

REPORT OF A FOCUSED FIELD SURVEY
FOR

CROTCH'S BUMBLE BEE
(Bombus crotchii)

THE ISKCON OF ESCONDIDO KRISHNA TEMPLE AND
RESIDENTIAL PROJECT

Escondido, California

Prepared for

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INTRODUCTION

This report presents the results of a directed field survey for Crotch's Bumble Bee (*Bombus crotchii*), a candidate for California Endangered Species, on the Krishna Temple and Residential Project Site (SCH No.2025040631; APN 224-100-84 & -85). The approximately 24.53-acre property is located 1315 and 1356 Rincon Avenue in the City of Escondido (Figure 1). The Krishna Temple and Residential Project site currently supports several relatively discrete habitat-types: Diegan Coastal Sage Scrub, Engelmann Oak Woodland, Non-native Grassland, Avocado Orchard, Disturbed Habitat, and Urban/Developed. Flowering native and non-native plants are found throughout the property.

Crotch's Bumble Bee occurs in a diversity of habitats, with a distribution ranging from Ensenada, Mexico in the south to Redding in northern California. Its ecological niche encompasses a variety of habitats, including open grasslands, shrublands, chaparral, and desert margins. The bees also occur in semi-urban and rural settings, apparently being able to thrive in human-altered environments. Crotch's Bumble Bees use abandoned rodent burrows or sometimes debris piles, rock piles, or cavities in trees to nest. Worker bees are active from April through August, with peak activity occurring between May and June. Queens are active for only two months - from March until May - with maximum activity typically in April.

In June of 2019, the California Fish and Game Commission classified Crotch Bumble Bee as a Candidate for listing under the California Endangered Species Act (CESA). Although a final decision has not been made as to whether or not to list Crotch's Bumble Bee under CESA, the species' status as a Candidate requires that it be evaluated and treated as if it had been formally listed in the interim.

The Krishna Temple and Residential Project site is within the known range of Crotch's Bumble Bee and it supports habitat that is potentially suitable for this species. Therefore, the site was surveyed for the presence or absence of this rare bumble bee.

GOAL OF STUDY

The goal of this study was to determine whether the Krishna Temple and Residential Project site supports Crotch's Bumble Bee. Any other sensitive species detected during the surveys would also be documented. This study is being provided in response to concerns expressed to the City of Escondido by the California Department of Fish and Wildlife in connection with the issuance of development permits for this project. For the reasons stated above, the Department recommends that presence/absence surveys be conducted where suitable habitat is present. This study has been provided in response to that recommendation.

METHODS

Although no formal survey protocol for Crotch's Bumble Bee has been developed, the California Department of Fish and Wildlife provided "Survey Considerations for California Endangered Species Act (CESA) Candidate Bumble Bee Species" in June of 2023. These considerations were used as general guidelines in designing this study. Fieldwork associated with the study consisted of a series of three field surveys, completed on the dates and under the weather conditions listed in Table 1. Field surveys were conducted by the authors (Vince Scheidt and Brandon Myers). Surveys were completed by slowly walking the site, focusing on flowering resources and other

potential bumble bee habitat. Bumble bees examined during this survey were sometimes captured with a net, transferred into a sterile vial, and then transferred to cooler to allow subsequent identification, when needed. The bumble bees were then removed from the cooler and vials, and then photographed after spending no more than 15 minutes in the cooler to slow them down. No mortality was recorded, and all specimens were observed to recover and fly away within a few minutes. Weather conditions were conducive to Crotch's Bumble Bee field surveying on each of the selected dates, which was during a period of moderate bee activity. Most survey time was spent in areas that had the highest probability of supporting Crotch's Bumble Bee (Figure 2), although 100 percent of the site was examined during the surveys.

Table 1. Field Survey Data – Krishna Temple and Residential Project

<u>Date</u>	<u>Hours</u>	<u>Personnel</u>	<u>Conditions</u>
12 June 2025	08:30 – 12:30	VS, BM	overcast to clear skies; light west wind temps high 60°s to high 70°s
19 June 2025	08:30 – 11:30	VS, BM	overcast to clear skies; no wind; temps low 70°s to low-80°s
26 June 2025	08:15 – 11:00	VS, BM	high clouds to clear skies; light west wind; temps high 60°s to high 70°s

RESULTS

Crotch's Bumble Bee Habitat Assessment

The Krishna Temple and Residential Project site currently supports a single-family home, agricultural features, native vegetation, and non-native vegetation/grassland vegetation. A second single-family home that is not a part of the property ownership is located in the southern portion of the site (Figure 2). The majority of the proposed development areas of the site supports grass with very little flowering nectar sources except for annual weedy species. Flying insect activity was moderate during the study. The flowering species provide pollen and nectar that Crotch's Bumble Bee could utilize as a food source. With respect to Crotch's Bumble Bee occupancy, the quality of the potential on-site foraging habitat is considered moderate, warranting presence/absence surveys.

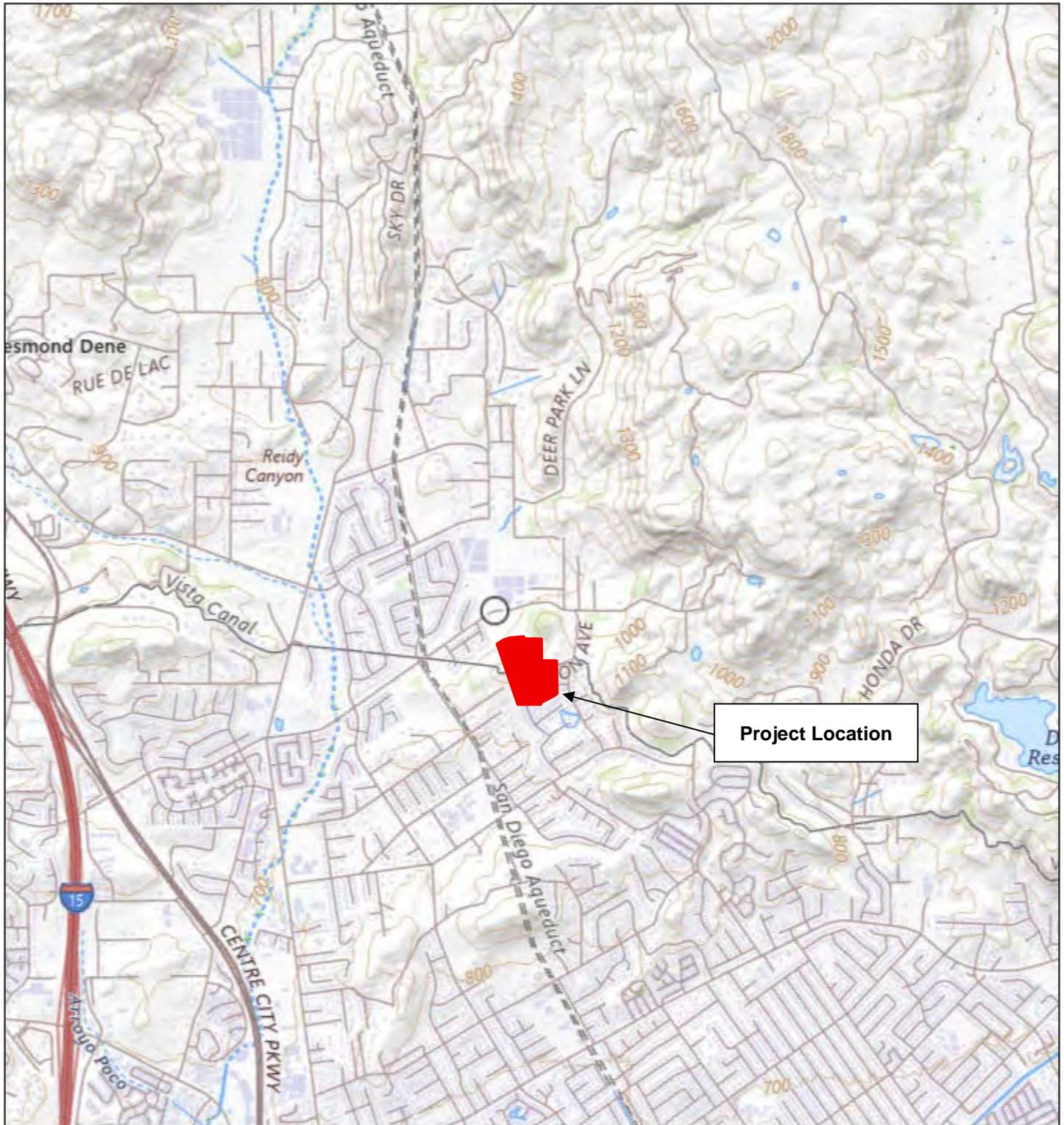
Crotch's Bumble Bee Surveys

Crotch's Bumble Bee was not observed onsite during any of the field surveys. Over the three separate survey weeks, only a single species of bumble bee was observed in low numbers: Yellow-faced Bumble Bee (*Bombus vosnesenski*). Flying insects were active on each survey day, but the most common species, observed in the thousands, was Western Honey Bee (*Apis mellifera*). Various other flying insects were also observed and recorded during site surveys (Table 2). Because Crotch's Bumble Bee was not detected during a period of relatively high insect activity, the Krishna Temple and Residential Project site is considered "unoccupied" by this species.

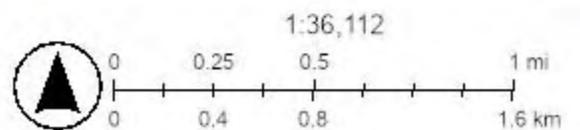
Table 2. Flying Insect Species Detected – Krishna Temple and Residential Project

<u>Scientific Name</u>	<u>Common Name</u>
<i>Allograpta obliqua</i>	Oblique Streaktail
<i>Apis mellifera</i>	Western Honey Bee
<i>Apodemia virgulti</i>	Behr's Metalmark
<i>Apolysis</i> sp.	Bee Fly
<i>Bombus vosnesenskii</i>	Yellow-faced Bumblebee
<i>Brephidium exilis</i>	Western Pygmy Blue
<i>Calopompilus pyrrhomelas</i>	Spider Wasp
<i>Coccinella septempunctata</i>	Seven-Spotted Lady Beetle
<i>Danaus plexippus</i>	Monarch Butterfly
<i>Dicymolomia metalliferalis</i>	Crambid Snout Moth
<i>Eristalis</i> sp.	Syrphid Fly
<i>Eumeninae</i> sp.	Potter Wasp
<i>Euphilotes bernardino</i>	Bernardino Blue
Family <i>Lycidae</i>	Net-winged Beetle
<i>Hellula rogatalis</i>	Cabbage Webworm Moth
<i>Icaricia acmon</i>	Acmon Blue
<i>Murgantia histrionica</i>	Harlequin Bug
<i>Musca domestica</i>	Common House Fly
<i>Plutella xylostella</i>	Diamondback Moth
<i>Pyrausta</i> sp.	Mint Moth
<i>Scudderia mexicana</i>	Mexican Bush Katydid
<i>Tabanus punctifer</i>	Western Black Horse Fly
<i>Xylocopa californica</i>	California Carpenter Bee

Figure 1. Regional Location – Krishna Temple and Residential Project



6/27/2025



USGS The National Map: National Boundaries Dataset, 3DEP Elevation Program, Geographic Names Information System, National Hydrography Dataset, National Land Cover Database, National Structures Dataset, and National Transportation Dataset; USGS Global Ecosystems; U.S. Census Bureau TIGER/Line data; USFS Road data; Natural Earth Data; U.S.

Figure 2. Potential Bumble Bee Foraging Habitat – Krishna Temple and Residential Project





Photo 1. Yellow-faced Bumble (*Bombus vosnesenskii*) observed on June 12, 2025 on the Krishna Temple and Residential Project site. This specimen was collected near the center of the property. Note yellow facial hairs clearly visible between the antennae.