plans describe the processes by which future development impacts on target habitats and species both inside and outside preserves are evaluated and approved while meeting conservation targets. The proposed Plan is designed to follow the policies and procedures of the adopted MSCP and MHCP (City of San Diego 1998 and SANDAG 2003, respectively) and their adopted subregional plans, and it can be assumed that all development within the plan areas would comply with all associated guidelines and ordinances, and that project-specific review and analysis would ensure compliance. Furthermore, plans such as the South County MSCP have specific accommodations for implementation of the adopted circulation network.

It should be noted that the MSCP IA is a 50-year permit issued by the USFWS and CDFW. The IAs for the Poway Subarea Plan (1996), the County of San Diego MSCP (1997), and the City of San Diego Subarea Plan (1997) expire prior to the 2050 horizon year. The County applied for an amendment to the MSCP in 2020. This EIR assumes that the IA for each plan would be amended and extended past the 2050 horizon year. For the purpose of this EIR it is assumed that all permits associated with the MSCP and its subarea plans (e.g., City of Poway 1996, both the County and City of San Diego 1997) would be renewed, and the analysis for the horizon year 2050 was conducted accordingly.

The analysis methodology includes a quantitative analysis of potential encroachment into ~~hardline preserves~~ MSCP and MHCP Preserves (i.e., areas currently protected, or partially protected, from development and/or permanently conserved) identified and mapped in locally adopted HCP/NCCPs and their corresponding implementing ordinances. Allowable development and uses within ~~hardline preserves~~ these preserves are

generally limited to activities considered compatible with conservation goals, such as passive recreation, scientific study, and essential public safety activities such as fuel management, law enforcement, and repair of infrastructure. Development of homes, businesses, and new or expanded infrastructure, and similar community elements are not allowed within ~~hardline preserve~~ NCCP Preserve areas except where identified in the subregional plans. Softline preserves and minor, and major amendment areas are excluded from the analysis because these areas would be impact-neutral, meaning that loss of these areas would be compensated by adding lands of equal or higher habitat value into the ~~hardline preserve~~ NCCP Preserve system consistent with the requirements of the respective NCCP and IA.

Any regional growth and land use change or transportation network improvement that encroaches into ~~hardline preserve~~ NCCP Preserve areas would initially conflict with the HCP/NCCP and violate the NCCP permits; it is assumed that the majority of impacts on NCCP Preserves would be avoided. However, pursuant to adopted NCCP Subarea Plans and associated ordinances, procedures are in place to process preserve boundary line adjustments (e.g., City of San Diego 2018), or major or minor amendments to the NCCP Subarea Plans (e.g., County of San Diego 2010). Boundary adjustment or amendment approvals would require biologically equivalent or superior habitat compensation or project redesign when there is encroachment into ~~hardline preserve~~ NCCP Preserve areas; major amendments also require approval by the regional offices of the USFWS and CDFW. There may be cases where a preserve boundary adjustment is not possible, and a project would be redesigned to avoid the preserve area as necessary. GIS data layers are used to identify existing ~~hardline preserve~~ NCCP Preserve areas in the San Diego region. This database makes it possible to determine if any elements of the proposed Plan encroach into ~~hardline preserve~~ NCCP Preserve areas that prohibit development, notwithstanding the possibility of a boundary adjustment that would compensate for impacts of encroachment, and to quantitatively assess the encroachment into ~~hardline preserves~~ NCCP Preserves.

Some NCCP Preserves are already conserved while others are still in the planning stage. In order to avoid double-counting of overlay in areas where NCCP Preserves are already conserved, the impact acreage in the tables below for each horizon year is assigned to the “Conserved Lands and Habitat Preserves” category rather than in the respective NCCP Preserve layer. The overlay of already conserved areas on the NCCP Preserves is illustrated in Figure 4.4-16.

Furthermore, the analysis also includes potential encroachments into lands conserved outside the NCCP boundaries, including open space preserves or mitigation sites. Impacts on these conserved lands are highly unlikely due to the agreements that govern the conservation agreements that govern many if not most of these lands. The analysis is based on programmatic impact footprints; on a project-specific level, most of these impacts would likely be avoided through project redesign. The Public Park Preservation Act of 1971 (Public Resources Code Sections 5400-5409) requires that any “take” of public parkland may require compensation that is sufficient to acquire substantially equivalent substitute parkland or provide substitute parkland of comparable characteristics.

In addition, local policies and ordinances are qualitatively reviewed for potential conflicts with regional growth and land use change or transportation improvement projects.

## IMPACT ANALYSIS

2025

### ***Regional Growth and Land Use Change***

#### *Direct Impacts*

Implementation of the regional growth and land use change in the proposed Plan through 2025 would encroach into existing South County MSCP ~~hardline preserves~~ Preserves, City of San Diego MHPA 100 percent preservation areas, City of Chula Vista MSCP Preserve (100 percent and 75 to 100 percent Conservation Areas), MHCP ~~FPA/FPA/BCLA~~, and conserved lands and habitat preserves or mitigation areas that were set aside as implementation of the regional NCCPs (Table 4.4-16). The largest total area of encroachment is a result of development associated with Otay Mesa and Otay Ranch and potential impacts on the Otay Ranch Preserve. ~~In 2020, the County of San Diego applied for an amendment to the South County MSCP to include Otay Ranch (Village 14, Planning Areas 16 and 19), and to include the Quino checkerspot butterfly and San Diego fairy shrimp as covered species. The amendment would also include a land exchange to reclassify over 500 acres of hard line preserves. This land exchange is not addressed or analyzed in this EIR because the Wildlife Agencies have not yet approved the amendment. However, it is assumed that by the 2025 horizon year, the amendment would be approved.~~

Encroachment into ~~the City's MHPA\_100 percent preservation areas~~ consists of small fragments of urban development. ~~Similarly, allowable development may occur in some portions of the MHCP FPA/BCLA depending on the classification of the impacted vegetation community. Larger impacts occur on the City of Chula Vista MSCP Preserve (100 percent and 75 percent Conservation Areas would result in impacts of 30 acres and 12 acres, respectively, during the 2025 horizon year) partially due to development at Otay Ranch; the latter will include an adjustment of the Otay Ranch Preserve boundary to be negotiated with the Wildlife Agencies. Impact acreages due to regional land use changes and specifically for spaced rural residential development overestimate impacts within hardline preserves~~ NCCP Preserves because development occurs at a much lower density ~~in identified NCCP Preserves than other developed areas and as only portions of properties are~~ would be developed. However, because any developed land use category for lands within ~~hardline preserve~~ NCCP Preserves conflicts with the compatible land use designated for ~~hardline preserves~~ NCCP Preserves, the entire acreage is quantified regardless of the percent conserved status.

**Table 4.4-16**

**Forecasted Encroachments Into Conservation Areas and Lands Designated for Conservation by Regional Conservation Plans Within the San Diego Region (acres) up to the Year 2025**

| <b>Conservation Categories</b>  | <b>Regional Growth and Land Use Change</b> | <b>Transportation Network Improvements</b> | <b>Total</b> |
|---|--|--|--------------|
| City of San Diego MHPA – 100 Percent Conserved  | 11.460                                     | 4  | 14.464       |
| City of Chula Vista MSCP Preserve   | 42   | 2  | 44           |
| MSCP South County <del>MSCP Preserve</del><br><del>South County – Hardline Preserve</del> | 79.358                                     | 2928                                       | 107.986      |
| MHCP – FPA/BCLA   | 49.886                                     | 23   | 51.789       |
| Conserved Lands and Habitat Preserves   | 137.5147                                   | 47   | 141.5154     |

### *Indirect Impacts*

Developments associated with regional growth and land use change planned for the 2025 horizon year are mostly located outside preserve systems, but some are immediately adjacent, which may cause impacts from edge effects, such as brush management conflicts, invasive species invasions, trespassing (including poaching and vandalism), unauthorized recreational uses, and roadkill.

### *Summary*

By 2025, regional growth and land use change projected in the proposed Plan would allow for more development and redevelopment within ~~hardline preserve~~NCCP Preserve areas identified by adopted HCP/NCCPs or encroachment on already conserved open space. Project-specific planning, review by local agencies (including jurisdictions), regulatory agencies, and Wildlife Agencies, and CEQA review of land use and transportation projects would minimize or remove any potential conflict with policies and ordinances protecting biological resources. No other conflicts are expected with any approved local, regional, state, or federal regulations, policy, ordinance, or plan, with the exception of encroachment into ~~hardline preserve~~Preserve areas identified by adopted HCP/NCCPs.

If ~~hardline preserve~~NCCP Preserve areas are impacted by regional growth and land use, projects would be required to follow adopted HCP/NCCP procedures to process a preserve boundary adjustment if necessary. Full compensation of acreage and preserve function, retaining or improving upon the size, configuration, and habitat value of the preserve, would be required through coordination with USFWS, CDFW, and the appropriate local agency. Encroachment into conserved open space would likely require vacating any conservation easements, which is an unlikely process, and would require full compensation with open space conservation of equal or higher value; therefore, this analysis assumed that rather than vacating existing conservation easement, developments would be redesigned to avoid encroachments.

The majority of impacts on conserved lands would affect lands on Otay Ranch, ~~which would be allowed under the County's amendment to the South County MSCP Subarea Plan once approved by the Wildlife Agencies. Because the amendment has not yet been approved, the reported acreage impacts do not reflect the amendment. As such, the impacts derived from the current data and reported in this EIR would be significantly overestimated upon amendment approval.~~ Projects would follow adopted procedures to process a preserve boundary adjustment if necessary. In addition, all habitat-based mitigation would be required by the HCPs and/or NCCPs at ratios or quantities specified in the plans. Regional growth and land use change associated with the proposed Plan would be unlikely to violate policies and procedures of the adopted HCP/NCCPs, and ~~hardline preserve~~NCCP Preserve conflicts would be resolved through boundary adjustments, compensation, or project redesign so that impacts would be less than significant. In cases where a preserve boundary adjustment is not possible, due to unavailable habitat for mitigation, projects would be redesigned to avoid the preserve area because ~~hardline preserves~~NCCP Preserves are protected in perpetuity. Therefore, impacts of regional growth and land use change associated with the proposed Plan are less than significant.

### ***Transportation Network Improvements and Programs***

#### *Direct and Indirect Impacts*

Transportation network improvements would be the same as previously described in the 2025 analysis under Impact BIO-1, and are relatively minor; most of these impacts would be avoided as part of the project-specific design. Implementation of the transportation network improvements in the proposed Plan through 2025

would encroach into MHCP FPA/BCLA (Table 4.4-16), for example at Citracado Parkway II (including a bridge over Escondido Creek). The City of San Diego's MHPA would be encroached by the widening of Otay Lakes Road as it veers around the northern tip of the Upper Otay Lake.

### *Summary*

By 2025, the transportation network improvements projected in the proposed Plan would impact ~~hardline preserve~~ NCCP Preserve areas identified by adopted HCP/NCCPs. No other conflicts are expected with any approved local, regional, state, or federal regulations, policy, ordinance, or plan, with the exception of encroachment into ~~hardline preserve~~ NCCP Preserve areas identified by adopted HCP/NCCPs. Project-specific review and approvals would eliminate the majority of these conflicts. In most cases, adopted circulation element roads are covered by the HCPs/NCCPs so that transportation network improvements would not be considered a conflict with the plan. As discussed above for regional growth and land use change, transportation network improvements associated with the proposed Plan would be unlikely to violate policies and procedures of the adopted HCP/NCCPs, and ~~hardline preserve~~ NCCP Preserve conflicts would be resolved through boundary adjustments, compensation, or project redesign, so that impacts are less than significant.

### **2025 Conclusion**

Implementation of regional growth and land use changes and transportation network improvements and programs associated with the proposed Plan would result in less-than-significant impacts related to encroachment into ~~hardline preserve~~ NCCP Preserve areas identified by adopted HCP/NCCPs and conserved lands because biologically equivalent or superior habitat compensation for project redesign would be required when there is encroachment into ~~hardline preserve~~ NCCP Preserve areas. No other conflicts are expected with any approved local, regional, state, or federal regulations, policy, ordinance, or plan. Therefore, this impact (BIO-4) in the 2025 horizon year ~~2020~~ would be less than significant.

### **2035**

#### ***Regional Growth and Land Use Change***

By 2035, implementation of the ~~regional~~ regional growth and land use changes in the proposed Plan would not encroach into existing South County MSCP ~~hardline preserves~~ Preserves. However, the City of San Diego MHPA 100 percent preservation areas, Chula Vista MSCP ~~hardline preserve~~ Preserve, and MHCP FPA would be affected (Table 4.4-17). Encroachment into preserved open space is significantly less than for the 2025 horizon year. The majority of encroachment is a result of spaced rural residential development within the City of San Diego MSCP ~~hardline preserve~~ (MHPA) and the MHCP ~~hairlines preserve~~ (FPA/FPA/BCLA) and conserved lands outside the NCCP boundaries. Impact acreages for spaced rural residential development overestimate impacts within ~~hardline preserves~~ NCCP Preserves because development occurs at a much lower density than other developed areas and only portions of properties are developed, and impacts on ~~hardline preserves~~ NCCP Preserves will likely be avoided consistent with land use policies. However, because any developed land use category for lands within ~~hardline preserve~~ NCCP Preserve conflict with the compatible land use designated for ~~hardline preserves~~ NCCP Preserves, the entire acreage is quantified. Encroachment into MHPA 100 percent preservation areas consists of small fragments of urban development. Such development as Fanita Ranch in Santee would occur based on a development-specific HCP that would include conservation and mitigation strategies.



**Table 4.4-17**  
**Forecasted Encroachments Into Conservation Areas and Lands Designated for Conservation by**  
**Regional Conservation Plans Within the San Diego Region (acres), 2026–2035**

| <b>Conservation Categories</b>   | <b>Regional Growth and Land Use Change</b> | <b>Transportation Network Improvements</b> | <b>Total</b> |
|--|--|--|--------------|
| City of San Diego MHPA – 100 Percent Conserved                                 | 15,847                                     | 7968                                       | 143,4115     |
| City of Chula Vista MSCP Preserve  | 6  | 0  | 6            |
| <del>MSCP South County</del> MSCP Preserve<br>South County – Hardline Preserve | 0  | 95   | 115,895      |
| MHCP – FPA/FPA/BCLA  | 16,239                                     | 718  | 21,557       |
| Conserved Lands and Habitat Preserves  | 25,2                                       | 214  | 27,239       |

By 2035, the regional growth and land use change projected in the proposed Plan would allow for minor development and redevelopment within ~~hardline preserve~~ NCCP Preserve areas identified by adopted HCP/NCCPs from regional growth with the exception of the South County MSCP. No other conflicts are expected with any approved local regional, state, or federal regulations, policy, ordinance, or plan, with the exception of encroachment into ~~hardline preserve areas~~ NCCP Preserve areas identified by adopted HCP/NCCPs. The majority of impacts on conserved lands are a result of effects on lands within the Pardee Homes conserved lands, which would be allowed under the County’s amendment to the South County MSCP Subarea Plan once approved by the Wildlife Agencies. Because the amendment has not yet been approved, the reported acreage impacts do not reflect the amendment. As such, the impacts derived from the current data and reported in this EIR would be significantly overestimated upon amendment approval. As discussed above for 2025, regional growth and land use change associated with the proposed Plan would be unlikely to violate policies and procedures of the adopted HCP/NCCPs, and ~~hardline preserve~~ MSCP Preserve conflicts would be resolved through boundary adjustments, compensation, or project redesign, so that impacts are less than significant.

#### **Transportation Network Improvements and Programs**

Transportation network improvements would be the same as previously described in the 2035 analysis for Impact BIO-1. By 2035, more encroachment would occur from the transportation network improvements into the MHCP FPA/BCLA, County MSCP ~~hardline preserves~~ Preserve, City of Chula Vista MSCP Preserve, and City of San Diego MHPA 100 percent preservation areas (Table 4.4-17). Specifically, managed lanes and Complete Corridor construction projects would occur across the FPA in the north County, including the SR 76 Complete Corridor project and associated local improvements, such as the widening of College Boulevard in the City of Oceanside. The SPRINTER double-tracking would also bisect or cross the MHCP FPA. The City of San Diego’s MHPA would also be impacted by Complete Corridor projects, including the SR 52 (from I-15 to Mast Boulevard, and from Mast Boulevard to SR 125), the I-805 in the South County, and the SR 125 (from Jamacha Road to Amaya Drive). Rural Complete Corridor improvements would occur adjacent to the South County MSCP hardline at SR 94 at the intersection of Melody Road and Daisy Drive.

By 2035, the transportation network improvements projected in the proposed Plan would impact ~~hardline preserve~~ NCCP Preserve areas identified by adopted HCP/NCCPs. No other conflicts are expected with any

approved local, regional, state, or federal regulations, policy, ordinance, or plan, with the exception of encroachment into ~~hardline preserve areas~~ NCCP Preserve areas identified by adopted HCP/NCCPs. As discussed above for 2025, transportation network improvements associated with the proposed Plan would be unlikely to violate policies and procedures of the adopted HCP/NCCPs, and ~~hardline preserve~~ MSCP Preserve conflicts would be resolved through boundary adjustments, compensation, or project redesign so that impacts would be less than significant.

### **2035 Conclusion**

Implementation of regional growth and land use changes and transportation network improvements and programs associated with the proposed Plan would result in less-than-significant impacts related to encroachment into ~~hardline preserve areas~~ NCCP Preserve areas identified by adopted HCP/NCCPs because the proposed Plan would require biologically equivalent or superior habitat compensation or project redesign when there is encroachment into ~~hardline preserve areas~~ NCCP Preserve areas. Project-specific planning, review by local agencies (including jurisdictions), regulatory agencies, and Wildlife Agencies, and CEQA review of land use and transportation projects would minimize or remove any potential conflict with policies and ordinances protecting biological resources. No other conflicts are expected with any approved local, regional, state, or federal regulations, policy, ordinance, or plan. Therefore, this impact (BIO-4) in the year 2035 would be less than significant.

### **2050**

#### **Regional Growth and Land Use Change**

Regional growth and land use change by 2050 would be the same as previously described in the 2050 analysis for Impact BIO-1. By 2050 implementation of the regional growth and land use change in the proposed Plan would ~~only~~ encroach into the existing Chula Vista MSCP Preserve, mainly as a result of development in the Otay Ranch Preserve. The City of San Diego MHPA 100 percent preservation areas and the MHCP FPA/BCLA would not be significantly affected (Table 4.4-18). ~~Encroachment into preserved open space is significantly less than for the 2035 horizon year, with the majority of encroachment the result of spaced rural residential development within the City's MHCP.~~ Impact acreages for spaced rural residential development overestimate impacts within ~~hardline preserves~~ NCCP Preserves because development occurs at a much lower density than other developed areas and only portions of properties are developed. However, because any developed land use category for lands within ~~hardline preserves~~ NCCP Preserves conflict with the compatible land use designated for ~~hardline preserves~~ NCCP Preserves, the entire acreage is quantified.

**Table 4.4-18  
Forecasted Encroachments Into Conservation Areas and Lands Designated for Conservation by  
Regional Conservation Plans Within the San Diego Region (acres), 2036–2050**

| <b>Conservation Categories</b>   | <b>Regional Growth and Land Use Change</b> | <b>Transportation Network Improvements</b> | <b>Total</b>   |
|--|--|--|----------------|
| City of San Diego MHPA – 100 Percent Conserved                                     | <u>1,56</u>                                | <u>7,688</u>                               | <u>9,374.8</u> |
| City of Chula Vista MSCP Preserve  | <u>58</u>                                  | <u>8</u>                                   | <u>66</u>      |
| <del>MSCP South County</del> <u>MSCP Preserve South County – Hardline Preserve</u> | <u>0</u>                                   | <u>132,117</u>                             | <u>138,517</u> |
| <del>MHCP – FPA</del> <u>FPA/BCLA</u>  | <u>90</u>                                  | <u>818</u>                                 | <u>7,227</u>   |

| Conservation Categories               | Regional Growth and Land Use Change | Transportation Network Improvements | Total             |
|---------------------------------------|-------------------------------------|-------------------------------------|-------------------|
| Conserved Lands and Habitat Preserves | 0 <del>2</del>                      | 1344                                | 1344 <del>2</del> |

By 2050, the regional growth and land use change projected in the proposed Plan would allow for more development and redevelopment within ~~hardline preserve~~NCCP Preserve areas with the exception of County MSCP Preserves and conserved lands identified by adopted HCP/NCCPs. No other conflicts are expected with any approved local, regional, state, or federal regulations, policy, ordinance, or plan, with the exception of encroachment into ~~hardline preserve~~NCCP Preserve areas identified by adopted HCP/NCCPs. As discussed above for 2025 and 2035, regional growth and land use change associated with the proposed Plan would be unlikely to violate policies and procedures of the adopted HCP/NCCPs, and ~~hardline preserve~~MSCP Preserve conflicts would be resolved through boundary adjustments, compensation, or project redesign, so that impacts are less than significant.

### **Transportation Network Improvements and Programs**

Transportation network improvements would be the same as previously described in the 2050 analysis for BIO-1. By 2050, implementation of the transportation network improvements in the proposed Plan would encroach into all existing South County MSCP hardline preserves and the City of San Diego MHPA 100 percent preservation areas~~NCCP Preserves~~ (Table 4.4-18). In addition to transportation network improvements described for 2025 and 2035, specific examples of transportation network improvements that encroach into ~~hardline preserves~~MSCP Preserves include the Complete Corridor projects, such as on I-15 across Santa Ana-Palomar through many portions of the PAMA; on SR 56 across and along the City's MHPA, Del Mar Mesa Open Space, Los Penasquitos Canyon Preserve and Rancho Penasquitos Open Space, and other conserved lands; and on SR 54 from Valley Road to SR 125, and on SR 125 from SR 905 to SR 54. In addition, the San Luis Rey River Trail to I-15 along San Luis Rey River would occur inside the FPA in Oceanside, along the City of San Diego's San Luis Rey River Park, and inside the PAMA.

By 2050, the transportation network improvements projected in the proposed Plan would impact ~~hardline preserve~~NCCP Preserve areas identified by adopted HCP/NCCPs. No other conflicts are expected with any approved local, regional, state, or federal regulations, policy, ordinance, or plan, with the exception of encroachment into ~~hardline preserve~~NCCP Preserve areas identified by adopted HCP/NCCPs.

As discussed above for 2025 and 2035, transportation network improvements associated with the proposed Plan would be unlikely to violate policies and procedures of the adopted HCP/NCCPs, and ~~hardline preserve~~NCCP Preserve conflicts would be resolved through boundary adjustments, compensation, or project redesign, so that impacts are less than significant.

### **2050 Conclusion**

Implementation of regional growth and land use changes and transportation network improvements and programs associated with the proposed Plan would result in less-than-significant impacts related to encroachment into ~~hardline preserve~~NCCP Preserve areas identified by adopted HCP/NCCPs because the proposed Plan would require biologically equivalent or superior habitat compensation or project redesign when there is encroachment into ~~hardline preserve~~NCCP Preserve areas. Project-specific planning, review by local agencies (including jurisdictions), regulatory agencies, and Wildlife Agencies, and CEQA review of land

use and transportation projects would minimize or remove any potential conflict with policies and ordinances protecting biological resources. No other conflicts are expected with any approved local, regional, state, or federal regulations, policy, ordinance, or plan. Therefore, this impact (BIO-4) in the year 2050 would be less than significant.

**Exacerbation of Climate Change Effects**

Climate change would not cause direct conflicts with an HCP, NCCP, other conservation plan, or local biological protection policies or ordinances. Therefore, the proposed Plan would not exacerbate climate change effects on these conflicts.