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MEMORANDUM

To:	David Sibbet, County of San Diego
From:	Paul Lemons, Wildlife Biologist, Dudek
Subject:	Analysis of California Gnatcatcher Movement through the North County Environmental Resources (NCER) Recycling Facility Project Site
Date:	December 8, 2017
cc:	Karl Gailey, Hilltop Group Inc.
Attachment(s):	Figures 1 and 2, Focused California Gnatcatcher Survey Report

This memorandum has been prepared in response to a County of San Diego letter dated August 25, 2017. In this letter, the County requested analysis of potential impacts to California gnatcatcher (*Polioptila californica californica*; CAGN) movement through the site as a result of constructing the North County Environmental Resources (NCER) Recycling Facility.

SPECIES ACCOUNT

The CAGN occurs in coastal Southern California and Baja California year-round, where it depends on a variety of arid scrub habitats. The CAGN occurs mainly on cismontane slopes (coastal side of the mountains) in Southern California, ranging from Ventura and northern Los Angeles counties south through the Palos Verdes Peninsula to Orange, Riverside, San Bernardino, and San Diego counties. The species' range continues south to El Rosario, Mexico. Initially it was reported that 99% of all CAGN locality records occurred at or below an elevation of 984 feet AMSL Atwood (1990; Atwood and Bolsinger 1992). Since that time, data collected at higher elevations show that the species may occur as high as 3,000 feet AMSL, but that more than 99% of the known CAGN locations occurred below 2,500 feet AMSL (65 FR 63680). Because of the natural topography of the Southern California hills and mountain ranges, most of the higher-elevation locations are more inland, where population densities tend to be much lower than coastal populations.

The CAGN typically occurs in or near coastal scrub, vegetation that is composed of relatively low-growing, dry-season deciduous and succulent plants. Characteristic plants of this community include California sagebrush (*Artemisia californica*), various species of sage (*Salvia* spp.), California buckwheat (*Eriogonum fasciculatum*), lemonadeberry (*Rhus integrifolia*, California bush sunflower (*Encelia californica*), and cactus (e.g., *Opuntia* spp.). CAGNs also occur in chaparral, grassland, and riparian vegetation communities where the coastal scrub community is

close by (Bontrager 1991). The use of these vegetation communities appears to be most frequent during late summer, autumn, and winter, with smaller numbers of birds using such areas during the breeding season. The CAGN tends to occur most frequently within the California sagebrush-dominated stands on mesas, gently sloping areas, and along the lower slopes of the Coast Ranges (Atwood 1990). The CAGN occurs in high frequencies and densities in coastal scrub communities with an open or broken canopy, whereas it is absent from coastal scrub dominated by tall shrubs and occurs in low frequencies and densities in low coastal scrub with a closed canopy (Weaver 1998).

CAGNs glean insects and spiders from foliage of shrubs, primarily California buckwheat and coastal sagebrush (Atwood 1993). Their diet is primarily composed of spiders but is also composed of wasps, bees, and ants (Burger et al. 1999). CAGN habitat use has been positively associated with total insect species richness and total individual insect abundance (County of Riverside 2008).

CAGNs nests usually are located in a small shrub or cactus one to three feet above the ground. Territory size varies and is influenced by season and locale (Preston et al. 1998), but is unrelated to vegetation structure (Braden et al. 1997). During the breeding season, territories in coastal areas are often smaller—averaging 5.7 acres (Atwood et al. 1998)—than those in more inland regions, which average 8.4 acres (Braden et al. 1997). Bailey and Mock (1998) observed juvenile dispersal distances averaging less than 1.9 miles from the nest territory and the longest documented juvenile dispersal is about 9.9 miles (Mock 2004). Based on an exponential dispersal model fitted to Rancho San Diego dispersal data, Bailey and Mock (1998) estimated that the CAGN is capable of dispersing up to 13.5 miles.

The CAGN has declined due to widespread destruction of its coastal scrub habitat (Atwood 1990). It was estimated as early as the 1970s that up to 90% of coastal scrub has been lost as a result of development and land conversion (Westman 1981; Barbour and Major 1977), and coastal scrub is considered to be one of the most depleted habitat types in the United States (Kirkpatrick and Hutchinson 1977; Axelrod 1978; Klopatek et al. 1979, Westman 1987; O'Leary 1990). In addition, agricultural use, such as grazing and field crops, urbanization, air pollution, increases in fire frequency, and the introduction of exotics have all had an adverse impact on the extant coastal scrub vegetation community. In particular, high fire frequencies and the lag period associated with recovery of the vegetation may significantly reduce the viability of affected subpopulations of the CAGN (56 FR 47053–47060). Increased competition with introduced Mediterranean annual grasses may cause coastal scrub stand-thinning (Minnich and Dezzani 1998). Another significant threat to the CAGN is the increased risk of predation, which is the most common cause of nest failures for the CAGN (Grishaver et al. 1998). Nest predators are numerous and especially include native snakes, but also urban-adapted birds such ravens (*Corvus corax)* and crows (*Corvus brachyrhynchos*), mesopredators such as common raccoon (*Procyon*

lotor) and Virginia opossum (*Didelphis virginiana*), California ground squirrel (*Spermophilus beecheyi*), and coyote (*Canis latrans*) (Grishaver et al. 1998). The CAGN also may be parasitized by the brown-headed cowbird (*Molothrus ater*), although the cowbird's contribution to nest failure varies in different areas (Grishaver et al. 1998). Several other potential human- or development-related factors may affect CAGNs. Construction-related impacts include dust; noise and ground vibration; increased human activity in close proximity to nesting and foraging areas; and lighting, which may alter behavior, induce physiological stress, and increase predation risk. Long-term effects related to development include increased human activity; noise; lighting; pesticides, which may reduce prey and cause secondary poisoning; and predation and harassment by pet, stray, and feral cats and dogs.

SUITABLE CALIFORNIA GNATCATCHER HABITAT ON SITE

A total of 3.9 acres of Diegan coastal sage scrub occurs within the NCER study area. The Diegan coastal sage scrub on-site is generally in transition into the surrounding mafic chaparral. Additionally, the Diegan coastal sage scrub regrowth within the historic Cal-Trans rock quarry is dominated by non-native vegetation including black mustard (*Brassica nigra*), wild oats (*Avena fatua*), and foxtail chess (*Bromus rubens* ssp. *madritensis*). The Diegan coastal sage scrub on site is considered low to moderate quality.

SURVEY AND METHODS

Dudek Biologist Paul Lemons (Federal Recovery Permit Number TE051248-5) conducted a protocol-level survey between October 24 and November 15, 2017, to determine the presence/absence of CAGN within the project footprint. The survey was performed on-foot by walking meandering transects within all areas of suitable habitat (i.e., Diegan coastal sage scrub). Survey details and site weather conditions are shown in Table 1.

Table 1
California Gnatcatcher Survey Conditions

Survey Pass	Date	Biologist	Time	Survey Conditions (skies, wind, temp)
1	10-24-17	Paul Lemons	0900-1200	88–97 degrees Fahrenheit (°F); 0% cloud cover (cc), 0–3 mile per hour (mph) winds
2	11-3-17	Paul Lemons	0700-1030	30–10% cc, 57–67ºF, 0-3 mph wind
3	11-15-17	Paul Lemons	0800-1040	60–30% cc, 61–75ºF, 1–5 mph wind

No gnatcatchers were observed or detected within suitable CAGN habitat within the proposed project area during focused surveys. The focused CAGN survey report, as submitted to the USFWS, is included as an attachment to the memo.

MOVEMENT ANALYSIS

Dudek conducted a database query of California Department of Fish and Game (CDFG) California Natural Diversity Database (CNDDB) and United States Fish and Wildlife Service (USFWS) records for CAGN occurring in the project vicinity. Figure 2 shows suitable CAGN habitat, known CAGN occurrence records, as well as designated critical habitat for CAGN within two miles of the NCER project site. It should be noted that although there are approximately 95 acres of mapped CAGN Critical Habitat within the NCER site boundary, only 3.9 acres of low to moderate quality suitable CAGN habitat occurs within the 138-acre property.

Occurrences for CAGN are recorded within approximately 0.25 mile to the southeast of the project site. Suitable CAGN habitat (likely of higher quality than on site) exists immediately to the north (and on the east side of Interstate 15) of these known CAGN occurrences. Because this archipelago (or stepping-stone) corridor of suitable CAGN habitat is primarily on the east side of I-15 in this area, it is probable that CAGNs would move through this region on the east side of Interstate 15. It also appears that this corridor follows more gentle topography to the east of the project site. For these reasons, permanent impacts to 3.9 acres of low to moderate quality Diegan coastal sage scrub as a result of construction of the NCER facility is not expected to affect CAGN movement through this portion of the Interstate 15 corridor.

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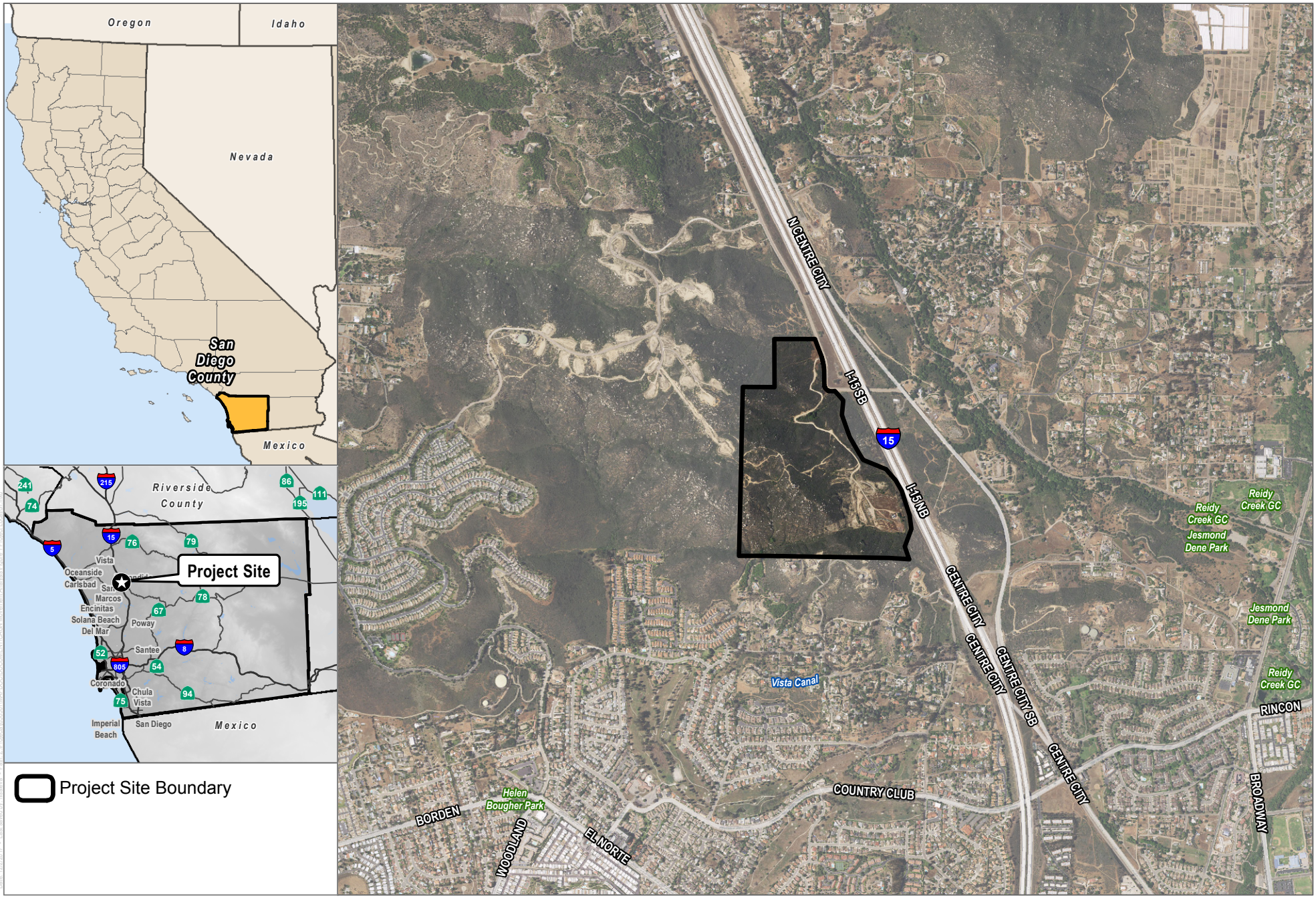

SOURCE: NAIP 2016

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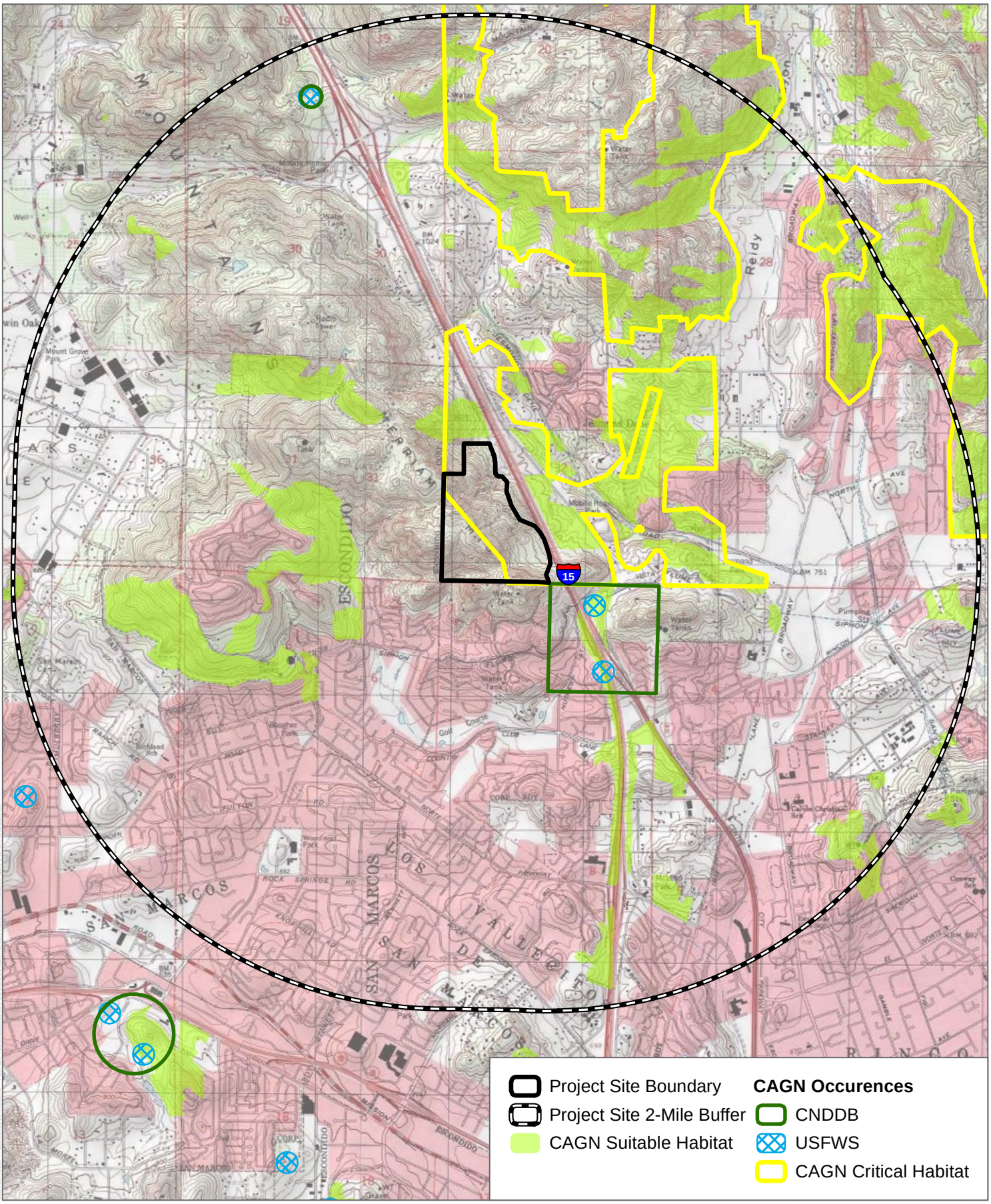
FIGURE 1

Project Location

Analysis of California Gnatcatcher Movement for the North County Environmental Resources (NCER) Recycling Facility Project



SOURCE: NAIP 2016, CNDDB 2017, USFWS 2017, SANGIS 2017

FIGURE 2

California Gnatcatcher Occurrence Data and Critical Habitat

Analysis of California Gnatcatcher Movement for the North County Environmental Resources (NCER) Recycling Facility Project

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ATTTACHMENT 1

Focused California Gnatcatcher Survey Report

DUDEK

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December 6, 2017 8505

U.S. Fish and Wildlife Service
Attention: Recovery Permit Coordinator
2177 Salk Avenue, Suite 250
Carlsbad, California 92008

Subject: ***California Gnatcatcher Presence-Absence Survey Report for the North County Environmental Resources (NCER) Recycling Facility Project, San Diego County, California***

Dear Recovery Permit Coordinator:

This report documents the results of three focused presence-absence surveys conducted by Dudek for the federally listed threatened coastal California gnatcatcher (*Polioptila californica californica*; CAGN) at the North County Environmental Resources (NCER) Recycling Facility located in northern unincorporated San Diego County, California.

The project site is located in an unincorporated portion of San Diego County within the North County Metropolitan Subregional Planning Area (SPA). The project site is located at 25568 Mesa Rock Road immediately west of Interstate 15 (I-15), north of State Route 78 (SR-78), and south of the Hidden Meadows Community Planning Area (CPA), in the Twin Oaks Sponsor Group area. Regional access is provided by I-15 and local access to the site is provided by a private easement road via Mesa Rock Road (Figure 1). The entire project site is approximately 138 acres, while the proposed North County Environmental Resources (NCER) Recycling Facility would be constructed on approximately 35 acres, in the southeast corner of the site.

The property consists of steep, rocky slopes at elevations between 925 feet above mean sea level (AMSL, U.S. Geological Survey 1968) at the south-eastern corner of the property to 1,383 feet AMSL in the central/western portion of the property. The property is comprised of three soil types. The northern portion of the property is comprised of Vista course sandy loam with 15%-30% slopes. The eastern property edge is comprised of Ramona sandy loam with 5%–15% slopes ranging from 5%–15%. The bulk of the property, approximately 65% is comprised of Cieneba very rocky course sandy loam with 9%–75% slopes ranging between 9% and 75% slopes.

VEGETATION COMMUNITIES

Three vegetation communities and one land cover type occurs within the proposed project area (Table 1). Native vegetation communities within the project area include mafic southern mixed chaparral, Diegan coastal sage scrub, and southern willow scrub. One land cover types (non-vegetated area) occurs within the project area: disturbed habitat. Diegan coastal sage scrub, the only CAGN-suitable community, is discussed in more detail after Table 1.

Table 1
Vegetation Communities and Land Cover Types

General Vegetation Community/Land Cover Type	Code[1]	Acres
Chaparral		
Mafic southern mixed chaparral	37122	121.3
Coastal Scrub		
Diegan coastal sage scrub (including disturbed)	32500	3.9
Riparian		
Southern willow scrub	63320	0.1
Non-Native Communities and Land Covers		
Disturbed habitat	11300	12.8
	Total	**138.1**

[1] Holland (1986) as modified by Oberbauer et al. (2008)

The site is largely dominated by undisturbed chaparral which covers 88% of the project site. Disturbed habitat on site is mainly associated with the old quarry located in the southeastern portion of the project site and also includes dirt roads and trails which traverse the site. A small area of coastal sage scrub habitat occurs adjacent to the old quarry chaparral and cover approximately 4% of the project site.

Diegan Coastal Sage Scrub (32500)

Coastal sage scrub is a plant community comprised of low-growing, aromatic, drought-deciduous soft-woody shrubs that have an average height of approximately three to four feet. The plant community is typically dominated by facultatively drought deciduous species such as California sagebrush (*Artemisia californica*), California buckwheat (*Eriogonum fasciculatum*), laurel sumac (*Malosma laurina*), and white sage (*Salvia apiana*). The community typically is found on low moisture-availability sites with steep, xeric slopes or clay rich soils that are slow to release stored water. These sites often include drier south- and west-facing slopes and occasionally north-facing slopes. Diegan coastal sage scrub is found in coastal areas from Los Angeles County south into Baja California (Holland 1986).

Diegan coastal sage scrub on-site is of low to moderate quality and is generally in transition into the surrounding mafic chaparral. The dominant native shrub generally included California sagebrush, California buckwheat, black sage (*Salvia mellifera*), and white sage. The Diegan coastal sage scrub regrowth within the historic Cal-Trans rock quarry is dominated by non-native vegetation including black mustard (*Brassica nigra*), wild oats (*Avena fatua*), and foxtail chess (*Bromus rubens* ssp. *madritensis*).

METHODS

CAGN surveys were conducted between October 24 and November 15, 2017 (Table 2). Surveys were conducted by Dudek biologist Paul Lemons (TE051248-5). The surveys were conducted to determine CAGN occupancy of the study area.

Table 2
California Gnatcatcher Survey Conditions

Survey Pass	Date	Biologist	Time	Survey Conditions (skies, wind, temp)
1	10-24-17	Paul Lemons	0900–1200	88-97 degrees Fahrenheit (°F); 0% cloud cover (cc), 0–3 mile per hour (mph) winds
2	11-3-17	Paul Lemons	0700–1030	30–10% cc, 57–67ºF, 0–3 mph wind
3	11-15-17	Paul Lemons	0800–1040	60–30% cc, 61–75ºF, 1–5 mph wind

The surveys consisted of walking meandering transects within suitable CAGN habitat to determine CAGN presence if any. A 200-scale (1 inch = 200 feet) aerial map was used to navigate the site. While surveying, a tape recording of CAGN vocalizations was played approximately every 50–100 feet when in suitable habitat to induce CAGN responses. If a CAGN would have been detected, tape playback would have stopped to minimize harassment.

The surveys were conducted in conformance with current USFWS survey guidelines for the Natural Community Conservation Plan (NCCP) enrolled areas. Weather conditions, time of day, and season were appropriate for the detection of CAGN and other wildlife (Table 2).

RESULTS

No California gnatcatchers were observed during focused surveys. With a relatively small area (3.9 acres) of suitable CAGN habitat within the study area, as well as human activity (including hikers and residents living on site) and freeway noise associated with I-15 immediately adjacent

to this area, it is unlikely that CAGN would reside here. A full list of wildlife species observed during the survey is provided in Appendix B.

Please feel free to contact biologist Paul Lemons at 760.479.4238 with questions or if you require additional information.

I certify that the information in this survey report and attached exhibits fully and accurately represent my work.

Sincerely,

Paul Lemons
Wildlife Biologist
TE051248-5

Att.: A, List of Wildlife Species Observed or Detected at the Project Site

REFERENCES

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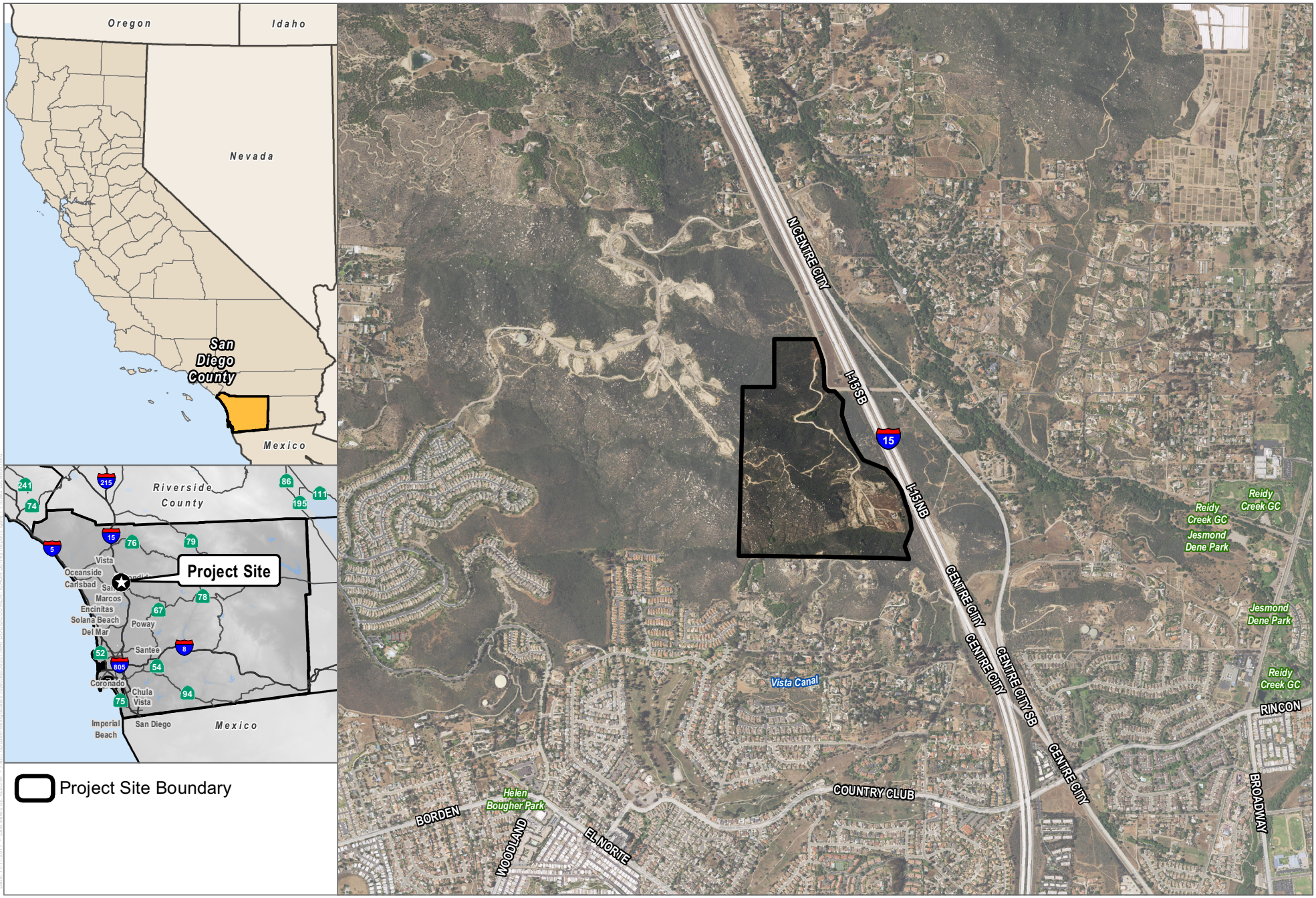

SOURCE: NAIP 2016

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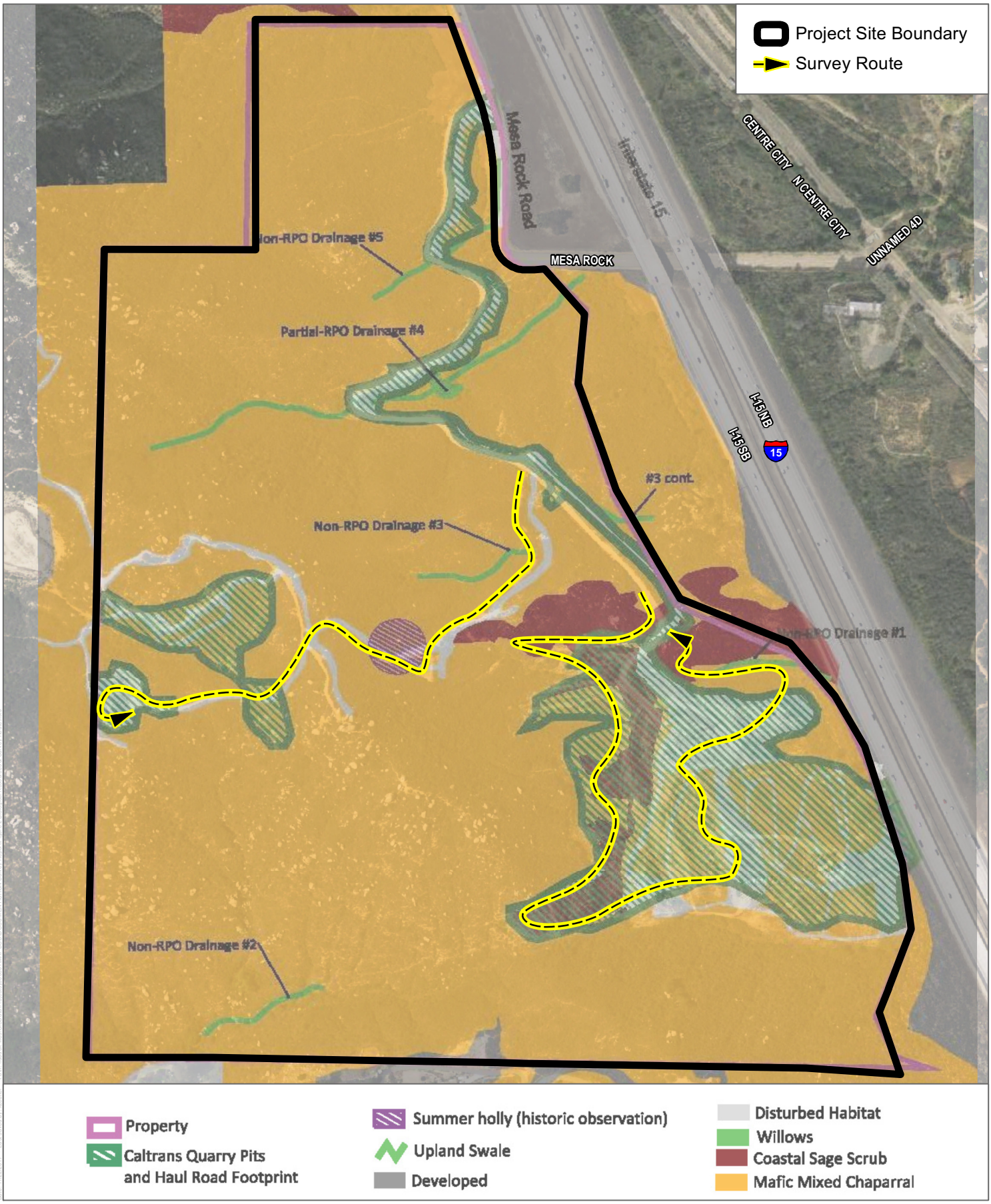
FIGURE 1

Project Location

California Gnatcatcher Presence-Absence Survey Report for the North County Environmental Resources (NCER) Recycling Facility Project



SOURCE: NAIP 2016

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FIGURE 2

Biological Resources and Survey Route

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APPENDIX A

List of Wildlife Species
Observed or Detected at the Project Site

APPENDIX A
List of Wildlife Species Observed or Detected at the Project Site

WILDLIFE SPECIES – VERTEBRATES

BIRD

EMBERIZIDAE – EMBERIZIDS

Melospiza melodia – Song sparrow
Melozone crissalis – California towhee
Pipilo maculatus – Spotted towhee
Zonotrichia leucophrys – White-crowned sparrow

TYRANNIDAE – TYRANT FLYCATCHERS

Sayornis nigricans – Black phoebe

TROCHILIDAE – HUMMINGBIRDS

Calypte anna – Anna's hummingbird

ODONTOPHORIDAE – NEW WORLD QUAIL

Callipepla californica – California quail

COLUMBIDAE – PIGEONS AND DOVES

Zenaida macroura – Mourning dove

PARULIDAE – WOOD-WARBLERS

Setophaga coronate – Yellow-rumped warbler

TROGLODYTIDAE – WRENS

Salpinctes obsoletus – Rock wren
Thryomanes bewickii – Bewick's wren

ACCIPITRIDAE – HAWKS, KITES, EAGLES, AND ALLIES

Accipiter cooperii – Cooper's hawk (fly over)

AEGITHALIDAE – LONG-TAILED TITS AND BUSHTITS

Psaltriparus minimus – Bushtit

CORVIDAE – CROWS AND JAYS

Aphelocoma californica – Western scrub-jay
Corvus brachyrhynchos – American crow

FRINGILLIDAE – FRINGILLINE AND CARDUELINE FINCHES AND ALLIES

Carpodacus mexicanus – House finch
Spinus psaltria – Lesser goldfinch

MIMIDAE – MOCKINGBIRDS AND THRASHERS

Mimus polyglottos – Northern mockingbird
Toxostoma redivivum – California thrasher

TIMALIIDAE – BABBLERS

Chamaea fasciata – Wrentit

MAMMAL

CANIDAE – WOLVES AND FOXES

Canis latrans – Coyote

LEPORIDAE – HARES AND RABBITS

Sylvilagus bachmani – Brush rabbit

GEOMYIDAE – POCKET GOPHERS

Thomomys bottae – Botta's pocket gopher

SCIURIDAE – SQUIRRELS

Spermophilus (Otospermophilus) beecheyi – California ground squirrel

REPTILE

PHRYNOSOMATIDAE – IGUANID LIZARDS

Sceloporus occidentalis – Western fence lizard
Uta stansburiana – Common side-blotched lizard