

Historic and Existing Land Uses and Zoning – Existing land uses on the project area are designated by the County of San Diego General Plan as Public Agency Lands (County of San Diego 2011).

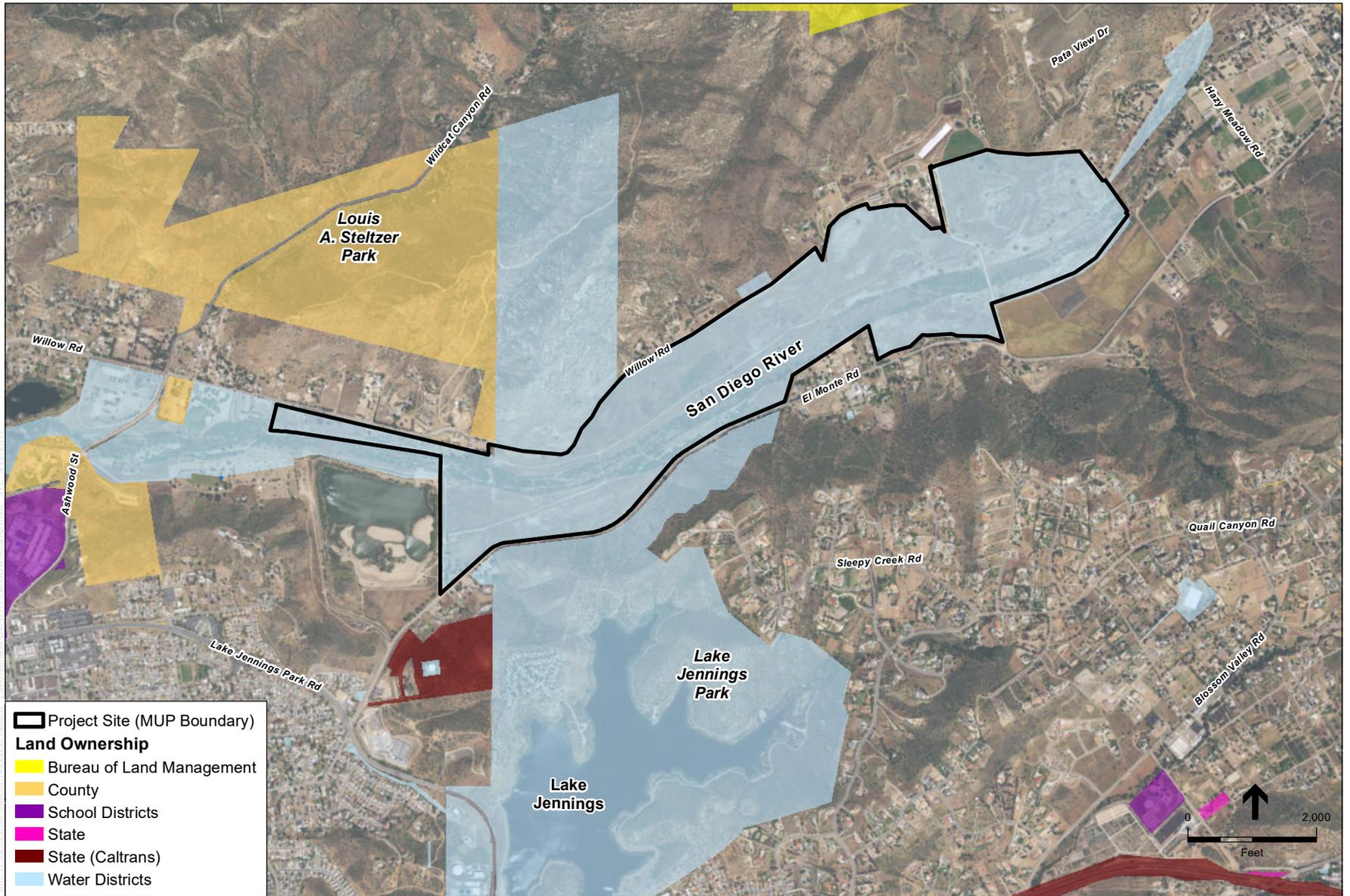
Per the County of San Diego's Zoning Ordinance, the project area is zoned S-82 Extractive and A-70 Limited Agriculture. The S-82 Extractive zoning designation identifies areas where mining, quarrying, or oil extractive uses are permitted. The entire 479.5-acre project area is zoned as S-82. The site is classified and designated as containing a regionally significant sand resource. Approximately 76 acres of the project area are zoned as A-70. The A-70 zoning designation allows for limited development consistent with rural residential and a variety of agricultural uses.

Existing land uses surrounding the project area include low-density residential housing, agricultural lands, dairy farming, public utilities, and open space. Trails established by equestrians and hikers occur throughout the project area. Crops typically grown in the area include bamboo shoots, chives, and snow peas. Historically, north of the river much of the site was cultivated for dry land cereal grain production during the winter and spring. Existing conditions north of the river consist of partially graded areas that were completed as part of a since-abandoned golf course project, dry farming, and a dairy farm. The San Diego River that runs through the project area is a narrow strip of undeveloped land through the central portion of the property.

The current Lakeside Community Plan, a subset of the San Diego County General Plan, identifies the following designations within the project area: Impact Sensitive, Public/Semi-public Lands, Intensive Agriculture, Multiple Rural Use, and Estate Residential. The Impact Sensitive designation generally applies to areas considered unsuitable for urban development for reasons of public safety or environmental sensitivity. The Impact Sensitive designation for the project area is due to the presence of the San Diego River and associated riparian habitat. The proposed General Plan Update that has been prepared, but not yet approved by the Board of Supervisors, designates the entire project area (479.5 acres) as Public Agency Lands.

1.4.1 Regional Context

The proposed project area is located in the Lakeside Community Planning Area, within the unincorporated area of southern San Diego County. As shown in **Figure 9**, the proposed project would be located on approximately 479.5 acres that are currently owned by El Monte Nature Preserve, who also owns portions of the surrounding undeveloped property.



SOURCE: ESRI; EnviroMine; The Altum Group; Chang Consultants; ESA; SanGIS

El Monte Sand Mining Project. 140957

Figure 9
Land Ownership

The project area is not covered by the County of San Diego's South County MSCP, although it is adjacent to the MSCP Pre-Approved Mitigation Area lands on the north and south sides of the San Diego River. County-owned conserved lands within the region surrounding the project area include the Louis A. Stelzer County Park to the northwest, Lakeside Linkage Preserve approximately 2.5 miles to the southwest, El Monte County Park approximately 1 mile upstream to the east, El Capitan County Open Space Preserve approximately 2 miles to the north, and the Lake Jennings County Park approximately 1 mile to the southwest (**Figure 10**). In addition, the Cleveland National Forest lies approximately 2 miles to the east and Crestridge Ecological Reserve is located approximately 3 miles to the south of the project area.

1.4.2 Habitat Types/Vegetation Communities

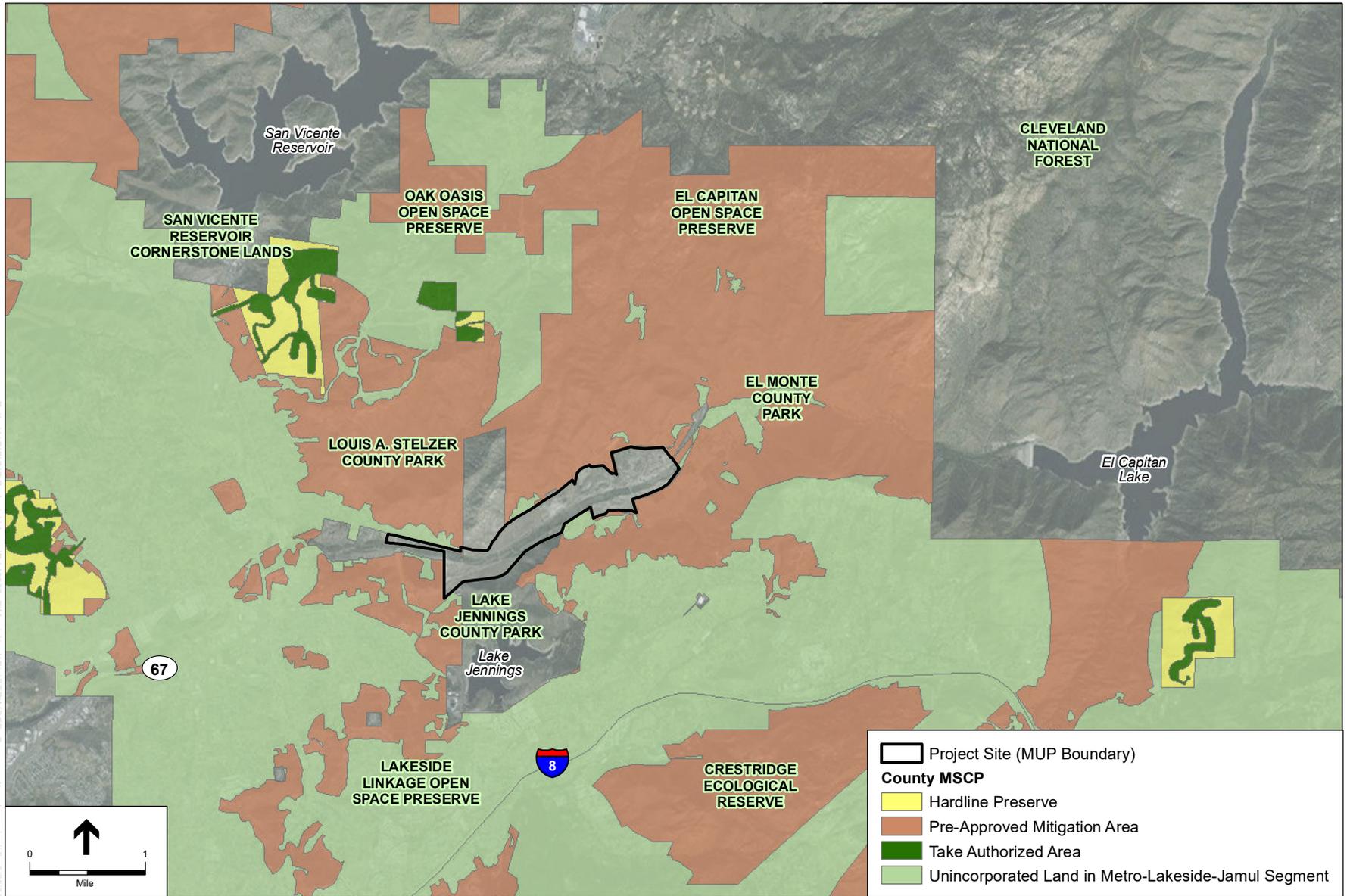
Vegetation communities are assemblages of plant species that occur together in the same area and are defined by species composition and relative abundance. The vegetation communities mapped on the BSA were identified based on the aggregation of plants and wildlife and the composition and structure of the dominant vegetation observed at the time field reconnaissance was conducted. Habitat types follow the Holland classification system as modified by Oberbauer (Holland 1986, Oberbauer et al. 2008).

The vegetation communities within the proposed project boundary and 100-foot buffer are shown on **Figure 11**, and the acreages of each habitat and vegetation community within the BSA are listed in **Table 5**. Eleven habitat/land use types were mapped within the BSA, including four riparian/wetland habitats (southern cottonwood-willow riparian forest, southern willow scrub, tamarisk scrub, non-vegetated channel), four upland habitats (Diegan coastal sage scrub, southern mixed chaparral, non-native grassland, eucalyptus woodland), and three other cover types (agricultural, disturbed habitat, and developed areas). Disturbed habitat includes areas that were primarily bare at the time of habitat mapping. In addition to these vegetation communities defined by Holland/Oberbauer, Mature Riparian Woodland, which is defined in the County of San Diego RPO was mapped as an overlay atop the Holland/Oberbauer mapping.

Southern Cottonwood-Willow Riparian Forest (Holland Code 61330)

Southern cottonwood-willow riparian forest is a tall, relatively open, broadleaved winter-deciduous riparian forest dominated by cottonwood trees and willow tree and shrub species (*Salix* spp.) with occasional emergent western sycamore trees. It usually occurs along stream banks with well-drained mineral soils.

Within the BSA, southern cottonwood-willow riparian forest occurs as fragmented patches on either side of the river in the middle region and along the western edges, typically surrounded by non-native habitats such as tamarisk scrub and non-native grassland (described in the following pages). Southern cottonwood-willow riparian forest fragments are dominated by cottonwood and a variety of willow species, and support a variably dense understory of native annual forbs such as mugwort (*Artemisia douglasiana*) and nettle (*Urtica dioica* ssp. *holosericea*).



SOURCE: ESRI; EnviroMine; The Altum Group; Chang Consultants; ESA; SanGIS

El Monte Sand Mining Project. 140957

Figure 10
MSCP Lands

Much of the cottonwood-willow riparian forest fragments observed within the BSA, which totaled 11.18 acres within the project area and 0.73 acres within the 100-foot survey buffer, are somewhat disturbed as a result of an abundance of non-native, invasive species such as castor bean (*Ricinus communis*), tamarisk, non-native grasses, and invasive mustards. However, this habitat provides good quality nesting habitat for a variety of raptors and other native birds.

TABLE 5. VEGETATION COMMUNITIES WITHIN THE BIOLOGICAL SURVEY AREA

Vegetation Communities	Project Area (acres)	100-ft buffer (acres)	Total BSA (acres)
Riparian and Wetlands			
Southern Cottonwood-Willow Riparian Forest (Holland Code 61330)	11.18	0.73	11.91
Southern Willow Scrub (Holland Code 63320)	0.71	0.00	0.71
Tamarisk Scrub (Holland Code 63810)	85.69	6.53	92.22
Non-Vegetated Channel (Holland Code 64200)	1.66	0.07	1.73
Uplands			
Diegan Coastal Sage Scrub (Holland Code 32500)	10.38	10.08	20.46
Southern Mixed Chaparral (Holland Code 37120)	0.00	3.83	3.83
Non-Native Grassland (Holland Code 42200)	135.75	16.00	151.75
Eucalyptus Woodland (Holland Code 79100)	2.62	0.70	3.32
Other Cover Types			
Disturbed Habitat (Holland Code 11300) ¹	228.52	30.79	259.31
Agriculture (Holland Code 18000)	0.00	1.59	1.59
Developed (Holland Code 12000)	3.03	14.79	17.82
Mature Riparian Woodland	8.45	0.00	8.45
TOTAL	479.54	85.11	564.65²

¹ Disturbed Habitat includes highly degraded areas with ruderal, weedy species, or unvegetated areas such as roads, trails, and vacant lots.

² A total of 8.45 acres was mapped as "Mature Riparian Woodland," pursuant to the County Resource Protection Ordinance definition. Note that Mature Riparian Woodland is not Holland (1986)/Oberbauer et al. (2008) category. The vegetation was mapped as a GIS overlay on top of the Holland/Oberbauer-based vegetation mapping; therefore, this acreage is not added to the acreage totals.

Southern Willow Scrub (Holland Code 63320)

Southern willow scrub is a deciduous, riparian community dominated by dense thickets of one or more willow tree species and various other scattered shrubs and larger emergent trees. Two small patches of southern willow scrub occur within the BSA. These areas consist mainly of red willow (*Salix laevigata*), Gooding's willow (*Salix goodingii*), arroyo willow (*Salix lasiolepis*), and sandbar willow (*Salix exigua*), mixed with patches of mule fat (*Baccharis salicifolia*),

cottonwood (*Populus fremontii*), and western sycamore (*Platanus racemosa*) trees. Much of this habitat within the BSA is between 6 and 15 feet in height and varies in density, from relatively open to impenetrable. One small patch (approx. 0.2 acre) of relatively disturbed southern willow scrub occurs in the middle of the BSA north of the river along Willow Road. This area contains a relatively high percentage of non-native species such as giant reed (*Arundo donax*), tamarisk (*Tamarix* spp.), and pampas grass (*Cortaderia* spp). A second small patch (approx. 0.5 acre) of southern willow scrub occurs within the project area at the northeastern portion of the BSA just south of Willow Road. This area is relatively undisturbed and characterized by a dense thicket of arroyo willows. There is no southern willow scrub within the 100-foot buffer.

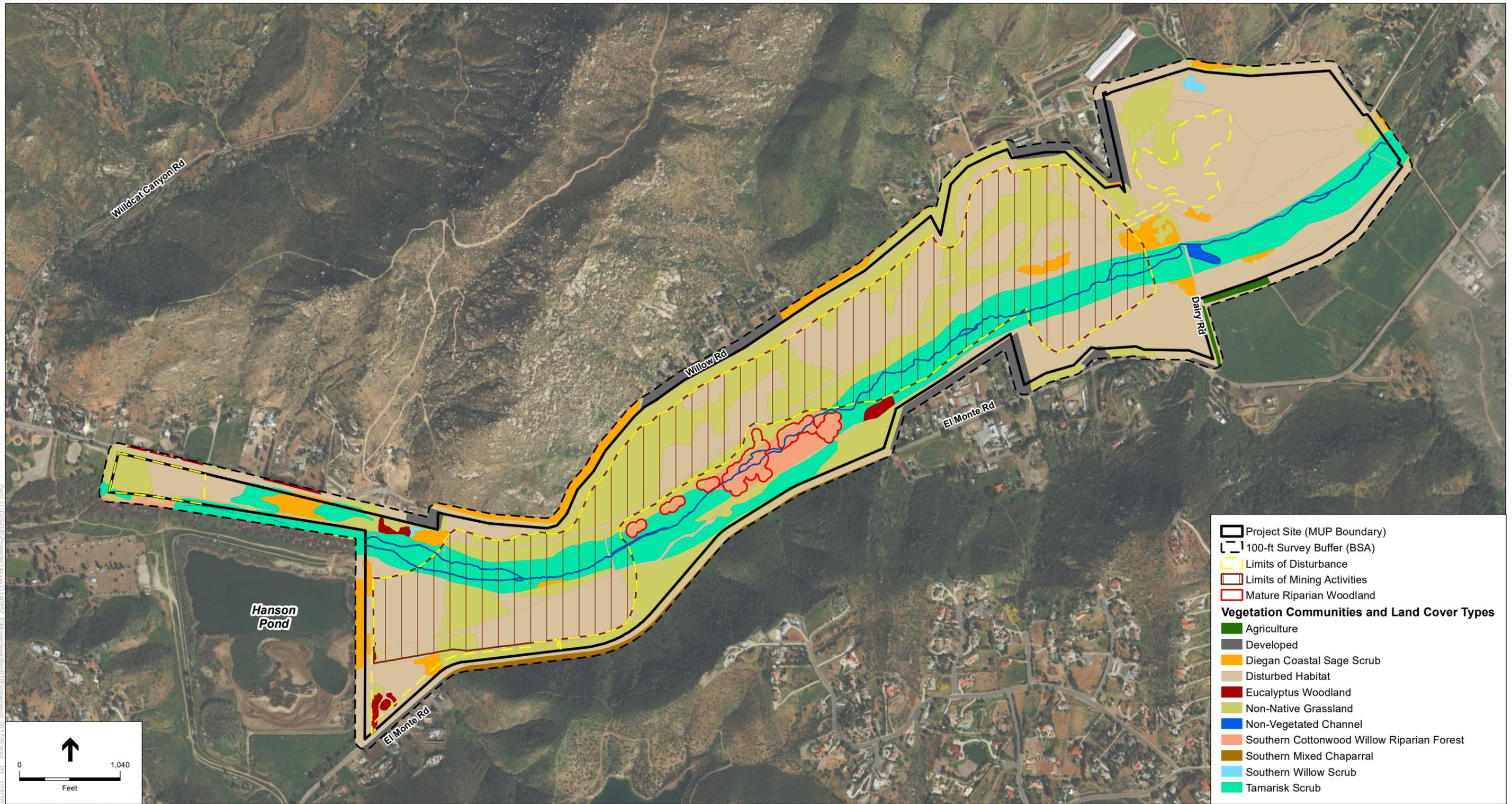
Tamarisk Scrub (Holland Code 63810)

Tamarisk scrub usually occurs as a dense monoculture where natural, riparian vegetation has been completely or almost completely replaced often by a single invasive, non-native tamarisk species. It usually forms in sandy or gravelly braided washes or intermittent streams in areas where high evaporation increases stream salinity. Tamarisk is a strong phreatophyte (a plant with a deep root system that draws water from near the water table) and prolific seeder with a high tolerance to changes in salinity and water table depth, attributes that predispose the species to be aggressive competitors in disturbed riparian corridors, where it can quickly supersede existing native riparian.

Tamarisk scrub covers 92.22 acres of the BSA (with 85.69 acres within the project area and 6.53 acres within the survey buffer) and is characterized by sparse to dense stands that include chiefly tamarisk (*Tamarix ramossissima*) with little to no understory. Dense patches within the river channel are generally impenetrable, while open stands observed both within the channel and in upland areas are punctuated by patches of curly dock (*Rumex* sp.), castor-bean (*Ricinus communis*), cockle-bur (*Xanthium strumarium*), tree tobacco (*Nicotiana glauca*), pampas grass, and an abundance of non-native grasses and forbs. In various areas, this habitat supports sparse mule fat, broom baccharis, scattered individual willow and cottonwood trees, and infrequent western sycamore trees; however, those areas are not large enough to be identifiable as functional native woodland or scrub communities. Tamarisk scrub is the most commonly observed habitat within and surrounding the river channel and floodplain as well as in some upland areas adjacent to the channel.

Non-Vegetated Floodway or Channel (Holland Code 64200)

Non-vegetated floodway or channel consists of the sandy, gravelly, or rocky fringes of waterways or flood channels. These areas tend to remain relatively unvegetated (generally less than 10 percent cover) as a result of variable water hydrology, which inhibits the growth of vegetation. It is not uncommon for non-native weedy vegetation to grow along the outer edges of the wash. Within the BSA, a total of 1.66 acres of this land cover type occurs within the project area and 0.07 acre occurs within the 100-foot survey buffer, along the center of the river channel.



Path: U:\GIS\GIS\Projects\140957\ElMonte\SAN\B019\RV\vegetation_201709.mxd; JTL 11/8/2018

SOURCE: ESRI; EnviroMine; The Altum Group; Chang Consultants; ESA; SanGIS

El Monte Sand Mining Project . 140957

Figure 11
Vegetation Communities and Cover Types

This page left intentionally blank

Diegan Coastal Sage Scrub (Holland Code 32500)

Diegan coastal sage scrub is typically composed of a predominance of aromatic, drought deciduous perennial shrubs and subshrubs typically growing to no more than three feet high, with a diverse understory of herbaceous species and annual and perennial grasses. It is usually located on dry, south-facing slopes and intermingles with chaparral, non-native grassland, and other local vegetation communities. It had been widely distributed in the region in the past; however, Diegan coastal sage scrub has lost much of its historic range to residential development and agricultural conversion.

A total of 10.38 acres of coastal sage scrub occurs within the project area and 10.08 acres occur within the 100-foot survey buffer, in scattered patches throughout the BSA. The patches differ significantly from one another based on the dominant shrub species and shrub density. Many of the patches are highly disturbed and support a high abundance of non-native grasses and forbs. Some patches are dominated by California buckwheat (*Eriogonum fasciculatum*). Other patches are dominated by California sagebrush (*Artemisia californica*) or broom baccharis (*Baccharis sarothroides*). One patch of coastal sage scrub occurs on the rocky south-facing slopes north of Willow Road within the 100-foot survey buffer and is dominated by chuparosa (*Justicia californica*), which is typically found in desert communities. Other native species occur more sparsely within the coastal sage scrub patches, including goldenbush (*Isocoma menziesii*), laurel sumac (*Malosma laurina*), native grasses such as foothill needlegrass (*Stipa lepida*), and a variety of annual herbs.

The disturbed condition of the habitat could be due to extended drought conditions in the area, post fire recovery (from the 2003 Cedar Fire), or both. However, even in its disturbed condition, this habitat can support the federally listed coastal California gnatcatcher and other upland scrub species.

Southern Mixed Chaparral (Holland Code 37120)

Southern mixed chaparral is characterized by broad-leaved sclerophyll shrubs, 1.5-3 meters tall. Dominant species typically include ceanothus (*Ceanothus* spp.), toyon (*Heteromeles arbutifolia*), manzanita (*Arctostaphylos* spp.), mission manzanita (*Xylococcus bicolor*), and sugarbush (*Rhus ovata*). There is no chaparral land within the project area; however, 3.83 acres occur within the 100-foot survey buffer, south of El Monte Road.

Non-Native Grassland (Holland Code 42200)

Non-native grassland is generally dominated by invasive, non-native annual grasses of various species and may contain a small percentage of non-native herbaceous species or remnant patches of native scrub species. It usually occurs in areas of previous disturbance and fallow agricultural fields located on fine-textured, well-drained soils that are moist in winter but very dry in summer months, and frequently intergrades with disturbed habitats. Although it is not a

naturally occurring community in California and is often indicative of prior disturbance through development or as a remnant of fallow agricultural fields, non-native grassland provides habitat for small terrestrial vertebrates such as small mammals, reptiles, and amphibians and is frequently used for foraging by migratory birds and raptors. Special-status species such as the State Species of Special Concern grasshopper sparrow (*Ammodramus savannarum*) are known to rely in this habitat for nesting.

The majority of the BSA consists of 135.75 acres of non-native grassland within the project area and 16.00 acres within the 100-foot survey buffer in large swaths north and south of the river interspersed with disturbed habitat. It is composed chiefly of wild oat (*Avena* spp.), red brome (*Bromus madritensis*), and ripgut brome (*B. diandrus*), interspersed with short-pod mustard (*Hirshfeldia incana*) and black mustard (*Brassica nigra*) and very occasionally by scattered native shrubs such as California buckwheat.

Eucalyptus Woodland (Holland Code 79100)

Eucalyptus woodland is a non-native community dominated by ornamentally planted eucalyptus and gum trees (*Eucalyptus* spp.). The understory is usually poorly developed or absent as a result of the allelopathic (toxic) effect of eucalyptus leaves that inhibit the growth of native and other plants. Although this habitat is not native, it is often used by nesting raptors and other birds or occasionally by roosting bats.

Four patches of eucalyptus woodland totaling 2.62 acres within the project area and 0.70 acre within the 100-foot buffer were identified on either side of the floodplain throughout the middle section. Scattered individual eucalyptus trees were also identified throughout the BSA, within assorted patches of disturbed riparian communities, but individually did not account for woodland acreage. The eucalyptus woodland patches include saplings up to 20 feet tall and mature eucalyptus trees that range from 20 to more than 50 feet in height.

Disturbed Habitat (Holland Code 11300)

Disturbed habitat has typically undergone intense physical transformation due to prior disturbance (usually from past development or agriculture) and is no longer recognizable as a native or naturalized vegetation association but continues to retain a soil substrate. Such habitat is typically found in vacant lots, roadsides, construction staging areas, abandoned fields, and unpaved roads and trails. Typically, disturbed habitats contain a majority of ruderal, weedy non-native, or ornamental species and do not resemble or function as a native plant community. Disturbed habitat typically has little to no foraging or other habitat value for native wildlife species.

A total of 228.52 acres of disturbed habitat within the project area and 30.79 acre within the 100-foot buffer within the BSA. These primarily unvegetated areas consist of existing dirt, paved and gravel roads. Scattered vegetation that does

occur within disturbed areas primarily includes non-native herbaceous annual and perennial species such as tree tobacco, mustard, Russian thistle (*Salsola tragus*), and to a lesser extent, weedy annual grasses, such as wild oat and red brome, but without enough vegetation cover to classify it as non-native grassland. Disturbed habitat is located throughout the BSA, including footpaths and other access routes associated with previous development.

Agriculture (Holland Code 18000)

Agricultural areas and lands that support an active agricultural operation, such as orchards, vineyards, and row crops and pasture. No agricultural land occurs within the project area, and 1.59 acres occur within the 100-foot survey buffer.

Developed (Holland Code 12000)

Developed areas contain commercial or residential buildings and landscaped surfaces and generally do not support natural plant or wildlife species of any kind. The project boundary includes 3.03 acres of developed urban residences within the project area and 14.79 acres within the 100-foot survey buffer, adjacent to the northern middle portion of the BSA. Although residential and commercial buildings occur very near the project boundary, the boundary itself crosses over landscaped, ornamental, and paved areas only and does not intersect with actual built or any inhabited establishments.

Mature Riparian Woodland

Mature Riparian Woodland occurs onsite but was not mapped as one of the Holland/Oberbauer vegetation communities. Rather, it was mapped separately and overlaid onto the vegetation communities and cover types map (Figure 11) because the County's RPO includes a distinct definition of this vegetation type which differs from the Holland/Oberbauer classification system. Mature riparian woodland occurs in several patches in the central portion of the project area totaling 8.45 acres within the project area over areas mapped as southern cottonwood-willow riparian forest (6.97 acres), non-native grassland (1.20 acres), disturbed habitat (0.20), and non-vegetated channel (0.07 acre). A total of 275 trees were recorded during the tree surveys (see Appendix E for the complete El Monte Valley Tree Assessment).

1.4.3 Flora

A total of 140 species were observed onsite during the 2006, 2010, and 2015 surveys (Appendix D) (EDAW 2007, ESA 2011a). Half (50 percent) of these are considered non-native species. This is consistent with the fact that the BSA is currently dominated by non-native, disturbance-related habitats that are typically dominated by non-native, invasive plant species. Of the approximately 564.65-acre BSA, approximately 526.01 acres consists of non-native habitats, including: disturbed habitat (259.31 acres), developed land cover type (17.82 acres), non-native grassland (151.75 acres), tamarisk scrub (92.22 acres), agricultural (1.59

acres), and eucalyptus woodland (3.32 acres)—while native habitats (i.e., cottonwood-willow riparian forest, southern willow scrub, non-vegetated channel, coastal sage scrub, and chaparral), account for only approximately 38.64 acres of the BSA, of which 23.93 acres are within the project boundary. Native habitats account for approximately 5% of the project area. In 2010, coast live oak (*Quercus agrifolia*) trees were mapped onsite (**Appendix G**). Although the oak trees were not dense enough to be classified as oak woodland or forest community, these individual trees provide nesting habitat for raptors and a variety of other native bird species. A total of nine oak trees have been documented within the limits of disturbance.

1.4.4 Fauna

The BSA contains habitats suitable for a variety of wildlife commonly observed in areas that have undergone modification and/or degradation, such as in the disturbed areas, non-native grassland and tamarisk scrub. A total of 121 wildlife species were observed onsite during the 2006, 2010, and 2015 surveys (EDAW 2007, ESA 2011a). Common wildlife observed during the field surveys include house finch (*Carpodacus mexicanus*), common raven (*Corvus corax*), mourning dove (*Zenaidura macroura*), California towhee (*Pipilo crissalis*), Bewick's wren (*Thryomanes bewickii*), orange-throated whiptail (*Aspidoscelis hyperythrus*), western fence lizard (*Sceloporus occidentalis*), and California ground squirrel (*Otospermophilus beecheyi*).

Bats occur throughout most of southern California, and a variety of species have the potential to occur in the project area and to forage throughout the BSA and vicinity. The bat species with a potential to occur in the BSA are known to roost in crevices on cliff faces, oak tree hollows, and anthropogenic structures. With the exception of a few scattered oak trees, these structures do not occur onsite; therefore, there is a low potential for these species to roost within the BSA. However, the presence of riparian habitat onsite and nearby open water (i.e., Hanson Pond) could provide foraging opportunities. Common bat species with the potential to forage in the project area include California myotis (*Myotis californicus*), big brown bat (*Eptesicus fuscus*), Mexican free-tailed bat (*Tadarida brasiliensis*), pallid bat (*Antrozous pallidus*) and Yuma myotis (*Myotis yumanensis*).

Coyote (*Canis latrans*) was observed onsite on multiple occasions in 2015, and indirect observations, including visible scat and prints, indicate that various mammal species, such as bobcat (*Lynx rufus*) are also present onsite. Other mammals that may occur within the BSA include raccoon (*Procyon lotor*), western spotted skunk (*Spilogale gracilis*), striped skunk (*Mephitis mephitis*), mountain lion (*Felis concolor*), and mule deer (*Odocoileus hemionus*).

A complete list of wildlife observed onsite is presented in Appendix D.

1.4.5 Special-Status Plant Species

The potential for sensitive species to occur was rated based on the following criteria:

- **Unlikely:** The BSA and immediate vicinity do not support suitable habitat for a particular species, and the species was not observed during the 2006, 2010, and 2015 surveys; therefore, the species is unlikely to occur within the survey area.
- **Low Potential:** The BSA and immediate vicinity provide only low-quality or very limited habitat for a particular species, and the species was not observed during the 2006, 2010, and 2015 surveys. In addition, the known range for a particular species may be outside of the BSA or immediate vicinity.
- **Moderate Potential:** The BSA or immediate vicinity provides suitable habitat for a particular species. However, the habitat or substrate may be limited or the desired vegetation assemblage or density is less than ideal.
- **High Potential:** The BSA or immediate vicinity provides high-quality, suitable habitat conditions for a particular species. Additionally, known populations of the species may occur in the immediate vicinity.
- **Present:** The species was observed within the survey area during relevant biological surveys or other project visits.

Special-status plant species were evaluated for their potential to occur within the BSA based on field surveys and literature review. **Table 6** includes a summary of special-status plant species with a moderate or higher potential to occur within the BSA, as well as all state or federally listed species, regardless of their potential to occur. **Appendix C** includes a complete list of all species evaluated. Sensitive species documented within 5 miles of the project area are shown in **Figure 12**. Two plant species, San Diego sagewort (*Artemisia palmeri*), and decumbent goldenbush (*Isocoma menziesii* var. *decumbens*), were evaluated to have a **high potential** occur within the survey area based on significant suitable habitat present. No plant species were evaluated to have a **moderate potential** to occur within the BSA. One species, a single Palmer's goldenbush (*Ericameria palmeri* var. *palmeri*) shrub, was observed in 2010 and 2015; this species is discussed in Section 1.4.5. The remaining 41 plant species evaluated were determined to have unlikely to low potential to occur based on the overall degraded nature of the suitable habitats in the survey area or lack of suitable habitat or soil substrate requirements. Additional details (e.g., habitat preferences, number of individuals observed) for observed species and species with a high potential to occur are given below.

TABLE 6. SPECIAL-STATUS PLANT SPECIES WITH POTENTIAL TO OCCUR WITHIN SURVEY AREA

Species	Listing Status ¹	Habitat Requirements	Potential to Occur within Survey Area
<i>Acanthomintha ilicifolia</i> San Diego thornmint	FT, SE, 1B.1, List A	Chaparral, coastal scrub, valley and foothill grasslands, and vernal pools in clay openings.	Low - not observed during 2006, 2010, or 2015 surveys; suitable clay soils not present onsite or within alignment.
<i>Ambrosia pumila</i> <i>San Diego ambrosia</i>	FE, --, 1B.1, List A	Chaparral, coastal scrub, valley and foothill grasslands, and vernal pools in sandy loam or clay soils. Often in disturbed areas.	Low - not observed during 2006, 2010, or 2015 surveys; suitable habitat present; however the riverbed and adjacent terrace have been highly modified through previous mining and grading activities, and the current hydrology is not adequate to sustain this species.
<i>Artemisia palmeri</i> San Diego sagewort	--, --, 4.2, List D	Chaparral, coastal scrub, riparian forest, riparian scrub, and riparian woodland. Sandy or mesic soils. 15 - 915m.	High - observed adjacent to project area during 2010 and 2015 surveys.
<i>Baccharis vanessae</i> Encinitas baccharis	FT, SE, 1B.1, List A	Mixed maritime chaparral and Torrey pine woodland; located mainly in northern coastal San Diego County.	Unlikely - not observed during 2006, 2010, or 2015 surveys; suitable coastal chaparral or Torrey pine woodland habitats not present within survey area.
<i>Ericameria palmeri</i> var. <i>palmeri</i> Palmer's goldenbush	--, --, 1B.1, List B, Narrow Endemic	Coastal scrub, chaparral on granitic soils, steep slopes, mesic sites. 100-600m.	Present - observed within survey area, just west of the project boundary during 2015 surveys.
<i>Isocoma menziesii</i> var. <i>decumbens</i> Decumbent goldenbush	--, --, 1B.2, List A	Chaparral, coastal scrub, often in sandy, disturbed areas. 10-135m.	High - not observed during 2006, 2010, or 2015 surveys; suitable habitat present within survey area.
<i>Monardella viminea</i> Willow monardella	FE, SE, 1B.1, List A	Rocky, sandy washes in coastal hills of San Diego between Poway and the Mexican border area.	Unlikely - not observed during 2006, 2010, or 2015 surveys; suitable habitat not present within survey area.
<i>Packera ganderi</i> Gander's ragwort	--, SR, 1B.2, List A	Fire-prone chaparral in gabbro rock outcrops.	Unlikely - not observed during 2006, 2010, or 2015 surveys; suitable habitat not present within survey area.

¹ Status Codes: (Federal, State, County)**Federal (USFWS)**

- FE = Federally endangered; FT = Federally threatened
- State (CDFW)
- SE = State endangered; SR = State rare

California Rare Plant Rank (CRPR)

- 1B = plants rare, threatened, or endangered in the states and elsewhere
- 1B.1 = seriously threatened in California
- 1B.2 = rare, threatened, or endangered in California and elsewhere; fairly threatened in California
- 2 = plants rare, threatened, or endangered in the state, but common elsewhere
- 2.2 = rare, threatened, or endangered in California, not elsewhere; fairly threatened in California
- 2.3 = rare, threatened, or endangered in California, not elsewhere; not very threatened in California
- 3 = plants about which more information is needed - a review list
- 4 = plants of limited distribution - a watch list

San Diego County Sensitive Species Plant Lists

- List A = plants rare, threatened, or endangered in the states and elsewhere
- List B = plants rare, threatened, or endangered in the state, but common elsewhere
- List C = may be rare, but more information is needed - a review list
- List D = of limited distribution and are uncommon, but not rare or endangered

As is standard in the professional practice of botany, this report concludes species absence only when a definitive conclusion is supported by sufficient review of the literature and appropriately timed field surveys, including but not limited to:

When the species is detectable without flowers or fruits (e.g., perennial shrubs with distinctive vegetative features) and surveys have not detected the species.

Suitable habitat or habitat characteristics are clearly absent, such as the lack of a specific soil type required by a species.

Seasonally appropriate surveys conducted during years of adequate rainfall or surveys over several years have not detected the species.

Outside of these limited cases, botanists generally assess the probability of species occurrence rather than making definitive conclusions about species presence or absence. This is because failure to detect the presence of a species is not definitive proof of its absence, and because the ability to detect a species in any given year is affected by many variables, such as fire, rainfall patterns, and/or seasonality. Potential for sensitive plant species to occur is discussed further below.

1.4.5.1 Special-Status Plant Species Known to Occur Onsite

Palmer's goldenbush (*Ericameria palmeri* var. *palmeri*)

Palmer's goldenbush is a California Rare Plant Rank (CRPR) 1B.1, a San Diego County List B sensitive plant species, and a San Diego County Narrow Endemic. This perennial evergreen shrub blooms from July to November, and typically occurs in mesic areas within chaparral and coastal sage scrub habitats (CNPS 2016). This species is distributed from San Luis Obispo County to Baja California, Mexico below approximately 2,000 feet in elevation. During 2015 surveys, a single Palmer's goldenbush shrub was observed in the BSA in the central portion of the riverbed intermixed with non-native grasses, and surrounded by tamarisk and willows (**Figure 13**). This shrub is located within the area mapped as Mature Riparian Woodland, which would be avoided by the project. Because only one shrub was found, this occurrence is not considered to be locally or regionally significant.

1.4.5.2 Special-Status Plant Species with a High Potential to Occur Onsite

San Diego sagewort (*Artemisia palmeri*)

San Diego sagewort is a CRPR 4.2, San Diego County List D plant species. This perennial shrub blooms from February – September, and occurs on mesic, sandy soils within chaparral, coastal sage scrub, and riparian habitat (CNPS 2016). San Diego sagewort is distributed mostly in San Diego County and into northern Baja California, Mexico below approximately 3,000 feet in elevation, but a few populations have also been documented in Orange, Los Angeles, and Riverside Counties. Although San Diego sagewort was not observed within the BSA, there

is a high potential for this species to occur for the following reasons: (1) there is suitable upland and riparian habitat within the BSA; (2) the BSA includes appropriate sandy and soils; and (3) this species was observed in 2010 and 2015 just downstream of the BSA.

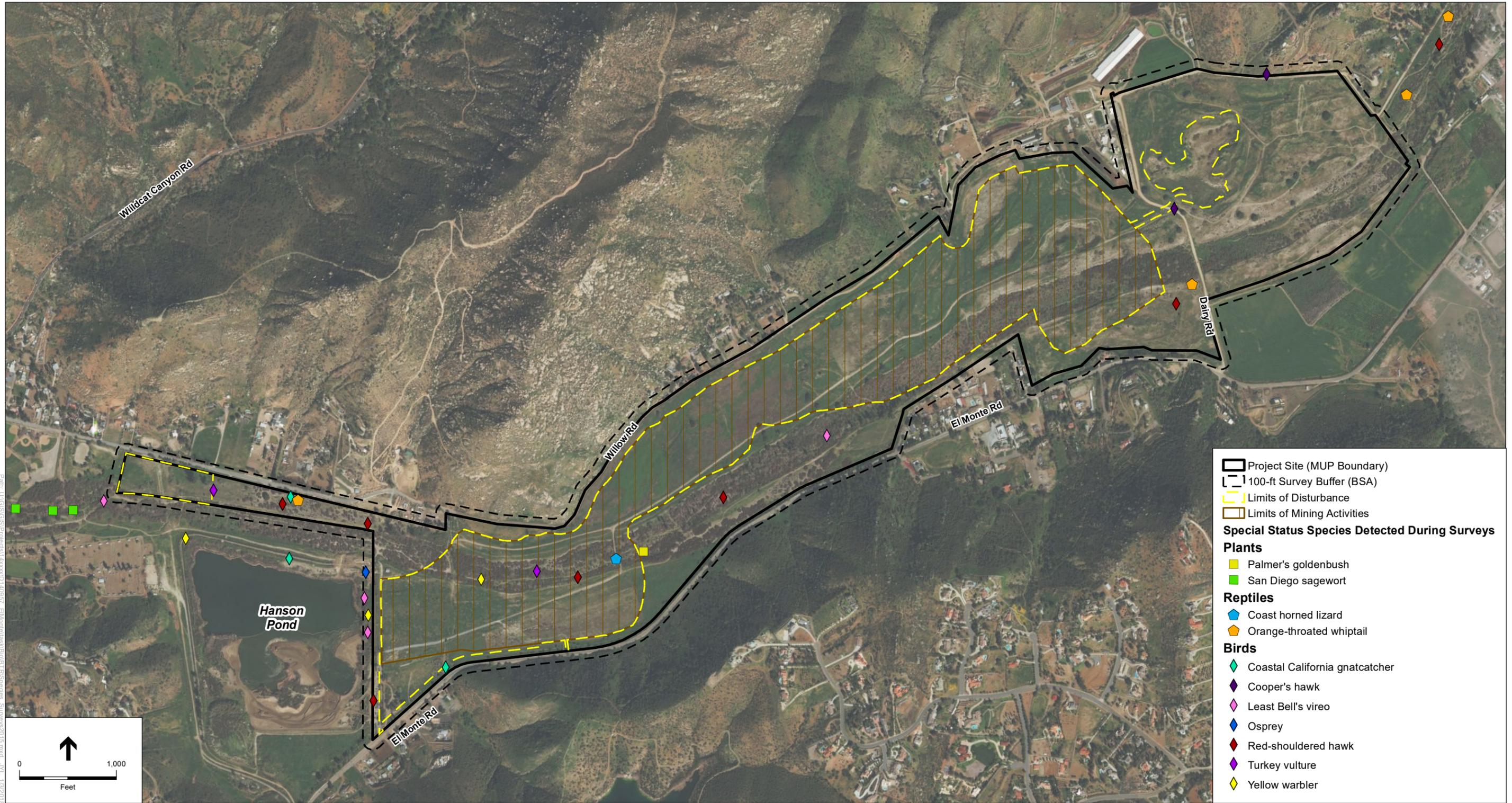
Decumbent goldenbush (*Isocoma menziesii* var. *decumbens*)

Decumbent goldenbush is a CRPR 1B.2, San Diego County List A sensitive plant species. This perennial shrub blooms from April – November, and occurs on sandy soils within chaparral or coastal sage scrub habitat, often in disturbed areas (CNPS 2016). Decumbent goldenbush is distributed mostly in San Diego County and into northern Baja California, Mexico below approximately 450 feet in elevation, but a few populations have also been documented in Orange County and Los Angeles County. Although decumbent goldenbush was not observed within the BSA, there is a high potential for this species to occur for the following reasons: (1) there is suitable upland habitat within the BSA; (2) the BSA includes appropriate sandy soils; (3) this species often occurs in disturbed sites; and (4) this species has been documented from less than one mile north of the BSA along Wildcat Canyon Road (SDNHM 2016).

1.4.6 Special-Status Animal Species

Special-status wildlife species were evaluated for their potential to occur on or adjacent to the project area based on field surveys and the literature review conducted. **Table 7** includes a summary of species with a moderate or high potential to occur onsite, as well as all state or federally listed species, regardless of their potential to occur. Twenty-one special-status wildlife species were observed within the BSA during project surveys conducted in 2006, 2011, 2015-2016. One special-status wildlife species of note, the glossy snake (*Arizona elegans*), was detected by U.S. Geological Survey (USGS) biologists in 2016 and was the second most frequently detected snake out of 13 species detected within the project area during a focused herpetofauna assessment of the El Monte Valley (Richmond et al. 2016). Two wildlife species have a **high potential** to occur within the BSA based on suitable habitat present onsite; these include two-striped garter snake (*Thamnophis hammondi*) and golden eagle (*Aquila chrysaetos*). Five wildlife species have a **moderate potential** to occur within the BSA due to the presence of marginally suitable habitat onsite; these include southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*), Swainson's hawk (*Buteo swainsoni*), pallid bad (*Antrozous pallidus*), Yuma myotis (*Myotis yumanensis*), and big free-tailed bat (*Nyctinomops macrotis*). The remaining 56 species evaluated were considered to have a **low to unlikely potential** to occur within the BSA due to a lack of suitable habitat, such as piñon-juniper woodlands or coastal habitats. Additional details (e.g., habitat preferences, number of individuals observed) for observed species and species with a high potential to occur are given below.

This page left intentionally blank



SOURCE: ESRI; EnviroMine; The Altum Group; Chang Consultants; ESA; DFG

El Monte Sand Mining Project . 140957

Figure 13

Special Status Species Detected During 2015 Surveys

This page left intentionally blank

TABLE 7. SPECIAL-STATUS WILDLIFE SPECIES WITH POTENTIAL TO OCCUR WITHIN SURVEY AREA

Species	Listing Status ¹	Habitat Requirements	Potential to Occur within Survey Area
Invertebrates			
<i>Euphydryas editha quino</i> Quino checkerspot butterfly	FE, SA, Group I	Native and non-native grasslands, coastal sage scrub, open chaparral, and other open plant community types with rocky outcroppings, cryptogammic crusts, and presence of host plant species and nectar sources.	Unlikely – the project area occurs within the designated USFWS survey area (USFWS 2014). However, a focused habitat assessment was conducted and it was determined suitable habitat to support this species (i.e., host plant species, cryptogammic crusts) do not occur on-site and thus this species is not expected to occur (ESA 2017).
<i>Lycaena hermes</i> Hermes copper butterfly	FCan, SSC, Group I	Southern mixed chaparral and coastal sage scrub, western edge of Laguna Mountains. Host plant is redberry buckthorn (<i>Rhanmus crocea</i>).	Unlikely - not observed during 2006, 2010, or 2015 surveys; host plant not detected onsite.
Amphibians and Reptiles			
<i>Spea hammondi</i> Western spadefoot toad	--, SSC, Group II	Grasslands, scrub, chaparral, and oak woodland habitats with soft substrate suitable for burrowing.	Present – detected during USGS surveys and suitable habitat is present throughout the site (Richmond et al. 2016).
<i>Anaxyrus californicus</i> Arroyo toad	FE, SSC, Group I	Slow-moving streams and rivers with shallow, gravelly pools next to sandy beaches for breeding and adjacent scrub or grassland habitat for non-breeding adults.	Unlikely - suitable habitat conditions not present onsite.
<i>Aspidoscelis hyperythrus</i> Orange-throated whiptail	--, SSC, Group II	Low elevation coastal scrub and chaparral. Prefers loose soil and rocks, washes and other sandy areas. Perennial plants necessary for major food - termites.	Present - observed during 2006, 2010, 2015, and 2016 surveys (Richmond et al. 2016).
<i>Aspidoscelis tigris stejnegeri</i> Coastal whiptail	--, SA, Group II	In hot and dry open areas with sparse foliage within chaparral communities, open woodlands and riparian forests.	Present - detected during USGS surveys and suitable habitat is present throughout the site (Richmond et al 2016).
<i>Coleonyx variegatus abbotti</i> San Diego banded gecko	--, SSC, Group I	Coastal sage scrub, chaparral, creosote sagebrush, often associated with granite or rocky outcrops with crevices.	Present – detected during USGS surveys and suitable habitat is present throughout the site (Richmond et al 2016).
<i>Anniella stebbinsi</i> Southern California legless lizard	--, SSC, --	Primarily found in oak woodland, chaparral, coastal sage scrub, pinyon-juniper woodland, and urban areas.	Present – detected during USGS surveys and suitable habitat is present throughout the site (Richmond et al 2016).

Species	Listing Status ¹	Habitat Requirements	Potential to Occur within Survey Area
<i>Phrynosoma blainvillii</i> Coast horned lizard	--, SSC, Group II	Coastal scrub, chaparral. Prefers friable, rocky or shallow sandy soils where harvester ants are present.	Present – observed during 2015 surveys and USGS surveys (Richmond et al. 2016).
<i>Salvadora hexalepis virgultea</i> Coast patch-nosed snake	--, SSC, Group II	Brushy or shrubby vegetation in coastal Southern California. Require small mammal burrows for refuge and overwintering sites.	Present – detected during USGS surveys and suitable habitat is present throughout the site (Richmond et al 2016).
<i>Arizona elegans</i> Glossy snake	--, SSC, --	Most often found in desert habitats but also occur in chaparral, sagebrush and annual grasslands. Prefers open, sandy areas, but also found in rocky areas.	Present - detected during USGS surveys and suitable habitat is present throughout the site (Richmond et al 2016).
<i>Crotalus ruber</i> Red-diamond rattlesnake	--, SSC, Group II	Chaparral, woodland, grassland and desert areas Riverside, Orange, San Diego Co to eastern slopes of mountains. Rocky areas and dense vegetation, needs rodent burrows, cracks in rocks or surface cover objects.	Present – detected during USGS surveys and suitable habitat is present throughout the site (Richmond et al 2016).
<i>Thamnophis hammondi</i> Two-striped garter snake	--, SSC, Group I	Near water sources, commonly in rocky areas within oak woodland, chaparral, shrubland, and coniferous forest.	High – not observed during 2006, 2010, or 2015 surveys; suitable habitat present within survey area.
Birds			
<i>Accipiter cooperii</i> Cooper's hawk	--, SA, Group I	Woodland, chiefly of open interrupted or marginal type, nests mainly in riparian, deciduous trees, canyon bottoms, river flood plains, also in live oaks.	Present - observed during 2006, 2010, and 2015 surveys.
<i>Accipiter striatus</i> Sharp-shinned hawk	--, SSC, Group I	Ponderosa pine, black oak, riparian deciduous, mixed conifer & Jeffrey pine habitats. Prefers riparian areas. This species does not nest in coastal California.	Present - observed during 2010 surveys.
<i>Aimophila ruficeps canescens</i> Southern California rufous-crowned sparrow	--, --, Group I	In foothills, lower canyons, pine-oak woodlands, chaparral, and coastal sage scrub. Prefers rocky areas.	Moderate - not observed during 2006, 2010, or 2015 surveys; marginally suitable habitat present onsite within survey area.
<i>Aquila chrysaetos</i> Golden eagle	BEPA, FP, Group I	Rolling foothills, mountain areas, sage-juniper flats, and desert. Nests in cliffs, walled canyons, and large trees in open areas.	High - not observed during 2006-2016 surveys. Eagles could forage in the large expanse of non-native grassland in the BSA; however, suitable nesting habitat is not present within BSA. Therefore, eagles are not expected to nest within the BSA, but have a high potential to forage.
<i>Buteo lineatus</i> Red-shouldered hawk	--, --, Group I	Riparian and oak woodlands, as well as eucalyptus groves and some residential areas.	Present - observed during 2006, 2010, and 2015 surveys.

Species	Listing Status ¹	Habitat Requirements	Potential to Occur within Survey Area
<i>Buteo swainsoni</i> Swainson's hawk	--, ST, Group I	Breeds in grasslands with scattered trees, juniper-sage flats, riparian areas, savannahs, & agricultural or ranch lands with groves or lines of trees. Requires adjacent suitable foraging areas such as grasslands, or alfalfa or grain fields supporting rodent populations.	Moderate - not observed during 2006, 2010, or 2015 surveys; marginally suitable habitat present onsite within survey area.
<i>Cathartes aura</i> Turkey vulture	--, --, Group I	Forests, shrublands, deserts, and foothills; also in open areas including mixed farmland, forest, and rangeland.	Present - observed during 2006, 2010, 2015 surveys.
<i>Elanus leucurus</i> White-tailed kite	--, FP, Group I	Nests near wet meadows and open grasslands, dense oak, willow or other tree stands.	Present - observed during 2006 and 2010 surveys.
<i>Empidonax trailli extimus</i> Southwestern willow flycatcher	FE, SE, Group I	Structurally complex, dense riparian forest.	Unlikely - suitable habitat not present onsite.
<i>Icteria virens</i> Yellow-breasted chat	--, SSC, Group I	Known to occur within riparian forest, scrub and woodland habitats.	Present - observed during 2006 surveys.
<i>Lanius ludovicianus</i> Loggerhead shrike	--, SSC, Group I	Occurs in open habitats, specifically prefers open foothill and valley woodlands with some canopy and foraging perches. Forages in edge habitats, and in particular prefers shrubs adjacent to grasslands.	Present - observed during 2006 surveys.
<i>Pandion haliaetus</i> Osprey	--, --, Group I	Ocean shore, bays, fresh-water lakes, and larger streams. Large nests built in tree-tops within 12 miles of a good fish-producing body of water.	Present - observed during 2010 and 2015 surveys
<i>Polioptila californica californica</i> Coastal California gnatcatcher	FT, SSC, Group I	Obligate permanent resident of coastal sage scrub below 2500ft. Arid washes, mesas and slopes.	Present - observed during 2015 surveys.
<i>Setophaga petechia</i> Yellow warbler	--, SSC, Group II	Riparian plant associations in close proximity to water. Frequently found nesting and foraging in willow shrubs and thickets, and in other riparian plants including cottonwoods, sycamores, ash, and alders.	Present - observed within 100-foot survey buffer during 2006 and 2015 surveys.
<i>Vireo bellii pusillus</i> Least Bell's vireo	FE, SE, Group I	Summer resident in So. California, willow riparian, mule fat, mesquite. Nests along margins of bushes.	Present - observed during 2010 (onsite) and 2015 (adjacent to project boundary) surveys.
Mammals			
<i>Antrozous pallidus</i> Pallid bat	--, SSC, Group II	Deserts, grasslands, shrublands, woodlands and forests. Open dry habitats with rocky areas for roosting. Roost sites must protect bats from high temperature. Sensitive to disturbance of roost sites.	Moderate - not observed during 2006, 2010, or 2015 surveys; suitable roosting habitat is fairly sparse within BSA.
<i>Corynorhinus townsendii</i> Townsend's big-eared bat	--, SSC, SCan, Group II	Throughout California in a wide variety of habitats. Most common in mesic sites. Roosts in the open, hanging from walls & ceilings. Roosting sites limiting. Extremely sensitive to human disturbance.	Low - not observed during 2006, 2010, or 2015 surveys; suitable sites not present onsite or within alignment.

Species	Listing Status ¹	Habitat Requirements	Potential to Occur within Survey Area
<i>Lepus californicus bennettii</i> San Diego black-tailed jackrabbit	--, SSC, Group II	Coastal scrub habitats, intermediate canopy with open shrubs and trees, as in woodland edges.	Present - observed during 2006 surveys.
<i>Myotis yumanensis</i> Yuma myotis	--, --, Group II	Caves, although some make use of hollow trees, rocky crevices of western lowland habitats. Their distribution is closely tied to bodies of water.	Moderate - not observed during 2006, 2010, or 2015 surveys; suitable habitat present within survey area; however, Hanson Pond, the nearest open water, is outside of the BSA.
<i>Nyctinomops macrotis</i> Big free-tailed bat	--, SSC, Group II	Low lying arid areas, needs high cliffs or rocky outcrops for roosting sites.	Moderate - not observed during 2006, 2010, or 2015 surveys; marginally suitable habitat is present within survey area.

¹ Status Codes: (Federal, State, County)

Federal (USFWS)

BEPA = Bald Eagle Protection Act; FE = Federally endangered; FT = Federally threatened; FCan = Federal candidate

State (CDFW)

FP = Fully protected; SE = State endangered; SR = State rare; ST = State threatened; SCan = State candidate; SSC = State Species of Special Concern; SA = State Special Animal

San Diego County Sensitive Species Lists

Animal Lists

Group I = listed as threatened or endangered or has very specific natural history requirements that must be met

Group II = not common but not so rare that extirpation or extinction is imminent without immediate action

1.4.6.1 *Special-Status Wildlife Species Known to Occur Onsite*

Western spadefoot toad (*Spea hammondi*)

The western spadefoot toad is a state Species of Special Concern and a San Diego County Group II species. This nocturnal species prefers soil soft enough for burrowing, found within grasslands, scrub, chaparral, and oak woodlands (Lemm 2006). Its distribution occurs at elevations from sea level to approximately 4,650 feet. This species was detected during USGS surveys; while it was noted generally that amphibian diversity was relatively low with three species, western spadefoot toad was the second most detected amphibian with at least 48 observations (Richmond et al. 2016).

Orange-throated whiptail (*Aspidoscelis hyperythrus*)

The orange-throated whiptail is a state Species of Special Concern and a San Diego County Group II species. This species prefers washes and other sandy areas in coastal sage scrub and chaparral, with patches of brush and rocks for cover. This subspecies is restricted to the extreme southwest of California and northwest of Baja California, Mexico. In California, it is found on the west side of the Peninsular Ranges in Los Angeles, San Bernardino, Orange, Riverside, and San Diego counties, below 3,000 feet in elevation. A limiting factor to the species' range is the availability of its primary food item, the termite (*Reticulitermes hesperus*). The orange-throated whiptail was observed predominately in coastal sage scrub habitat during the 2006, 2010, and 2015 surveys. It was also detected in abundance with 173 captures during USGS herpetofaunal surveys of the property (Richmond et al. 2016).

Coastal whiptail (*Aspidoscelis tigris stejnegeri*)

Coastal whiptail is a state Special Animal and a San Diego County Group II species. In San Diego County, this species is found from the coast to the mountains with an estimated elevational range of sea level to approximately 5,000 feet (Lemm 2006). It is found in various habitats including sage scrub, chaparral, riparian areas, oak and pine woodlands, pinyon juniper woodlands, and rocky foothills. Coastal whiptail was the fifth most captured lizard species during the USGS study with 29 observations (Richmond et al. 2016).

Coast horned lizard (*Phrynosoma blainvillei*)

The coast horned lizard is a state Species of Special Concern and a San Diego County Group II species. This lizard ranges from coastal southern California to the desert foothills and into Baja California, Mexico. In San Diego County, it has a wide range but spotty distribution. This species can be locally abundant in areas where it occurs, with densities near 20 adults per acre. It is often associated with coastal sage scrub, especially areas of level to gently sloping ground with well-drained loose or sandy soil, but it can also be found in annual grasslands, chaparral, oak woodland, riparian woodland, and coniferous forest between 30 and 7,030 feet (Jennings and Hayes 1994). The coast horned lizard typically avoids dense vegetation, preferring 20 to 40 percent bare ground in its

habitat. Adults are active from late March to late August, and young are active from August to November or December. They are largely dependent upon native harvester ants (*Pogonomyrmex* sp.) for food. Populations along the coast and inland have been severely reduced by loss of habitat. The coast horned lizard was observed in the BSA in 2015 in tamarisk scrub habitat during the 2015 biological surveys and was also detected during USGS surveys (Richmond et al 2016).

Southern California legless lizard (*Anniella stebbinsi*)

The southern California legless lizard is a state Species of Special Concern. It is primarily found in oak woodland, chaparral, coastal sage scrub, pinyon-juniper woodland, and urban areas, and occasionally found in desert flats, dunes, and beaches. It occurs within an elevational range extending from sea level to 5,940 feet (Lemm 2006). It is a burrower, so it spends most of its time underground. This species was detected during the USGS study, with 17 observations (Richmond et al. 2016).

San Diego banded gecko (*Coleonyx variegatus abbotti*)

The San Diego banded gecko is a state Species of Special Concern and a San Diego County Group I species. It is found throughout most of southern California, and north into parts of Nevada and Utah, south into Baja Mexico and Sonora, Mexico, and east into eastern parts on Arizona and New Mexico. This species prefers rocky areas in coastal sage scrub and chaparral and is active at night, burrowing under the surface of rocky and other objects during the day (California Herps 2017).

Coast patch-nosed snake (*Salvadora hexalepis virgulata*)

Coast patch-nosed snake is species of Special Concern and a San Diego County Group II species. It is associated with coastal scrubs and chaparral and other low shrub habitats. This species has been observed foraging in smaller shrubs and trees for prey, and uses burrows of woodrats and gopher holes (Lemm 2006). Its distribution is from the coast to mountains, with an elevational range of sea level to 7,000 feet. One observation of this species was recorded during the USGS study (Richmond et al. 2016).

Glossy snake (*Arizona elegans*)

The glossy snake is a state Species of Special Concern. This species occurs primarily throughout Southern California in deserts and interior Coast Ranges, but has been found as far north as Mount Diablo near San Francisco (Zeiner et al. 1988-1990). It is most often found in desert habitats but also occurs in chaparral, sagebrush and annual grasslands. The glossy snake prefers open, sandy areas, but is also found in rocky areas. It takes cover in abandoned animals' burrows, in rock outcrops and, less often, beneath debris. Its primary source of food is lizards, including juvenile desert iguanas, side-blotched lizards,

and zebra-tailed lizards. The glossy snake has been recorded within the BSA during 2015 and 2016 surveys conducted by USGS, with a total of 23 observations (Richmond et al. 2016).

Red-diamond rattlesnake (*Crotalus ruber*)

The northern red diamond rattlesnake is state Species of Special Concern and a San Diego County Group II species. It is often found in chaparral, coastal sage scrub, along creek banks, and in rock outcrops or piles of debris. This species prefers dense vegetation in rocky areas with a supply of burrowing rodents for prey. The northern red diamond rattlesnake is restricted to southern California and Baja California from Morongo Pass to the tip of the Baja Peninsula, with the majority of its California range in western Riverside County and San Diego County. It occurs from sea level to 3,000 feet in elevation. Suitable habitat is prevalent within the BSA, and three observations were made during the USGS study (Richmond et al. 2016).

Cooper's hawk (*Accipiter cooperii*)

The Cooper's hawk is a state Special Animal, and San Diego County Group I species. The nesting sites of this species are considered sensitive by the CDFW. The Cooper's hawk ranges year-round throughout most of the United States; its wintering range extends south to Central America, and its breeding range extends north to southern Canada (Rosenfeld and Bielefeldt 1993). It is a common breeder in both natural and urban environments, with eucalyptus trees used nearly as often as oaks (Unitt 2004). This hawk mainly breeds in oak and willow riparian woodlands but will also use eucalyptus trees. Breeding occurs from March to July. This hawk forages primarily on medium-sized birds but is also known to eat small mammals, such as chipmunks and other rodents (Rosenfeld and Bielefeldt 1993). The decline of this species has been caused by urbanization and loss of habitat. However, during the last 20 years, the Cooper's hawk has apparently adapted to city living (Unitt 2004). The Cooper's hawk has been observed in 2006, 2010, and 2015 in the BSA in the vicinity of the riparian habitat along the San Diego River corridor.

Sharp-shinned hawk (*Accipiter striatus*)

The sharp-shinned hawk is a state Special Animal, and San Diego County Group I species. The nesting sites of this species are considered sensitive by the CDFW. It is a woodland hawk that requires a certain amount of dense cover, but this species can be localized and scattered through relatively open country. It prefers wooded areas where it can hunt small birds. This species is distributed throughout North, Central, and South America. In California, it is a fairly common migrant and winter resident, although its breeding distribution is poorly documented. In western Riverside County, it is a common winter migrant and has been frequently documented in the San Jacinto Mountains in the summer. The sharp-shinned hawk was observed in the BSA in 2010 in the vicinity of riparian habitat along the San Diego River corridor.

Red-shouldered hawk (*Buteo lineatus*)

The red-shouldered hawk is a San Diego County Group I species. This species occurs in riparian forest and oak woodland habitat, as well as eucalyptus groves and residential areas. This species occurs along the entire length of the west coast of the United States and Baja California, Mexico. It also occurs in eastern North America from the southern portion of Canada, into eastern Mexico. The red-shouldered hawk builds a stick nest in sycamore, coast live oak, and eucalyptus trees, and occasionally in palm trees. This species frequently reuses its nests in successive years and takes over old nests of other hawks. The red-shouldered hawk was observed in the BSA in 2010 in the vicinity of riparian habitat along the San Diego River corridor.

Turkey vulture (*Cathartes aura*)

The turkey vulture is a San Diego County Group I species. It occurs throughout North and South America in a variety of open and forested habitats, and tends to avoid developed areas. Rather than building nests, this species lays its eggs in rock crevices, caves and hollow logs. It roosts in large communal groups but searches for food independently during the day. The turkey vulture is a scavenger, feeding primarily on carrion which it finds with its acute sense of smell, but it will also occasionally eat garbage and rotten vegetation. Mammals are the most common source of carrion; however, birds, amphibians and reptiles are also eaten. Within the BSA, this species was observed in 2006, 2010 and 2015 soaring overhead throughout the site.

Osprey (*Pandion haliaetus*)

The osprey is a County Group I species. It is a long-range migrant breeding in North America and migrating to South America in the winter. This species is associated with large bodies of clear, open water. Its diet consists almost entirely of live fish, but will also occasionally prey on small mammals, birds, reptiles, and amphibians. The osprey is known to consume over 80 species of fresh and saltwater fish in North America. Nesting occurs at the top of large snags and dead trees up to twelve miles from fishing areas; however, nests most commonly occur within one mile of open water (Polite 1990). Occasionally, this species will nest on the ground. In North America, breeding typically occurs along the coast and near large inland lakes. This species was observed within the BSA near Hanson Pond during 2015 surveys; no nests or breeding behavior was observed. However, Hanson Pond and nearby Lake Jennings provide appropriate habitat for prey and habitat onsite is appropriate as a potential nesting site.

Yellow warbler (*Setophaga petechia*)

The yellow warbler is state Species of Special Concern within its nesting habitat and a San Diego County Group II species. It occupies marshes, swamps, streamside groves, willow and alder thickets, open woodlands with thickets, orchards, gardens, and open mangroves. This species breeds from Alaska to Newfoundland and south to western South Carolina and northern Georgia, and

west sporadically through the southwest to the Pacific Coast. This species is highly migratory and winters in Central America and the West Indies south to northern Peru. The yellow warbler is a summer visitor in California. In San Diego County the yellow warbler is a common breeding species but is localized to suitable riparian woodland habitats. In 2006 and 2015 the yellow warbler (*Dendroica petechia*) was detected within the riparian woodland along the edge of Hanson Pond just outside of the BSA, and within the tamarisk scrub northeast of the pond.

White-tailed kite (*Elanus leucurus*)

The white-tailed kite is a state Fully Protected species, and its nesting sites are considered sensitive by the CDFW. It is also a San Diego County Group I species. This raptor occurs in coastal lowland areas from Oregon to northern Baja California, Mexico (National Geographic Society 1983). Nesting occurs in riparian woodlands, oaks, or sycamore groves that border grassland or open fields (Unitt 2004). This species is known to roost in large communal groups (Unitt 2004). The white-tailed kite forages over open areas and grasslands feeding primarily on small rodents and insects (National Geographic Society 1983). White-tailed kite populations in southern California have declined as a result of the loss of nesting and foraging habitat. The species nests in trees of variable height in riparian or oak woodland habitats adjacent to grasslands, agricultural areas, and other open vegetation. In the BSA, the white-tailed kite was detected in 2006 in disturbed habitat just east of Dairy Road and northeast of Hanson Pond.

Yellow-breasted chat (*Icteria virens*)

The yellow-breasted chat is a state Species of Special Concern and a San Diego County Group I species. This small songbird breeds from southern Canada into Mexico, and winters in southern Mexico and Central America. Within San Diego County, this species occurs in coastal lowlands in riparian woodland habitat (Unitt 2004). The yellow-breasted chat (*Icteria virens*) was detected in 2006 within the river channel in the eastern portion of the BSA.

Loggerhead shrike (*Lanius ludovicianus*)

The loggerhead shrike is a state Species of Special Concern and a County Group I species. This species inhabits most of the continental United States and Mexico and is a year-round resident of southern California. The loggerhead shrike prefers open habitat with perches for hunting and fairly dense shrubs for nesting (Yosef 1996). In southern California, loggerhead shrikes inhabit grasslands, agricultural fields, chaparral, and desert scrub (Unitt 2004). Their breeding season is from March to August. Loggerhead shrikes are highly territorial and usually live in pairs in permanent territories (Yosef 1996). They feed on small reptiles, mammals, amphibians, and insects that they often impale on sticks or thorns before eating. Loggerhead shrike populations are declining, likely as a result of urbanization and loss of habitat as well as, to a lesser degree,

pesticide use (Yosef 1996). Within the BSA, the loggerhead shrike (*Lanius ludovicianus*) was detected in the disturbed area near Dairy Road

Coastal California gnatcatcher (*Polioptila californica californica*)

The coastal California gnatcatcher is federally threatened, a state Species of Special Concern, and a County Group I species. The coastal California gnatcatcher is a local year-round resident found primarily in coastal sage scrub communities in southern California. Home range size requirements of the coastal California gnatcatcher vary with habitat quality and distance from the coast. Documented home ranges have varied from approximately 6 to 45 acres in San Diego County (Unitt 2004). This species typically forages beyond their nesting sites in habitats of varying quality, including open patches of disturbed coastal sage scrub and adjacent chaparral and grassland areas. The breeding season for this species generally extends from February 15 through August 31. Gnatcatcher pairs attempt several nests each year, each placed in a different location inside their breeding territory; most nest attempts are unsuccessful as they are generally preyed on by various predator species. Clutch size can range from one to five eggs, with three to four eggs most common. Gnatcatchers remain paired through the nonbreeding season and generally expand their home range during this time.

The coastal California gnatcatcher was detected in or adjacent to the BSA within three disconnected patches of coastal sage scrub. One of these patches, located just south of Willow Road to the north of Hanson Pond, is highly disturbed and dominated by California buckwheat and non-native grasses and forbs (Figure 13). A second occupied patch is located due south of this location just north of Hanson Pond. This area consists of a thin, very dense strip of California sagebrush that has grown along an existing unpaved access road. Although this area is outside of the BSA, it is within approximately 1,000 feet of the impact area. The third patch is a very small, highly disturbed fragment dominated by California buckwheat and non-native grasses and forbs, located within the impact area of the BSA southeast of Hanson Pond, just north of El Monte Road. Refer to **Appendix H** for the 2015 Coastal California Gnatcatcher Survey Report (ESA 2015a).

Least Bell's vireo (*Vireo bellii pusilus*)

Least Bell's vireo is a state and federally endangered and San Diego County Group I species. This small songbird occurs in riparian forest, scrub, and woodland habitats. It nests primarily in willow, mule fat, or mesquite vegetation. The least Bell's vireo is a summer resident in Southern California that typically resides in willow-dominated habitat. The least Bell's vireo is known to establish territories in riparian habitats of moderate to high quality, such as the remnant riparian woodland patches detected onsite. This species was detected during the 2010 and 2015 protocol surveys in the riparian woodland habitat along the eastern edge of Hanson Pond, just outside of the BSA. In 2010, it was also observed in two locations in the riparian habitat along the San Diego River

channel within and adjacent to the BSA. The potential for this species to nest onsite is considered high. Refer to **Appendix I** for the 2015 Least Bell's Vireo Survey Report (ESA 2015b).

San Diego black-tailed jackrabbit (*Lepus californicus bennettii*)

The San Diego black-tailed jackrabbit is a state Species of Special Concern and is a San Diego County Group II species. It ranges from near Mt. Pinos (at the Kern-Ventura County line) southward and west of the Peninsular Range into Baja California, Mexico (Hall 1981). This species can be found throughout southern California, with the exception of high-altitude mountains. It occupies open or semi-open habitats, such as coastal sage scrub and open chaparral areas. Forested and thick chaparral regions are not suitable (Bond 1977). The San Diego black-tailed jackrabbit breeds throughout the year, with the greatest number of births occurring from April through May. The black-tailed jackrabbit is strictly herbivorous, preferring habitat with ample forage such as grasses and forbs. Declines in San Diego black-tailed jackrabbit populations are due to loss of suitable habitat as a result of urban development. This species was observed regularly during 2006 surveys in the upland oak/sandy dune area, but was not observed during 2010 or 2015 surveys.

USFWS Designated Critical Habitat

USFWS Designated Critical Habitat for two species falls within the BSA, including the limits of mining activities. Designated Critical Habitat for arroyo toad (*Anaxyrus californicus*) covers the entire project boundary. This federally endangered species requires slow-moving streams and rivers with shallow, gravelly pools next to sandy beaches for breeding and adjacent scrub or grassland habitat for non-breeding adults. These conditions do not exist in this portion of the San Diego River channel and the nearest documented location is approximately 7.45 miles north in the San Vicente Creek, north of San Vicente Reservoir. Therefore, this species is unlikely to occur in the BSA.

Designated Critical Habitat for the coastal California gnatcatcher encompasses approximately 180.67 acres within the project area and 18.37 acres within the buffer. Impacts to this habitat would consist of 5.04 acres of permanent impacts from the establishment of permanent fuel modification zones, and 175.66 acres of temporary impacts from staging, processing, and mining activities. Two of the three locations observed in the 2015 surveys are well outside of this Designated Critical Habitat; the third location (southeast of Hanson Pond) is located in the processing area just west of the Designated Critical Habitat.

1.4.6.2 Special-Status Wildlife Species with a High Potential to Occur Onsite

Two-striped garter snake (*Thamnophis hammondi*)

The two-striped garter snake is a state Species of Special Concern and a County Group I species. The species is found in permanent and semi-permanent waterways from the coast to the desert. It is frequently found in oak woodlands,

brushlands, and sparse coniferous forests (Stebbins 2003). It is known to inhabit vernal pools and seasonally ephemeral waterways. Its altitudinal range is from sea level to 8,000 feet. It is found in most undisturbed habitats provided there is sufficient water and foliage for cover. Rocky and sandy streambeds are favored with the species being active from spring to fall. Winter is spent in burrows or rock crevices and occasionally the species may be found in groups. During winter, this species inhabits coastal sage scrub and grassland locations adjacent to waterways and riparian areas. The two-striped garter snake can be found basking on rocks or in vegetation in the morning and afternoon. The species is more tolerant of lower temperatures and can be active on cold days. The species feeds primarily on fish, fish eggs, tadpoles, frogs, and salamanders. Suitable habitat is prevalent in the BSA along the river channel, especially during the wet season when water is present, indicating high potential for the species to occur onsite.

Golden eagle (*Aquila chrysaetos*)

The golden eagle is a federally protected species under the Bald and Golden Eagle Protection Act, a state Fully Protected species and Species of Special Concern, and a San Diego County Group I species. This species occurs throughout the United States and is a common resident in San Diego County. The nesting population in San Diego County is concentrated in the foothill zone and coastal lowlands. Golden eagles nest on cliffs, boulders, or in large trees. An active golden eagle territory exists approximately 3 miles east of the project site, and recent golden eagle surveys conducted by USGS in San Diego County suggest that two adjacent golden eagle territories may overlap with the BSA (USGS 2016). Golden eagles forage close to and far from their nests as far as 3.7 miles from the center of their territories, but have been observed to move 5.6 miles from the center of their territories in favorable habitat (McGrady et al. 2002). Ideal foraging habitat includes vegetation communities such as of grassland, open chaparral, or coastal sage scrub. The non-native grassland within the BSA is a large expanse of foraging habitat in the area available to the nearest golden eagle nesting territories. Therefore, a high potential exists for the species to forage within the BSA. Suitable nesting habitat is not present onsite.

1.4.7 Wetlands/Jurisdictional Waters

A Jurisdictional Determination and Wetland Delineation was conducted by ESA biologists Mark Tucker and Darren Burton on November 18, 2010, and updated by ESA biologists Tommy Molioo and Alanna Bennett on January 21, 2016 (**Appendix F**; ESA 2018d). Federal, state, and county jurisdictional waters are present within the project area (**Figures 14a and 14b**).

The El Capitan Reservoir dam is a historical feature and conditions onsite are considered normal circumstances. Therefore, the effects of the dam do not need to be considered when assessing the presence of wetland hydrology. Standard delineation methods were used during the field survey, as well as a literature

review of existing reports, online databases, aerial photography, and topographic maps.

Federal jurisdiction within project area includes the San Diego River, but is limited to the low-flow channels of the River. USACE/RWQCB jurisdiction does not extend out to the floodplain of the San Diego River due to a lack of an Ordinary High Water Mark (OHWM) and lack of hydrology indicators. All channels and riparian habitat within the San Diego River are considered to be CDFW non-wetland waters and county jurisdictional wetland habitat. The tamarisk scrub located outside the channel on the adjacent flats, outside the 100-year flood plain, is not considered to be CDFW or county wetland habitat because of the lack of a streambed setting. The small ponded area in the northeastern portion of the project area is also considered to be county, state, and federal jurisdictional wetlands based on its source being a stream, the presence of wetland indicators (including hydric soils and/or hydrophytic vegetation), and its proximity to regulated features within the San Diego River.

Jurisdictional riparian habitat varies in quality along the river. Areas of tamarisk scrub range from moderately dense to relatively sparse with more bare ground and smaller, less developed habitat structure within the less dense areas. The native riparian habitats onsite are all in a disturbed condition but do provide relatively high-quality habitat for wildlife species, especially when compared to the tamarisk scrub onsite. Prior to the 2015 focused species surveys, least Bell's vireo was observed in the most extensive patches of native habitats, and two of the three territories identified in 2010 were primarily associated with the disturbed cottonwood-willow riparian forest found onsite. The third, which was also observed in 2015, was observed adjacent to the project area in habitat next to Hanson Pond.

Wetland function related to hydrologic and biogeochemical functions are limited because of the lack of regular or substantial flooding and short residence time due to sandy, highly impervious soils within the San Diego River. When flooding and flow do occur, the stream in this reach of the San Diego River functions as a losing stream and would be expected to contribute to groundwater recharge, and to a limited extent flood control.

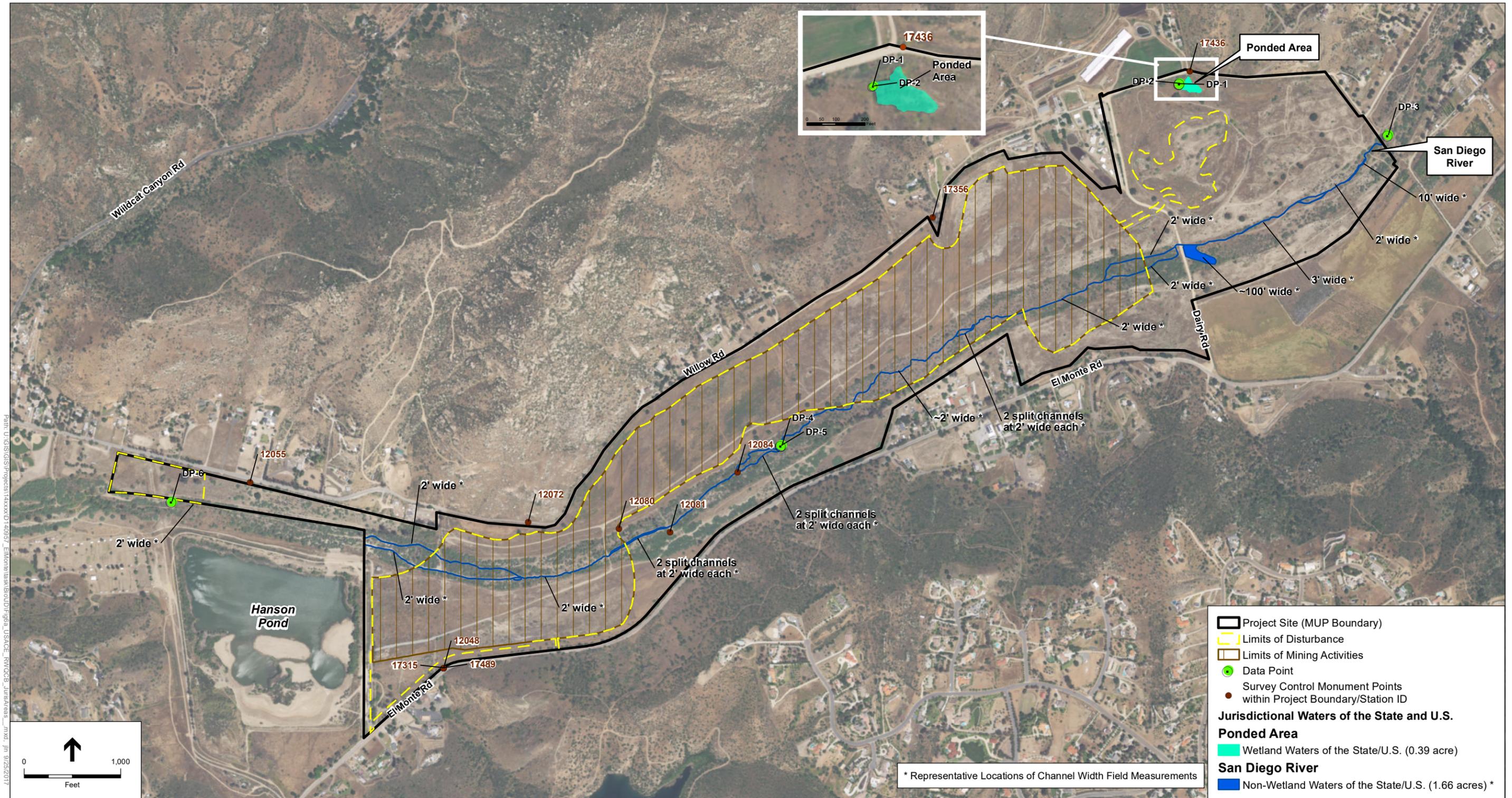
Wetland value is beneficial to humans for uses such as commercial enterprise, recreation, and waste assimilation as well as non-market values such as aesthetics, uniqueness, and heritage are low because of the limited access to the public, the lack of current commercial use, and the non-native status of the majority of the riparian and streambed habitat onsite. **Table 8** gives an estimate of the acreage of resources classified as county, state, and federal wetlands and jurisdictional waters.

TABLE 8. JURISDICTIONAL RESOURCES WITHIN THE PROJECT AREA

Map ID	Type of Feature	Habitat Type	Non-Wetland Waters ¹	Wetland Waters	Total ²
Waters of the United States/State (USACE/RWQCB)					
San Diego River	Ephemeral Channel	Non-Vegetated Stream Channel	1.66 ac. (7,264 linear ft.)	0.0	1.66 ac. (7,264 linear ft.)
CDFW/County of San Diego Jurisdiction					
San Diego River	Riparian Habitat	Tamarisk Scrub (74.21 ac.), Southern Cottonwood-Willow Riparian Forest (11.16 ac.), Disturbed (0.50 ac.), Diegan Coastal Sage Scrub (0.26 ac.), Non-Native Grassland (0.01 ac.)	86.14 ac.	0.0	86.14 ac.
USACE/RWQCB/CDFW/County of San Diego Jurisdiction					
Ponded Area	Wetland	Southern Willow Scrub	0.0	0.39 ac.	0.39 ac.

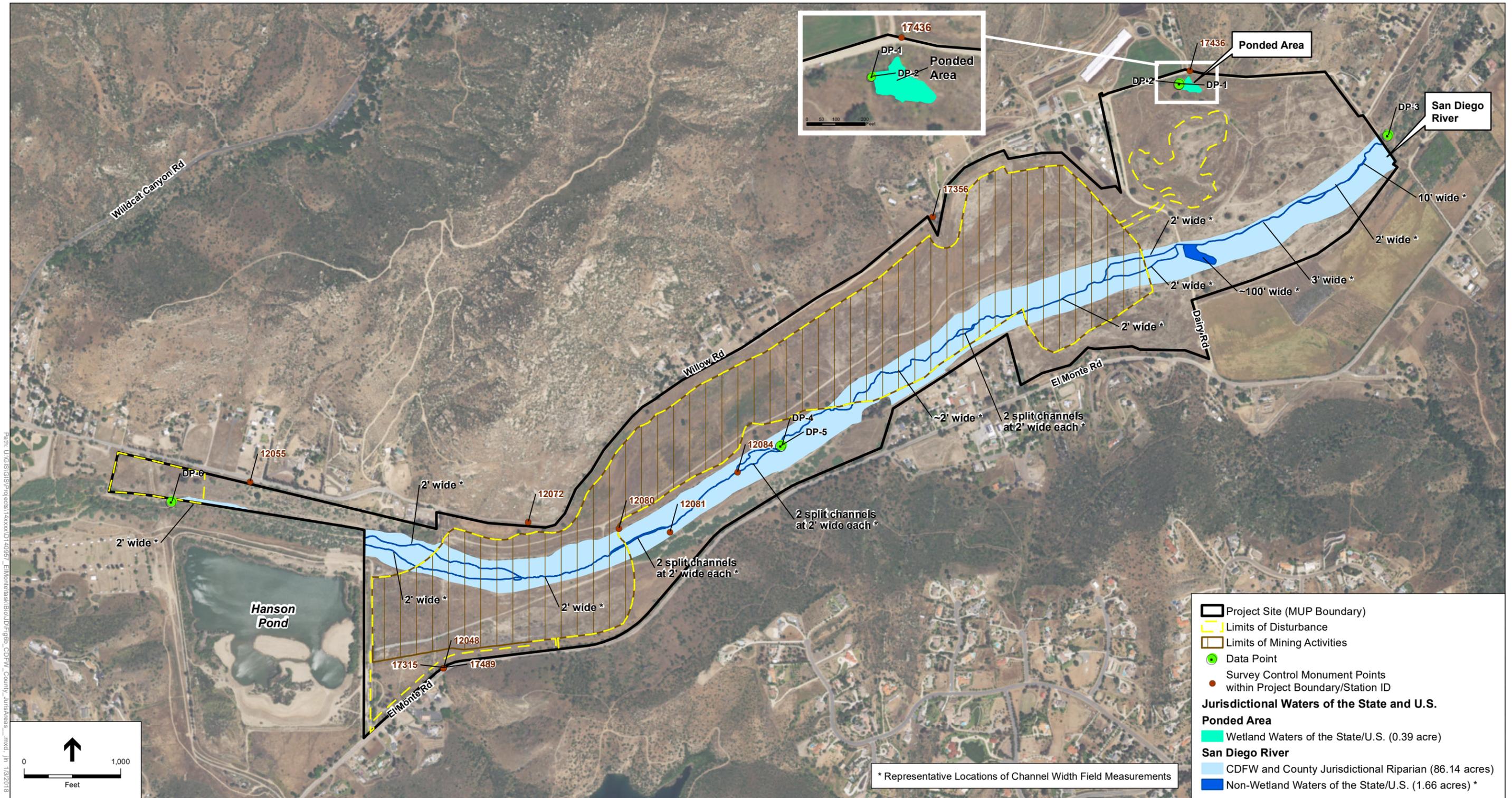
¹ Linear feet are only provided for linear aquatic resource such as stream/riverine features and wetland/riparian corridors directly adjacent to stream features.

² Jurisdictional waters acreage was determined by using ArcGIS. All acreages are rounded to the nearest hundredth if the areas of the potentially jurisdictional features were less than 0.01 acre (which may account for minor rounding error).



SOURCE: ESRI; EnviroMine; The Altum Group; Chang Consultants; ESA; SanGIS

El Monte Sand Mining Project .140957
Figure 14a
 USACE/RWQCB Jurisdictional Areas



1.4.8 Habitat Connectivity and Wildlife Corridors

Wildlife movement occurs within and between habitat corridors and linkages. Habitat linkages are contiguous areas of open space that connect two larger, different types of habitats. Linkages provide for both diffusion and dispersal for a variety of species within the greater landscape. In addition, linkages can serve as primary habitats for some species. Corridors are generally linear systems between two or more habitats and can be composed of more than one habitat type.

Corridors provide for movement and dispersal, but do not necessarily include habitat capable of supporting all life history requirements of a species (CDFW 2015). Wildlife movement by means of corridors is critical for survivorship for several reasons. For instance, corridors can connect water, food, and cover sources, spatially linking these three resources with wildlife in different areas. In addition, wildlife movement between habitat areas via corridors provides potential for genetic exchange between populations, thereby maintaining genetic variability and adaptability to maximize the success of wildlife responses to changing environmental conditions. This is especially critical for small populations subject to loss of variability from genetic drift and effects of inbreeding. The nature of corridor uses and wildlife movement patterns varies greatly among species and regions.

The project area occurs within Lake Jennings/Wildcat Canyon Biological Resource Core Area (County of San Diego 1997). The project area runs predominately in an east-west direction along a 2.7-mile portion of the San Diego River. Existing adjacent land uses bordering the site consist of open space, agriculture, grazing lands, and residential development. The riparian vegetation surrounding and within the river floodplain includes thick to sparse stands of both native willow and cottonwood communities and non-native tamarisk scrub, which functions to a limited extent as a feasible habitat for smaller species such as passerine birds, rodents and reptiles, as well as larger species such as mule deer or bobcats. The densest regions of riparian scrub habitats are bordered by generally open areas of non-native grassland, or otherwise open and disturbed vegetation. Most of the outskirts of the project area abut fenced residential and agricultural developments that likely constrict wildlife use to some degree or direct larger animals longitudinally across the project area. The site does offer function as east-west and north-south corridor across and through the western portion of El Monte Valley, including access across the valley to Lake Jennings.

A potential habitat linkage connecting the open, natural areas to the north and south of the site exists approximately in the middle of the project area, where the undeveloped north-facing hills on the south side of El Monte Road are linked to the south-facing slope on the north side of Willow Road via the vegetated project area. The hills to the south of El Monte Road are covered mainly in grassland and sparse chaparral vegetation, while the south-facing slopes to the north of Willow Road possess high-quality scrub habitat. The region on the north side is

connected to larger, relatively undisturbed regions of abundant coastal sage scrub. The region within the recognized linkage area between the riparian area immediately south of Willow Road in the middle of the project area and to the east of Hanson Pond currently consists of disturbed habitat and non-native grassland. Because habitats such as non-native grassland generally do not offer the types of dense vegetation cover preferred by large animals for safe passage between native habitats, the effectiveness of the area as a viable north-south habitat linkage could be improved by revegetation by converting non-native, structurally limited vegetation to native scrub vegetation.

1.5 Applicable Regulations

1.5.1 Federal Regulatory Setting

Federal Endangered Species Act

The federal Endangered Species Act (FESA) (16 USC 1531 et seq.) directs USFWS to identify and protect threatened and endangered species and their critical habitat, and to provide a means to conserve their ecosystems. Section 9 of the FESA makes it unlawful for any person (including private and public entities) to “take” a species listed by USFWS as threatened or endangered (i.e., a federally listed species). “Take” is defined by the FESA as “to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect or attempt to engage in any such conduct” (16 USC 1532[19]). “Harm” is further defined to include significant habitat modification or degradation that results in death or injury to a federally listed species by significantly impairing behavioral patterns (50 Code of Federal Regulations [CFR] 17.3). “Harass” is defined as actions that create the likelihood of injury to a federally listed species to such an extent as to significantly disrupt normal behavior patterns (50 CFR 17.3).

Section 7 of the FESA directs USFWS to use its existing authority to conserve threatened and endangered species and, in consultation with federal agencies, ensure that any action authorized, funded, or carried out by such agency does not jeopardize the continued existence of a federally listed species or destroy or adversely modify designated critical habitat. Section 7 applies to management of federal lands and to other federal actions that may affect federally listed species, such as federal approval of private activities through the issuance of federal permits, licenses, grants, or other actions.

Migratory Bird Treaty Act

The MBTA (16 U.S. Code 703) prohibits “take” of migratory birds, including their occupied nests, eggs, and parts. “Take” is defined by the MBTA as “pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to pursue, hunt, shoot, wound, kill, trap, capture, or collect” (50 CFR 10.12). The MBTA protects over 1,000 migratory bird species; species protected by the MBTA are listed in 50 CFR 10.13. Neither the MBTA nor its implementing regulations, found in 50 CFR

21, currently provide for the permitting of “incidental take” of migratory birds that may be killed or injured by otherwise lawful activities.

When vegetation clearing or other activities with the potential to kill or injure migratory birds are scheduled to occur during the avian breeding season (generally February 1 through September 15), USFWS typically requires surveys to locate active nests in project areas prior to commencing the activities. If active nests are detected, avoidance buffers and nest monitoring may be required. Project activities may also be temporarily halted until migratory birds are no longer at risk of being killed or injured.

The Bald and Golden Eagle Protection Act

The Bald and Golden Eagle Protection Act (16 U.S.C. 668-668c), enacted in 1940 and amended several times, prohibits anyone, without a permit issued by the Secretary of the Interior, from “taking” bald eagles, including their parts, nests, or eggs. The Act provides criminal and civil penalties for persons who “take, possess, sell, purchase, barter, offer to sell, purchase or barter, transport, export or import, at any time or any manner, any bald eagle, or any golden eagle], alive or dead, or any part, nest, or egg thereof.” The Act defines “take” as “pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb.” “Disturb” means to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available: (1) injury to an eagle, (2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or (3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior. In addition to immediate impacts, this definition also covers impacts that result from human-induced alterations initiated around a previously used nest site during a time when eagles are not present, if, upon the eagle’s return, such alterations agitate or bother an eagle to a degree that injures an eagle or substantially interferes with normal breeding, feeding, or sheltering habits and causes, or is likely to cause, a loss of productivity or nest abandonment.

Clean Water Act

Pursuant to Section 404 of the Clean Water Act (CWA), the U.S. Army Corps of Engineers (USACE) is authorized to regulate any activity that would result in the discharge of dredged or fill material into jurisdictional waters of the United States, which include those waters listed in 33 CFR Part 328 (Definitions). USACE, with oversight by the U.S. Environmental Protection Agency, has the principal authority to issue CWA Section 404 Permits.

Pursuant to Section 401 of the CWA, the Regional Water Quality Control Board (RWQCB), Region 9, certifies that any discharge into jurisdictional waters of the United States will comply with state water quality standards. RWQCB, as delegated by U.S. Environmental Protection Agency, has the principal authority to issue a CWA Section 401 water quality certification or waiver.

1.5.2 State Regulatory Setting

California Fish and Game Code

The California Fish and Game Code (CFGC) regulates the taking or possession of birds, mammals, fish, amphibians, and reptiles, as well as natural resources such as wetlands and waters of the state. Applicable sections of the CFGC are discussed below.

Section 1600 Et Seq. – Streambed Alteration Agreement

Pursuant to Section 1600 et seq. of the CFGC, CDFW regulates activities of an applicant's project that would substantially alter the flow, bed, channel, or bank of streams or lakes, unless certain conditions outlined by CDFW are met by the applicant. The limits of CDFW jurisdiction are defined in CFGC Section 1600 et seq. as the "bed, channel, or bank of any river, stream,¹ or lake designated by CDFW in which there is at any time an existing fish or wildlife resource or from which these resources derive benefit."² However, in practice, CDFW usually extends its jurisdictional limit and assertion to the top of a bank of a stream, the bank of a lake, or outer edge of the riparian vegetation, whichever is wider.

In some cases, drainage ditches and retention ponds³ can be potentially considered under the regulatory administration of CDFW. CDFW provides specific guidance concerning its regulatory administration in California Code of Regulations (CCR) Title 14 Section 720 (Designation of Waters of Department Interest):

For the purpose of implementing Sections 1601 and 1603 of the Fish and Game Code, which requires submission to the department of general plans sufficient to indicate the nature of a project for construction by or on behalf of any person, governmental agency, state or local, and any public utility, of any project which will divert, obstruct, or change the natural flow or bed of any river, stream, or lake designated by the department, or will use material from the streambeds designated by the department, all rivers, streams, lakes, and streambeds in the State of California, including all rivers, streams, and streambeds, *which may have intermittent flows of water*, are hereby designated for such purpose. (Italics added.)

¹ Title 14 CCR 1.72 defines a stream as "a body of water that flows at least periodically or intermittently through a bed or channel having banks and supports fish or other aquatic life. This includes watercourses having a surface or subsurface flow that supports or has supported riparian vegetation."

² This also includes the habitat upon which they depend for continued viability (California Fish and Game Code Division 5, Chapter 1, Section 45, and Division 2, Chapter 1, Section 711.2[a]).

³ Title 14 CCR 1.56 defines a lake as a feature that "includes lakes or man-made reservoirs."

Section 2050 Et Seq. – California Endangered Species Act

CESA (Section 2050 et seq.) prohibits the “take” of species listed as candidate, threatened, or endangered by the California Fish and Game Commission. “Take” is defined by the CESA as “to hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill.” The CESA is administered by CDFW and is similar to the FESA.

Under Section 2081 of the CFGC, CDFW may authorize take of state-listed endangered, threatened, or candidate species if: (1) the take is incidental to otherwise lawful activities, (2) impacts of the take are minimized and fully mitigated, (3) a permit is consistent with regulations adopted in accordance with any recovery plan for the species in questions, and (4) the applicant ensures suitable funding to implement the measures required by CDFW. For those state-listed species that are also federally listed under the FESA, the CESA allows for consistency determinations with federal incidental take statements under Section 2080.1 of the CFGC.

Section 2800–2835 Natural Communities Conservation Planning Act

Sections 2800-2835 of the CFGC describes the Natural Community Conservation Planning (NCCP) Act, which takes a broad-based ecosystem approach to provide regional protection of plants, animals, and their habitat, while allowing compatible and appropriate economic activity. The NCCP Conservation Guidelines and Process Guidelines call for the regulation of all coastal sage scrub within the region, and establish a planning process for the protection of this habitat. The Guidelines also provide a process for issuance of habitat loss permits, which local government agencies may adopt in accordance with an approved NCCP Plan. These guidelines are consistent with Section 4(d) of the FESA, which allows incidental take of the coastal California gnatcatcher if it results from activities which are conducted pursuant to the NCCP Act.

Section 3503 and 3503.5 – Nesting Birds and Birds of Prey

Section 3503 of the CFGC states that it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird. Section 3503.5 of the CFGC 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 sections of the CFGC do not provide for the issuance of any type of incidental take permit. It is important to note that CDFW proposed regulations in August 2015 to clarify key terms in Section 3503 and 3503.5. Finalization of these proposed regulations are pending.

Section 3511, 4700, 5050, and 5515 – Fully Protected Species

Sections 3511, 4700, 5050, and 5515 of the CFGC describe protection of fully protected species. Thirty-seven species are covered by these sections of the CFGC. These species include certain fish, amphibian and reptile, bird, and mammal species. These sections of the CFGC prohibit take or possession of fully protected species, with few exceptions. CDFW is unable to authorize incidental take of fully protected species.

Section 3513 – Migratory Birds

Section 3513 of the CFGC protects California's migratory birds by making it unlawful to take or possess birds that are designated by the MBTA as migratory nongame birds, except as allowed by federal rules and regulations promulgated pursuant to the MBTA.

California Wetlands Conservation Policy

California Wetlands Conservation Policy Executive Order W-59-93 establishes a wetland conservation policy for the state and provides comprehensive direction for the coordination of statewide activities for the preservation and protection of wetland habitats. The Resources Agency of California and California Environmental Protection Agency are designated as co-leads to implement the goals of the California Wetlands Conservation Policy, which include endorsing "no overall net loss" and achieving a "long-term net gain in the quantity, quality, and permanence of wetlands acreage and values in California." Other stated goals are to achieve a reduction in the procedural complexity in the administration of wetland conservation programs and to encourage partnerships to make landowner incentive programs and cooperative planning efforts the primary focus of wetlands conservation and restoration.

1.5.3 Local Regulatory Setting

Resource Protection Ordinance

The County's RPO was adopted in 1989 and later amended in 2007 (County of San Diego 2007a). The RPO restricts, to varying degrees, impacts to various natural resources, including wetlands, wetland buffers, floodplains, steep slopes, sensitive habitat lands, and historical sites. Certain permit types are subject to the requirements to prepare Resource Protection Studies under the RPO.

The RPO states that no impacts may occur to lands determined to be wetlands as defined by the ordinance, except those impacts related to aquaculture, scientific research, and/or wetland restoration projects. In addition, the ordinance requires that a wetland buffer be provided to further protect the wetland resources. The RPO defines wetland buffer as the lands that provide a buffer area of an appropriate size to protect the environmental and functional habitat values of the wetland, or which are integrally important in supporting the full range of the wetland and adjacent upland biological community. Access paths,

improvements necessary to protect the adjacent wetlands, and those uses allowed within the actual wetland are the only allowed uses within the buffer.

The RPO specifies that uses permitted in a floodway be limited to agricultural, recreational, and other low-intensity uses. However, uses that would substantially harm the environmental values of a particular floodway area would not be permitted. The RPO also states that mineral resource extraction can be permitted subject to an approved MUP and Reclamation Plan, provided that mitigation measures are established that produce a net gain in the functional wetlands and riparian habitat within the floodway.

The RPO specifies that “Mature Riparian Woodlands may not be destroyed or reduced in size due to sand, gravel, or mineral extraction projects.” The RPO defines Mature Riparian Woodlands as “a grouping of sycamores, cottonwoods, willows, and/or oak trees having substantial biological value, where at least ten of the trees have a diameter of six inches or greater.”

It should be noted that exemptions to the RPO are allowed for “any sand, gravel or mineral extraction project, provided that the following mitigation measures are required as a condition of a Major Use Permit approved for such a project:

- 1) Any wetland buffer area shall be restored to protect environmental values of adjacent wetlands;
- 2) In a floodplain, any net gain in functional wetlands and riparian habitat shall result in or adjacent to the area of extraction;
- 3) Native vegetation shall be used on steep slope lands to revegetate and landscape cut and fill areas in order to substantially restore the original habitat value, and slopes shall be graded to produce contours and soils which reflect a natural landform which is consistent with the surrounding area; and
- 4) Mature riparian woodland may not be destroyed or reduced in size due to sand, gravel or mineral extraction.

Use of the extraction area after reclamation shall be subject to all conditions of the RPO.”

Generally, the project meets the requirements of the exemption. Regarding the first requirement, wetland buffers are planned as a design feature to avoid/minimize impacts to wetlands to the extent feasible. Within areas mapped as Mature Riparian Woodland, a buffer of 50 feet from the edge of the tree canopy would be provided. This buffer width is consistent with County guidelines, which state “A 50-foot wetland buffer would be appropriate for lower quality RPO wetlands where the wetland has been assessed to have low physical and chemical functions, vegetation is not dominated by hydrophytes, soils are not highly erosive and slopes do not exceed 25%.

Regarding the second requirement, the entire project area is within a floodplain, and the revegetation plan for the project area includes an increase in the total acreage of functional riparian habitat. Riparian/wetland habitat, specifically tamarisk scrub, would be mitigated at a 3:1 ratio through 1.5:1 restoration of high quality riparian scrub habitat dominated by mule fat along with scattered willows within the excavated mining pit (basin). Existing riparian habitat (predominantly non-native tamarisk scrub) would be mitigated through restoration and revegetation of native riparian forest and scrub at a 3:1 ratio. The higher quality and quantity of mitigation habitats would result in a net increase in functional wetland/riparian habitat.

Also, native vegetation is planned on the slopes of the mining area post-mining and would increase the original habitat value; a majority of the impact area consists of disturbed habitat and non-native habitat, to be revegetated post mining with native upland and riparian habitats. The slopes would be graded to 3:1, and would produce a landform consistent with surrounding soils and topography.

Regarding the fourth requirement, another project design feature is to maintain a 50-foot non-disturbance area around the mature riparian woodlands within the project area, thus mature riparian woodlands would not be impacted, meeting this requirement. Finally, post-reclamation for the entirety of the mature riparian woodland would be transferred to the County and be maintained and managed in perpetuity for biological values under a Biological Open Space Easement that is granted from to County. As a Biological Open Space Easement, the land would be in compliance with the RPO.

Multiple Species Conservation Program (MSCP)

The project is currently located entirely outside of the County's MSCP Subarea Plan. The project area is specifically located on these lands which were previously owned by the Helix Water District (now owned by El Monte Nature Preserve) which create a "doughnut hole" within the Metro-Lakeside-Jamul Segment of the County's MSCP Subarea Plan. PAMA lands within the Metro-Lakeside-Jamul Segment immediately surround the project area. The project proposes a Boundary Line Adjustment (BLA) to the Pre-Approved Mitigation Area (PAMA) of the County's MSCP Subarea Plan (County of San Diego 1997). Section 10.11 of the County's MSCP Subarea Plan Implementing Agreement (County of San Diego 1998) allows for BLAs, and Section 5.4.2 of the MSCP (Ogden Environmental and Energy Services, 1998) and Section 1.4 of the County's MSCP Subarea Plan outline the preserve boundary adjustment process. In accordance with the MSCP, adjustments to the preserve boundaries can be made without amending a subarea plan if the adjustment would result in the same or higher biological value of the preserve and with concurrence from the wildlife agencies (i.e., CDFW and USFWS). The proposed BLA would contribute the total 479.5-acre project area to the PAMA of the County's MSCP Subarea Plan thereby increasing the total size of the PAMA. A written request for

the BLA has been submitted to the wildlife agencies for concurrence and is included as Appendix V to the Draft EIR (ESA 2018a).

It should be noted that at this time, mitigation for impacts to vegetation are currently presented in accordance with the project area's current status outside of the MSCP. However, if the BLA is approved for incorporation into the PAMA, habitat ratios may be reduced to be consistent with the BMO (i.e., mitigation for riparian habitats at a 2:1 ratio instead of a 3:1 ratio) (see Appendix K). Additionally, through the project permitting process for potential impacts to jurisdictional resources, project mitigation may be adjusted based on agency requirements. Thus, mitigation as presented in this document and the Revegetation Plan (ESA 2018c) is based on higher ratios that may be adjusted throughout the permitting process and upon determination of the BLA request outcome. Final mitigation requirements will be documented prior to project construction in detailed landscape revegetation plans. If the BLA request is not approved, another process may be implemented as agreed upon by the state and federal wildlife agencies.

Habitat Loss Permit Ordinance

The Habitat Loss Permit Ordinance was adopted by the County of San Diego in March of 1994 in response to both the listing of the California gnatcatcher as a federally threatened species, and the adoption of the Natural Communities Conservation Plan (NCCP) Act by the State of California. Pursuant to the Special 4(d) Rule under the FESA, the County is authorized to issue "take permits" for the California gnatcatcher (in the form of Habitat Loss Permits) in lieu of Section 7 or 10(a) Permits typically required from the USFWS. Although issued by the County, the wildlife agencies must concur with the issuance of a Habitat Loss Permit for it to become valid as take authorization under the FESA.

The Habitat Loss Permit Ordinance states that projects must obtain a Habitat Loss Permit prior to the issuance of a grading permit, clearing permit or improvement plan if the project would directly or indirectly impact any of several coastal sage scrub habitat types. The Ordinance requires Habitat Loss Permit if coastal sage scrub or related habitat would be impacted, regardless of whether the site is currently occupied by gnatcatchers. Habitat Loss Permits are not required for projects within the boundaries of the MSCP since take authorization is conveyed to those projects through compliance with the MSCP. Habitat Loss Permits are also not required for projects that have separately obtained Section 7 or 10(a) permits for take of the gnatcatcher.

As discussed, a BLA request is currently in progress to amend the project area into the boundaries of the MSCP, and it anticipated that the request will be approved. At this time, it is anticipated that this project would thus not require a Habitat Loss Permit. If the BLA is not approved, another process to amend the project area into the MSCP may be determined by the state and federal wildlife agencies.

This page left intentionally blank

2. PROJECT EFFECTS

Impacts to biological resources include temporary or permanent direct, indirect, and cumulative impacts, and are defined as follows:

Direct impacts are those that are generally obvious, absolute or quantifiable. The removal of habitat by grading or clearing is the most common direct impact. Other examples of direct impacts would include the construction of a substantial barrier in a wildlife corridor (the direct impact being to wildlife movement) or the loss of habitat occupied by a certain species (the direct impact being to that particular species). Direct impacts may occur through the project itself or actions necessary to implement the project (e.g., fire fuel modification and/or clearing, construction staging areas).

Indirect impacts may be the result of secondary effects from direct impacts or those impacts that over time cause the degradation of a resource by changing its function, health or quality. Unlike direct impacts that are typically one-time effects, indirect impacts often continue in the long term and may actually increase.

Indirect impacts commonly result from a project's "edge effects." Edge effects from development may extend several hundred feet into adjacent open space areas, causing significant changes in species composition, diversity and abundance in those nearby lands. Projects can have a wide variety of indirect impacts depending on the nature of the project, the type of resources present, and the type and degree of edge effects. Projects can also cause a decline in the availability of a resource, such as water or prey, or change the habitat viability by altering the moisture regime or vegetation present, thereby adversely affecting a biological resource. Projects may cause habitat fragmentation, loss of ecosystem and watershed integrity, and may affect ecosystems and natural systems through changes in the pattern of land use, and population density or growth rate.

Cumulative impacts are those caused by the additive effect of multiple direct and indirect impacts to a biological resource over time. A project's direct and indirect impacts may not be individually significant, but the additive effect when viewed in connection with the impacts of past, present and probable future projects may cause the significant loss or degradation of a resource. In addition, multiple different impacts to a resource may be cumulative. For instance, a creek may be impacted directly and indirectly from road crossings, buffer encroachment and edge effects, all of which cumulatively cause the overall degradation of the creek.

A project may have significant cumulative effects notwithstanding the project's conformance with a regulatory program or existing mitigation plan such as a Habitat Conservation Plan (HCP) or NCCP Program. For example, species may become listed that were not addressed in the adopted plan, or insufficient information was available at the time of plan adoption.

Permanent impacts to biological resources would result from a permanent direct loss of those resources as an area is converted to another condition (e.g., developed, ornamental landscaping, agriculture), or an indirect impact (e.g., edge effects) that would persist and is permanent.

Temporary impacts are impacts that can be restored to pre-project conditions. For example, direct impacts may be considered temporary when an area can be restored to its pre-impact condition thus providing habitat and wildlife functions and values effectively equal to the functions and values that existed before the area was impacted.

An overview of the direct and indirect impacts that would result from implementation of the proposed project are provided in the following text for habitats/vegetation communities (including wetlands and jurisdictional waters), species, and wildlife corridors, linkages, and nursery sites. Additional information on project impacts relevant to significance determinations specific to biological resources are provided in Chapters 3.0 (Special-status Species), 4.0 (Riparian Habitat or Sensitive Natural Community), 5.0 (Jurisdictional Wetlands and Waterways), 6.0 (Wildlife Movement and Nursery Sites), and 7.0 (Local Policies, Ordinances, and Adopted Plans).

2.1 Potential Impacts to Habitats/Vegetation Communities

Acreages of temporary, permanent, and neutral impacts to habitats and vegetation communities are provided in **Table 9**. The project, which includes mining activities, fuel modification areas, the dry depressions previously excavated golf course ponds, a drop structure, and a trail system would impact 262.34 acres over the course of 12 years. The removal of native or naturalized habitat for mineral extraction activities, and the establishment of fuel modification zones would directly affect habitats and associated plant and animal species that occur therein, including sensitive species, and foraging, breeding, and movement habitat for local wildlife. **Tables 10** and **11** provide a summary of the potential temporary and permanent impacts, respectively, that would occur to vegetation communities and other land cover types coincident with each project phase within the 479.5-acre proposed project area. Impacts from fuel modification zones are calculated separately from mining impacts (note that mining impacts include the excavated golf course ponds).

TABLE 9. TEMPORARY AND PERMANENT PROJECT IMPACTS TO VEGETATION COMMUNITIES (ACRES)

Habitat Type / Vegetation Community	Temporary Impacts ¹	Permanent Impacts ²	Impact Neutral ³	Total Impacts
Riparian and Wetlands				
Southern Cottonwood-Willow Riparian Forest	0.00	0.00	6.97	0.00
Southern Willow Scrub	0.00	0.12	0.00	0.12
Tamarisk Scrub	38.80	3.01	0.00	41.81
Non-Vegetated Channel	0.35	0.01	0.07	0.36
Uplands				
Diegan Coastal Sage Scrub	2.06	1.56	0.00	3.61
Southern Mixed Chaparral	0.00	0.00	0.00	0.00
Non-Native Grassland	74.44	12.12	1.36	86.55
Eucalyptus Woodland	0.08	1.22	0.00	1.30
Other Cover Types				
Disturbed Habitat	110.68	15.35	0.04	126.04
Agriculture	0.00	0.00	0.00	0.00
Developed	0.00	2.55	0.00	2.55
Mature Riparian Woodland ⁴	0.00	0.00	0.00	0.00
Totals⁵	226.40	35.94	8.45	262.34

¹ Temporary impacts include all of the mining extraction areas, processing areas, and temporary access roads, as well as the dry depression, filled-in, dry depression previously excavated as a golf course pond, which will be filled in during Phase 1. These areas will be revegetated upon completion of each mining phase.

² Permanent impacts consist of the permanent drop structure, which will be built on the eastern end of the mining area, fuel modifications zones, which will be permanently maintained to ensure that vegetation remains at or below three inches in height, and a trail system, which will result in permanent trails along the perimeter of the area of disturbance and MUP boundary.

³ Impact neutral areas are areas that are not considered impacted, but cannot be credited toward mitigation requirements, such as wetland buffers.

⁴ A total of 8.45 acres was mapped as "Mature Riparian Woodland," pursuant to the County Resource Protection Ordinance definition. Note that Mature Riparian Woodland is not a Holland (1986)/Oberbauer et al. (2008) category. The vegetation was mapped as a GIS overlay on top of the Holland/Oberbauer-based vegetation mapping; therefore, this acreage is not added to the acreage totals. The total impact neutral acreage for Holland/Oberbauer vegetation types

⁵ Due to rounding, totals may differ slightly from numbers in column.

TABLE 10. TEMPORARY IMPACTS TO VEGETATION COMMUNITIES BY MINING PHASE

Habitat Type / Vegetation Community	Mining Phase				Total Impacts
	1	2	3	4	
Riparian and Wetlands					
Southern Cottonwood-willow Riparian Forest	0.00	0.00	0.00	0.00	0.00
Southern Willow Scrub	0.00	0.00	0.00	0.00	0.00
Tamarisk Scrub	11.55	12.79	3.76	10.70	38.80
Non-Vegetated Channel	0.08	0.11	0.03	0.13	0.35
Uplands					
Diegan Coastal Sage Scrub	1.77	0.00	0.00	0.28	2.06
Southern Mixed Chaparral	0.00	0.00	0.00	0.00	0.00
Non-Native Grassland	16.85	17.65	25.81	14.12	74.44
Eucalyptus Woodland	0.01	0.00	0.00	0.07	0.08
Other Cover Types					
Disturbed Habitat	46.54	21.45	18.00	24.70	110.68
Agriculture	0.00	0.00	0.00	0.00	0.00
Developed	0.00	0.00	0.00	0.00	0.00
Mature Riparian Woodland ¹	0.00	0.00	0.00	0.00	0.00
Totals²	76.80	52.00	47.60	50.00	226.40

¹ A total of 8.45 acres was mapped as Mature Riparian Woodland, pursuant to the County Resource Protection Ordinance definition. Note that Mature Riparian Woodland is not a Holland (1986)/Oberbauer et al. (2008) category. The vegetation was mapped as a GIS overlay on top of the Holland/Oberbauer-based vegetation mapping; therefore, this acreage is not added to the acreage totals.

² Due to rounding, totals may differ slightly from numbers in column

TABLE 11. PERMANENT IMPACTS TO VEGETATION COMMUNITIES BY MINING PHASE

Habitat Type / Vegetation Community	Mining Phase						Trails Outside of Mining Phase	Fuel Mod Zones	Total Impacts
	1 Trails	1 Drop Structure	1 Staging Areas	2 Trails	3 Trails	4 Trails			
Riparian and Wetlands									
Southern Cottonwood-willow Riparian Forest	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Southern Willow Scrub	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.10	0.12
Tamarisk Scrub	0.03	0.50	0.27	0.10	0.02	0.02	0.58	1.49	3.01
Non-Vegetated Channel	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.01
Uplands									
Diegan Coastal Sage Scrub	0.01	0.29	0.67	0.00	0.00	0.00	0.27	0.32	1.56
Southern Mixed Chaparral	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Non-Native Grassland	0.04	0.00	4.37	0.07	0.19	0.08	2.90	4.47	12.12
Eucalyptus Woodland	0.01	0.00	0.90	0.00	0.00	0.00	0.04	0.27	1.22
Other Cover Types									
Disturbed Habitat	0.34	0.24	8.50	0.05	0.14	0.14	3.30	2.64	15.35
Agriculture	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Developed	0.00	0.00	0.00	0.00	0.00	0.00	0.01	2.54	2.55
Mature Riparian Woodland ¹	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Totals²	0.43	1.04	14.71	0.22	0.35	0.24	7.12	11.83	35.94

¹ A total of 8.45 acres was mapped as Mature Riparian Woodland, pursuant to the County Resource Protection Ordinance definition. Note that Mature Riparian Woodland is not a Holland (1986)/Oberbauer et al. (2008) category. The vegetation was mapped as a GIS overlay on top of the Holland/Oberbauer-based vegetation mapping; therefore, this acreage is not added to the acreage totals.

² Due to rounding, totals may differ slightly from numbers in column

The following vegetation communities within the project area are considered by CDFW and/or the County to be sensitive: southern cottonwood-willow riparian forest, southern willow scrub, tamarisk scrub, non-vegetated channel, Diegan coastal sage scrub, and non-native grassland (Table 9).

Potential *direct, temporary* impacts to sensitive vegetation communities from the proposed project include mechanized land clearing and mineral extraction within both riparian/wetland and upland habitats. Temporary impacts also include the dry depressions that were previously excavated for the golf course; these would be refilled and revegetated. These activities would potentially affect a total of 115.65 acres of sensitive vegetation communities, including 38.80 acre of tamarisk scrub, 0.35 acre of non-vegetated channel, 2.06 acres of coastal sage scrub, and 74.44 acres of non-native grassland (Table 9).

In addition, the golf course grading in 2005 resulted in temporary impacts to 0.18 acre of riparian scrub (tamarisk scrub) for a planned golf cart crossing of the river in the eastern portion of the property. The golf course project was halted and the cart path crossing was not constructed. This was the only impact to a sensitive vegetation community outside the limits of the proposed mine project.

Potential *direct permanent* impacts would result from permanent changes to the vegetation and result in surfaces that would no longer be able to support native habitat. Permanent impacts would include the permanent drop structure, which would be built on the eastern end of the mining area, staging areas, a trail system and fuel modifications zones adjacent to some residential areas, which would be permanently maintained to ensure that vegetation remains at or below 3 inches in height. Permanent impacts would to sensitive vegetation communities would total of 11.51 acres, including 0.12 acre of southern willow scrub, 3.01 acres of tamarisk scrub, 0.01 acre of non-vegetated channel, 1.56 acres of coastal sage scrub, and 12.12 acres of non-native grassland (Table 9).

Impact neutral areas are areas that are not considered impacted, but cannot be credited toward mitigation requirements, such as wetland buffers (County 2010). Within the project area, impact neutral areas consist of the areas mapped as “Mature Riparian Woodland” pursuant to the RPO, as these areas, which include a 50-foot buffer from the perimeter of the tree canopy, must be avoided, but cannot be used for project mitigation. A total of 8.45 acres of impact neutral areas were mapped within the project area, which was overlaid onto the vegetation mapping. The Holland/Oberbauer categories falling within the impact neutral areas consist of 6.97 acres of southern cottonwood-willow riparian forest, 0.07 acre of non-vegetated channel, 1.36 acres of non-native grassland, and 0.04 acre of disturbed habitat.

Existing habitats surrounding the proposed project area may be *indirectly* impacted by project construction. These indirect impacts would include temporary construction-generated noise, dust, and siltation during the course of mining operations, and the more permanent operational impacts of increased human activities throughout the site, noise, and the potential for exotic species intrusions.

2.2 Potential Impacts to Jurisdictional Wetlands and Waters

Table 12 provides a summary of the area of potential direct impacts that would occur to jurisdictional waters from project implementation within the 479.5-acre proposed project area. Mining activities would temporarily and permanently affect jurisdictional non-wetland waters and/or riparian habitats as defined by USACE, RWQCB, CDFW, and the County of San Diego through removal of vegetation, grading, placement of temporary structures, mineral extraction, and placement of fill to create a bench around the mined pit. The proposed project would result in approximately 0.01 acre of permanent impacts and 0.35 acre of temporary impacts to non-wetland waters of the U.S./State (USACE/RWQCB); 0.36

acretotal. The proposed project would also result in 39.18 acres of temporary impacts and 2.28 acres of permanent impacts to State waters and associated riparian habitat, and County of San Diego wetlands; 41.46 acres total (Figures 14a and 14b and **Table 12**). In permitting projects, the USACE (and CDFW) seeks to meet the goal of no net loss of functions and values of wetlands and often other waters of the United States and would require at a minimum the restoration of disturbed areas to original contours and a revegetation program to restore jurisdictional areas disturbed by the proposed project. While San Diego County defined wetlands would be impacted by the proposed project, no federal or state protected wetlands would be impacted.

TABLE 12. IMPACTS TO JURISDICTIONAL RESOURCES

Jurisdiction	Temporary Impacts	Permanent Impacts	Total Impacts
Federal (USACE)/ State (RWQCB)	0.35	0.01	0.36
State (CDFW)/ County (San Diego)	39.18	2.28	41.46
Total	39.53	2.29	41.82

2.3 Potential Impacts to Special-Status Species

No federally or state listed plant species were detected on the project area; therefore, the project would not affect listed plant species.

Two federally listed wildlife species, the least Bell's vireo and coastal California gnatcatcher, and USFWS Designated Critical Habitat for arroyo toad and coastal California gnatcatcher would be potentially impacted by the project.

The state and federally endangered least Bell's vireo and coastal California gnatcatcher have been observed within the project area (Figure 13) and direct and indirect impacts may occur. One established vireo territory was detected during the 2010 surveys in remnant cottonwood-willow riparian forest habitat in the river channel between Hanson's Pond and Dairy Road (near the western border of the Phase 2 impact boundary). Another territory was observed in similar habitat west Hanson Pond. Although the least Bell's vireo was not observed in these locations during the 2015 surveys, the current project impact boundary was redesigned to avoid these areas. A third territory was observed in riparian habitat along the eastern edge of Hanson Pond, approximately 120 feet west of the project impact boundary. The least Bell's vireo was detected in this location during both the 2010 and 2015 surveys. The proposed project could directly impact least Bell's vireo if they were to nest in the riparian forest habitat within the project impact area, through removal of habitat and direct mortality of individuals or nests. The project could also indirectly affect the least Bell's vireo on the eastern edge of Hanson Pond as a result of construction-generated noise, nighttime lighting, and other mining activities. Noise impacts may disrupt

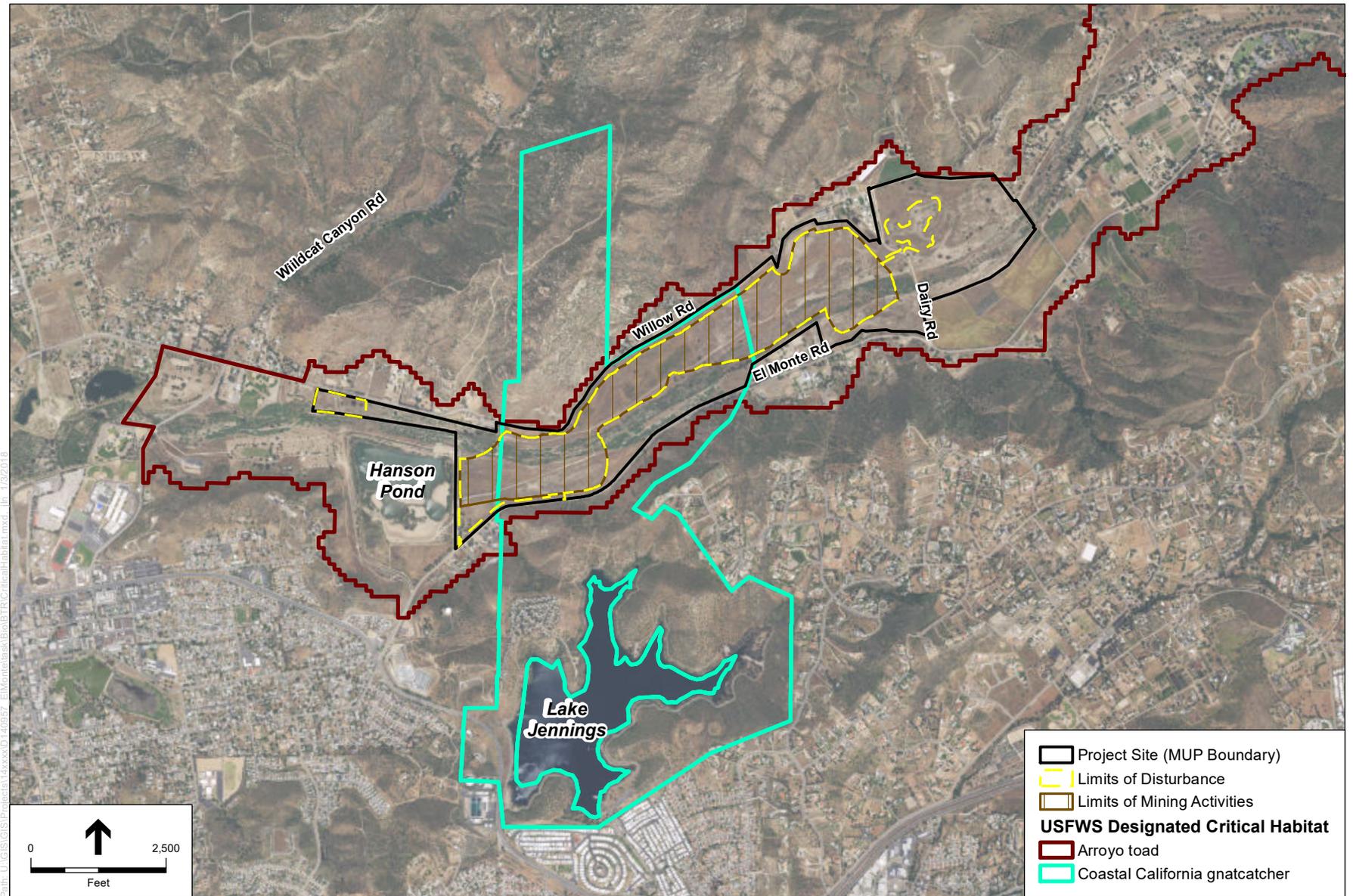
breeding capabilities as breeding birds like least Bell's vireo rely on auditory interaction between birds. Nighttime lighting could increase predation or nest parasitism by making nesting vireos more easily detectable.

The federally threatened coastal California gnatcatcher was observed in two locations during the 2015 surveys—north of Hanson Pond and southeast of Hanson Pond (Figure 13). The current project impact boundary was designed to avoid impacts to the territory north of Hanson Pond; however, direct impacts to this species could result from habitat removal for the proposed processing plant area southeast of Hanson Pond. Indirect impacts to California gnatcatchers observed north of Hanson Pond could occur from noise, nighttime lighting, and other mining activities resulting in similar impacts as described above for least Bell's vireo.

The project would result in direct impacts to Critical Habitat designated by the USFWS for the arroyo toad and coastal California gnatcatcher (**Figure 15**). None of the habitat within the river channel is suitable for the arroyo toad breeding because the specialized conditions required for breeding (i.e., slow-moving water, areas of ponding next to sandy shores) are not present. In addition, soil conditions on-site do not support aestivation. The coastal sage scrub habitat within the Designated Critical Habitat area consists of very small patches of coastal sage scrub that is highly disturbed and dominated by non-native species.

One individual plant of a County List B plant species and Narrow Endemic (Palmer's goldenbush) was observed onsite (Figure 13), but would not be directly impacted as it occurs within Mature Riparian Woodland that occurs within an impact neutral area.

Potential indirect impacts from dust coming from the nearby temporary haul road would be mitigated to a level below significant through the application of an environmentally-friendly water-based polymer binding agent, AggreBind[®] and use of a water truck. AggreBind[®] would be applied throughout the majority of the haul road to stick to dust and minimize it spreading into adjacent habitat. This binding agent, which is mixed with water, applied via water truck and compressed with a roller to ensure stabilization, coats the soil mass and compacts and compresses the soil together, so the particles have direct contact with each other. This ensures soil stabilization and complete dust suppression; polymers are cross linked to form a mass that is water resistant, can withstand high temperature, and is not biodegradable. The product itself is made from in-situ materials such as sub-soils and sands and environmentally friendly polymers. It is water-based and non-toxic and can be used in environmentally sensitive areas, agricultural roads, and as a surface seal for drainage channels. Because this product binds and hardens similar to cement or asphalt, it would be applied only once and then removed at the end of the project. Migration into the river channel or nearby habitats is not a threat. Upon removal of the temporary haul roads, it is easy to contain and would be removed in its entirety. There would be no negative impacts to groundwater, the river channel, or surrounding



SOURCE: ESRI; EnviroMine; The Altum Group; Chang Consultants; ESA; USFWS

El Monte Sand Mining Project. 140957
Figure 15
 USFWS Designated Critical Habitat

vegetation from this method of dust suppression. Water trucks would spray at points of ingress and egress of the haul road at the intersection where the haul roads meet dirt roads or paved roads.

In addition, there are eleven County Group I animal species (San Diego banded gecko, Cooper's hawk, sharp-shinned hawk, red-shouldered hawk, osprey, turkey vulture, white-tailed kite, yellow breasted chat, loggerhead shrike, coastal California gnatcatcher, least Bell's vireo) that occur onsite. All but three of these species, the osprey, red-shouldered hawk, and turkey vulture, are also Species of Special Concern, along with the orange-throated whiptail, glossy snake, coast horned lizard, western spadefoot toad, southern California legless lizard, coast patch-nosed snake, glossy snake, red-diamond rattlesnake, yellow warbler, and San Diego black-tailed jackrabbit.

Grading associated with the proposed project would remove all or most of the existing onsite suitable habitat (burrowing, nesting, and foraging) for wildlife species over an approximately 12-year period potentially resulting in direct loss of habitats and direct mortality of individuals, and construction-related noise, dust and sedimentation into adjacent native habitats.

2.4 Potential Impacts to Wildlife Corridors, Linkages, and Wildlife Nursery Sites

The 479.5-acre project area is set in the midst of a larger rural setting with multiple areas of open space, making the El Monte Valley a core wildlife area. Of the 479.5 acres, approximately 22.27 acres of the project area are considered functional native wildlife habitats for local and migratory wildlife (e.g., southern willow scrub, southern cottonwood-willow riparian forest, Diegan coastal sage scrub) (Figure 11). Two non-native habitats including non-native grassland and eucalyptus woodland (total of approximately 138.37 acres) have habitat value for wildlife species due to their functionality as foraging and nesting habitat for resident and migratory raptor and passerine species. Tamarisk scrub (85.69 acres) provides marginal habitat values as a riparian community within the river channel and floodplain, but is capable of functioning as nesting and foraging areas for multiple avian species. During each mining phase, the project could directly impact a portion of the habitat that serves as a wildlife corridor, habitat linkage, and wildlife nursery site through vegetation removal and mining activities.

3. SPECIAL-STATUS SPECIES

The *County of San Diego Guidelines for Determining Significance for Biological Resources* was used to evaluate adverse environmental effects the project may have on special-status species, specifically Section 4.1 (County 2010a).

Guidelines for the determination of significance and an analysis of project effects for special-status species is provided below.

3.1 Guidelines for the Determination of Significance

The project would have a substantial adverse effect, either directly or through habitat modifications, on one or more species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service.

Any of the following conditions would be considered significant:

- A. The project would impact one or more individuals of a species listed as federally or state endangered or threatened.
- B. The project would impact the survival of a local population of any County List A or B plant species, or a County Group I animal species, or a species listed as a state Species of Special Concern. Impacts to these species are considered significant; however, impacts of less than 5 percent of the individual plants or of the sensitive species' habitat on a project area may be considered less than significant if a biologically based determination can be made that the project would not have a substantial adverse effect on the local long-term survival of that plant or animal taxon.
- C. The project would impact the regional long-term survival of a County List C or D plant species or a County Group II animal species.
- D. The project may impact arroyo toad aestivation, foraging, or breeding habitat. Any alteration of suitable habitat within 1 kilometer (3,280 feet) in any direction of occupied breeding habitat or suitable stream segments (unless very steep slopes or other barriers constrain movement) could only be considered less than significant if a biologically based determination can be made that the project would not impact the aestivation or breeding behavior of arroyo toads.
- E. The project would impact golden eagle habitat. Any alteration of habitat within 4,000 feet of an active golden eagle nest could only be considered less than significant if a biologically based determination can be made that the project would not have a substantially adverse effect on the long-term survival of the identified pair of golden eagles.
- F. The project would result in a loss of functional foraging habitat for raptors. Impacts to raptor foraging habitat is considered significant; however,

- impacts of less than 5 percent of the raptor foraging habitat on a project area may be considered less than significant if a biologically based determination can be made that the project would not have a substantial adverse effect on the local long-term survival of any raptor species.
- G. The project would impact the viability of a core wildlife area, defined as a large block of habitat (typically 500 acres or more not limited to project boundaries, though smaller areas with particularly valuable resources may also be considered a core wildlife area) that supports a viable population of a sensitive wildlife species. Alteration of any portion of a core habitat could only be considered less than significant if a biologically based determination can be made that the project would not have a substantially adverse effect on the core area and the species it supports.
- H. The project would cause indirect impacts, particularly at the edge of proposed development adjacent to proposed existing open space or other natural habitat areas, to levels that would likely harm sensitive species over the long term. The following issues should be addressed in determining the significance of indirect impacts: increasing human access; increasing predation or competition from domestic animals, pests, or exotic species; altering natural drainage; and increasing noise and/or nighttime lighting to a level above ambient that has been shown to adversely affect sensitive species.
- I. The project would impact occupied burrowing owl habitat.
- J. The project would impact occupied cactus wren habitat, or formerly occupied coastal cactus wren habitat that has been burned by wildfire.
- K. The project would impact occupied Hermes copper habitat.
- L. The project would impact nesting success of the following sensitive bird species through grading, clearing, fire fuel modification, and/or other noise generating activities such as construction (**Table 13**).

TABLE 13. BREEDING SEASONS FOR SENSITIVE BIRD SPECIES

Species ¹	Breeding Season
Coastal cactus wren	February 15 to August 15
Coastal California gnatcatcher ¹	February 15 to August 31
Least Bell's vireo	March 15 to September 15
Southwestern willow flycatcher	May 1 to September 1
Tree-nesting raptors	January 15 to July 15
Ground-nesting raptors	February 1 to July 15
Golden eagle	January 1 to July 31

¹ The breeding seasons listed in this table do not supersede implementing agreements with the Wildlife Agencies, Habitat Conservation Plans (HCPs), Habitat/Resource Management Plans (HMPs/RMPs), and Special Area Management Plans. For example, inside the MSCP Subarea Plan, the gnatcatcher breeding season is March 1 to August 15.

3.2 Analysis of Project Effects

3.2.A No federally or state listed plant species were detected on the project area. ***The proposed project would not affect listed plant species.***

The state and federally endangered least Bell's vireo and coastal California gnatcatcher have been observed within the project area (Figure 13) and direct and indirect impacts may occur as described in Section 2.3. Additionally, Designated Critical Habitat for arroyo toad and coastal California gnatcatcher occurs within the project area. However, mitigation measures as discussed in Section 3.4 would reduce measures below a level of significance. Direct impacts could include mortality of individuals and temporal loss of nesting and foraging habitat; indirect impacts could occur as a result of construction-generated noise and activity during the breeding season. These impacts would be avoided by conducting vegetation removal activities outside of the bird breeding season, which encompasses the breeding season for these two species. Additionally, preconstruction surveys would be conducted prior to starting work to confirm that gnatcatchers and vireos are absent from the limits of construction prior to work starting. Additionally, habitats lost during construction and mining operations would be compensated through reclamation and revegetation, resulting in an increase in native habitats for use after completion of the project. ***Direct and indirect impacts to federally or state listed species would be less than significant with implementation of Mitigation Measures MM-BIO1, MM-BIO2, MM-BIO3, MM-BIO5, MM-BIO6, and MM-BIO6.***

3.2.B As discussed in Section 2.3, several County List A or B plant species, County Group I animal species, and Species of Special Concern occur within the biological survey area. One County List B plant species (Palmer's goldenbush) was observed onsite (Figure 13), in addition to eleven County Group I animal species (San Diego banded gecko, Cooper's hawk, sharp-shinned hawk, red-shouldered hawk, osprey, turkey vulture, white-tailed kite, yellow breasted chat, loggerhead shrike, coastal California gnatcatcher, and least Bell's vireo) occur onsite. All but three of these species, the osprey, red-shouldered hawk and turkey vulture, are also Species of Special Concern, along with the orange-throated whiptail, glossy snake, coast horned lizard, western spadefoot toad, southern California legless lizard, coast patch-nosed snake, glossy snake, red-diamond rattlesnake, yellow warbler, and San Diego black-tailed jackrabbit.

Palmer's goldenbush, a County List B plant species and Narrow Endemic, is the only special-status plant that occurs within the survey area. There would be no direct impacts to this species due to its location within Mature Riparian Woodland, an impact neutral area that would not be subject to any construction or mining activities. Potential indirect impacts to this species from fugitive dust during mining activity would be avoided through application of AggreBind® and regular use of a water truck along the haul road.

Direct impacts to wildlife species designated as County Group I or state Species of Special Concern could result from vegetation removal and grading associated with the proposed project, which would remove all or most of the existing habitat that is suitable for nesting and foraging over an approximately 12-year period. County-wide surveys conducted by USGS over the last 20 years have recorded only one occurrence of a single glossy snake. The survey in El Monte Valley recorded 23 occurrences; this population of glossy snake in El Monte Valley “represents the largest concentration of the species in coastal San Diego County” (Richmond et al. 2016). Indirect impacts could result from construction-generated noise and activity during the bird breeding season. However, mitigation measures would be implemented such as avoiding the bird breeding season, conducting preconstruction surveys to confirm absence of special-status species prior to conducting work, biological monitoring during construction, and restoration of habitats that would be impacted. It is anticipated that impacts to special-status species onsite would be minimal, and fall within the threshold of less than 5 percent of individuals. Additionally, the timing for clearing of vegetation would occur in stages, and as one mining phase area is being cleared, the previous mining area would be restored to high-quality native habitats with functions and values equal to or greater than those removed during mining. Ultimately, the proposed project would increase suitable nesting and/or foraging habitats for these species by restoring habitats, thus increasing available resources onsite for these species. The avoidance and reduction of the potential for impacts is not likely to affect the long-term survival for County List A or B plant animal species, Group I animal species, or California Species of Special Concern. ***Thus, direct and indirect impacts to County List A/B plant species, Group I animal species, or California Species of Special Concern would be less than significant with implementation of Mitigation Measures MM-BIO1, MM-BIO2, MM-BIO3, MM-BIO4, MM-BIO5, MM-BIO6, and MM-BIO7.***

3.2.C No County List C or D plant species were observed within the project area; therefore, there are no direct or indirect impacts to County List C or D plant species.

The following eight County Group II wildlife species were observed onsite: western spadefoot toad, coastal whiptail, coast patch-nosed snake, red-diamond rattlesnake, orange-throated whiptail, coast horned lizard, yellow warbler, and San Diego black-tailed jackrabbit. Impacts to these species were evaluated in Section 3.2.B above because they are also Species of Special Concern. Similarly, the avoidance and reduction of the potential for impacts is not likely to affect the long-term survival of County Group II animal species, or California Species of Special Concern. ***These direct impacts to the long-term survival of County Group II animal species would be less than significant with implementation of Mitigation Measures MM-BIO1, MM-BIO4, MM-BIO5, MM-BIO6, and MM-BIO7.***

3.2.D Although the project area is within Designated Critical Habitat for the arroyo toad (Figure 15), it does not contain habitat suitable for arroyo toad primarily due to the lack of surface water and associated pools that this species requires for breeding, and substrates required for aestivation. The project area contains riparian habitat along and within the floodplain of the San Diego River and has friable soils; however, the project area is too dry and does not contain the necessary habitat features that arroyo toads use for foraging and breeding. The nearest and most recent arroyo toad sighting listed by the CNDDDB occurred approximately 5 miles north of the site in known suitable habitat. ***Therefore, the proposed project would not directly or indirectly impact arroyo toad aestivation, foraging, or breeding habitat.***

3.2.E No golden eagle nests were detected onsite or within 4,000 feet of the site. The nearest known active golden eagle nesting territory listed by the CNDDDB was recorded approximately 2 miles east of the project area at El Cajon Mountain. Recent golden eagle surveys conducted by USGS in San Diego County suggest that two adjacent golden eagle territories may overlap with the BSA (USGS 2016) and foraging habitat exists within the BSA. The non-native grassland within the BSA is a large expanse of foraging habitat in the area available to the nearest golden eagle nesting territories; therefore, a high potential exists for the species to occur within the BSA for foraging, although suitable nesting habitat is not present within the project area or adjacent to the project area.

Direct impacts to golden eagle foraging habitat could result from removal of vegetation and grading. Indirect impacts to foraging eagles could occur through increased human presence, as golden eagles are known to be moderately sensitive to human presence (Kochert et al. 2002); the increased construction-related activity could discourage eagles from foraging in the immediate vicinity of mining and other activities. Other potential indirect impacts to foraging habitat could include invasion from non-native weeds. This effect would not be significant, because the open non-native grassland areas already support mostly non-native grasses and forbs such as Russian thistle and mustards.

Direct and indirect (e.g., weed invasion) impacts to foraging habitat would be mitigated through mining reclamation and habitat restoration. Reclamation would establish the final topography, stabilize the soil, and revegetate the area disturbed by mining activity pursuant to SMARA and Sections 1810 and 6550-6556 of the County Zoning Ordinance. Vegetation restored to provide habitat mitigation in accordance with County and resource agency requirements include more stringent standards, including a 5-year maintenance and monitoring program, and long term preservation and management.

Indirect impacts to foraging eagles from increased human presence and construction activity would be reduced by conducting the project in four phases, each lasting only three years, thereby reducing the overall area that might be avoided by foraging eagles. In addition, because the adjacent land within 10 or

more miles of the project area is mostly undeveloped, with the exception of dense urban development to the southwest, there are large areas of open scrub and non-native grassland surrounding the project that could be used for foraging during vegetation removal and mining activities. Further, the project would not result in alteration of habitat within 4,000 feet of an active golden eagle nest.

Therefore, direct and indirect impacts to golden eagle habitat would be less than significant with implementation of MM-BIO5, MM-BIO6, MM-BIO7, and MM-BIO8.

3.2.F The non-native grassland and coastal sage scrub within the project area provides functional foraging habitat for a variety of raptor species by supporting small mammals, such as ground squirrels and gophers (*Thomomys bottae*). Native riparian scrub and forest habitat also provide foraging habitat by supporting a robust population of native birds and other prey. Tamarisk scrub could provide low quality foraging habitat – this non-native vegetation generally does not support a high diversity or density of prey species. Direct impacts to raptor foraging habitat could result from vegetation removal and grading. High quality native riparian forest habitat would be avoided. Indirect impacts to foraging habitat could include invasion from non-native weeds. This effect would not be significant, because the open non-native upland areas currently support mostly non-native grasses and forbs such as Russian thistle and mustards.

Direct and indirect (i.e., weed invasion) impacts to foraging habitat would be mitigated through mining reclamation and habitat restoration. Reclamation would establish the final topography, stabilize the soil, and revegetate the area disturbed by mining activity pursuant to SMARA and Sections 1810 and 6550-6556 of the County Zoning Ordinance. Vegetation restored to provide habitat mitigation in accordance with County and resource agency requirements include more stringent standards, including a 5-year maintenance and monitoring program, and long term preservation and management.

Greater than five percent of the functional raptor foraging habitat within the project area would be impacted. However, vegetation clearing would occur in stages, and as one mining phase area is being cleared, the previous mining area would be revegetated, making this area available for foraging raptors. In addition, because the adjacent land within 10 or more miles of the project area is mostly undeveloped, with the exception of dense urban development to the southwest, there are large areas of open space surrounding the project that could be used for foraging during vegetation removal and mining activities. As such, the project is not likely to have a substantial adverse effect on the local long-term survival of any raptor species. **The project would result in less-than-significant direct and indirect impacts to functional foraging habitat for raptors with implementation of Mitigation Measures MM-BIO1, MM-BIO5, MM-BIO6, and MM-BIO7.**

3.2.G The 479.5-acre project area is set in the midst of a larger rural setting with large blocks of open space, making the El Monte Valley a core wildlife area. Of the 479.5 project acres, approximately 22.27 acres of the project area are considered functional native wildlife habitat for local and migratory wildlife (e.g., southern willow scrub, southern cottonwood-willow riparian forest, Diegan coastal sage scrub); the remaining areas consist of highly disturbed, weed-dominated uplands and tamarisk scrub, which have limited potential to support wildlife. Direct impacts to core area habitat could result from vegetation removal and mining activities. Indirect impacts to a core wildlife area could result from weed invasion or erosion after mining activity is complete.

Although cleared areas would lose habitat functionality for wildlife species during mining, these effects would be reduced to a limited portion of the project area at any given time, as the project would proceed in four phases during the 12-year life of the mining activity. As each phase is completed, it would be reclaimed (e.g., the landscape would be stabilized and revegetated), before the next phase would be initiated. As the vegetation begins to grow back within reclaimed areas, it would become suitable to provide cover, forage, and breeding opportunities for wildlife. As such, most of the project area would be available for wildlife use at any given time for the duration of the proposed project. Upon the completion of revegetation, the area would be enhanced by the establishment of higher-quality and functional habitat types along the San Diego River corridor. ***Therefore, with implementation of Mitigation Measures MM-BIO5, MM-BIO6, and MM-BIO7, the proposed project would have less-than-significant direct and indirect impacts on a wildlife core area or the viability of the wildlife species it supports.***

3.2.H The proposed project would not result in indirect impacts as a result of increased predation or competition from domestic animals or pests because there would be no associated land use change to the property upon project completion such as residential, commercial or agricultural uses.

Indirect impacts from human use after the project is completed are not expected to significantly increase as a result of the project. Currently, portions of the project area contain unpaved roads and trails that are used by equestrian and recreational users for riding, walking, and hiking. In addition, existing residents access their homes using Willow Road and Dairy Road (both unpaved), and Helix Water District and San Diego Gas & Electric staff access the project area using these same unpaved roads. The proposed project would allow for continued access to the site during mining and reclamation/restoration activities. A trail system would be established along much of the periphery of both the area of disturbance and MUP boundary. Permanent impacts from trails total 8.36 acres, with 1.24 acres of disturbance within the mining disturbance area and 7.12 acres outside the mining disturbance area.

The project would not result in significant indirect impacts to downstream habitat due to altered hydrology (Chang Consultants 2018). Because El Capitan Dam has effectively cut off the upstream flow since its establishment in 1935, downstream areas are currently not receiving surface flow. The main source of water in the riverbed is runoff from surrounding hillsides. Although the post mining grades could result in temporary ponding, a negative reduction of surface flows is not expected because of the lack of surface flow that presently occurs onsite. Therefore, the changes to the topography as a result of mining activities are not expected to substantially affect the hydrology downstream. In addition, erosion control and stormwater measures would be installed to ensure that sediment and runoff do not drain offsite during mining. Post-project reclamation and revegetation would also improve onsite drainage conditions.

Although extremely unlikely, indirect impacts from altered natural drainage features onsite could result from ponding during extreme rain events. The project would effectively lower the substrate elevation on the surface of the San Diego River 36 to 41 feet below the current channel surface, which would be approximately 4 feet above the water table. During extreme storms events, water could overtop the El Capitan dam. In the event of the dam overtopping, the water table may rise above the pit bottom and a pond could form. If ponding does occur, vegetation could form around the fringe of the pond, although vegetation growth would be temporary as it would likely recede as the water recedes. Water has overtopped the dam only four times since 1940 (D. Roff pers. comm), making this a very unlikely event.

Indirect project impacts could result from a temporary increase in human activity, noise, and nighttime lighting during construction and mining activities, which could negatively affect breeding birds by disrupting breeding behavior. Temporary nighttime lighting would be installed at the facility for safety purposes; however, the lighting would be shielded away from adjacent native habitats, and thus is not anticipated to affect breeding or foraging behavior of sensitive species. However, during construction and mining, the ambient noise levels would be increased during operating hours, which could negatively affect breeding birds by altering breeding behavior or resulting in nest abandonment. These impacts would be reduced or avoided by avoiding the bird breeding season and conducting pre-construction nest surveys for activities that would occur during the breeding season.

Indirect impacts to native habitat and associated species could result from construction-generated dust from temporary haul roads into adjacent habitats. As discussed, to minimize the threat of dust from temporary haul roads moving onto adjacent habitat, an environmentally-friendly water-based polymer binding agent, AggreBind[®], would be applied to haul roads, and frequent watering would occur at points of ingress and egress from the haul roads and frequent watering would occur at points of ingress and egress from the haul roads. It is made from in-situ materials such as sub-soils and sands and environmentally friendly polymers. It is water-based and non-toxic and can be used in environmentally sensitive

areas, agricultural roads, and as a surface seal for drainage channels. Because this product binds and hardens similar to cement or asphalt, upon removal of the temporary haul roads, it is easy to contain and remove in its entirety. There would be no negative impacts to groundwater, the river channel, or surrounding vegetation from this method of dust suppression. Water trucks would spray at points of ingress and egress of the haul road at the intersection where the haul roads meet dirt roads or paved roads. Thus, application of AggreBind® to temporary haul roads and watering would avoid/minimize construction-generated dust impacts to special-status species.

Indirect impacts to native habitat and associated species could result from weed invasion or erosion after mining activity is complete. These indirect impacts would be mitigated through mining reclamation, and a portion of the habitat would be restored to high quality native habitat in accordance with County and resource agency requirements, which include more stringent standards, including a 5-year maintenance and monitoring program, and long term preservation and management.

Therefore, with implementation of Mitigation Measures MM-BIO1, MM-BIO5, MM-BIO6, and MM-BIO7, the project would have less-than-significant indirect impacts to open space or other natural habitat areas or harm sensitive species over the long term.

3.2.I Burrowing owl has not been observed onsite during surveys conducted in 2006, 2010, and 2015, and the nearest known occurrence is approximately 12 miles to the north. Potential habitat within the project area is poor quality. In addition, the habitat is highly degraded, and very dense with non-native grasses, Russian thistle, and mustards; burrowing owls prefer more open habitat. As such, they are not likely to occur onsite. However, if burrowing owls move into the project area, direct impacts to the burrowing owl or its habitat could occur within disturbed habitat and non-native grassland through vegetation removal and mining activity. Indirect impacts from adjacent construction noise and activity could also affect owls. To ensure that burrowing owls are not directly or indirectly impacted from the project, pre-construction clearance surveys would be conducted. ***Therefore, with implementation of Mitigation Measures MM-BIO1, MM-BIO5, MM-BIO6, and MM-BIO7, the project would have less-than-significant indirect impacts to burrowing owl.***

3.2.J There is no cactus wren habitat in the project area (habitat was not present in the project area prior to 2003 Cedar fire), and cactus wren were not observed during the 2006, 2010, and 2015 surveys. ***The proposed project would not impact cactus wren or its habitat.***

3.2.K Native upland habitat on the project area is not extensive enough or of high enough quality to support Hermes copper, and the host plants required by this species are not present onsite. Additionally, Hermes coppers were not

observed during the 2006, 2010, and 2015 surveys. ***The proposed project would not impact Hermes copper or its habitat.***

3.2.L Clearing and grading associated with project area preparation could directly affect breeding birds by the removal of potential nesting habitat within the river channel and surrounding upland habitats. Proposed mining activities could also indirectly affect breeding birds adjacent to cleared areas during the breeding season due to noise, dust, increased truck traffic, and other human activities, which could impair the breeding behavior of birds, resulting in reduced mating or nest abandonment. Additionally, fuel modification could directly impact nesting bird species through removal of nesting habitat, and indirectly impact nesting birds during breeding season through noise. Direct impacts as a result of mortality of individuals and nests and removal of habitat during the breeding season, and construction-generated noise would be avoided through conducting construction and mining activities outside of the bird breeding season. Additionally, preconstruction surveys would be conducted prior to starting work to confirm that nesting birds are absent from the limits of construction prior to work starting. Additionally, habitats lost during construction and mining operations would be compensated through reclamation and revegetation, resulting in additional habitat acreage for use after completion of the project. ***With implementation of Mitigation Measures MM-BIO1, MM-BIO2, MM-BIO3, MM-BIO5, MM-BIO6, and MM-BIO7, direct and indirect impacts to coastal California gnatcatcher, least Bell's vireo, golden eagle, and tree-nesting and ground-nesting raptors from clearing, grading, fuel modification, and/or other noise generating activities would be less than significant. These activities would not impact coastal cactus wren, southwestern willow flycatcher or light-footed clapper rail.***

3.3 Cumulative Impact Analysis

As urbanization and industrial pressures increase within the El Monte Valley, the Lakeside community, and other unincorporated areas of San Diego County, impacts to biological resources within the region may also increase cumulatively. Cumulative impacts are concluded to be significant if the incremental effects of an individual project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.

A list of cumulative projects has been compiled, and the cumulative project study area defined, based on input from the County of San Diego. All of the cumulative projects are depicted in **Figure 16**. **Table 14** lists the cumulative projects that were determined to have effects on biological resources.

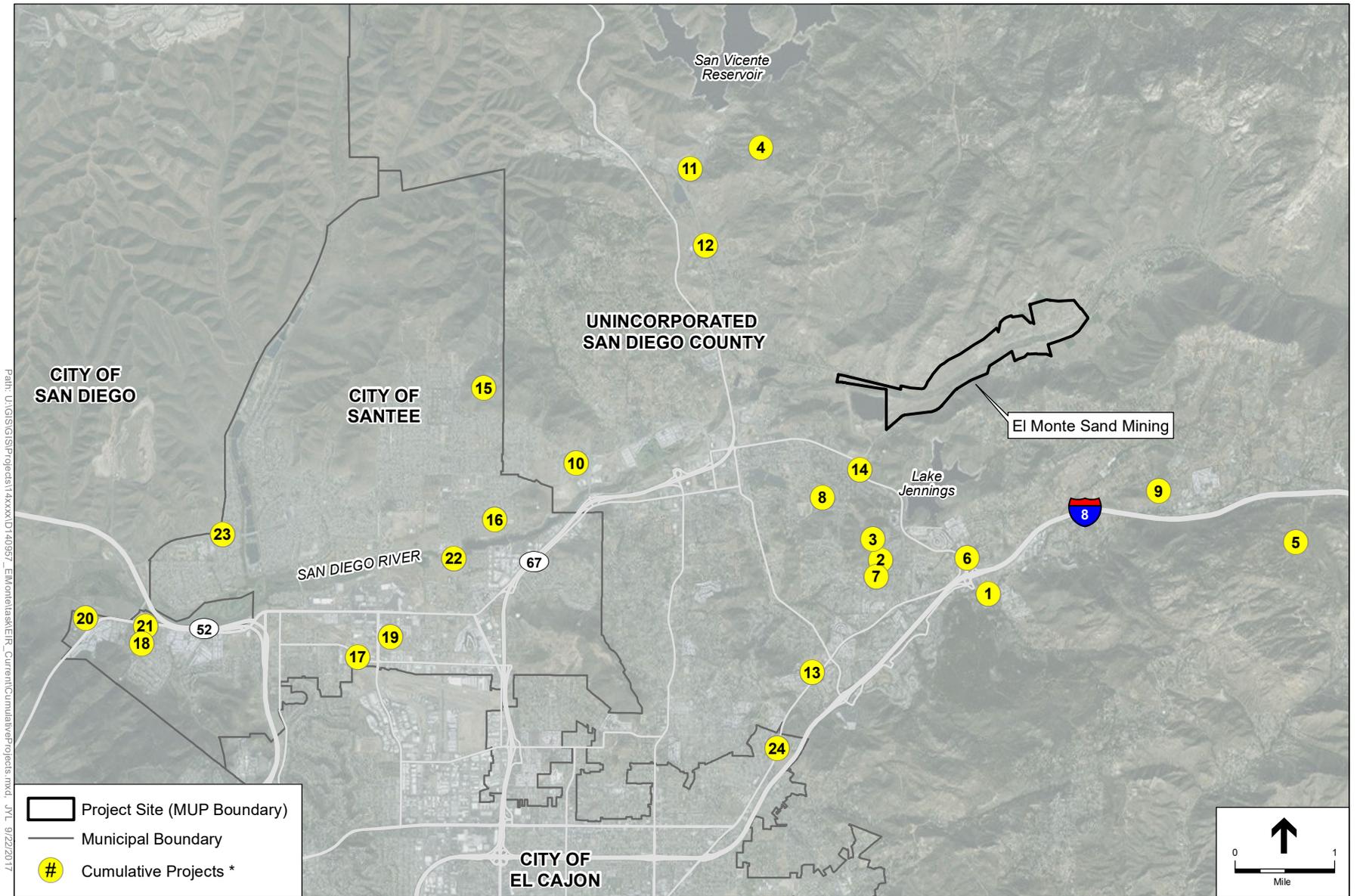
The geographical scope of the potential cumulative impacts related to biological resources encompasses the area south of San Vicente Reservoir, (generally) north of the Interstate 8, east of the city of San Diego and west of El Capitan Reservoir. As described in Sections 3.2-7.2, potentially significant biological resource impacts resulting from the proposed project include sensitive plant

communities, habitat for sensitive species, nesting birds, foraging habitat for raptors, jurisdictional wetlands and/or riparian habitats, wildlife movement and linkages, among other impacts. Although impacts would occur, habitat would be reclaimed and revegetated in phases following the proposed mining activities. The entirety of the 226.40 acres of temporary impacts within the mining phases would either be restored for habitat mitigation (113.92 acres) or be subject to reclamation (112.48 acres). An additional 64.16 acres of riparian and transitional upland habitats (with non-native exotic plant species) outside of mining limits would be enhanced for mitigation. A total of 224.34 of the 226.40 acres (greater than 99%) within the temporary impact area of disturbance in the mining phases is currently comprised of non-native habitats. All native habitats would be restored in-kind for mitigation per County guidelines, non-native grasslands would be mitigated with coastal sage scrub, tamarisk scrub would be mitigated with both riparian forest mitigation and enhancement within riparian and transitional upland habitats, and temporary impact areas that are not designated for habitat mitigation would be reclaimed via soil stabilization and reseeded.

Mitigation Measures MM-BIO1 through MM-BIO7 as described in Section 3.4, MM-BIO8 through MM-BIO11 as described in Section 4.4, and MM-BIO12 in Section 6.4, would reduce all of these temporary impacts to less-than-significant levels.

The majority of the cumulative projects listed in Table 14 are commercial or residential projects. Three of the 24 projects have approved Negative Declarations (Cumulative Projects 7, 8, and 13). An assessment of project locations, aerial photo signature, and an overlay of existing species database information (CNDDB, USFWS, and MSCP) was conducted in Google Earth for the remaining 21 projects identified with no existing environmental information or with approved Mitigated Negative Declarations, ten projects (Cumulative Projects 10, 14, 16 through 21, and 23 - 24) were identified as being located in urban/developed areas; these are likely to not have potential impacts to biological resources. These developed areas generally have fewer sensitive biological resources than in the El Monte Valley where the proposed project is located.

The remaining 11 projects are located within undeveloped, open space areas likely to have biological resources that have a potential to be impacted (Cumulative Projects 1 through 6, 9, 11 - 12, 15, and 22). Other biological resources associated with these habitats may be impacted if present at this site; at a minimum this may include nesting birds protected under the MBTA or rare plants. Potential impacts to nesting birds may include direct mortality to individuals or eggs, loss of nests or nesting and foraging habitat and indirect impacts such as construction-generated noise during the breeding season. An overlay of existing species data in Google Earth from CNDDB, MSCP, and USFWS databases did not confirm presence of special-status species near or adjacent to these sites although confirmation of absence from project-specific assessments would be required to confirm no impacts to special-status species would occur.



Path: U:\GIS\GISProjects\14xxx\DT\40957_ElMonte\TaskER_Current\CumulativeProjects.mxd; JTL 9/22/2017

* Refer to Table 1-9 for cumulative project list.

SOURCE: ESRI; EnviroMine; The Altum Group; Chang Consultants; ESA; SanGIS

El Monte Sand Mining Project . 140957

Figure 16
Cumulative Projects

TABLE 14. PAST, PRESENT, AND REASONABLY ANTICIPATED FUTURE PROJECTS IN THE PROJECT AREA THAT COULD AFFECT BIOLOGICAL RESOURCES

Cumulative Project Map Key	Project Name	Project Type	Location(s)	County of San Diego Reference #	APN #	Potential Resources Affected/Notes
County of San Diego						
1	Lake Jennings Marketplace	Shopping Center Gasoline with Food Mart and Car Wash	South side of Olde Highway 80 between Ridge Hill Road and Rios Canyon Road Lakeside, CA	TM5490 PDS2014-TM-5590	395-250-08	Potential biological resources, air quality, and traffic impacts.
2	Ashwood II Condo Conversion	Residential subdivision into nine lots on a 4.54-acre site	9288 Adlai Road Lakeside, CA	TM5356 PDS2004-3100-5356	398-390-19	Potential impacts to biological resources impacts, noise, and utilities and service systems. Mitigated Negative Declaration approved in 2006.
3	Greenhills Ranch	Estate Residential	9370 Adlai Road 9385 Adlai Road Lakeside, CA	TM5140/ TM5563	398-400-08-00	Potential biological resources and cultural resources impacts.
4	Crest/Dehesa	Estate Residential	12101 Muth Valley Lakeside, CA	TM5317	329-121-02-00	Project is idle.
5	Crestlake	Single-Family Detached	15045 Old Hwy 80 Lakeside, CA	TM5082 PDS2004-3100-5082	402-210-19	Potential impacts to biological resources. EIR approved in 2007.
6	Magnolia Courts	Single-Family Detached	9317 Lake Jennings Park Road Lakeside, CA	TM5541 PDS2007-3100-5541	395-220-11	Project is idle. Site is currently vacant/undeveloped land.
7	Clegg	Single-Family Detached	13516 E Lakeview Road Lakeside, CA	TM 5286 PDS2004-3100-5286	398-390-66	Negative Declaration approved in 2007.
8	Julian Avenue Major Subdivision	Single-Family Detached	9626 Christmas Tree Lane. Lakeside, CA	TM 5539 PDS2007-3100-5539	395-091-03	Negative Declaration approved in 2009.

TABLE 14. PAST, PRESENT, AND REASONABLY ANTICIPATED FUTURE PROJECTS IN THE PROJECT AREA THAT COULD AFFECT BIOLOGICAL RESOURCES

Cumulative Project Map Key	Project Name	Project Type	Location(s)	County of San Diego Reference #	APN #	Potential Resources Affected/Notes
9	Oakmont II	Single-Family Detached	Located off of Flinn Springs Road and Oak Creek Road Lakeside, CA	TM5421 PDS2005-3100-5421	396-020-13	Potential biological resources and noise impacts. Mitigated Negative Declaration approved in 2014.
10	Sunny Ridge Estates	Single-Family Detached	11427 El Nopal Lakeside, CA	TM5436	379-024-31-00	Noise and traffic impacts.
11	Eniss Sand Mines	Minor alterations at the existing mining area.	12356 Moreno Avenue 12238 Moreno Avenue 12332 Vigilante Road 12417 Vigilante Road Lakeside, CA	87-075-01 87-006-01 PDS2005-3301-87-075-01 PDS2011-3311-87-0011	375-040-01 25-062-06	In Progress. No environmental documents available as of the date of this EIR.
12	Turner Sand Mine (East County Sand Mine)	Extraction of 1,175,000 cubic yards of material (sand and top soil). The Reclamation Plan consists of importing 1,278,000 cy of clean soil, rock, and asphalt for use as onsite fill, channel rip-rap, and to construct a portion of Slaughterhouse Creek and San Vicente Creek channels to convey 100-year storm.	South of San Vicente Avenue Bounded by SR-67 to the west and Moreno Avenue to the east Lakeside, CA	PDS2009-3300-09-016	375-100-24 375-041-12 375-041-09 375-041-28 375-041-29 375-100-09	In Progress. No environmental documents available as of the date of this EIR.

TABLE 14. PAST, PRESENT, AND REASONABLY ANTICIPATED FUTURE PROJECTS IN THE PROJECT AREA THAT COULD AFFECT BIOLOGICAL RESOURCES

Cumulative Project Map Key	Project Name	Project Type	Location(s)	County of San Diego Reference #	APN #	Potential Resources Affected/Notes
13	Settler's Point	Multi-Family Residential	13244 I-8 Business Lakeside, CA	TM5423 PDS2005-3100-5423	397-291-03	Negative Declaration approved in 2012.
14	Hanson El Monte Pond Flood Control	Restoration and Recharge	10402 El Monte Road Lakeside, CA	PDS2014-LDGRMJ-00012	Unavailable	Currently in the environmental public review period.
City of Santee						
15	Fanita Ranch	Residential	Northwest area of Santee, CA	TM 05-04	Unavailable	In progress. No environmental documents available as of the date of this EIR.
16	Braverman Drive Residential	Residential	10635 Braverman Drive Santee, CA	TM-2015-2	381-160-7300	Approved by City Council in February 2016.
17	Michael Grant	Residential	Prospect Avenue between Mesa Road and Our Way Santee, CA	TM2015-2	383-112-05, 28	In progress. No environmental documents available as of the date of this EIR.
18	Infill Development Company	Infill Development	8646 Caribbean Way Santee, CA	TM2015-3	383-260-40, 383-260-41	In progress. No environmental documents available as of the date of this EIR.
19	Village Run Homes LLC	Residential	Buena Vista and Mission Greens Santee, CA	TM2015-4	384-042-22-00 384-042-23-00	In progress. No environmental documents available as of the date of this EIR.

TABLE 14. PAST, PRESENT, AND RESONABLY ANTICIPATED FUTURE PROJECTS IN THE PROJECT AREA THAT COULD AFFECT BIOLOGICAL RESOURCES

Cumulative Project Map Key	Project Name	Project Type	Location(s)	County of San Diego Reference #	APN #	Potential Resources Affected/Notes
20	Mission Trails Collection (Middle Parcel)	Residential	8758 Bushy Hill Drive Santee, CA	TM2015-5	383-021-06	Potential impacts to biological and cultural resources. Mitigated Negative Declaration prepared. Approved by City Council on January 27, 2016.
21	Hattie Davison Properties	Residential	7927-7941 Mission Gorge Road Santee, CA	TM2015-6	383-260-75-00 /383-260-76-00	Potential impacts to biological and cultural resources. Mitigated Negative Declaration prepared. Approved by City Council on October 28, 2015.
22	Walker Trails	Residential	NW Corner of Magnolia and Chubb Lane			
City of San Diego						
23	Castlerock Project		Mast Boulevard and Medina Drive			
City of El Cajon						
24	Bella Terrazza	Residential	East Main Street, north of Greenfield Drive (south of McDougal Terrace)			

The mitigation identified in Section 3.4 and in Section 8.0 would reduce potentially significant impacts to below a level of significance. Therefore, the proposed project would not contribute considerably to cumulative biological impacts and cumulative impacts to special-status species would not be considered significant.

3.4 Mitigation Measures and Design Considerations

The following project design features intended to avoid and minimize potential biological impacts have been included for the proposed project. Design considerations have been developed to reduce potentially significant direct and indirect impacts to sensitive biological resources (see Section 1.2). These include project phasing, which would reduce the amount of area that is impacted at any given time; implementation of erosion and stormwater control features, which would guard against erosion and sedimentation; implementation of the Reclamation Plan, which would stabilize the soils and landforms; and implementation of the Revegetation Plan, which would compensate for losses to environmentally sensitive habitats (see Section 1.2). The Reclamation Plan and Revegetation Plan have not been finalized. These plans should conform to the bulleted requirements listed in Mitigation Measure MM-BIO6 and MM-BIO7. All design considerations shall be included in the Mitigation Monitoring and Reporting Program and shall be monitored to ensure compliance, in the same manner as the proposed project's mitigation measures described below.

Proposed mitigation measures to avoid, minimize, and/or offset impacts to special-status plant and animal species are provided below.

MM-BIO1: Raptors and nesting birds covered by MBTA.

- 1) To avoid and minimize impacts to nesting coastal California gnatcatchers, least Bell's vireo, raptors and other birds protected by the Migratory Bird Treaty Act, vegetation removal and grading shall occur outside of the nesting bird season (February 1 through August 31). Note that no gravel crushing is required to process the materials extracted from the site; therefore, noise levels would be lower than those typically associated with mining activities. If the breeding season cannot be avoided, the follow measures shall be implemented:
 - a. During the avian breeding season, a qualified Project Biologist shall conduct a preconstruction avian nesting survey no more than 72 hours prior to vegetation disturbance or site clearing. Surveys need not be conducted for the entire project area at one time; they shall be phased so that surveys occur shortly before a portion of the site is disturbed. If construction begins in the non-breeding season and proceed continuously into the breeding season, no surveys shall be required. However, if there is a break of 3-5 days or more in construction and mining activities during the breeding season, a

new nesting bird survey shall be conducted before these activities begin again.

- b. The preconstruction survey shall cover all suitable bird nesting habitat on and within 300 feet, and all suitable raptor nesting habitat on and within 500 feet, of areas anticipated to be impacted in the near term. If an active nest is found during the preconstruction avian nesting survey, a qualified Project Biologist shall implement a 300-foot minimum avoidance buffer for coastal California gnatcatcher, least Bell's vireo, and other passerine birds, and a 500-foot minimum avoidance buffer for all raptor species. The nest site area shall not be disturbed until the nest becomes inactive or the young have fledged.
- 2) A preconstruction survey for burrowing owl will be conducted in accordance with Section 3.4.1 "Pre-grading Survey" of the *Strategy for Mitigating Impacts to Burrowing Owls in the Unincorporated County* (Burrowing Owl Strategy; County of San Diego 2010b). If burrowing owls are detected during the preconstruction survey within 300-feet of proposed grading, a translocation plan will be developed and finalized in coordination with the County and the wildlife agencies (USFWS and CDFW). Grading will not occur within 300-feet of an active owl burrow until the young have fledged and are no longer dependent on the burrow. Grading closer than 300 feet may occur within written concurrence from the wildlife agencies and the County Mitigation Monitoring Coordinator; the distance will depend on the burrow's location in relation to the site's topography and other physical and biological characteristics. In addition, mitigation for impacts to habitat would be required as outlined in the Burrowing Owl Strategy.

MM-BIO2: Least Bell's vireo. In accordance with the project's Revegetation Plan, direct impacts to suitable habitat for the state and federally endangered least Bell's vireo shall be mitigated at a minimum of 3:1 ratio through the restoration of riparian habitat. Approximately 126 acres of riparian habitat suitable to support least Bell's vireo will be revegetated.

MM-BIO3: Coastal California gnatcatcher. In accordance with the project's Revegetation Plan, direct impacts to California gnatcatcher-occupied habitat shall be mitigated at a minimum 2:1 ratio through restoration. Restoration may include a combination of in-kind restoration (i.e., coastal sage scrub habitat restored to coastal sage scrub habitat) and out-of-kind restoration (i.e., non-native grassland habitat restored to coastal sage scrub habitat). Approximately 50.5 acres of Diegan coastal sage scrub habitat will be revegetated.

MM-BIO4: Glossy Snake and Other Special-Status Amphibian and Reptile Species. A focused herpetofaunal mitigation plan shall be developed and implemented by a qualified biologist to address potential direct and indirect

impacts to glossy snake and other amphibian and reptile state Species of Special Concern. The mitigation plan shall include the following measures to be implemented:

- 1) Trapping and collection of herpetofaunal species shall be conducted prior to any site preparation and mining activities (refer to Appendix J of the Biological Resources Report [included as Appendix G to this Draft EIR]). Once the herpetofaunal species are collected, they shall be relocated and set free outside of mining boundaries in the eastern portion of the project site, east of Dairy Road. They shall be marked to track the success of this action over time; the mitigation plan shall include detail on the specific methodology of the marking study.
- 2) Exclusionary fencing shall be installed along the project disturbance footprint to preclude special-status herpetofaunal species from moving back into the site. The focused mitigation plan shall include specifications for installing, monitoring, and repairing the fencing to maintain its function and integrity throughout the duration of construction and mining activities.
- 3) Preconstruction surveys for herpetofaunal shall be conducted by a qualified biologist no more than 10 days prior to initiation of excavation activities associated with site preparation and sand mining activities in those specified areas of the project site. Surveys may not need to be conducted for the entire of the project site at once; they may be phased so that surveys occur in portions of the project before excavation occurs (refer to Appendix J of the Biological Resources Report [included as Appendix G to this Draft EIR]).

Overburden excavated and collected during site preparation and mining activities shall be moved (to the maximum extent feasible) to the eastern portion of the site, outside of the mining limits, to improve the habitat for herpetofaunal species at the release location for the project site, particularly as fill into some of the previously excavated areas in the eastern portion of the site where limited species observations have been documented (Appendix J).

MM-BIO5: Mining Best Management Practices (BMPs) and oversight. A qualified Project Biologist shall be responsible for monitoring the limits of construction and mining activity, mitigation measures, design considerations, and project conditions during all phases of the project. The Project Biologist shall conduct the following:

- Attend the preconstruction meeting with the contractor and other key construction personnel prior to clearing, grubbing, or grading.
- Conduct worker training prior to all phases of construction; this shall include meetings with the contractor and other key construction personnel

to explain the limits of disturbance, which shall be delineated with temporary construction fencing with clear signage stating the fenced area is a sensitive habitat area and to keep out, and the importance of restricting work to designated areas prior to clearing, grubbing, or grading. Discussions shall include procedures for minimizing harm to or harassment of wildlife encountered during construction and mining activities prior to clearing, grubbing, and/or grading.

- Conduct pre-construction clearance surveys to detect the presence of nesting birds, burrowing owls, and other sensitive terrestrial wildlife species, such as coast horned lizard, glossy snake, orange-throated whiptail, and two-striped garter snake. The Project Biologist shall use their discretion in ensuring impacts to any sensitive wildlife observed during pre-construction clearance surveys are avoided (e.g., avoidance buffers, relocation from harm's way, etc.).
- Be present onsite to monitor initial vegetation clearing, grubbing, and grading to ensure that mitigation measures are being appropriately followed, including restricting activity to delineated construction areas and avoiding impacts to breeding birds.
- Periodically monitor the limits of construction and mining operations as needed throughout the life of the project to avoid unintended direct and indirect impacts by ensuring that:
- Confirm construction and mining activity boundaries are marked (e.g., delineated with temporary fencing and sensitive habitat signage) and not breached;
- Monitor Mature Riparian Woodland areas to confirm they are protected from incursion with installation of temporary construction fencing and sensitive habitat signage. Also confirm that the slopes at the edge of protected Mature Riparian Woodland habitat are not eroding, and that appropriate erosion control measures, such as fiber rolls, blankets, gravel bags, etc., are installed;
- Apply AggreBind® to temporary haul roads prior to beginning construction (remove at the end of construction) and spray water on grading areas and at points of ingress and egress of the haul road at the intersection where the haul roads meet dirt roads or paved roads to minimize dust;
- Implement pertinent requirements that address erosion and runoff, including the federal Clean Water Act, National Pollution Discharge Elimination System (NPDES), and Stormwater Pollution Prevention Plan (SWPPP); and

- Prepare a post-construction monitoring report for submittal to the County of San Diego. The report shall substantiate the supervision of the clearing, grubbing, and/or grading activities, and shall provide a final assessment of biological impacts.

MM-BIO6: Reclamation Plan implementation oversight. A qualified Restoration Ecologist shall be designated to oversee implementation of the Reclamation Plan (as it pertains to site preparation, erosion control, hydro seeding, and soil stabilization). Reclamation will occur within project phases as identified in Figure 7. The Restoration Ecologist shall have at least 5 years of experience monitoring successful native habitat restoration projects in Southern California, including all habitat types that shall be restored onsite. In addition, the Restoration Ecologist shall:

- Attend all relevant construction meetings.
- Have the authority to redirect construction and maintenance crews in keeping with the goals, objectives, and performance standards of the final Reclamation Plan.
- Approve the seed palette used for hydro seeding.
- Regularly monitor reclamation activities to determine if and how remedial actions should be conducted, if needed, for observed issues such as sedimentation and erosion.

MM-BIO7: Revegetation Plan implementation and oversight. A Revegetation Plan shall be implemented to guide and ensure successful revegetation/creation of self-sustaining riparian and upland habitats, which would serve as mitigation for impacts to native vegetation communities. In contrast to the Reclamation Plan, which focuses on landform and soil stabilization, the focus of the Revegetation Plan is to restore the ecological functions and values of the impacted habitats. Revegetation (mitigation) and habitat enhancement would occur within mining phases as depicted in Figure 7 and would be implemented in accordance with the Revegetation Plan (ESA 2018c) once approved by the County. The Revegetation Plan includes the following:

- Sufficient revegetation restoration or enhancement of habitat to fulfill the mitigation obligations described in MM-BIO8 (Section 4.4).
- The planting plan shall be designed to ensure that the appropriate restored/created habitat is suitable for the coastal California gnatcatcher and least Bell's vireo, and allows for local and regional wildlife movement (e.g., appropriate width and vegetative cover).
- The planting design shall also include adequate wetland buffers (100 to 200 feet wide, measured from the edge of wetland habitat).

- A native planting palette appropriate for each vegetation type being mitigated and appropriate to local conditions.
- Irrigation for upland and wetland habitat types for the first 2 to 3 years. Irrigation should be removed during the final 2 years of restoration to ensure that the habitat is self-sustaining.
- A 120-day plant establishment period plus five-year restoration maintenance period (or until success criteria are met).
- Qualitative and quantitative monitoring methods to ensure that success criteria are met.
- Five-year maintenance methods.
- Success criteria for establishment period and years 1–5.
- Responsibilities and qualifications of restoration and maintenance contractor(s) and restoration ecologist.
- Description of annual reporting.

3.4.1 Plant Species

Palmer's goldenbush, a County List B plant species and Narrow Endemic, is the only special-status plant that occurs within the area. There would be no direct impacts to this species due to its location within Mature Riparian Woodland, a protected impact neutral area. Potential indirect impacts to this species from fugitive dust during mining activity would be avoided through regular use of a water truck along the haul road and hydrology would not be impacted (see MM-BIO5). Several other plant species have a potential to occur within the native habitats associated with the BSA. Potential direct loss plants would be mitigated through the habitat-based mitigation for the loss of native habitats, in accordance of Table 5 of the County of San Diego Guidelines for Determining Significance (County of San Diego 2010a) and as discussed further in Section 4.4.

3.4.2 Animal Species

Several Group I animal species occur within the project area, including San Diego banded gecko, Cooper's hawk, sharp-shinned hawk, osprey, red-shouldered hawk, turkey vulture, white-tailed kite, yellow breasted chat, loggerhead shrike, coastal California gnatcatcher, and least Bell's vireo. Potential impacts to these species would require habitat-based mitigation the loss of native habitats, in accordance of Table 5 of the County of San Diego Guidelines for Determining Significance (County of San Diego 2010a) and as discussed further in Section 4.4.

3.5 Conclusions

Potentially significant impacts include direct and indirect impacts to the federally listed and/or Group I animal species including the San Diego banded gecko, coastal California gnatcatcher, least Bell's vireo, Cooper's hawk, sharp-shinned hawk, red-shouldered hawk, osprey, turkey vulture, white-tailed kite, yellow breasted chat, and loggerhead shrike that are known to occur within the BSA. Direct impacts include direct mortality of individuals and habitat (including burrowing, breeding, nesting, and foraging) from vegetation removal and mining activities. Indirect impacts include construction-generated noise, dust, sedimentation into adjacent habitats, and nighttime lighting. However, mitigation measures would be implemented to avoid/minimize impacts to a less-than-significant level. Avoidance of the bird breeding season, preconstruction surveys to confirm absence, and biological monitoring during mining and construction activities would reduce potential impacts to breeding least Bell's vireo and coastal California gnatcatcher, as well as other nesting birds covered under the MBTA. Mining activities would be phased and each phase area would be revegetated once mining is complete before initiating the subsequent phase, thus habitats that would be temporarily lost during mining would be replaced and mitigated at required ratios to increase available suitable habitats. The implementation of design considerations and mitigation for special-status species according to County guidelines would compensate for impacts.

This page left intentionally blank

4. RIPARIAN HABITAT OR SENSITIVE NATURAL COMMUNITY

The *County of San Diego Guidelines for Determining Significance for Biological Resources* was used to evaluate adverse environmental effects the project may have on riparian habitat or sensitive natural communities, specifically Section 4.2 (County 2010a). Guidelines for the determination of significance and an analysis of project effects for riparian habitat or sensitive natural communities is provided below.

4.1 Guidelines for the Determination of Significance

The project would have a substantial adverse effect on riparian habitat or other sensitive natural communities identified in local or regional plans, policies, regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service.

The following information was evaluated to provide evidence to support the determination of impact significance:

- A. Project-related grading, clearing, construction, or other activities would temporarily or permanently remove sensitive native or naturalized habitat on or off the project area. This guideline would not apply to small remnant pockets of habitat that have a demonstrated limited biological value. No *de minimus* standard is specified under which an impact would not be significant; however, minor impacts to native or naturalized habitat that is providing essentially no biological habitat or wildlife value can be evaluated on a case-by-case basis to determine whether the projected impact may be less than significant. For example, an impact to native or naturalized upland habitat under 0.1 acre in an existing urban setting may be considered less than significant (depending on a number of factors). An evaluation of this type should consider factors including, but not limited to, type of habitat, relative presence of the habitat type in the project vicinity, its condition and size, presence or potential for sensitive species, relative connectivity with other native habitat, wildlife species and activity in the project vicinity, and current degree of urbanization and edge effects in the project vicinity. Just because a particular habitat area is isolated, for example, does not necessarily mean that impacts to the area would not be significant (e.g., vernal pools). An area that is disturbed or partially developed may provide a habitat “island” that would serve as a functional refuge area “stepping stone” or “archipelago” for migratory species.
- B. Any of the following would occur to or within jurisdictional wetlands and/or riparian habitats as defined by the USACE, CDFW, and the County of San Diego: removal of vegetation; grading; obstruction or diversion of water flow; adverse change in velocity, siltation, volume of flow, or runoff rate; placement of fill; placement of structures; construction of a road crossing; placement of culverts or other underground piping; any disturbance of the

- substratum; and/or any activity that may cause an adverse change in native species composition, diversity and abundance.
- C. The proposed project would draw down the groundwater table to the detriment of groundwater-dependent habitat, typically a drop of three feet or more from historical low groundwater levels.
- D. The proposed project would cause indirect impacts, particularly at the edge of proposed development adjacent to proposed or existing open space or other natural habitat areas, to levels that would likely harm sensitive habitats over the long term. The following issues should be addressed in determining the significance of indirect impacts: increasing human access; increasing predation or competition from domestic animals, pests or exotic species; altering natural drainage; and increasing noise and/or nighttime lighting to a level above ambient that has been shown by the best available science to adversely affect the functioning of sensitive habitats.
- E. The proposed project does not include a wetland buffer adequate to protect the functions and values of existing wetlands. If the proposed project is subject to RPO, buffers of a minimum of 50 feet and a maximum of 200 feet to protect wetlands are required based on the best available science available to the County at the time of adoption of the ordinance. The following examples provide guidance on determining appropriate buffer widths:
- A 50-foot wetland buffer would be appropriate for lower quality RPO wetlands where the wetland has been assessed to have low physical and chemical functions, vegetation is not dominated by hydrophytes, soils are not highly erosive and slopes do not exceed 25 percent.
 - A wetland buffer of 50 to 100 feet is appropriate for moderate to high-quality RPO wetlands which support a predominance of hydrophytic vegetation or wetlands within steep slope areas (greater than 25 percent) with highly erosive soils. Within the 50- to 100-foot range, wider buffers are appropriate where wetlands connect upstream and downstream, where the wetlands serve as a local wildlife corridor, or where the adjacent land use(s) would result in substantial edge effects that could not be mitigated.
 - Wetland buffers of 100 to 200 feet are appropriate for RPO wetlands within regional wildlife corridors or wetlands that support significant populations of wetland-associated sensitive species or where stream meander, erosion, or other physical factors indicate a wider buffer is necessary to preserve wildlife habitat.
 - Buffering of greater than 200 feet may be necessary when a RPO wetland is within a regional corridor or supports significant populations

of wetland-associated sensitive species and lies adjacent to land use(s) that could result in a high degree of edge effects within the buffer. Although the RPO stipulates a maximum of 200 feet for RPO wetland buffers, actions may be subject to other laws and regulations (such as the Endangered Species Act) that require greater wetland buffer widths.

4.2 Analysis of Project Effects

4.2.A A total of 115.65 acres of sensitive vegetation communities would be temporarily impacted as a result of temporary habitat loss during mining activities and 11.51 acres would be permanently impacted as a result of installation of a permanent drop structure on the eastern edge of the excavation area, the establishment of permanent fuel modification zones, and a trail system. However, habitats would be mitigated in accordance with the Reclamation and Revegetation Plans; upon the completion of revegetation, the area would be enhanced by the establishment of higher-quality and functional habitat types along the San Diego River corridor. ***These impacts to sensitive vegetation communities would be less than significant with implementation of Mitigation Measures MM-BIO7, MM-BIO8, MM-BIO9, and MM-BIO10.***

4.2.B The proposed project would temporarily and permanently affect jurisdictional (non-vegetated streambed) non-wetland waters and riparian habitats as defined by USACE, RWQCB, CDFW, and the County of San Diego through removal of vegetation, grading, placement of temporary structures (including a drop structure for erosion control, portable processing plant, temporary power lines, weigh scales, and modular scale house), and excavation to a maximum of 35 feet below the current surface, and placement of fill to create a bench around the mined pit. Approximately 0.36 acre of USACE/RWQCB jurisdictional non-wetland waters and approximately 41.46 acres of CDFW riparian and San Diego County jurisdictional wetlands would be affected (Figures 14a and 14b and **Table 15**). For permitting projects, the USACE (and CDFW) seeks to meet the goal of no net loss of functions and values of wetlands and often other waters of the United States and would require at a minimum the restoration of disturbed areas to original contours and a revegetation program to restore jurisdictional areas disturbed by the proposed project. ***With implementation of Mitigation Measures MM-BIO1, MM-BIO2, MM-BIO3, and MM-BIO10, the direct impacts to jurisdictional wetlands and/or riparian habitats as defined by USACE, CDFW, and the County of San Diego would be less than significant.***

TABLE 15. IMPACTS TO JURISDICTIONAL RESOURCES

Jurisdiction	Temporary Impacts	Permanent Impacts	Total Impacts
Federal (USACE)/State (RWQCB)	0.35	0.01	0.36
State (CDFW)/County (San Diego)	39.18	2.28	41.46
Total	39.53	2.29	41.82

4.2.C Under the current general plan for the undeveloped land within the BSA, average groundwater withdrawal of the unmitigated proposed project is expected to be about 2,350 acre-feet per year (afy). Estimated groundwater demand from evaporative losses in the mining pit is estimated to average about 250 afy when water is standing in the pit (AECOM 2017). The proposed Project is also expected to impact groundwater-dependent habitat (AECOM 2017). ***With implementation of measure MM-BIO11 impacts to groundwater-dependent riparian habitat or other natural communities due to draw down of the groundwater table would be less than significant.***

4.2.D Upon completion (i.e., after the Reclamation Plan and Revegetation Plan have been implemented), the project would not increase human access, predation, competition from domestic animals, pests, or exotic species, noise, or nighttime lighting. ***Therefore, the proposed project would not cause indirect impacts to riparian habitats or other sensitive vegetation community due to changes in these conditions.***

Although the BSA does not have a formally established trail system, trails have been formed by heavy human use throughout the years. Human-made trails are currently utilized daily by hikers, bikers, people with dogs, and equestrians on horseback. A formal trails system would have rules and regulations for trail users such as keeping pets leashed and staying on public trails, as well as timing of trail access limited to daytime hours. Wildlife-friendly split rail fencing would be permanently installed along portions of trails adjacent to sensitive resources. Although a formal trail system would be established and it is possible human and domestic pet usage may increase, these types of trail regulations would limit these potential impacts. Impacts to surrounding vegetation are expected to decrease as established trails discourage people and domestic pets from going off-trail. Thus, the establishment of a trail system would not increase pests, exotic species, noise, or nighttime lighting; impacts would be less than significant. The project would not result in significant indirect impacts to downstream habitat due to altered hydrology. Because El Capitan Dam has effectively cut off the flow from upstream since its establishment in 1935, the main source of water in the riverbed is runoff from surrounding hillsides. Therefore, the changes to the topography as a result of mining activities are not expected to substantially affect the hydrology downstream and impacts would be less than significant. In

addition, erosion control and stormwater measures would be installed as a project design feature to ensure that sediment and runoff do not drain offsite during mining. Post-project reclamation and revegetation would also improve onsite drainage conditions. ***With implementation of Mitigation Measures MM-BIO5, MM-BIO6, and MM-BIO7, indirect impacts to riparian and other sensitive habitats due to drainage alterations would be less than significant.***

The project would not result in significant indirect impacts to downstream habitat due to altered hydrology. Because El Capitan Dam has effectively cut off the flow from upstream since its establishment in 1935, the main source of water in the riverbed is runoff from surrounding hillsides. Therefore, the changes to the topography as a result of mining activities are not expected to substantially affect the hydrology downstream. In addition, erosion control and stormwater measures would be installed to ensure that sediment and runoff do not drain offsite during mining. Post-project reclamation and revegetation would also improve onsite drainage conditions.

Potential indirect impacts to native habitat could result from construction-generated dust from temporary haul roads into adjacent habitats. As discussed, to minimize the threat of dust from temporary haul roads moving onto adjacent habitat, an environmentally-friendly water-based polymer binding agent, AggreBind[®], would be applied to haul roads, and frequent watering would occur at points of ingress and egress from the haul roads. AggreBind[®] is made from in-situ materials such as sub-soils and sands and environmentally friendly polymers. It is water-based and non-toxic and can be used in environmentally sensitive areas, agricultural roads, and as a surface seal for drainage channels. Because this product binds and hardens similar to cement or asphalt, upon removal of the temporary haul roads, it is easy to contain and remove in its entirety. There would be no negative impacts to groundwater, the river channel, or surrounding vegetation from this method of dust suppression. Application of AggreBind[®] to temporary haul roads and watering at points of the intersection of haul roads with other dirt roads and paved areas would thus avoid/minimize construction-generated dust impacts to special-status species. ***With implementation of Mitigation Measure MM-BIO5, indirect impacts to riparian and other sensitive habitats due to construction-generated dust would be less than significant.***

4.2.E As discussed in Section 1.5.3, the RPO conditionally allows impacts to wetland habitats (per Section 86.605, which describes exemptions for sand, gravel or mineral extraction projects), if certain mitigation measures are met. One of measures states that “Mature Riparian Woodland may not be destroyed or reduced in size due to sand, gravel, or mineral extraction.” A total of 8.45 acres of habitat that meets the RPO’s definition of Mature Riparian Woodland was mapped within the project area. The current project was designed to avoid this area thus impacts to wetland functions and values as a result of lack of buffers is not expected. Mining operations would result in an elevational disconnection of

the existing low flow channel between upstream mining areas (Phases 1 and 2) and the Mature Riparian Woodland. Low flow runoff channels within the Mature Riparian Woodland would remain and connect with downstream areas (Phases 3 and 4). Due to infrequent overtopping of the El Capitan Reservoir located upstream, alluvial soils (highly permeable) and hydrology conditions on-site, above-ground channel flow rarely occurs. Precipitation infiltration (including subsurface runoff from adjacent uplands) and groundwater are the primary hydrology inputs supporting the Mature Riparian Woodland; which generally includes phreatophytic plant species (plants that depend for their water supply upon ground water that lies within reach of their roots) in the midstory and overstory (e.g., willow and cottonwood), and riparian transitional and upland species in the understory. There is currently limited natural recruitment of younger willow and cottonwood age classes, likely because the water table is too deep (40-50 feet) for these species to become established. Since precipitation infiltration and groundwater conditions would be less than significant with mitigation in this preserved area, the Mature Riparian Woodland habitat would not be significantly impacted by mining activities.

The proposed mining haul road would primarily traverse north of the Mature Riparian Woodland, outside the 50-foot buffer around the habitat (see below). The proximity of the daily ingress/egress of approximately 231 trucks may result in significant exposure of the trees, vegetation and wildlife to nitrous oxides, dust and noise. Measures to protect the Mature Riparian Woodland from the haul road include preserve boundary marking (e.g., flagging or fencing), contractor education, erosion control measures (including fiber rolls and silt fencing), dust control (e.g., through the application of AggreBind® and regular spraying with water trucks at points of ingress/egress at the intersection of other dirt roads and paved roads with the temporary haul roads), and mulching of disturbed surfaces (not including the haul road drive surface) would prevent impacts from the haul road to the Mature Riparian Woodland.

To provide protection of the functions and values of existing wetlands, the RPO requires an adequate wetland buffer that would protect the environmental and functional habitat values of the wetlands. The buffer must be 50 to 200 feet wide, as measured from the edge of the wetland habitat, based on guidance given by the County (2010a). The mapped Mature Riparian Woodland areas include a buffer of 50 feet from the edge of the tree canopy, which provides a wetland buffer function. This buffer width is consistent with County guidelines, which state "A 50-foot wetland buffer would be appropriate for lower quality RPO wetlands where the wetland has been assessed to have low physical and chemical functions, vegetation is not dominated by hydrophytes, soils are not highly erosive and slopes do not exceed 25%."

In addition, allowable impacts to 42.29 acres of existing wetland habitats would be mitigated onsite through revegetation of 126.15 acres of riparian habitats (plus 0.54 acre of riparian habitat restored for the previous golf course project for a total 126.69 acres). Once completed, the restored wetland habitat in the bottom

of the excavation pit would be buffered by a 70 to 140-foot wide band of restored coastal sage scrub habitat and an additional setback of 150 to 300 feet between the restored coastal sage scrub and adjacent roads. ***With implementation of Mitigation Measures MM-BIO5, MM-BIO6, and MM-BIO7, and avoidance of Mature Riparian Woodland, impacts to the functions and values of existing wetlands would be less than significant.***

4.3 Cumulative Impact Analysis

At a minimum, biological impacts may occur to vegetation communities requiring mitigation on the eleven Cumulative Project sites identified to occur within undeveloped open space areas; the Google Earth aerial photograph for these sites all appear to display either coastal sage scrub, oak woodlands, and/or non-native grassland, which are similar to habitats on the project site. Similarly, potential direct impacts to vegetation communities may occur such as direct removal or indirect impacts such as construction-generated dust, sedimentation, or runoff into adjacent vegetation communities. Although these same types of impacts have been identified for the project, project design measures and mitigation measures as discussed in Section 8.0 would reduce potentially significant impacts to below a level of significance. Therefore, the proposed project would not contribute considerably to cumulative biological impacts and cumulative impacts to sensitive plant communities would not be considered significant.

4.4 Mitigation Measures and Design Considerations

In addition to the design considerations and measures MM-BIO5 through MM-BIO7 discussed in Section 3.4, additional measures below would be implemented to avoid/minimize potential impacts to sensitive vegetation communities and jurisdictional resources. As referenced in Section 1.5.3, mitigation ratios as currently presented in this section may be adjusted during the permitting process for this project and after decision on the BLA request. A discussion of how mitigation ratios may be adjusted if the BLA is approved is provided in Appendix K. If the BLA is not approved, another process to amend the project area into the MSCP may be determined by the state and federal wildlife agencies.

MM-BIO8: Sensitive vegetation communities.

- In order to be consistent with the Southern California Coastal Sage Scrub NCCP guidelines, direct impacts to more than 5 percent of the coastal sage scrub onsite (i.e., impacts to more than 0.52 acre) shall be avoided. Avoidance shall be targeted at those patches of coastal sage scrub in which a California gnatcatcher was observed during the 2015 surveys.
- Direct impacts to sensitive vegetation communities shall be mitigated through implementation of the Reclamation Plan and Revegetation Plan.

The Revegetation Plan shall be designed to provide high quality habitat that is compatible with the post-project topography and hydrology. As such, some of the temporarily impacted habitat shall be mitigated out-of-kind (i.e., with a different, but higher quality habitat type), resulting in a net gain of native habitat acreage onsite and improve overall native habitat quality and functions.

- Revegetation mitigation will occur in areas currently supporting non-vegetated channel (will be revegetated as vegetated channel), southern willow scrub, tamarisk scrub (will be revegetated as native cottonwood-willow riparian forest and riparian scrub), coastal sage scrub, and non-native grassland (will be revegetated as coastal sage scrub) (**Table 16** and **Figure 7**). Based on mitigation replacement ratios and projected impacts for the mine project, a total of 126.15 acres of riparian/wetland habitat is required to be revegetated (restored) or enhanced (plus 0.54 acre of riparian habitat restored for the previous golf course project for a total 126.69 acres); and 50.49 acres of upland habitat is required to be revegetated (restored) to mitigate for temporary and permanent impacts. For the 3:1 mitigation ratio, 1.5:1 of the mitigation (i.e., 50%) for the mine project will occur via revegetation and restoration of 62.71 acres divided between 46.36 acres of cottonwood-willow riparian forest and 16.28 acres of southern willow scrub. The remaining 1.5:1 of the mitigation ratio (i.e., remaining 50%) will occur via enhancement and restoration of 62.72 acres of riparian and transitional habitat (for a total mitigation requirement of 125.43 acres). Based on an assessment of riparian and transitional habitat with exotic species onsite, 64.16 acres are proposed for enhancement. Therefore, the proposed enhancement and restoration mitigation of 64.16 acres will exceed the 62.72-acre requirement based on the mitigation ratio.

Based on input from the County, the proposed mitigation for impacts to tamarisk scrub includes restoration of native riparian habitat within post-mining areas and enhancement and restoration of riparian and transitional habitat outside of mining limits. This approach would improve habitat more comprehensively within the project site and improve the functions and sustainability of habitat restoration mitigation areas onsite.

Riparian/wetland habitat restoration will consist of high quality vegetated channel (0.36 acre) planted within the channel, cottonwood-willow and transitional species dominated riparian forest (46.43 acres) planted along the edges of the channel for a width of up to 300 feet, and riparian scrub habitat dominated by mule fat along with scattered willows and transitional species (17.18 acres [16.64 acres for the mine project + 0.54 acre for the previous golf course project]) within the excavated mining pit (basin) and lower slopes. The planted riparian forest mitigation (i.e., 46.43 acres) and the majority of riparian scrub mitigation (i.e., 16.28 acres for the mine project + 0.54 acre for the golf course project) will provide mitigation within post-mining areas for impacts to tamarisk scrub habitat. An additional 0.54

acre of southern willow scrub mitigation will occur as mitigation for the previously approved golf course project impact in 2005 to 0.18 acre of disturbed riparian (tamarisk scrub).

As previously discussed, the required balance of mitigation for tamarisk scrub for the mine project (i.e., 62.72 acres) will be accomplished by enhancing and restoring 64.16 acres of riparian and transitional habitat that include invasive exotic species within the project site outside of mining limits. Because all remaining riparian habitats onsite are included in the planned enhancement along with some adjacent transitional habitats (i.e., to establish contiguous enhancement area), the planned enhancement area has been rounded up to 64.16 acres (relative to the 62.72- acre requirement). The enhancement of 64.16 acres of riparian and transitional habitat will include initial removal of target exotics, follow-up monitoring and maintenance treatments annually for five years as needed, and measures to promote native plant revegetation including limited seeding and scattered planting. Removal of exotic species will be conducted with hand-tools (shovels, chain-saws, etc.) along with follow-up application of herbicide to kill exotic plant specimens. No vehicular equipment will be driven into the river bed. Maintenance personnel will walk into the enhancement areas, cut exotic vegetation, and carry it in pieces to nearby vehicles (e.g., pickup trucks) or dumpsters located along project access routes and/or disturbed upland staging areas. Exotic plant biomass will then be hauled to an approved green waste facility. Exotic vegetation will be either dug out with shovels (if specimens are small enough and the root system can be effectively removed), or cut within one foot of the ground surface. Cut stems/stumps will then be treated with herbicide. Based on input from County staff during an August 16, 2017 site visit, the removal of large exotics such as eucalyptus trees which provide screening for adjacent residences on the south side of the river should be removed in a phased approach so that sufficient screening with vegetation is provided (e.g., with existing vegetation and new native plant growth) during the enhancement and restoration program.

The existing riparian and transitional habitat areas that will be enhanced lack typical riparian habitat hydrology and are similar to alluvial fan scrub habitat (except for the extensive presence of tamarisk and other exotic species) which includes a mixture of riparian and transitional and upland species. Within this setting, management of natural recruitment is considered the most appropriate method to establish native habitat over time. However, measures will be conducted as part of the enhancement effort to promote native plant establishment including (1) limited seeding (utilizing some species in the project seed mixes and collection and spread of seed collected onsite during maintenance activities), (2) scattered low-density planting (container plants and cuttings) during wet conditions to help establish small patches/"islands" of native plants (which can help promote more natural recruitment), (3) distribution of mulch (not

including non-native seed or propagules) to provide improved microhabitat conditions for native plant germination and establishment, and (4) regular periodic follow-up exotic plant control to reduce competition with native plants. Because of the existing grades, depth to groundwater, and sandy alluvial soils, implementation of a planting program and temporary irrigation system are not considered appropriate or a worthwhile use of resources in the proposed enhancement areas. Relying on natural recruitment and treating exotic species is considered the best approach to establish native vegetation adapted to the site that will be self-sustaining over time. Enhancement mitigation activities are scheduled to start at the beginning of the project concurrent with the initiation of Phase 1 activities. The enhancement areas after the initial five-year maintenance and monitoring period will be managed in perpetuity, consistent with the other project mitigation areas.

As previously discussed, the remainder of the temporary impact area within the mining phases not designated for habitat mitigation will be subject to reclamation. Based on planned habitat mitigation acreage for the mine project, a total of 112.48 acres of reclamation would be conducted. However, because 0.54 acre of southern willow scrub restoration mitigation required for previous golf course impacts is planned within post-mining Phase 1 area, total reclamation within the mining temporary impact area has been lessened from 112.48 acres to 111.94 acres.

Anticipated impacts, habitat mitigation, and reclamation anticipated at this time are presented by community in **Table 16**.

TABLE 16. VEGETATION COMMUNITIES, IMPACTS, AND MITIGATION (ACRES)

Habitat Type / Vegetation Community	Total Impacts	Mitigation Ratio ¹	Habitat Mitigation ²	Reclamation ²
Riparian and Wetlands				
Southern Cottonwood-willow Riparian Forest	0.00	3:1	0.00	12.43
Southern Willow Scrub	0.12	3:1	0.36	46.78
Tamarisk Scrub	41.81	3:1	125.43 ³	0.00
Non-Vegetated Channel	0.36	1:1	0.36 ⁴	8.55
<i>Subtotal</i>	<i>42.29</i>		<i>126.15</i>	<i>67.76</i>
Uplands				
Diegan Coastal Sage Scrub	3.61	2:1	7.22	44.72
Non-Native Grassland	86.55	0.5:1	43.27 ⁵	0.00
Eucalyptus Woodland	1.30	N/A	0.00	0.00
<i>Subtotal</i>	<i>91.46</i>		<i>50.49</i>	<i>44.72</i>

Habitat Type / Vegetation Community	Total Impacts	Mitigation Ratio ¹	Habitat Mitigation ²	Reclamation ²
Other Cover Types				
Disturbed Habitat	126.04	N/A	0.00	0.00
Developed	2.55	N/A	0.00	0.00
<i>Subtotal</i>	<i>128.59</i>		<i>0.00</i>	<i>0.00</i>
Totals⁶	262.34		176.64	112.48

¹ Habitat mitigation ratios (Outside of approved MSCP Plan areas) are provided from the County's Guidelines for Determining Significance for Biological Resources (September 2010).

² A combination of habitat mitigation and reclamation will occur within the temporary impact acreage (226.40 acres).

³ Tamarisk Scrub will be mitigated at a 3:1 ratio by a combination of restoration of native Riparian Forest and Riparian Scrub habitats within post-mining areas (62.71 acres; 1.5:1), and restoration of riparian and transitional habitat outside of mining limits but within the project site (62.72 acres, rounded up to 64.16 acres to address all riparian areas on-site; 1.5:1) via exotic plant removal and activities to promote native plant revegetation.

⁴ Non-Vegetated Channel will be mitigated by restoration of Vegetated Channel since it is expected the post-mining grades and conditions will support native plants in the channel.

⁵ Non-Native Grassland will be mitigated by restoration of Diegan Coastal Sage Scrub.

⁶ Due to rounding, totals may differ slightly from numbers in column.

- Upland habitat revegetation shall consist of high quality coastal sage scrub habitat. The upland habitat mitigation need is mostly due to projected impacts to non-native grassland habitat, which is dominated by non-native grasses and forbs, providing only low quality habitat. The restored coastal sage scrub will provide an important foraging and breeding resource for the coastal California gnatcatcher, which is known to be onsite. Providing high quality coastal sage scrub in this area is highly beneficial, as all of the habitat surrounding the project area is degraded due to past wildfires. The excess revegetation of riparian habitat, which is of higher value than non-native grassland, will address the remaining upland mitigation need. A summary of anticipated impacts, mitigation ratios, required mitigation, and actual restoration are provided in Table 16. Because the project area is outside of the Multiple Species Conservation Program (MSCP), mitigation ratios shall be based on Table 5 of the County of San Diego Guidelines for Determining Significance for areas outside of the MSCP (County 2010). Mitigation measures may be revised to be consistent with the BMO once the BLA request is approved. If the BLA is not approved, another process to amend the project area into the MSCP may be determined by the state and federal wildlife agencies.
- Mitigation (i.e., revegetation and reclamation) shall be implemented on a phase-by-phase basis. Project site revegetation/restoration activities will be implemented in a phased approach moving from east to west across the project site as mining is completed. The mined area shall be progressively restored and reclaimed on disturbed areas previously mined prior to initiation of mining on the next phase. Restoration and reclamation is an ongoing process that commences when mining operations have ceased within a given area (phase) and continues until all mining related disturbance is reclaimed and all equipment involved in these operations have been removed before moving onto the next phase. **Tables 17-21**

show the anticipated breakdown of habitat mitigation and reclamation acres by phase. An overall restoration plan shall be approved by the County prior to the initiation of Phase 1 mining operations, including invasive species removal outside of the mining limits. Individual 40-scale restoration plans will be prepared for each phase and approved prior to the initiation of mining for the phase. Once Phase 1 mining has been completed and prior to the second half of Phase 2 mining operations being initiated, Phase 1 revegetation/restoration shall be implemented including, but not limited to, final restoration grading/slope stabilization, salvaged top soil placement and amendment, container planting, hydro-seed application/imprinting, temporary irrigation, erosion control, fencing and signage. Partial grading/mining of the subsequent mining phase is required to create a safe means of access for equipment and personnel to the previously mined phase to facilitate initiation the above outlined restoration activities. Once the revegetation/restoration installation has been completed for a particular phase, it will be reviewed by the County for conformance with the approved Revegetation Plan and will trigger the beginning of the monitoring and reporting period. Restoration/revegetation activities may be further broken down into sub-phases at the discretion of the mine operator. Ongoing maintenance is required to manage invasive species and trespass and is not part of the revegetation/ restoration activities that must be completed prior to moving on to the next phase of mining, as it is an ongoing activity. Revegetation/restoration bonding is required by phase prior to phase mining and will be released upon the successful completion of the phase restoration/revegetation installation, as determined by the County.

To minimize temporal loss of habitat values, mitigation for the proposed mine project for impacts outside of the mining footprint (i.e., fuel modification zones and some trail segments) and mitigation for the previous golf course project impact will be mitigated within the post-mine Phase 1 area. In addition, proposed enhancement to 64.14 acres of riparian and transitional habitats (as part of mitigation for impacts to tamarisk scrub) will be initiated at the start the project and Phase 1 mining activities in areas outside the mining footprint.

TABLE 17. PROJECT IMPACTS AND MITIGATION FOR MINING PHASE 1

Habitat Type / Vegetation Community	Permanent ¹	Temporary	Total	Mitigation Ratio ²	Habitat Mitigation ³	Reclamation ³
Riparian and Wetlands						
Southern Cottonwood-willow Riparian Forest	0.00	0.00	0.00	3:1	0.00	0.00
Southern Willow Scrub	0.00	0.00	0.00	3:1	0.00	18.87
Tamarisk Scrub	0.80	11.55	12.35	3:1	37.05 ⁴	0.00
Non-Vegetated Channel	0.01	0.08	0.09	1:1	0.09 ⁵	1.76
<i>Subtotal</i>	<i>0.81</i>	<i>11.63</i>	<i>12.44</i>		<i>37.14</i>	<i>20.63</i>
Uplands						
Diegan Coastal Sage Scrub	0.97	1.77	2.74	2:1	5.48	13.13
Non-Native Grassland	4.41	16.85	21.26	0.5:1	10.63 ⁶	0.00
Eucalyptus Woodland	0.91	0.01	0.92	N/A	0.00	0.00
<i>Subtotal</i>	<i>6.29</i>	<i>18.63</i>	<i>24.92</i>		<i>16.11</i>	<i>13.13</i>
Other Cover Types						
Disturbed Habitat	9.08	46.54	55.62	N/A	0.00	0.00
Developed	0.00	0.00	0.00	N/A	0.00	0.00
<i>Subtotal</i>	<i>9.08</i>	<i>46.54</i>	<i>55.62</i>		<i>0.00</i>	<i>0.00</i>
Totals⁷	16.18	76.80	92.98		53.25	33.76

¹ Permanent impacts in Phase 1 are from the drop structure, trails, and two staging areas.

² Habitat mitigation ratios (Outside of approved MSCP Plan areas) are provided from the County's Guidelines for Determining Significance for Biological Resources (September 2010).

³ A combination of habitat mitigation and reclamation will occur within the temporary impact acreage (76.80 acres). The balance of 18.52 acres of mitigation for Tamarisk Scrub will occur through restoration of riparian and transitional habitat outside of mining limits but within the project site via exotic plant removal and activities to promote native plant revegetation. Mitigation for impacts outside of mining limits (trails and fuel modification zones) will be mitigated in Phase 1 and the reclamation acres (i.e., remaining temporary impact area) in this table account for this mitigation.

⁴ Tamarisk Scrub will be mitigated by a combination of restoration of native Riparian Forest and Riparian Scrub habitats within post-mining areas and restoration of riparian and transitional habitat outside of mining limits but within the project site via exotic plant removal and activities to promote native plant revegetation.

⁵ Non-Vegetated Channel will be mitigated by restoration of Vegetated Channel since it is expected the post-mining grades and conditions will support native plants in the channel.

⁶ Non-Native Grassland will be mitigated by restoration of Diegan Coastal Sage Scrub.

⁷ Due to rounding, totals may differ slightly from numbers in column.

TABLE 18. PROJECT IMPACTS AND MITIGATION FOR MINING PHASE 2

Habitat Type / Vegetation Community	Permanent ¹	Temporary	Total	Mitigation Ratio ²	Habitat Mitigation ³	Reclamation ³
Riparian and Wetlands						
Southern Cottonwood-willow Riparian Forest	0.00	0.00	0.00	3:1	0.00	0.00
Southern Willow Scrub	0.00	0.00	0.00	3:1	0.00	12.28
Tamarisk Scrub	0.10	12.79	12.89	3:1	38.67 ⁴	0.00
Non-Vegetated Channel	0.00	0.11	0.11	1:1	0.11 ⁵	2.18
<i>Subtotal</i>	<i>0.10</i>	<i>12.90</i>	<i>13.00</i>		<i>38.78</i>	<i>14.46</i>
Uplands						
Diegan Coastal Sage Scrub	0.00	0.00	0.00	2:1	0.00	9.23
Non-Native Grassland	0.07	17.65	17.72	0.5:1	8.86 ⁶	0.00
Eucalyptus Woodland	0.00	0.00	0.00	N/A	0.00	0.00
<i>Subtotal</i>	<i>0.07</i>	<i>17.65</i>	<i>17.72</i>		<i>8.86</i>	<i>9.23</i>
Other Cover Types						
Disturbed Habitat	0.05	21.45	21.50	N/A	0.00	0.00
Developed	0.00	0.00	0.00	N/A	0.00	0.00
<i>Subtotal</i>	<i>0.05</i>	<i>21.45</i>	<i>21.50</i>		<i>0.00</i>	<i>0.00</i>
Totals⁷	0.22	52.00	52.22		47.64	23.69

¹ Permanent impacts in Phase 2 are from the trails.

² Habitat mitigation ratios (Outside of approved MSCP Plan areas) are provided from the County's Guidelines for Determining Significance for Biological Resources (September 2010).

³ A combination of habitat mitigation and reclamation will occur within the temporary impact acreage (52.00 acres).

⁴ Tamarisk Scrub will be mitigated by a combination of restoration of native Riparian Forest and Riparian Scrub habitats within post-mining areas and restoration of riparian and transitional habitat outside of mining limits but within the project site via exotic plant removal and activities to promote native plant revegetation.

⁵ Non-Vegetated Channel will be mitigated by restoration of Vegetated Channel since it is expected the post-mining grades and conditions will support native plants in the channel.

⁶ Non-Native Grassland will be mitigated by restoration of Diegan Coastal Sage Scrub.

⁷ Due to rounding, totals may differ slightly from numbers in column.

TABLE 19. PROJECT IMPACTS AND MITIGATION FOR MINING PHASE 3

Habitat Type / Vegetation Community	Permanent¹	Temporary	Total	Mitigation Ratio²	Habitat Mitigation³	Reclamation³
Riparian and Wetlands						
Southern Cottonwood-willow Riparian Forest	0.00	0.00	0.00	3:1	0.00	12.43
Southern Willow Scrub	0.00	0.00	0.00	3:1	0.00	5.24
Tamarisk Scrub	0.02	3.76	3.78	3:1	11.34 ⁴	0.00
Non-Vegetated Channel	0.00	0.03	0.03	1:1	0.03 ⁵	2.86
<i>Subtotal</i>	<i>0.02</i>	<i>3.79</i>	<i>3.81</i>		<i>11.37</i>	<i>20.53</i>
Uplands						
Diegan Coastal Sage Scrub	0.00	0.00	0.00	2:1	0.00	8.37
Non-Native Grassland	0.19	25.81	26.00	0.5:1	13.00 ⁶	0.00
Eucalyptus Woodland	0.00	0.00	0.00	N/A	0.00	0.00
<i>Subtotal</i>	<i>0.19</i>	<i>25.81</i>	<i>26.00</i>		<i>13.00</i>	<i>8.37</i>
Other Cover Types						
Disturbed Habitat	0.14	18.00	18.14	N/A	0.00	0.00
Developed	0.00	0.00	0.00	N/A	0.00	0.00
<i>Subtotal</i>	<i>0.14</i>	<i>18.00</i>	<i>18.14</i>		<i>0.00</i>	<i>0.00</i>
Totals⁷	0.35	47.60	47.95		24.37	28.90

¹ Permanent impacts in Phase 3 are from the trails.

² Habitat mitigation ratios (Outside of approved MSCP Plan areas) are provided from the County's Guidelines for Determining Significance for Biological Resources (September 2010).

³ A combination of habitat mitigation and reclamation will occur within the temporary impact acreage (47.60 acres).

⁴ Tamarisk Scrub will be mitigated by a combination of restoration of native Riparian Forest and Riparian Scrub habitats within post-mining areas and restoration of riparian and transitional habitat outside of mining limits but within the project site via exotic plant removal and activities to promote native plant revegetation.

⁵ Non-Vegetated Channel will be mitigated by restoration of Vegetated Channel since it is expected the post-mining grades and conditions will support native plants in the channel.

⁶ Non-Native Grassland will be mitigated by restoration of Diegan Coastal Sage Scrub.

⁷ Due to rounding, totals may differ slightly from numbers in columns.

TABLE 20. PROJECT IMPACTS AND MITIGATION FOR MINING PHASE 4

Habitat Type / Vegetation Community	Permanent ¹	Temporary	Total	Mitigation Ratio ²	Habitat Mitigation ³	Reclamation ³
Riparian and Wetlands						
Southern Cottonwood-willow Riparian Forest	0.00	0.00	0.00	3:1	0.00	0.00
Southern Willow Scrub	0.00	0.00	0.00	3:1	0.00	10.39
Tamarisk Scrub	0.02	10.70	10.72	3:1	32.16 ⁴	0.00
Non-Vegetated Channel	0.00	0.13	0.13	1:1	0.13 ⁵	1.75
<i>Subtotal</i>	<i>0.02</i>	<i>10.83</i>	<i>10.85</i>		<i>32.29</i>	<i>12.14</i>
Uplands						
Diegan Coastal Sage Scrub	0.00	0.28	0.28	2:1	0.56	13.99
Non-Native Grassland	0.08	14.12	14.20	0.5:1	7.10 ⁶	0.00
Eucalyptus Woodland	0.00	0.07	0.07	N/A	0.00	0.00
<i>Subtotal</i>	<i>0.08</i>	<i>14.47</i>	<i>14.55</i>		<i>7.66</i>	<i>13.99</i>
Other Cover Types						
Disturbed Habitat	0.14	24.70	24.84	N/A	0.00	0.00
Developed	0.00	0.00	0.00	N/A	0.00	0.00
<i>Subtotal</i>	<i>0.14</i>	<i>24.70</i>	<i>24.84</i>		<i>0.00</i>	<i>0.00</i>
Totals⁷	0.24	50.00	50.24		39.95	26.13

¹ Permanent impacts in Phase 4 are from the trails.

² Habitat mitigation ratios (Outside of approved MSCP Plan areas) are provided from the County's Guidelines for Determining Significance for Biological Resources (September 2010).

³ A combination of habitat mitigation and reclamation will occur within the temporary impact acreage (50.00 acres).

⁴ Tamarisk Scrub will be mitigated by a combination of restoration of native Riparian Forest and Riparian Scrub habitats within post-mining areas and restoration of riparian and transitional habitat outside of mining limits but within the project site via exotic plant removal and activities to promote native plant revegetation.

⁵ Non-Vegetated Channel will be mitigated by restoration of Vegetated Channel since it is expected the post-mining grades and conditions will support native plants in the channel.

⁶ Non-Native Grassland will be mitigated by restoration of Diegan Coastal Sage Scrub.

⁷ Due to rounding, totals may differ slightly from numbers in column.

TABLE 21. PROJECT IMPACTS AND MITIGATION FOR AREAS OUTSIDE MINING PHASES (PERMANENT)

Habitat Type/Vegetation Community	Trails Outside Mining Phases	Fuel Mod Zones Outside Mining Phases	Total	Mitigation Ratio ¹	Habitat Mitigation ²
Riparian and Wetlands					
Southern Cottonwood-willow Riparian Forest	0.00	0.00	0.00	3:1	0.00
Southern Willow Scrub	0.02	0.10	0.12	3:1	0.36
Tamarisk Scrub	0.58	1.49	2.07	3:1	6.21 ³
Non-Vegetated Channel	0.00	0.00	0.00	1:1	0.00
<i>Subtotal</i>	<i>0.60</i>	<i>1.59</i>	<i>2.19</i>		<i>6.57</i>
Uplands					
Diegan Coastal Sage Scrub	0.27	0.32	0.59	2:1	1.18
Non-Native Grassland	2.90	4.47	7.37	0.5:1	3.68 ³
Eucalyptus Woodland	0.04	0.27	0.31	N/A	0.00
<i>Subtotal</i>	<i>3.21</i>	<i>5.06</i>	<i>8.27</i>		<i>4.86</i>
Other Cover Types					
Disturbed Habitat	3.30	2.64	5.94	N/A	0.00
Developed	0.01	2.54	2.55	N/A	0.00
<i>Subtotal</i>	<i>3.31</i>	<i>5.18</i>	<i>8.49</i>		<i>0.00</i>
Totals⁴	7.12	11.83	18.95		11.43

¹ Habitat mitigation ratios (Outside of approved MSCP Plan areas) are provided from the County's Guidelines for Determining Significance for Biological Resources (September 2010).

² Mitigation for impacts outside of mining phases will occur within the post-mining Phase 1 area.

³ Tamarisk Scrub will be mitigated by a combination of restoration of native Riparian Forest and Riparian Scrub habitats within post-mining areas and restoration of riparian and transitional habitat outside of mining limits but within the project site via exotic plant removal and activities to promote native plant revegetation.

⁴ Non-Native Grassland will be mitigated by restoration of Diegan Coastal Sage Scrub.

⁵ Due to rounding, totals may differ slightly from numbers in column.

- Temporary fencing shall be installed as necessary during all mining, reclamation, and restoration activities to protect sensitive habitat, including Mature Riparian Woodland, from unauthorized incursion into areas outside the limits of disturbance. In addition, clear signage shall be installed, stating the fenced area is a sensitive habitat area and to keep out.
- To protect the habitat mitigation area in the long term, the entirety of the revegetation and enhancement areas shall be protected in perpetuity by placing a Biological Open Space Easement over the revegetation and enhancement areas (Figure 17). At this time, it is anticipated that once the four proposed mining phases are complete, the entirety of the areas proposed for mitigation, including the revegetation and enhancement areas that totals 176.64 acres, (1) will be transferred in fee title to a qualified land steward (non-profit) conservancy so that it may be maintained and managed in perpetuity for biological values, and (2) an easement will be recorded. It is understood, as standard measures, that a Biological Open Space Easement will be recorded for the mitigation areas and a long-term manager will be identified/established (and habitat management funds provided) for designated project habitat mitigation areas. It is the intent of the property owner to transfer these areas to a non-profit/conservancy group prior to the completion of the habitat mitigation restoration.
- An RMP will be prepared for the 176.64 acres of mitigation/enhancement areas designated as Biological Open Space Conservation (Figure 17). The RMP will be prepared in accordance with the County's Report Format and Content Requirements for Biological Resources and approved by the County of San Diego and Wildlife Agencies (CDFW and USFWS).
- Permanent fencing and signage shall be installed around the perimeter of the Biological Open Space Easement as proposed in Figure 17. Adjustments to the fencing details (e.g., the type and final location of fencing) would be determined upon finalization of the Revegetation Plan.

MM-BIO9: Mature riparian woodland, as defined by the County RPO. Mature Riparian Woodland and a 50-foot buffer beyond the canopy of trees shall be avoided during preconstruction clearing, grubbing, and/or grading, and during mining activities. This shall be accomplished by having a qualified Project Biologist onsite prior to the start of the project to delineate and protect the Mature Riparian Woodland with temporary construction fencing to avoid incursion during preconstruction clearing, grubbing, and/or grading, and during mining activities. In addition, potential indirect impacts from dust coming from the nearby temporary haul road would be mitigated to a level below significant through the application of an environmentally-friendly water-based polymer binding agent, AggreBind® and use of a water truck, as discussed in MM-BIO5.

MM-BIO10: Jurisdictional resources. Direct impacts to jurisdictional wetlands and waters shall be mitigated through implementation of the Reclamation Plan and Revegetation Plan, resulting in habitat creation and restoration of higher

quality than the habitat that is being impacted. Impacts to riparian resources shall be mitigated at a 3:1 ratio. A summary of anticipated impacts, mitigation ratios, and required mitigation are provided in **Table 22**. Impacts to non-vegetated streambed/non-wetland waters shall be mitigated at a 1:1 ratio. Mitigation ratios shall be based on the requirements in the County's *Guidelines for Determining Significance* (County 2010a) for areas outside of the MSCP, and may be modified by finalization of the BLA process as discussed in Appendix K, or other process as determined by the state and federal wildlife agencies.

TABLE 22. MITIGATION FOR IMPACTS RELATED TO JURISDICTIONAL RESOURCES (ACRES)

Jurisdictional Resource	Impacts	Mitigation Ratio ¹	Required Mitigation
Riparian (CDFW and County)	41.46	3:1	124.38
Non-vegetated Streambed/Non-Wetland Waters (CDFW and USACE)	0.36	1:1	0.36

¹ Wetland mitigation shall include a minimum 1:1 creation or restoration (re-establishment) component, while restoration (rehabilitation) or enhancement of existing habitats may be used to make up the remaining requirements.

Additionally, federal (Section 401 and 404 of the Clean Water Act) and state permits (Section 1600 of the CFGC) require permits for impacts to jurisdictional resources. The project will comply with these regulations and pursue permitting for potential impacts to 41.46 acres of riparian habitat regulated by CDFW, and 0.36 impacts of non-vegetated streambed and non-wetland waters regulated by USACE and CDFW). Final mitigation requirements for impacts to jurisdictional resources will be determined through the permitting process.

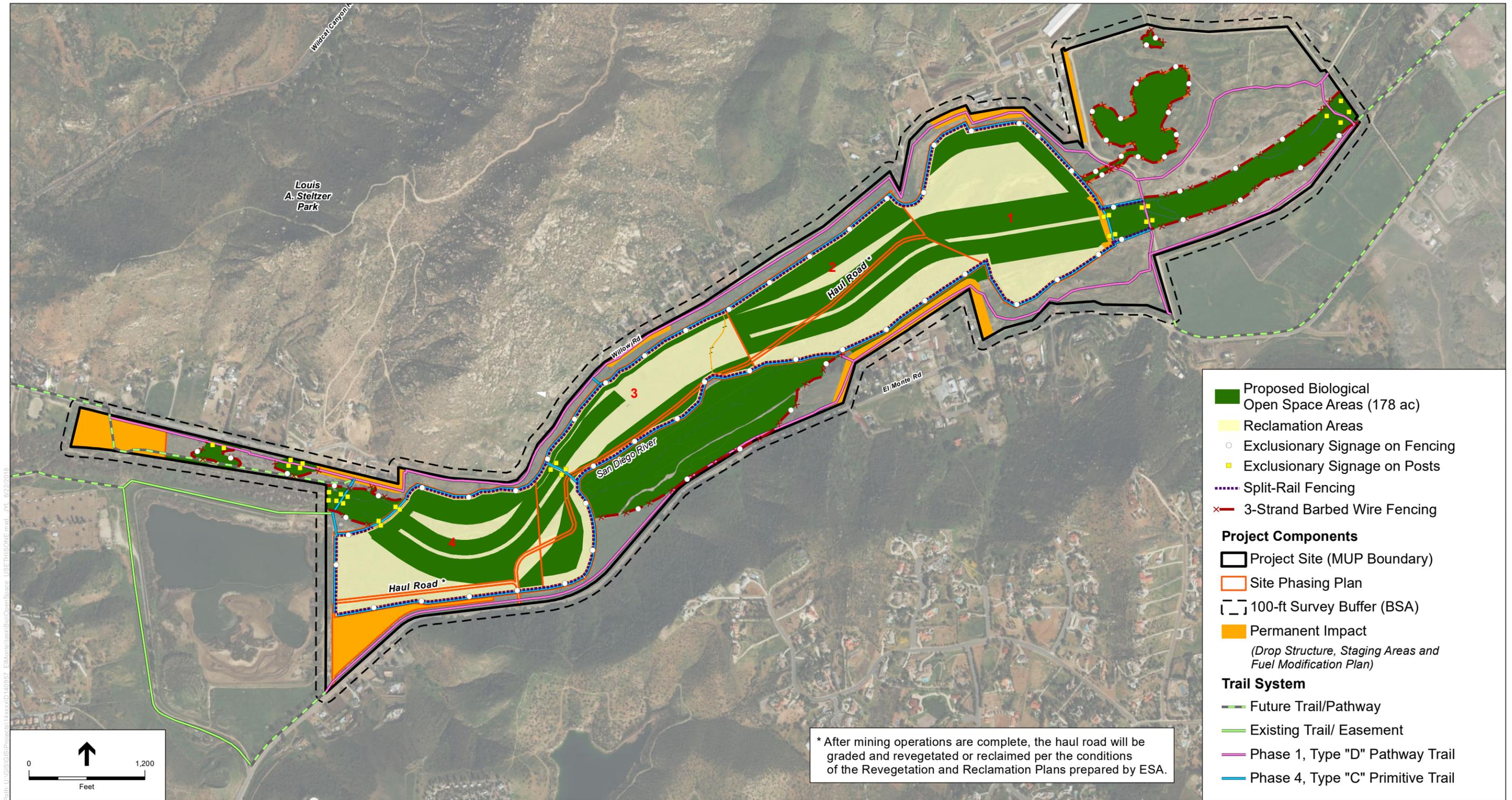
MM-BIO11: Groundwater resources.

Impacts to groundwater shall be mitigated by removing the Helix Water District Well HWD-101 from production, thereby reducing total demand by about 250 afy and balancing future project demand with annual recharge.

4.5 Conclusions

Potentially significant impacts include direct permanent and temporary impacts to sensitive vegetation communities as a result of implementation of the project. Temporary impacts to southern willow scrub, southern cottonwood willow riparian forest, tamarisk scrub, non-vegetated channel, Diegan coastal sage scrub, non-native grasslands, and Mature Riparian Woodland would occur as a result project construction, through the direct loss of habitat during mining, and creation of trails and fuel management zones. Mining activities would be phased and revegetated once mining is complete, thus habitats that would be temporarily lost during mining would be replaced and mitigated at required ratios, resulting in an increase in the amount of habitat and the quality of habitats. The implementation of design considerations and mitigation for riparian habitat and sensitive natural communities according to County guidelines would compensate for impacts.

This page left intentionally blank



This page left intentionally blank

5. FEDERAL WETLANDS

The *County of San Diego Guidelines for Determining Significance for Biological Resources* was used to evaluate adverse environmental effects the project may have on jurisdictional wetlands and waterways, specifically Section 4.3 (County 2010a). Guidelines for the determination of significance and an analysis of project effects for jurisdictional wetlands and waterways is provided below.

5.1 Guidelines for the Determination of Significance

The project would have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.

The significance thresholds below are based on Sections 4.1.B, 4.1.C, and 4.1.E, as described in the *County Guidelines*. Note that this section refers to *federal* wetlands only; therefore, the text has been revised accordingly. These thresholds are numbered 5.1.B, 5.1.C and 5.1.E for consistency with *County Guidelines*.

5.1.B. Any of the following would occur to or within jurisdictional wetlands and/or riparian habitats as defined by the USACE: removal of vegetation; grading; obstruction or diversion of water flow; adverse change in velocity, siltation, volume of flow, or runoff rate; placement of fill; placement of structures; construction of a road crossing; placement of culverts or other underground piping; any disturbance of the substratum; and/or any activity that may cause an adverse change in native species composition, diversity and abundance.

5.1.C. The proposed project would draw down the groundwater table to the detriment of groundwater-dependent habitat, typically a drop of three feet or more from historical low groundwater levels.

5.1. E. The proposed project does not include a wetland buffer adequate to protect the functions and values of existing wetlands. If the proposed project is subject to RPO, buffers of a minimum of 50 feet and a maximum of 200 feet to protect wetlands are required based on the best available science available to the County at the time of adoption of the ordinance. The following examples provide guidance on determining appropriate buffer widths:

- A 50-foot wetland buffer would be appropriate for lower quality RPO wetlands where the wetland has been assessed to have low physical and chemical functions, vegetation is not dominated by hydrophytes, soils are not highly erosive and slopes do not exceed 25 percent.
- A wetland buffer of 50 to 100 feet is appropriate for moderate to high-quality RPO wetlands which support a predominance of hydrophytic vegetation or wetlands within steep slope areas (greater than 25 percent) with highly erosive soils. Within the 50- to 100-foot range, wider buffers

are appropriate where wetlands connect upstream and downstream, where the wetlands serve as a local wildlife corridor, or where the adjacent land use(s) would result in substantial edge effects that could not be mitigated.

- Wetland buffers of 100 to 200 feet are appropriate for RPO wetlands within regional wildlife corridors or wetlands that support significant populations of wetland-associated sensitive species or where stream meander, erosion, or other physical factors indicate a wider buffer is necessary to preserve wildlife habitat.
- Buffering of greater than 200 feet may be necessary when a RPO wetland is within a regional corridor or supports significant populations of wetland-associated sensitive species and lies adjacent to land use(s) that could result in a high degree of edge effects within the buffer. Although the RPO stipulates a maximum of 200 feet for RPO wetland buffers, actions may be subject to other laws and regulations (such as the Endangered Species Act) that require greater wetland buffer widths.

5.2 Analysis of Project Effects

5.2.B The project would result in direct impacts to 0.36 acre of non-wetland waters of the United States, including 0.35 acre of temporary impact and 0.01 acre of permanent impact, through removal of vegetation, grading, placement of temporary structures (including a drop structure for erosion control, portable processing plant, temporary power lines, weigh scales, and modular scale house), excavation to a maximum of 35 feet below the current surface, and placement of fill to create a bench around the mined pit. In permitting projects, the USACE seeks to meet the goal of no net loss of functions and values of wetlands and would require at a minimum the restoration of disturbed areas to original contours and a revegetation program to restore jurisdictional areas disturbed by the proposed project. ***With implementation of Mitigation Measures MM-BIO5 through MM-BIO10, the direct impacts to jurisdictional wetlands and/or riparian habitats as defined by USACE would be less than significant.***

5.2.C Under the current general plan for the undeveloped land within the BSA, average groundwater withdrawal of the unmitigated proposed project is expected to be about 2,350 afy. Estimated groundwater demand from evaporative losses in the mining pit is estimated to average about 250 afy when water is standing in the pit (AECOM 2017). The proposed Project is also expected to impact groundwater-dependent habitat (AECOM 2017). ***With implementation of measure MM-BIO11, impacts to groundwater-dependent riparian habitat or other natural communities due to draw down of the groundwater table are less than significant.***

5.2.E The RPO conditionally allows impacts to wetland habitats (per Section 86.605, which describes exemptions for sand, gravel or mineral extraction projects), if certain mitigation measures are met. One of measures states that “Mature Riparian Woodland may not be destroyed or reduced in size due to sand, gravel, or mineral extraction.” A total of 8.45 acres of habitat that meets the RPO’s definition of Mature Riparian Woodland was mapped within the project area. The current project was designed to avoid this area. Mining operations would result in an elevational disconnection of the existing low flow channel between upstream mining areas (Phases 1 and 2) and the Mature Riparian Woodland. Low flow runoff channels within the Mature Riparian Woodland would remain and connect with downstream areas (Phases 3 and 4). Due to infrequent overtopping of the El Capitan Reservoir, alluvial soils (highly permeable) and hydrology conditions on-site, above-ground channel flow rarely occurs. Precipitation infiltration (including subsurface runoff from adjacent uplands) and groundwater are the primary hydrology inputs supporting the Mature Riparian Woodland; which generally includes phreatophytic plant species (plants that depend for their water supply upon ground water that lies within reach of their roots) in the midstory and overstory (e.g., willow and cottonwood), and riparian transitional and upland species in the understory. There is currently limited natural recruitment of younger willow and cottonwood age classes. Since precipitation infiltration and groundwater conditions would not be changed in this preserved area, the Mature Riparian Woodland habitat would not be significantly impacted by mining activities.

The proposed mining haul road would traverse north of the Mature Riparian Woodland, outside the 50-foot buffer around the habitat. Measures to protect the Mature Riparian Woodland from mining activities include preserve boundary marking (e.g., flagging or fencing), contractor education, erosion control measures (including fiber rolls and silt fencing), dust control (e.g., through the use of water trucks), and mulching of disturbed surfaces (not including the haul road drive surface).

To provide protection of the functions and values of existing wetlands, the RPO requires an adequate wetland buffer that would protect the environmental and functional habitat values of the wetlands. The buffer must be 50 to 200 feet wide, as measured from the edge of the wetland habitat, based on guidance given by the County (2010a). The mapped Mature Riparian Woodland areas include a buffer of 50 feet from the edge of the tree canopy, which provides a wetland buffer function. This buffer width is consistent with County guidelines, which state “A 50-foot wetland buffer would be appropriate for lower quality RPO wetlands where the wetland has been assessed to have low physical and chemical functions, vegetation is not dominated by hydrophytes, soils are not highly erosive and slopes do not exceed 25%.”

In addition, allowable impacts to existing wetland habitats would be mitigated onsite through revegetation of riparian habitats. ***With implementation of Mitigation Measures MM-BIO5, MM-BIO6, and MM-BIO7, and avoidance of Mature Riparian Woodland, impacts to the functions and values of existing wetlands would be less than significant.***

5.3 Cumulative Impact Analysis

At least eleven of the Cumulative Projects identified in Table 14 occur in undeveloped, open space areas. Project-specific information would be required to determine the presence of federally protected wetlands on these sites; if they do occur, potential direct impacts to wetlands may include removal of vegetation, grading, placement of temporary structures, and fill. While the project would impact 0.36 acre of federally protected wetlands, the mitigation identified in Section 8.0 would reduce potentially significant impacts to below a level of significance. Therefore, the proposed project would not contribute considerably to cumulative biological impacts and cumulative impacts to jurisdictional wetlands and waterways would not be considered significant.

5.4 Mitigation Measures and Design Considerations

Implementation of design considerations and measures MM-BIO5 through MM-BIO7 discussed in Section 3.4, and MM-BIO8 and MM-BIO10 discussed in Section 4.4, would be implemented to avoid/minimize potential impacts to jurisdictional wetlands and waterways.

Additionally, impacts to regulated waters, including non-wetland waters of the United States and federal wetlands, would require the following permitting with the regulatory agencies (USACE, CDFW, and RWQCB) that may also require mitigation.

5.5 Conclusions

Potentially significant impacts to non-wetland waters of the United States and federal wetlands would occur as a result of project implementation through direct vegetation removal, as previously discussed in Section 4.5. However, the area would be reclaimed and revegetated with higher quality self-sustaining wetlands and riparian habitats, through implementation of mitigation measures MM-BIO5 through MM-BIO 7, and MM-BIO10, and associated permitting requirements. The implementation of design considerations and mitigation for jurisdictional wetlands and waterways according to County guidelines would compensate for impacts.

6. WILDLIFE MOVEMENT AND NURSERY SITES

The *County of San Diego Guidelines for Determining Significance for Biological Resources* was used to evaluate adverse environmental effects the project may have on wildlife movement and nursery sites, specifically Section 4.4 (County 2010a). Guidelines for the determination of significance and an analysis of project effects for jurisdictional wetlands and waterways is provided below.

6.1 Guidelines for the Determination of Significance

The project would 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.

Any of the following conditions would be considered significant:

- A. The project would prevent wildlife access to foraging habitat, breeding habitat, water sources, or other areas necessary for their reproduction.
- B. The project would substantially interfere with connectivity between blocks of habitat, or would potentially block or substantially interfere with a local or regional wildlife corridor or linkage. For example, if the project proposes roads that cross corridors, fencing that channels wildlife to underpasses located away from the interchanges would be required to provide connectivity. Wildlife underpasses shall have dimensions (length, width, height) suitable for passages by the affected species based on a site-specific analysis movement. Another example is increased traffic on an existing road that would result in significant road-kill or interference with an existing wildlife corridor/linkage.
- C. The project would create artificial wildlife corridors that do not follow natural movement patterns. For example, constraining a corridor for mule deer or mountain lion to an area that is not well-vegetated or that runs along the face of a steep slope instead of through the valley or along the ridgeline.
- D. The project would increase noise and/or nighttime lighting in a wildlife corridor or linkage to levels proven to affect the behavior of the animals identified in a site-specific analysis of wildlife movement.
- E. The project does not maintain an adequate width for an existing wildlife corridor or linkage and/or would further constrain an already narrow corridor through activities such as (but not limited to) reduction of corridor width, removal of available vegetative cover, placement of incompatible uses adjacent to it, and placement of barriers in the movement path. The adequacy of the width shall be based on the biological information for the target species, the quality of habitat within and adjacent to the corridor, topography and adjacent land uses. Where there is limited topographic relief, the corridor should be well-vegetated and adequately buffered from adjacent development. Where there is limited topographic relief, the

corridor should be well-vegetated and adequately buffered from adjacent development. Corridors for bobcats, deer, and other large animals should reach rim-to-rim along drainages.

- F. The project does not maintain adequate visual continuity (i.e., long lines-of-site) within wildlife corridors or linkage. For example, development (such as homes or structures) sited along the rim of a corridor could present a visual barrier to wildlife movement. For stepping-stone/archipelago corridors, a project does not maintain visual continuity between habitat patches.

6.2 Analysis of Project Effects

6.2.A The project would temporarily limit wildlife access to actively mined portions the site, which could affect wildlife movement and breeding. However, to reduce the magnitude of the temporary habitat loss, these effects would be limited to a small portion of the project area at any given time, as the project would proceed in four phases during the 12-year mining activity. As each phase is completed, it would be reclaimed (e.g., the landscape would be stabilized and revegetated), before the next phase would be initiated. As the vegetation begins to grow back within reclaimed areas, it would become suitable to provide cover, forage, and breeding opportunities for wildlife. As such, most of the project area would be available for wildlife use at any given time for the duration of the proposed project. In addition, because much of the surrounding land area is rural or undeveloped, wildlife could still move east to west by moving around the active area. ***With implementation of Mitigation Measures MM-BIO1, MM-BIO2, MM-BIO3, and MM-BIO12, direct impacts to wildlife access to foraging habitat, breeding habitat, water sources, or other areas necessary for reproduction would be less than significant.***

6.2.B Portions of the project site where active mining operations are occurring may temporarily interfere with connectivity between blocks of habitat or block local linkages. As discussed previously, to reduce the magnitude of this loss of available movement corridors, these impacts would be limited to a small portion of the project area at any given time as the project would proceed in four phases and most of the project area would be available while each phase is being constructed. The only area where a block in the linkage may take place during the duration of the project is at the primary staging/access area. Use of the primary staging/access area for mining operations, including daily ingress/egress approximately 231 trucks, would create a barrier to wildlife crossing this portion of the project area and may increase incidences of road kill as well as indirect effects on wildlife movement and behavior. However, mining operations would generally occur only during daylight hours, when most wildlife would not be expected to be active (e.g., peak wildlife movement occurs one hour after dawn and one hour prior to dusk). Therefore, an increase in wildlife mortality due to increased truck traffic during daylight hours would not be expected. Additionally, reclamation and revegetation of the mined areas, which would be conducted one

phase at a time, would eventually result in higher quality habitat that can serve as a local or regional wildlife corridor linkage post mining. ***The project would not substantially interfere with local or regional wildlife corridor linkages; therefore, impacts to wildlife movement would be less than significant.***

6.2.C The project would not create artificial wildlife corridors that do not follow natural movement patterns; therefore, the project would not result in associated impacts to wildlife movement.

6.2.D Noise and vibrations from construction and mining machinery would occur during mining operations, soil excavation, vehicle ingress and egress, and brush-removal, which have the potential to indirectly affect wildlife movement in the vicinity of the project area during the day and would be considered significant. Although there would be no mining operations during the night, nighttime lighting would be installed for safety reasons. The lighting would be shielded and designed to minimize glare and reflection; thus, it is not expected significantly interfere with local wildlife behavior. ***With implementation of Mitigation Measures MM-BIO1, MM-BIO2, and MM-BIO3, indirect impacts to wildlife movement would be less than significant.***

6.2.E The project may temporarily affect east-west wildlife movement along the existing river channel during excavation. However, during construction, wildlife would be able to move along the undeveloped upland setback of 150 to 300 feet that would be established along the northern and southern project boundaries. In addition, since excavation would occur in phases, north-west movement would not be impeded. Further, once the excavation has been completed, 99 percent of the mining area would be reclaimed and revegetated, providing higher quality habitat with better vegetative cover for the movement of wildlife. It is not expected these impacts would be significant. ***With implementation of Mitigation Measures MM-BIO1, MM-BIO2, MM-BIO3, and MM-BIO12, direct impacts to wildlife movement due to inadequate corridor/linkage width is less than significant.***

6.2.F Once the project area has been completed and revegetated, there would be no obstructions to line-of-sight as there are no permanent structures that would prevent visual continuity within wildlife corridors or linkages. Therefore, with implementation of Mitigation Measures MM-BIO1, MM-BIO2, MM-BIO3, and MM-BIO10, indirect impacts to wildlife movement due to inadequate visual connectivity is less than significant.

6.3 Cumulative Impact Analysis

At least eleven of the Cumulative Projects identified in Table 14 occur in undeveloped, open space areas that may function as wildlife movement corridors or linkages. However, it was determined that the proposed project would not significantly impact wildlife movement and nursery sites, thus the proposed project would not contribute to cumulative impacts to wildlife movement corridors

and nursery sites. Therefore, the proposed project would not contribute considerably to cumulative biological impacts and cumulative impacts to wildlife movement and nursery sites would not be considered significant.

6.4 Mitigation Measures and Design Considerations

In addition to measures described in Sections 3.4 and 4.4, the following measures specific to avoiding potential impacts to wildlife movement shall be implemented.

MM-BIO12: Wildlife movement. To ensure the area remains accessible to wildlife upon completion of the project, any fencing that is installed around the project area during the reclamation process shall be three strand, post-and-rail, or other type that allows for movement of terrestrial wildlife.

6.5 Conclusions

Potentially significant, temporary project impacts limiting wildlife movement during mining would occur. However, reclamation and revegetation would be implemented after mining activities are completed. As discussed in Section 3.5 and 4.5, mitigation measures and project design considerations including habitat mitigation to increase the amount of habitat to support movement and wildlife nursery sites would compensate for impacts. The implementation of design considerations and mitigation for special-status species (Section 3.4) and riparian habitat and sensitive natural communities (Section 4.4) according to County guidelines would compensate for impacts.

7. LOCAL POLICIES, ORDINANCES, AND ADOPTED PLANS

The *County of San Diego Guidelines for Determining Significance for Biological Resources* was used to evaluate adverse environmental effects the project may have on local policies, ordinances, and adopted plans, specifically Section 4.5 (County 2010a). Guidelines for the determination of significance and an analysis of project effects for local policies, ordinances, and adopted plans, are provided below.

7.1 Guidelines for the Determination of Significance

The project would conflict with one or more local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance, and/or would conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

Any of the following conditions would be considered significant:

- A. For lands outside of the MSCP, the project would impact coastal sage scrub vegetation in excess of the County's 5 percent habitat loss threshold as defined by the *Southern California Coastal Sage Scrub NCCP Process Guidelines*.
- B. The project would preclude or prevent the preparation of the subregional NCCP process. For example, the project proposes development within areas that have been identified by the County or resource agencies as critical to future habitat preserves.
- C. The project will impact any amount of wetlands or sensitive habitat lands as outlined in the RPO.
- D. The project would not minimize and/or mitigate coastal sage scrub habitat loss in accordance with Section 4.3 of the *Southern California Coastal Sage Scrub NCCP Process Guidelines*.
- E. The project does not conform to the goals and requirements as outlined in any applicable HCP, Habitat Management Plan, Special Area Management Plan, Watershed Plan, or similar regional planning effort.
- F. For lands within the MSCP, the project would not minimize impacts to Biological Resource Core Areas (BRCAs), as defined in the County of San Diego Biological Mitigation Ordinance (BMO).
- G. The project would preclude connectivity between areas of high habitat values, as defined by the *Southern California Coastal Sage Scrub NCCP Process Guidelines*.
- H. The project does not maintain existing movement corridors and/or habitat linkages as defined by the BMO.
- I. The project does not avoid impacts to MSCP narrow endemic species and would impact core populations of narrow endemics.

- J. The project would reduce the likelihood of survival and recovery of listed species in the wild.
- K. The project would result in the killing of migratory birds or destruction of active migratory bird nests and/or eggs (MBTA).
- L. The project would result in the take of eagles, eagle eggs, or any part of an eagle (Bald and Golden Eagle Protection Act).

7.2 Analysis of Project Effects

7.2.A The project area contains 10.38 acres of poor quality coastal sage scrub, of which 3.61 acres, or 35 percent, would be impacted (see Table 16). It should be noted that this significance is addressed for the current project status as not being within the MSCP. However as addressed in Section 1.5.3, a BLA (or other process approved by the state and federal wildlife agencies) is being proposed for this project and under the MSCP, these impacts would be significant. The project proposes to restore 50.49 acres of coastal sage scrub – a significant increase beyond the minimum 2:1 mitigation ratio, which requires a minimum of 7.22 acres of mitigation for 3.61 acres of impact. ***With implementation of MM-BIO6 through MM-BIO8, the direct loss of coastal sage scrub would be consistent with the Southern California Coastal Sage Scrub NCCP Process Guidelines.***

7.2.B The project is not currently covered by a subregional NCCP plan, and would therefore, not result in development within an area identified as critical to future habitat preserves pursuant to an NCCP. However, the project is currently being proposed in a BLA request (or other process determined by the state and federal wildlife agencies) to be added to the MSCP. While the project area is dominated by habitats generally supporting non-native vegetation, the proposed BLA provides an opportunity to contribute to habitat and covered species goals of the County Subarea Plan. In addition, the San Diego River and associated alluvial sand habitat within the BLA area represent areas of high biological value, providing habitat for several sensitive species and, in the case of the San Diego River corridor, representing a vital habitat linkage in the County. Also, the proposed BLA would improve upon the existing configuration of the County Subarea Plan's PAMA by filling a large portion of an existing "doughnut hole" within the PAMA and increasing connectivity among existing preserve areas. Overall, based on the analysis herein, the proposed BLA would have a net benefit to the MSCP Subregional Plan and County Subarea Plan. ***Therefore, the project would not preclude or prevent the preparation of the subregional NCCP process.***

7.2.C As discussed in Section 1.5.3, the project includes design features to avoid/minimize impacts to biological resources. With implementation of Mitigation Measures MM-BIO8, MM-BIO9, and MM-BIO10, would meet the exemption requirements of the RPO. Thus, no impacts to sensitive habitat lands outlined in the RPO are expected. In addition, a total of nine oak trees occur within the

proposed mining area. Three of these oak trees would be preserved in place, while six would be removed. To mitigate for projected impacts to six mature oak trees, oaks would be planted and established as part of the project revegetation program (ESA 2018c). Impacts to oak trees would not be considered significant.

The project would result in direct impacts to 0.36 acre of non-wetland waters of the United States, including 0.35 acre of temporary impact and 0.01 acre of permanent impact, through removal of vegetation, grading, placement of temporary structures (including a drop structure for erosion control, portable processing plant, temporary power lines, weigh scales, and modular scale house), excavation to a maximum of 35 feet below the current surface, and placement of fill to create a bench around the mined pit. In permitting projects, the USACE seeks to meet the goal of no net loss of functions and values of wetlands and would require at a minimum the restoration of disturbed areas to original contours and a revegetation program to restore jurisdictional areas disturbed by the proposed project. With implementation of Mitigation Measures MM-BIO5 through MM-BIO10, the direct impacts to jurisdictional wetlands and/or riparian habitats as defined by USACE would be less than significant. **Thus, the project impacts any amount of wetlands or sensitive habitat lands as outlined in the RPO would be less than significant.**

7.2.D As noted in Section 1.4.2, coastal sage scrub habitat quality on the site is marginal as many of the patches are highly disturbed and support a high abundance of non-native grasses and forbs. With implementation of the Revegetation Plan, mitigation and enhancement for impacted habitat in addition to reclamation will increase overall habitat value for the project area and contribute to connectivity of habitats with a higher value. The project proposes to restore 50.49 acres of coastal sage scrub – a significant increase beyond the minimum 2:1 mitigation ratio, which requires a minimum of 7.22 acres of mitigation for 3.61 acres of impact. **Therefore, the project would mitigate coastal sage scrub habitat loss in accordance with Section 4.3 of the Southern California Coastal Sage Scrub NCCP Process Guidelines.**

7.2.E The project is not currently covered by an HCP, Habitat Management Plan, or Special Area Management Plan. As addressed in Section 1.5.3, a BLA is being proposed for this project and in order for the BLA (or other process determined by the state and federal wildlife agencies) to be approved, this project would be required to conform to the goals and requirements outlined in the MSCP. **Therefore, the project would not conflict with the goals and requirements as outlined in any applicable HCP, Habitat Management Plan, Special Area Management Plan, Watershed Plan, or similar regional planning effort.**

7.2.F The project area occurs within Lake Jennings/Wildcat Canyon Biological Resource Core Area (County of San Diego 1997). As discussed in Section 6.2, although impacts to movement and linkages within this Biological Resource Core Area would occur, reclamation and revegetation of the mined areas would

eventually result in higher quality habitat that can serve as a local or regional wildlife corridor linkage post mining. During project construction, noise levels would only be increased during daytime hours when most wildlife would not be expected to be active (e.g., peak wildlife movement occurs one hour after dawn and one hour prior to dusk) and temporary nighttime lighting that would be installed at the facility for safety purposes would be shielded away from adjacent native habitats, and thus is not anticipated to affect breeding or foraging behavior of wildlife moving through the area. Post project implementation, habitat linkages and existing movement corridors would be maintained, and vegetative cover would be increased, thus increasing the overall width of the linkage and habitat quality available to wildlife within the project area. Visual continuity would be maintained. **Thus, impact to BRCAs would be minimized as defined in the County of San Diego Biological Mitigation Ordinance (BMO).**

7.2.G As addressed in Section 1.5.3, a BLA is being proposed for this project and in order for the BLA (or other process determined by the state and federal wildlife agencies) to be approved, this project would be required to conform to the goals and requirements outlined in the MSCP and would be required to maintain movement corridors and habitat linkages as defined in the County BMO. At this time, there are no known habitat corridor or linkage studies demonstrating connectivity between off-site regions of high-quality coastal sage scrub, but this project would not preclude connectivity between areas of high value that contain coastal sage scrub. As noted in Section 1.4.2, coastal sage scrub habitat quality on the site is marginal as many of the patches are highly disturbed and support a high abundance of non-native grasses and forbs. With implementation of the Revegetation Plan, mitigation and enhancement for impacted habitat in addition to reclamation will increase overall habitat value for the project area and contribute to connectivity of habitats with a higher value. **Therefore, the project would preclude connectivity between areas of high habitat values, as defined by the Southern California Coastal Sage Scrub NCCP Process Guidelines.**

7.2.H As discussed in Section 6.2, portions of the project site where active mining operations are occurring may temporarily interfere with connectivity between existing movement corridors and/or habitat linkages as defined by the BMO. As discussed previously, to reduce the magnitude of this loss of available movement corridors, these impacts would be limited to a small portion of the project area at any given time as the project would proceed in four phases and most of the project area would be available while each phase is being constructed. The only area where a block in the linkage may take place during the duration of the project is at the primary staging/access area. Use of the primary staging/access area for mining operations, including daily ingress/egress approximately 231 trucks, would create a barrier to wildlife crossing this portion of the project area and may increase incidences of road kill as well as indirect effects on wildlife movement and behavior. However, mining operations would generally occur only during daylight hours, when most wildlife would not be expected to be active (e.g., peak wildlife movement occurs one hour after dawn

and one hour prior to dusk). Therefore, an increase in wildlife mortality due to increased truck traffic during daylight hours would not be expected. Additionally, reclamation and revegetation of the mined areas, which would be conducted one phase at a time, would eventually result in higher quality habitat that can serve as a local or regional wildlife corridor linkage post mining. **Thus, the project would maintain existing movement corridors and/or habitat linkages as defined by the BMO.**

7.2.I One narrow endemic species, Palmer's goldenbush, does occur within the project area. There would be no direct impacts to this species due to its location within Mature Riparian Woodland, an impact neutral area that would not be subject to any construction or mining activities. Potential indirect impacts to this species from fugitive dust during mining activity would be avoided through application of AggreBind® and regular use of a water truck along the haul road. **Therefore, the project would avoid impacts to MSCP narrow endemic species and would not impact core populations of narrow endemics.**

7.2.J The project could affect federally listed least Bell's vireo and California gnatcatcher. Mitigation measures would be implemented to avoid grading or vegetation removal during the breeding season for nesting birds, which would cover the breeding season for these species. Also, the current condition of the habitat is poor (high cover of invasive species, low native species diversity, etc.). Mitigation for loss of suitable habitat for these species would result in an overall increase in habitat quality and acreage of suitable habitat. **Thus, the project is not expected to reduce the likelihood of survival and recovery of these species in the wild, because with implementation of MM-BIO1 through MM-BIO3, and MM-BIO6 through MM-BIO8, impacts during the breeding season would be minimized and restored habitat would be more extensive and higher quality than current conditions (see Section 3.4).**

7.2.K Implementation of Mitigation Measures MM-BIO1, MM-BIO2, MM-BIO3, and MM-BIO7, would avoid the killing of migratory birds or destruction of active migratory bird nests and/or eggs. **Therefore, the project is consistent with the Migratory Bird Treaty Act.**

7.2.L The project would not result in the take of eagles, eagle eggs, or any part of an eagle. **Therefore, the project is consistent with the Bald and Golden Eagle Protection Act.**

7.3 Cumulative Impact Analysis

Projects considered within the vicinity of the proposed project would contribute to cumulative impacts to sensitive plants, wildlife, and habitats. Based on a Google Earth analysis of an overlay of MSCP layers onto the Cumulative Project sites identified in Table 14, fourteen of the total 24 projects occur within the County's MSCP Plan boundaries and have/would comply with local policies and ordinances such as the County guidelines (County of San Diego 2008) and

MSCP/Biological Mitigation Ordinance, and most would comply with the RPO. These projects have/would incorporate avoidance, minimization, and mitigation measures following guidelines provided in these local policies. Of the remaining projects (Cumulative Projects 15 through 24), eight occur within the City of Santee. Of the remaining two, one occurs within the City of San Diego and the other occurs within the City of El Cajon. These projects would have to comply with the local policies, ordinances, and adopted conservation plans of these jurisdictions.

The proposed project similarly would comply with the County local policies, and ordinances, as is being processed for an MUP permit. Additionally, at this time the proposed project site is not within the MSCP but is currently being proposed to be incorporated into the MSCP via a BLA (or other process determined by the state and federal wildlife agencies) which requires full compliance with the MSCP. This project is not expected to cumulative contribute to impacts of non-compliance with local policies, ordinances, and adopted conservation plans.

7.4 Mitigation Measures and Design Considerations

The project does not conflict with any local policies or ordinances protecting biological resources; thus, no mitigation would be required for impacts associated within noncompliance with local policies or ordinances.

7.5 Conclusions

The project complies with local policies, ordinances, and plans and would implement mitigation in accordance with these policies/ordinances/plans. Potential project impacts to coastal sage scrub and other sensitive habitats, as discussed in Sections 3.2, 4.2, 5.2, and 6.2, would be considered significant. As discussed in Sections 3.5, 4.5, 5.5, and 6.5, mitigation measures and project design considerations would compensate for impacts according to the goals and requirements of County guidelines (County of San Diego 2010a), by mitigating impacts to sensitive species and habitats below a level of significance.

8. SUMMARY OF PROJECT IMPACTS AND MITIGATION

A summary of acreages associated with project impacts and proposed mitigation is provided in **Table 23** below. In addition, **Table 23** includes the 0.18 acre of impacts to tamarisk scrub, a sensitive vegetation community, from the 2005 golf course grading (outside the proposed mine impact area) and mitigation which has been incorporated in this Revegetation Plan. Mitigation is proposed for impacts to southern cottonwood-willow riparian forest, southern willow scrub, non-vegetated channel, and Diegan coastal sage scrub. **Table 24** below provides specific detail on mitigation that would be implemented. Note that the restoration plan was designed to provide high quality habitat that is compatible with the post-project topography and hydrology. As such, some of the temporarily impacted habitat would be mitigated out-of-kind (i.e., with a different, but higher quality habitat type). This revegetation would result in a net increase in high quality native habitat acreage onsite and improve overall native habitat quality and functions. In addition, all of the habitat mitigation would be protected in perpetuity with a Biological Open Space Easement or similar instrument approved by the resource agencies, and managed in perpetuity. Post-restoration long-term management would be conducted in accordance with the Long-Term Management Plan (to be prepared and approved by the County and resource agencies), and funding for the long-term management would be provided by the applicant in the form of a non-wasting endowment held by an appropriate third party financial institution.

TABLE 23. TOTAL PROJECT IMPACTS TO VEGETATION COMMUNITIES AND MITIGATION

Habitat Type / Vegetation Community	Mining Phases 1-4		Trails Outside Mining Phases (Perm)	Fuel Mod Zones Outside Mining Phases (Perm)	Total Impacts	Mitigation Ratio ²	Habitat Mitigation ³	Revegetation ³
	Perm ¹	Temp						
Riparian and Wetlands								
Southern Cottonwood-willow Riparian Forest	0.00	0.00	0.00	0.00	0.00	3:1	0.00	12.43
Southern Willow Scrub	0.00	0.00	0.02	0.10	0.12	3:1	0.36	46.78
Tamarisk Scrub	0.94	38.80	0.58	1.49	41.81	3:1	125.43 ⁴	0.00
Non-Vegetated Channel	0.01	0.35	0.00	0.00	0.36	1:1	0.36 ⁵	8.55
<i>Subtotal</i>	<i>0.95</i>	<i>39.15</i>	<i>0.60</i>	<i>1.59</i>	<i>42.29</i>		<i>126.15</i>	<i>67.76</i>
Uplands								
Diegan Coastal Sage Scrub	0.97	2.06	0.27	0.32	3.61	2:1	7.22	44.72
Non-Native Grassland	4.75	74.44	2.90	4.47	86.55	0.5:1	43.27 ⁶	0.00
Eucalyptus Woodland	0.91	0.08	0.04	0.27	1.30	N/A	0.00	0.00
<i>Subtotal</i>	<i>6.63</i>	<i>76.58</i>	<i>3.21</i>	<i>5.06</i>	<i>91.46</i>		<i>50.49</i>	<i>44.72</i>
Other Cover Types								
Disturbed Habitat	9.40	110.68	3.30	2.64	126.04	N/A	0.00	0.00
Developed	0.00	0.00	0.01	2.54	2.55	N/A	0.00	0.00
<i>Subtotal</i>	<i>9.40</i>	<i>110.68</i>	<i>3.31</i>	<i>5.18</i>	<i>128.59</i>		<i>0.00</i>	<i>0.00</i>
Mine Project Totals⁷	16.99	226.40	7.12	11.83	262.34		176.64	112.48
2005 Golf Course Totals					0.18⁸	3:1⁸	0.54⁸	(-0.54)⁸
TOTAL					262.52		177.18	111.94 to

¹ Permanent impacts within the mining phases are from the drop structure and trails.

² Habitat mitigation ratios (Outside of approved MSCP Plan areas) are provided from the County's Guidelines for Determining Significance for Biological Resources (September 2010).

³ A combination of habitat mitigation and reclamation will occur within the temporary impact acreage (226.40 acres).

⁴ Tamarisk Scrub will be mitigated at a 3:1 ratio by a combination of restoration of native Riparian Forest and Riparian Scrub habitats within post-mining areas (62.71 acres; 1.5:1), and restoration of riparian and transitional habitat outside of mining limits but within the project site (62.72 acres, rounded up to 64.16 acres to address all riparian areas on-site; 1.5:1) via exotic plant removal and activities to promote native plant revegetation.

⁵ Non-Vegetated Channel will be mitigated by restoration of Vegetated Channel since it is expected the post-mining grades and conditions will support native plants in the channel.

⁶ Non-Native Grassland will be mitigated by restoration of Diegan Coastal Sage Scrub.

⁷ Due to rounding, totals may differ slightly from numbers in column.

⁸ Grading in 2005 from the previously approved golf course project that was halted temporarily impacted 0.18 acre of disturbed riparian scrub (tamarisk scrub). The planned golf course cart path crossing of the river associated with this grading was not ultimately constructed. This is the only impact to a sensitive vegetation community outside of the planned mine project footprint that requires mitigation. This riparian habitat shall be mitigated at a 3:1 replacement ratio in accordance with the County's Guidelines for Determining Significance for Biological Resources (September 2010) by conducting 0.54 acre of southern willow scrub restoration in mining Phase 1. The golf course mitigation will occur where mine project riparian scrub reclamation would have occurred, therefore, overall planned reclamation will be reduced by 0.54 acre and riparian habitat reclamation will total 46.24 acres instead of 46.78 acres.

TABLE 24. SUMMARY OF MITIGATION MEASURES

Mitigation Measure	Proposed Mitigation	Level of Significance after Mitigation	Guideline Number(s)
MM-BIO1	<p>Raptors and nesting birds covered by MBTA.</p> <p>1) To avoid and minimize impacts to nesting coastal California gnatcatchers, least Bell's vireo, raptors and other birds protected by the Migratory Bird Treaty Act, vegetation removal and grading shall occur outside of the nesting bird season (February 1 through August 31). Note that no gravel crushing is required to process the materials extracted from the site; therefore, noise levels would be lower than those typically associated with mining activities. If the breeding season cannot be avoided, the follow measures shall be implemented:</p> <ul style="list-style-type: none"> a. During the avian breeding season, a qualified Project Biologist shall conduct a preconstruction avian nesting survey no more than 72 hours prior to vegetation disturbance or site clearing. Surveys need not be conducted for the entire project area at one time; they shall be phased so that surveys occur shortly before a portion of the site is disturbed. If construction begins in the non-breeding season and proceed continuously into the breeding season, no surveys shall be required. However, if there is a break of 3-5 days or more in construction and mining activities during the breeding season, a new nesting bird survey shall be conducted before these activities begin again. b. The preconstruction survey shall cover all suitable bird nesting habitat on and within 300 feet, and all suitable raptor nesting habitat on and within 500 feet, of areas anticipated to be impacted in the near term. If an active nest is found during the preconstruction avian nesting survey, a qualified Project Biologist shall implement a 300-foot minimum avoidance buffer for coastal California gnatcatcher, least Bell's vireo, and other passerine birds, and a 500-foot minimum avoidance buffer for all raptor species. The nest site area shall not be disturbed until the nest becomes inactive or the young have fledged. <p>2) A preconstruction survey for burrowing owl will be conducted in accordance with Section 3.4.1 "Pre-grading Survey" of the <i>Strategy for Mitigating Impacts to Burrowing Owls in the Unincorporated County</i> (Burrowing Owl Strategy; County of San Diego 2010b). If burrowing owls are detected during the preconstruction survey within 300-feet of proposed grading, a translocation plan will be developed and finalized in coordination with the County and the wildlife agencies (USFWS and CDFW). Grading will not occur within 300-feet of an active owl burrow until the young have fledged and are no longer dependent on the burrow. Grading closer than 300 feet may occur within written concurrence from the wildlife agencies and the County Mitigation Monitoring Coordinator; the distance will depend on the burrow's location in relation to the site's topography and other physical and biological characteristics. In addition, mitigation for impacts to habitat would be required as outlined in the Burrowing Owl Strategy.</p>	Below Significance	3.1A through 3.1C, 3.1L

Mitigation Measure	Proposed Mitigation	Level of Significance after Mitigation	Guideline Number(s)
MM-BIO2	Least Bell's vireo. In accordance with the project's Revegetation Plan, direct impacts to suitable habitat for the state and federally endangered least Bell's vireo shall be mitigated at a minimum of 3:1 ratio through the restoration of southern willow scrub habitat.	Below Significance	3.1A and 3.1B, 4.1A
MM-BIO3	Coastal California gnatcatcher. In accordance with the project's Revegetation Plan, direct impacts to California gnatcatcher-occupied habitat shall be mitigated at a minimum 2:1 ratio through restoration. Restoration may include a combination of in-kind restoration (i.e., coastal sage scrub habitat restored to coastal sage scrub habitat) and out-of-kind restoration (i.e., non-native grassland habitat restored to coastal sage scrub habitat).	Below Significance	3.1A and 3.1B, 4.1A
MM-BIO4	<p>1) A focused herpetofaunal mitigation plan shall be developed and implemented by a qualified biologist to address potential direct and indirect impacts to glossy snake and other amphibian and reptile state Species of Special Concern. The mitigation plan shall include the following measures to be implemented:</p> <ul style="list-style-type: none"> a. Trapping and collection of herpetofaunal species shall be conducted prior to any site preparation and mining activities (Appendix J). Once the herpetofaunal species are collected, they shall be relocated and set free outside of mining boundaries in the eastern portion of the project site, east of Dairy Road. They shall be marked to track the success of this action over time; the mitigation plan would include detail on the specific methodology of the marking study. b. Exclusionary fencing shall be installed along the project disturbance footprint to preclude special-status herpetofaunal species from moving back into the site. The focused mitigation plan shall include specifications for installing, monitoring, and repairing the fencing to maintain its function and integrity throughout the duration of construction and mining activities. c. Preconstruction surveys for herpetofaunal shall be conducted by a qualified biologist no more than 10 days prior to initiation of excavation activities associated with site preparation and sand mining activities in those specified areas of the project site. Surveys may not need to be conducted for the entire of the project site at once; they may be phased so that surveys occur in portions of the project before excavation occurs (Appendix J). <p>Overburden excavated and collected during site preparation and mining activities shall be moved (to the maximum extent feasible) to the eastern portion of the site, outside of the mining limits, to improve the habitat for herpetofaunal species at the release location for the project site, particularly as fill into some of the previously excavated areas in the eastern portion of the site where limited species observations have been documented (Appendix J).</p>		

Mitigation Measure	Proposed Mitigation	Level of Significance after Mitigation	Guideline Number(s)
MM-BIO5	<p>Mining Best Management Practices (BMPs) and oversight. A qualified Project Biologist shall be responsible for monitoring the limits of construction and mining activity, mitigation measures, design considerations, and project conditions during all phases of the project. The Project Biologist shall conduct the following:</p> <ul style="list-style-type: none"> • Attend the preconstruction meeting with the contractor and other key construction personnel prior to clearing, grubbing, or grading. • Conduct worker training prior to all phases of construction; this shall include meetings with the contractor and other key construction personnel to explain the limits of disturbance, which shall be delineated with temporary construction fencing with clear signage stating the fenced area is a sensitive habitat area and to keep out, and the importance of restricting work to designated areas prior to clearing, grubbing, or grading. Discussions shall include procedures for minimizing harm to or harassment of wildlife encountered during construction and mining activities prior to clearing, grubbing, and/or grading. • Conduct pre-construction clearance surveys to detect the presence of nesting birds, burrowing owls, and other sensitive terrestrial wildlife species, such as coast horned lizard, glossy snake, orange-throated whiptail, and two-striped garter snake. The Project Biologist shall use their discretion in ensuring impacts to any sensitive wildlife observed during pre-construction clearance surveys are avoided (e.g., avoidance buffers, relocation from harm's way, etc.). • Be present onsite to monitor initial vegetation clearing, grubbing, and grading to ensure that mitigation measures are being appropriately followed, including restricting activity to delineated construction areas and avoiding impacts to breeding birds. • Periodically monitor the limits of construction and mining operations as needed throughout the life of the project to avoid unintended direct and indirect impacts by ensuring that: • Confirm construction and mining activity boundaries are marked (e.g., delineated with temporary fencing and sensitive habitat signage) and not breached; • Monitor Mature Riparian Woodland areas to confirm they are protected from incursion with installation of temporary construction fencing and sensitive habitat signage. Also confirm that the slopes at the edge of protected Mature Riparian Woodland habitat are not eroding, and that appropriate erosion control measures, such as fiber rolls, blankets, gravel bags, etc., are installed; • Water roads and grading areas regularly to minimize dust; • Implement pertinent requirements that address erosion and runoff, including the federal Clean Water Act, National Pollution Discharge Elimination System (NPDES), and Stormwater Pollution Prevention Plan (SWPPP); and • Prepare a post-construction monitoring report for submittal to the County of San Diego. The report shall substantiate the supervision of the clearing, grubbing, and/or grading activities, and shall provide a final assessment of biological impacts. 	Below Significance	3.1A through 3.1C

Mitigation Measure	Proposed Mitigation	Level of Significance after Mitigation	Guideline Number(s)
MM-BIO6	<p>Reclamation Plan implementation oversight. A qualified Restoration Ecologist shall be designated to oversee implementation of the Reclamation Plan (as it pertains to site preparation, erosion control, hydro seeding, and soil stabilization). The Restoration Ecologist shall have at least 5 years of experience monitoring successful native habitat restoration projects in Southern California, including all habitat types that shall be restored onsite. In addition, the Restoration Ecologist shall:</p> <ul style="list-style-type: none"> • Attend all relevant construction meetings. • Have the authority to redirect construction and maintenance crews in keeping with the goals, objectives, and performance standards of the final Reclamation Plan. • Approve the seed palette used for hydro seeding. • Regularly monitor reclamation activities to determine if and how remedial actions should be conducted, if needed, for observed issues such as sedimentation and erosion. 	Below Significance	3.1A through 3.1C, 3.1F through 3.1G, 3.1H, 4.1A,4.1B
MM-BIO7	<p>Revegetation Plan implementation and oversight. A Revegetation Plan shall be implemented to guide and ensure successful revegetation/creation of self-sustaining riparian and upland habitats, which would serve as mitigation for impacts to native vegetation communities. In contrast to the Reclamation Plan, which focuses on landform and soil stabilization, the focus of the Revegetation Plan is to restore the ecological functions and values of the impacted habitats. The Revegetation Plan shall include:</p> <ul style="list-style-type: none"> • Sufficient restoration or creation of habitat to fulfill the mitigation obligations described in MM-BIO8 (Section 4.4). • The planting plan shall be designed to ensure that the appropriate restored/created habitat is suitable for the coastal California gnatcatcher and least Bell's vireo, and allows for local and regional wildlife movement (e.g., appropriate width and vegetative cover). • The planting design shall also include adequate wetland buffers (100 to 200 feet wide, measured from the edge of wetland habitat). • A native planting palette appropriate for each vegetation type being mitigated and appropriate to local conditions. • Irrigation for upland and wetland habitat types for the first 2 to 3 years. Irrigation should be removed during the final 2 years of restoration to ensure that the habitat is self-sustaining. • A 120-day plant establishment period plus five-year restoration maintenance period (or until success criteria are met). • Qualitative and quantitative monitoring methods to ensure that success criteria are met. • Five-year maintenance methods. • Success criteria for establishment period and years 1–5. • Responsibilities and qualifications of restoration and maintenance contractor(s) and restoration ecologist. • Description of annual reporting. 	Below Significance	3.1A through 3.1C, 3.1F through 3.1G, 3.1H, 4.1A, 4.1B

Mitigation Measure	Proposed Mitigation	Level of Significance after Mitigation	Guideline Number(s)
MM-BIO8	<p>Sensitive vegetation communities.</p> <ul style="list-style-type: none"> In order to be consistent with the Southern California Coastal Sage Scrub NCCP guidelines, direct impacts to more than 5 percent of the coastal sage scrub onsite (i.e., impacts to more than 0.52 acre) shall be avoided. Avoidance shall be targeted at those patches of coastal sage scrub in which a California gnatcatcher was observed during the 2015 surveys. Direct impacts to sensitive vegetation communities shall be mitigated through implementation of the Reclamation Plan and Revegetation Plan. The Revegetation Plan shall be designed to provide high quality habitat that is compatible with the post-project topography and hydrology. As such, some of the temporarily impacted habitat shall be mitigated out-of-kind (i.e., with a different, but higher quality habitat type), resulting in a net gain of native habitat acreage onsite and improve overall native habitat quality and functions. Revegetation mitigation will occur in areas currently supporting non-vegetated channel (will be revegetated as vegetated channel), southern willow scrub, tamarisk scrub (will be revegetated as native cottonwood-willow riparian forest and riparian scrub), coastal sage scrub, and non-native grassland (will be revegetated as coastal sage scrub) (Table 16 and Figure 7). Based on mitigation replacement ratios and projected impacts for the mine project, a total of 126.15 acres of riparian/wetland habitat is required to be revegetated (restored) or enhanced (plus 0.54 acre of riparian habitat restored for the previous golf course project for a total 126.69 acres); and 50.49 acres of upland habitat is required to be revegetated (restored) to mitigate for temporary and permanent impacts. <p>Based on input from the County, the proposed mitigation for impacts to tamarisk scrub includes restoration of native riparian habitat within post-mining areas and enhancement and restoration of riparian and transitional habitat outside of mining limits. This approach would improve habitat more comprehensively within the project site and improve the functions and sustainability of habitat restoration mitigation areas onsite. Riparian/wetland habitat restoration will consist of high quality vegetated channel (0.36 acre) planted within the channel, cottonwood-willow and transitional species dominated riparian forest (46.43 acres) planted along the edges of the channel for a width of up to 300 feet, and riparian scrub habitat dominated by mule fat along with scattered willows and transitional species (17.18 acres [16.64 acres for the mine project + 0.54 acre for the previous golf course project]) within the excavated mining pit (basin) and lower slopes. The planted riparian forest mitigation (i.e., 46.43 acres) and the majority of riparian scrub mitigation (i.e., 16.28 acres for the mine project + 0.54 acre for the golf course project) will provide mitigation within post-mining areas for impacts to tamarisk scrub habitat. An additional 0.54 acre of southern willow scrub mitigation will occur as mitigation for the previously approved golf course project impact in 2005 to 0.18 acre of disturbed riparian (tamarisk scrub).</p> <p>As previously discussed, the required balance of mitigation for tamarisk scrub for the mine project (i.e., 62.72 acres) will be accomplished by enhancing and restoring 64.16 acres of riparian and transitional habitat that include invasive exotic species within the project site outside of mining limits. Because all remaining riparian habitats onsite are included in the planned enhancement along with some adjacent transitional habitats (i.e., to establish contiguous enhancement area), the planned enhancement area has been rounded up to 64.16 acres (relative to the 62.72- acre requirement). The enhancement of 64.16 acres of riparian and transitional habitat will include initial removal of target exotics, follow-up monitoring and maintenance treatments annually for five years</p>	Below Significance	3.1F through 3.1G, 4.1A, 4.1B

Mitigation Measure	Proposed Mitigation	Level of Significance after Mitigation	Guideline Number(s)
	<p>as needed, and measures to promote native plant revegetation including limited seeding and scattered planting. Removal of exotic species will be conducted with hand-tools (shovels, chain-saws, etc.) along with follow-up application of herbicide to kill exotic plant specimens. No vehicular equipment will be driven into the river bed. Maintenance personnel will walk into the enhancement areas, cut exotic vegetation, and carry it in pieces to nearby vehicles (e.g., pickup trucks) or dumpsters located along project access routes and/or disturbed upland staging areas. Exotic plant biomass will then be hauled to an approved green waste facility. Exotic vegetation will be either dug out with shovels (if specimens are small enough and the root system can be effectively removed), or cut within one foot of the ground surface. Cut stems/stumps will then be treated with herbicide. Based on input from County staff during an August 16, 2017 site visit, the removal of large exotics such as eucalyptus trees which provide screening for adjacent residences on the south side of the river should be removed in a phased approach so that sufficient screening with vegetation is provided (e.g., with existing vegetation and new native plant growth) during the enhancement and restoration program.</p> <p>The existing riparian and transitional habitat areas that will be enhanced lack typical riparian habitat hydrology and are similar to alluvial fan scrub habitat (except for the extensive presence of tamarisk and other exotic species) which includes a mixture of riparian and transitional and upland species. Within this setting, management of natural recruitment is considered the most appropriate method to establish native habitat over time. However, measures will be conducted as part of the enhancement effort to promote native plant establishment including (1) limited seeding (utilizing some species in the project seed mixes and collection and spread of seed collected onsite during maintenance activities), (2) scattered low-density planting (container plants and cuttings) during wet conditions to help establish small patches/"islands" of native plants (which can help promote more natural recruitment), (3) distribution of mulch (not including non-native seed or propagules) to provide improved microhabitat conditions for native plant germination and establishment, and (4) regular periodic follow-up exotic plant control to reduce competition with native plants. Because of the existing grades, depth to groundwater, and sandy alluvial soils, implementation of a planting program and temporary irrigation system are not considered appropriate or a worthwhile use of resources in the proposed enhancement areas. Relying on natural recruitment and treating exotic species is considered the best approach to establish native vegetation adapted to the site that will be self-sustaining over time. Enhancement mitigation activities are scheduled to start at the beginning of the project concurrent with the initiation of Phase 1 activities. The enhancement areas after the initial five-year maintenance and monitoring period will be managed in perpetuity, consistent with the other project mitigation areas.</p> <p>As previously discussed, the remainder of the temporary impact area within the mining phases not designated for habitat mitigation will be subject to reclamation. Based on planned habitat mitigation acreage for the mine project, a total of 112.48 acres of reclamation would be conducted. However, because 0.54 acre of southern willow scrub restoration mitigation required for previous golf course impacts is planned within post-mining Phase 1 area, total reclamation within the mining temporary impact area has been lessened from 112.48 acres to 111.94 acres.</p>		

Mitigation Measure	Proposed Mitigation	Level of Significance after Mitigation	Guideline Number(s)
	<ul style="list-style-type: none"> • Upland habitat revegetation shall consist of high quality coastal sage scrub habitat. The upland habitat mitigation need is mostly due to projected impacts to non-native grassland habitat, which is dominated by non-native grasses and forbs, providing only low quality habitat. The restored coastal sage scrub will provide an important foraging and breeding resource for the coastal California gnatcatcher, which is known to be onsite. Providing high quality coastal sage scrub in this area is highly beneficial, as all of the habitat surrounding the project area is degraded due to past wildfires. The excess revegetation of riparian habitat, which is of higher value than non-native grassland, will address the remaining upland mitigation need. A summary of anticipated impacts, mitigation ratios, required mitigation, and actual restoration are provided in Table 16. Because the project area is outside of the Multiple Species Conservation Program (MSCP), mitigation ratios shall be based on Table 5 of the County of San Diego Guidelines for Determining Significance for areas outside of the MSCP (County 2010). • Mitigation (i.e., revegetation and reclamation) shall be implemented on a phase-by-phase basis. Project site revegetation/restoration activities will be implemented in a phased approach moving from east to west across the project site as mining is completed. The mined area shall be progressively restored and reclaimed on disturbed areas previously mined prior to initiation of mining on the next phase. Restoration and reclamation is an ongoing process that commences when mining operations have ceased within a given area (phase) and continues until all mining related disturbance is reclaimed and all equipment involved in these operations have been removed before moving onto the next phase. Tables 17-21 show the anticipated breakdown of habitat mitigation and reclamation acres by phase. An overall restoration plan shall be approved by the County prior to the initiation of Phase 1 mining operations, including invasive species removal outside of the mining limits. Individual 40-scale restoration plans will be prepared for each phase and approved prior to the initiation of mining for the phase. Once Phase 1 mining has been completed and prior to the second half of Phase 2 mining operations being initiated, Phase 1 revegetation/restoration shall be implemented including, but not limited to, final restoration grading/slope stabilization, salvaged top soil placement and amendment, container planting, hydro-seed application/imprinting, temporary irrigation, erosion control, fencing and signage. Partial grading/mining of the subsequent mining phase is required to create a safe means of access for equipment and personnel to the previously mined phase to facilitate initiation of the above outlined restoration activities. Once the revegetation/restoration installation has been completed for a particular phase, it will be reviewed by the County for conformance with the approved Revegetation Plan and will trigger beginning of the monitoring and reporting period. Restoration/revegetation activities may be further broken down into sub-phases at the discretion of the mine operator. Ongoing maintenance is required to manage invasive species and trespass and is not part of the revegetation/ restoration activities that must be completed prior to moving on to the next phase of mining, as it is an ongoing activity. Revegetation/restoration bonding is required by phase prior to phase mining and will be released upon the successful completion of the phase restoration/revegetation installation, as determined by the County. <p>To minimize temporal loss of habitat values, mitigation for the proposed mine project for impacts outside of the mining footprint (i.e., fuel modification zones and some trail segments) and mitigation for the previous golf course project impact will be mitigated within the post-mine Phase 1 area. In addition, proposed enhancement</p>		

Mitigation Measure	Proposed Mitigation	Level of Significance after Mitigation	Guideline Number(s)
	<p>to 64.14 acres of riparian and transitional habitats (as part of mitigation for impacts to tamarisk scrub) will be initiated at the start the project and Phase 1 mining activities in areas outside the mining footprint.</p> <ul style="list-style-type: none"> the Temporary fencing shall be installed as necessary during all mining, reclamation, and restoration activities to protect sensitive habitat, including Mature Riparian Woodland, from unauthorized incursion into areas outside the limits of disturbance. In addition, clear signage shall be installed, stating the fenced area is a sensitive habitat area and to keep out. Permanent fencing shall be installed around the perimeter of protected open space upon completion of the project; however, fencing details (e.g., the type and exact location of fencing) are yet to be determined. To protect the habitat mitigation area in the long term, the entire mitigation site shall be protected in perpetuity by placing a Biological Open Space Easement or other protective instrument over the property (Figure 17). In addition, this easement area shall be managed in perpetuity according to the long-term management plan prepared for this project and approved by resource agencies; long-term management shall be funded by a non-wasting endowment established by the project applicant on a phase-by-phase basis. 		
MM-BIO9	<p>Mature riparian woodland, as defined by the County RPO. Mature Riparian Woodland and a 50-foot buffer beyond the canopy of trees shall be avoided during preconstruction clearing, grubbing, and/or grading, and during mining activities. This shall be accomplished by having a qualified Project Biologist onsite prior to the start of the project to delineate and protect the Mature Riparian Woodland with temporary construction fencing to avoid incursion during preconstruction clearing, grubbing, and/or grading, and during mining activities. In addition, to control fugitive dust from the ingress and egress of trucks along the haul route, which is located at the norther perimeter of the Mature Riparian Woodland, water trucks shall be used along the haul route during all clearing, grubbing, grading, and mining activities.</p>	Below Significance	4.1D, 4.1E, 7.1C
MM-BIO10	<p>Jurisdictional resources. Direct impacts to jurisdictional wetlands and waters shall be mitigated through implementation of the Reclamation Plan and Revegetation Plan, resulting in habitat creation and restoration of higher quality than the habitat that is being impacted. Impacts to riparian resources shall be mitigated at a 3:1 ratio. A summary of anticipated impacts, mitigation ratios, and required mitigation are provided in Table 22. Impacts to non-vegetated streambed/non-wetland waters shall be mitigated at a 1:1 ratio. Mitigation ratios shall be based on the requirements in the County's <i>Guidelines for Determining Significance</i> (County 2010a) for areas outside of the MSCP.</p>	Below Significance	5.1B, 5.1C, 5.1E
MM-BIO11	<p>Groundwater resources. Impacts to groundwater shall be mitigated by removing the Helix Water District Well HWD-101 from production, thereby reducing total demand by about 250 afy and balancing future project demand with annual recharge.</p>	Below significance	4.2.C, 5.2.C
MM-BIO12	<p>Wildlife movement. To ensure the area remains accessible to wildlife upon completion of the project, any fencing that is installed around the project area during the reclamation process shall be three strand, post-and-rail, or other type that allows for movement of terrestrial wildlife.</p>	Below Significance	3.1G, 6.1A, 6.1B, 6.1D, 6.1E

REFERENCES

AECOM. 2017. Draft Groundwater Evaluation Report. El Monte Sand Extraction and Nature Project, Lakeside, San Diego County, California.

Anchor Environmental, Everest International Consultants, KTU+A, Merkel and Associates, TRAC, and Michael Welch. 2005. San Diego River Watershed Management Plan. Prepared for the San Diego River Watershed Work Group March 2005.

Bond, S. I. 1977. Annotated List of the Mammals of San Diego County, California. Trans. San Diego Soc. Nat. Hist. 18:229-248.

Bowman, R.H. 1973. Soil survey of San Diego Area, California. USDA. Soil Conservation Service, Washington, DC.

California Department of Fish and Wildlife (CDFW). 2014. Complete List of Amphibian, Reptile, Bird and Mammal Species in California. California Department of Fish and Wildlife. July, 2014.

California Department of Fish and Wildlife (CDFW). 2015a. California Natural Diversity Database (CNDDDB), Biogeographic Data Branch, Sacramento, CA, accessed May 2015

California Department of Fish and Wildlife (CDFW). 2015b. Habitat Connectivity Planning for Fish and Wildlife, data available at: <https://www.wildlife.ca.gov/Conservation/Planning/Connectivity>, accessed August 2015.

California Herps. 2017. San Diego Banded Gecko.
www.californiaherps.com/lizards/pages/c.v.abbotti.html#description

California Native Plant Society (CNPS). 2016. Inventory of Rare, Threatened, and Endangered Plants of California (online edition, v8-02). CNPS Rare Plant Program, Sacramento, CA. <http://www.rareplants.cnps.org/>, accessed March 2016.

Chang Consultants. 2018. Hydraulic Analysis for the El Monte Sand Mining and Nature Preserve Project. May.

County of San Diego. 1997. MSCP Subarea Plan. Adopted October 22.

- County of San Diego. 1998. Implementing Agreement by and between United States Fish and Wildlife Service, California Department of Fish and Game, and County of San Diego. March 17.
- County of San Diego. 2007a. Title 8 Zoning and Land Use Regulations, Division 6. Land Use Regulations, Chapter 6. Resource Protection Ordinance, 2007.
- County of San Diego. 2007b. Guidelines for Determining Significance and Report Format and Content Requirements, Groundwater Resources: Land Use and Environment Group, Department of Planning and Land Use, Department of Public Works, March 19, 2007.
- County of San Diego. 2010a. Guidelines for Determining Significance, Biological Resources: Land Use and Environment Group, Department of Planning and Land Use, Department of Public Works, 4th revision, September 15, 2010.
- County of San Diego. 2010b. Report Format and Content Requirements, Biological Resources: Land Use and Environment Group, Department of Planning and Land Use, Department of Public Works, 4th revision September 15, 2010.
- County of San Diego. 2011. San Diego County General Plan, adopted 3 August 2011, Chapter 3: Land Use Element.
- Department of the Army. 2007. Section 106 of the National Historic Preservation Act Interim Guidance.
- EDAW, Inc., 2007. Biological Technical Report for El Monte Nature Park. Prepared for Helix Water District.
- EnviroMINE, Inc., 1999. Final Environmental Impact Report for the Golf Course Project.
- Environmental Science Associates (ESA). 2010. LBV Surveys for El Monte. Prepared for Helix Water District.
- Environmental Science Associates (ESA). 2011a. Draft El Monte Valley Mining, Reclamation, and Groundwater Recharge Project. Prepared for Helix Water District.
- Environmental Science Associates (ESA). 2011b. El Monte Valley Oak Tree Assessment, Prepared for Helix Water District.

- Environmental Science Associates (ESA). 2011c. Jurisdictional Determination and Wetland Delineation. Prepared for Helix Water District.
- Environmental Science Associates (ESA). 2015a. Results of California Coastal Gnatcatcher Surveys for El Monte Sand Mining and Nature Preserve Project. Prepared for EnviroMINE, Inc.
- Environmental Science Associates (ESA). 2015b. Results of Least Bell's Vireo Surveys for El Monte Sand Mining and Nature Preserve Project. Prepared for EnviroMINE, Inc.
- Environmental Science Associates (ESA). 2017. Results of Focused Habitat Assessment for Quino Checkerspot Butterfly for the El Monte Sand Mining Project, Lakeside, California. April 21.
- Environmental Science Associates (ESA). 2018a. Draft Environmental Impact Report. El Monte Sand Mining Project, PDS2015-MUP-98-014W2, PDS2014-RP-15-001; LOG NO. PDS2015-ER-98-14-016B, SCH No. 1996091016. July.
- Environmental Science Associates (ESA). 2018b. Draft Reclamation Plan for the El Monte Sand Mine Project. July.
- Environmental Science Associates (ESA). 2018c. Draft Conceptual Revegetation Plan for the El Monte Sand Mine and Nature Preserve Project. July.
- Environmental Science Associates (ESA). 2018d. Jurisdictional Delineation Report for the El Monte Sand Mine and Nature Preserve Project. July.
- Hall, E. R. 1981. Mammals of North America. 2 vols. John Wiley and Sons. New York. 1181pp.
- Hingtgen, R. 2015. San Diego County, personal communication.
- Holland, R.F., 1986. *Preliminary Descriptions of the Terrestrial Natural Communities of California*, October 1986.
- Jennings, M. R., and M. P. Hayes. 1994. Amphibian and Reptile Species of Special Concern in California. California Department of Fish and Game. Rancho Cordova, California.

- Kochert, M. N., K. Steenhof, C. L. McIntyre, and E. H. Craig. 2002. Golden Eagle (*Aquila chrysaetos*). Number 684 in *The Birds of North America*, A. Poole and G. Gill, editors. The Birds of North America, Inc., Philadelphia, Pennsylvania.
- Lakeside Community Plan. 2011. San Diego County General Plan, adopted August 03, 2011.
- Lemm, Jeffrey M. 2006. *Field Guide to Amphibians and Reptiles of the San Diego Region*. California Natural History Guides. 2006.
- Lichvar, R.W., M. Butterwick, N.C. Melvin, and W.N. Kirchner. 2014. The National Wetland Plant List: 2014 Update of Wetland Ratings. *Phytoneuron* 2014-41: 1-42.
- Lynn, S., M. J. Wellik, and B. E. Kus. 2009. Distribution, abundance, and breeding activities of the Least Bell's Vireo along the San Diego River, California. 2009 Annual Data Summary. Prepared for the San Diego River Conservancy, San Diego, California.
- McGrady, M.J., J.R. Grant, I.P. Bainbridge, and D.R.A. McLeod. 2002. A model of golden eagle (*Aquila chrysaetos*) ranging behavior. *J. Raptor Res.* 36 (1 Supplement):62-69.
- National Geographic Society. 1983. *Field Guide to the Birds of North America*. 2nd ed. National Geographic Society, Washington, D.C.
- National Wetlands Inventory (NWI). 2011. Geospatial Wetlands Digital Data, data available at: <http://www.fws.gov/wetlands/Data/index.html>, last updated May 6, 2011, accessed June 2011.
- Natural Resources Conservation Service (NRCS). 2016. Web Soil Survey. Available online at <http://websoilsurvey.nrcs.usda.gov/>. Accessed February 11, 2016.
- Oberbauer, Thomas, Meghan Kelly, and Jeremy Buegge. 2008. *Draft Vegetation Communities of San Diego County*, based on "Preliminary Descriptions of the Terrestrial Natural Communities of California," Robert F. Holland, Ph.D., October 1986, revised March 2008.
- Polite, C. 1990. California Wildlife Habitat Relationships System. California Department of Fish and Wildlife. California Interagency Wildlife Task Group.

- Rebman, J., and M. Simpson. 2014. Checklist of the Vascular Plants of San Diego County. 5th edition. San Diego Natural History Museum, San Diego, CA.
- Richmond, Jonathan Q., Carlton J. Rochester, Nathan W. Smith, Jeffrey Norland, and Robert N. Fisher. 2016. Rare Alluvial Sands of El Monte Valley, California (San Diego County), Support High Herpetofaunal Species Richness and Diversity, Despite Severe Habitat Disturbance. *The Southwestern Naturalist* 61(4): 294-306. December.
- Rosenfield, R. N., and J. Bielefeldt. 1993. Cooper's Hawk. In A. Poole and F. Gill [eds.]. *The Birds of North America*, No. 75. Philadelphia: The Academy of Natural Sciences; Washington D.C.; The American Ornithologists' Union.
- San Diego Management and Monitoring Program (SDMMP). 2016. Management Strategic Plan 2014-2016 Management Priorities Viewer. Online map of high-priority species occurrences.
<http://www.sdmmmp.com/MSPPriorityObjectives.aspx>, accessed February, 2016.
- San Diego Natural History Museum (SDNHM). 2016. Plant Atlas Project online plant species database.
<http://www.sdplantatlas.org/GMap/GMapSpeciesMap.htm>, accessed March, 2016.
- Stebbins, R. C. 2003. *A Field Guide to Western Reptiles and Amphibians*. Third edition. Houghton Mifflin Co., Boston. 533 pp
- Sweetwater Authority. 2013. Joint Water Agencies Natural Community Conservation Plan/Habitat Conservation Plan Process – Final Cost. Memo, prepared March 1, 2013 for the Governing Board (Finance and Personnel Committee).
- U.S. Fish and Wildlife Service (USFWS). 1997. Survey Protocol for Coastal California Gnatcatcher (*Polioptila californica californica*) Presence/Absence Survey Guidelines, 1997.
- U.S. Fish and Wildlife Service (USFWS). 1999. Bald and Golden Eagle Protection Act (BGEPA), Title 16 Conservation Chapter 5A Protection and Conservation of Wildlife Bald and Golden Eagle Protection Act, US Fish and Wildlife Service, May 1999.

- U.S. Fish and Wildlife Service (USFWS). 2001. Least Bell's Vireo Survey Guidelines, 2001.
- U.S. Fish and Wildlife Service (USFWS). 2014. Quino checkerspot Butterfly Survey Guidelines, 2014.
- U.S. Fish and Wildlife Service (USFWS). 2015a. USFWS threatened and endangered species database.
- United States Geological Survey (USGS). 2011. Topographic Maps, downloadable data available at: <http://nationalmap.gov/ustopo/index.html>, accessed June 2011.
- Unitt, P. A. 2004. San Diego County Bird Atlas. Ibis Publishing Company, San Diego Natural History Museum, San Diego. 645 pp.
- Yosef, R. 1996. Loggerhead shrike (*Lanius ludovicianus*). In: Poole A. and F. Gill, eds. 1996. The Birds of North America, No.231. The Academy of Natural Sciences, Philadelphia, and The American Ornithologists. Union, Washington, D.C.
- Zeiner, D.C., W.F. Laudenslayer, Jr., K.E. Mayer, and M. White, eds. 1988-1990. California's Wildlife. Vol. I-III. California Depart. of Fish and Game, Sacramento, California.

LIST OF PREPARERS AND PERSONS AND ORGANIZATIONS CONTACTED

Environmental Science Associates (ESA)

Barbra Calantas, Senior Biologist (County Approved CEQA Consultant)

Alanna Bennett, Biologist

United States Geological Survey (USGS), Western Ecological Research Center

Robert Fischer, Supervisory Research Biologist

This page left intentionally blank