

City of Carlsbad 2022 Coastal California Gnatcatcher Survey Results

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On behalf of the City of Carlsbad

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Introduction

The City of Carlsbad's (city) Habitat Management Program (HMP) and resulting preserve system was designed to protect sensitive habitat and plant and animal species. One of the HMP requirements is to regularly assess the status of "covered" species to determine if the populations are stable, increasing, or decreasing. The coastal California gnatcatcher (CAGN, *Polioptila californica californica*) is one of the high-priority HMP covered species which the city is required to monitor and manage pursuant to the conditions of coverage for the HCP/NCCP incidental take permits.

Prior to HMP implementation, actively managed preserves were required to have annual CAGN surveys; however, a total count of CAGN territories across the entire city in one breeding season had not been conducted in a coordinated manner. In 2010, the city and its management partners, with Wildlife Agencies approval, developed a breeding season survey protocol, which established the citywide monitoring frequency to every three years. Although not designed as a statistically rigorous study, the purpose of the coordinated citywide effort was to determine the general abundance, status (i.e., pair or single male), and distribution of CAGN across the city, including some of the unmanaged preserves. The inaugural citywide survey was conducted in 2010 across much of the suitable CAGN habitat within the city. Citywide surveys were conducted again in 2013. In 2010, 85 pairs and 42 male CAGN were reported and in 2013, 117 pairs and 33 single males were reported. These results indicated that the CAGN population was stable and potentially increasing across the city; therefore, the city elected to reduce the monitoring frequency to every 9 years (with approval from the Wildlife Agencies), with surveys resuming in 2022. This trend in CAGN population stability is supported by regional studies conducted for the species (Kus et al. 2017, SDMMP 2016, Vandergast et al. 2014), as well as land manager observations in Carlsbad over the course of many years. The advantage of reducing the survey frequency is to allow these management funds to be redirected towards more pressing management needs, such as invasive species removal.

This report summarizes the results of the 2022 surveys, and compares it to the 2010 and 2013 results. The full survey reports for previous citywide surveys can be found on the city's website <https://www.carlsbadca.gov/departments/environmental-sustainability/habitat-protection/hmp-reports-studies>.

Monitoring Objective

Objective 1: Determine current status, distribution and abundance of coastal California gnatcatcher (*Polioptila californica californica*) in the City of Carlsbad (city)

Methods

All surveys throughout the City of Carlsbad were conducted at approximately the same time (March and April of 2022) to reduce variability due to behavioral changes (e.g., reduced calling frequency). In 2022, the first survey at each location was conducted within the first two to four weeks of March when possible so that black-capped males could be observed when they were the most vocal, and before eggs were laid or chicks hatched. The remaining surveys were conducted by late March to mid-April. An effort was made keep each survey separated by 7-10 days, if possible.

In general, a minimum of 2 site visits were conducted at each location; however, this number could be revised to 1 or 3 visits, depending on the experience of the surveyor, confirmed presence from other management site visits, and/or the field conditions on site (i.e., steep or near noisy areas). If, after two visits to an area, the number of pairs/individuals was unclear, a 3rd or 4th visit was warranted. Surveyors visited a site 3 or 4 times if there was a large discrepancy in observations between visits.

Observers made an additional effort to spend adequate time determining pair status. In past years, a large number of males have been reported that may have been part of a pair.

All other aspects of the survey protocol can be found in the updated Citywide Survey Protocol (CNLM 2013, updated 2022).

Areas Surveyed

Preserves that were surveyed as part of the citywide surveys are depicted in Table 1 along with Figures 1-3. Surveyed acreage remained relatively similar with small increases from approximately 1,805 acres in 2010 to approximately 1,985 acres in 2013 and approximately 2,060 acres in 2022. New areas surveyed in 2013 included La Costa Glen, Shorepointe, and Copper Creek (County of San Diego). New areas surveyed in 2022 include Aura Circle, Fox Miller, Quarry Creek, Poinsettia Place, and Southern Preserve.

Areas with suitable habitat that were not surveyed were generally preserves that lacked a management entity (except for Aviara) or areas where the terrain was too steep (see Table 1). CNLM did not survey the steep areas of Box Canyon, for example. Other notable areas not surveyed are the U.C. Dawson-Los Monos Preserve and Bressi Ranch Preserve, which were also not surveyed in 2010 or 2013.

Survey Results

A total of 134 pairs and 41 single males (175 territories) were observed in 2022 as compared to 122 pairs and 33 single males (155 territories) and 85 pairs and 42 males (127 total territories) in 2013 and 2010, respectively (**Figure 1, Figure 2, Figure 3** and **Table 1**). Surveyors concluded that nearly all males were single males. There was an increase of 28 territories between 2010 and 2013 and an additional increase of 22 territories between 2013 and 2022 despite little change in survey acreage.

CAGN were observed in most areas that were surveyed across the city in 2022. While many areas maintained a similar number of territories observed, Carlsbad Oaks North and Lake Calavera had a notable increase in 2022 (from 3 pairs to 13 pairs and 2 pairs to 5 pairs, respectively). There were also CAGN mapped in 2022 within some preserves where they had not previously been found such as Poinsettia Place, Poinsettia Park, and Parcel H North of Aviara Conservation Area. Since the number of pairs and total territories continue to be stable and/or increasing, the change in the number of territories between preserves likely does not reflect a change in suitable habitat, but rather temporal shifts in distribution.

Discussion

Although the citywide CAGN surveys do not follow a statistically rigorous study design, the 2010, 2013, and 2022 survey results provide a useful snapshot of CAGN abundance, status, and distribution in the city within managed and some unmanaged preserves. CAGN are observed across the HMP preserve system and in all unit and vegetation patch sizes. Therefore, continued management of all unit and vegetation patch sizes is considered important for the preservation of this species. Small habitat patches will continue to provide refugia and means of dispersal and recolonization within the city, especially during and after catastrophic events, such as fires occurring within larger patches of coastal sage scrub (e.g., in La Costa Villages and Calavera).

List of Abbreviations

CAGN – Coastal California Gnatcatcher
CDFW – California Department of Fish and Wildlife
CNLM – Center for Natural Lands Management
ESA – Environmental Science Associates
HMP - Habitat Management Program
HCP - Habitat Conservation Plan
NCCP - Natural Community Conservation Plan
SDHC – San Diego Habitat Conservancy

References

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- Vandergast, A.G., B.E. Kus, K.R. Barr, and K.L. Preston. 2014. Genetic Structure in the California Gnatcatcher in Coastal Southern California and Implications for Monitoring and Management. Prepared for California Department of Fish and Wildlife by U.S. Geological Survey.

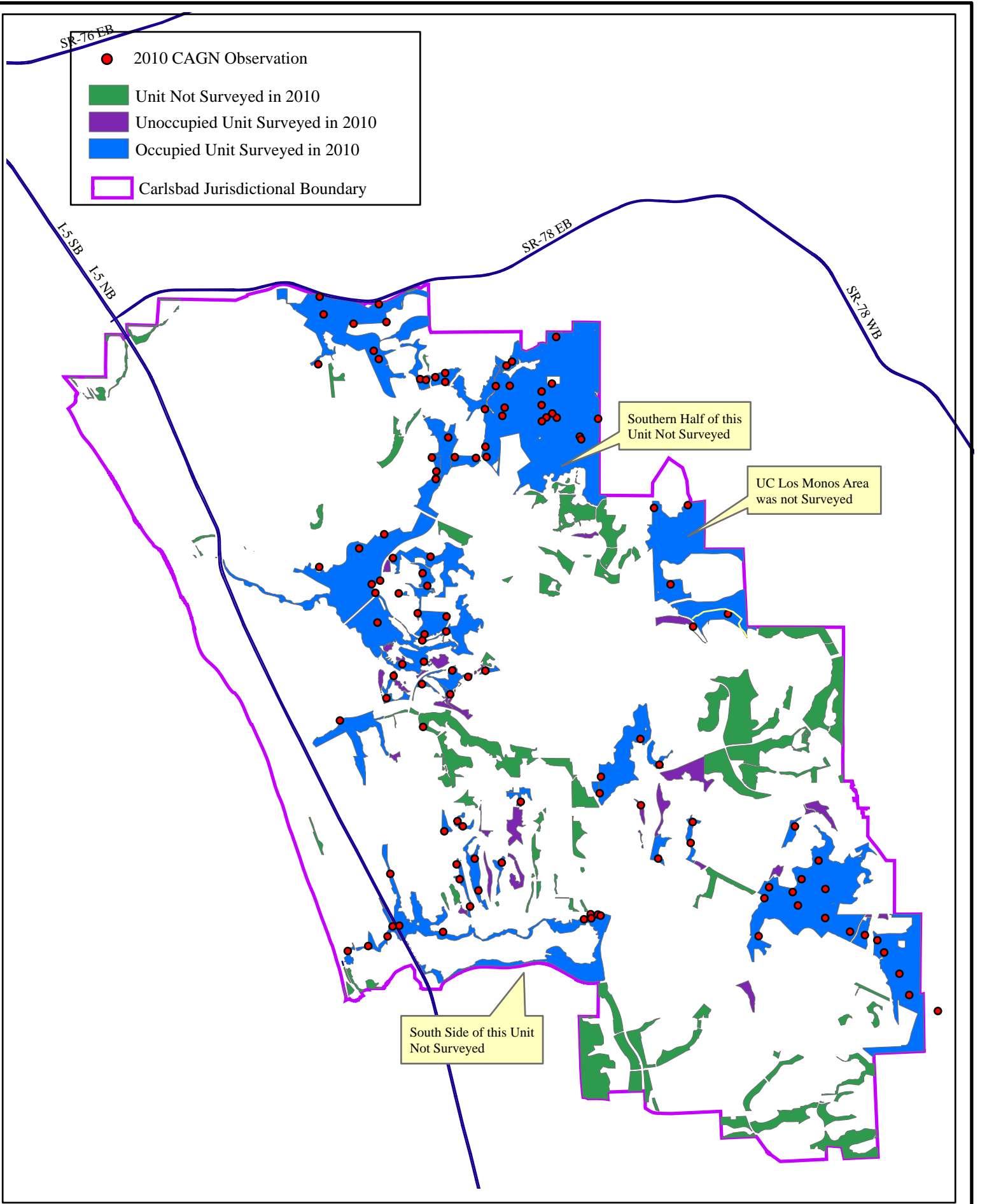


Figure 1
 2010 CAGN Observations
 Carlsbad, California

2,100 1,050 0 2,100 Feet



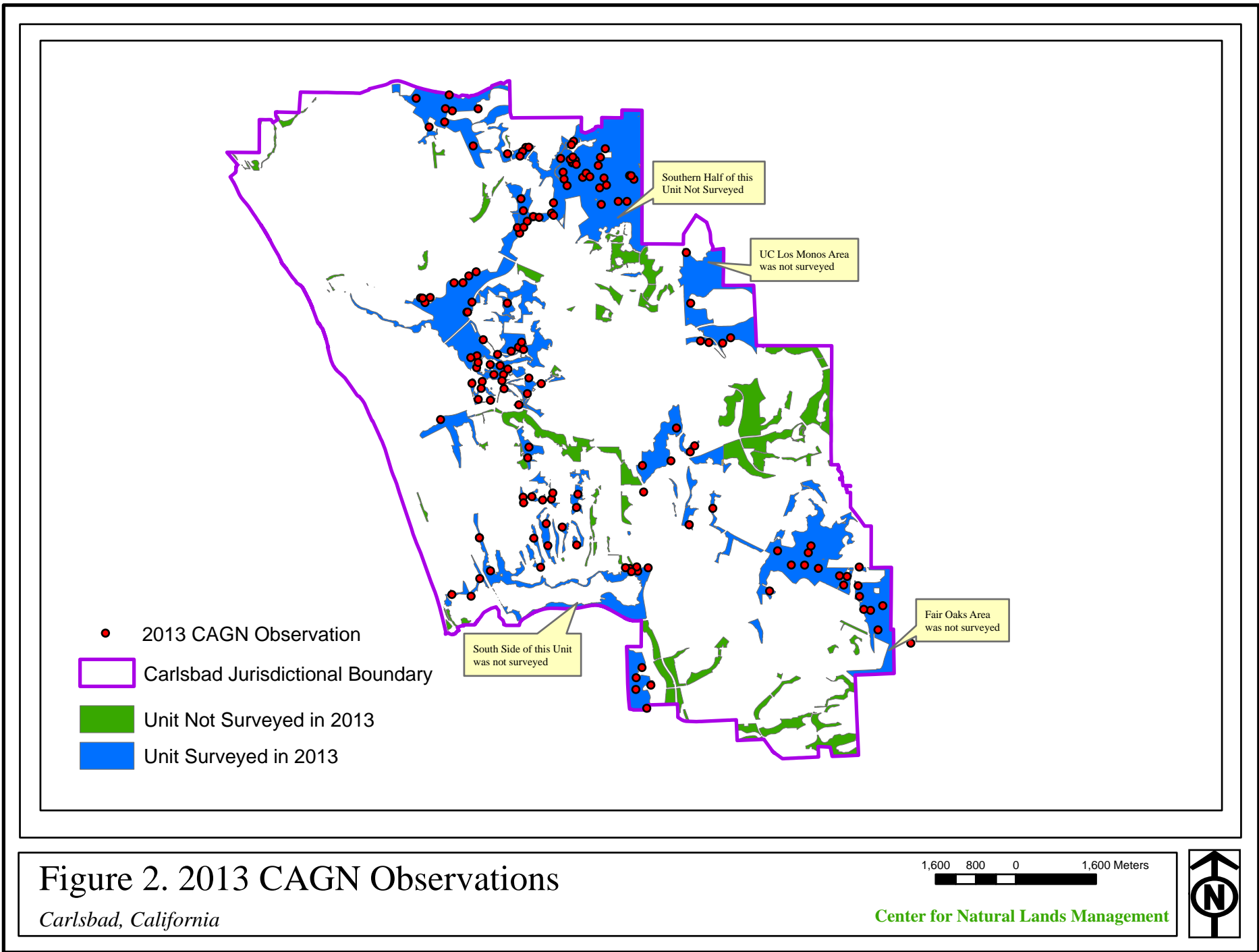
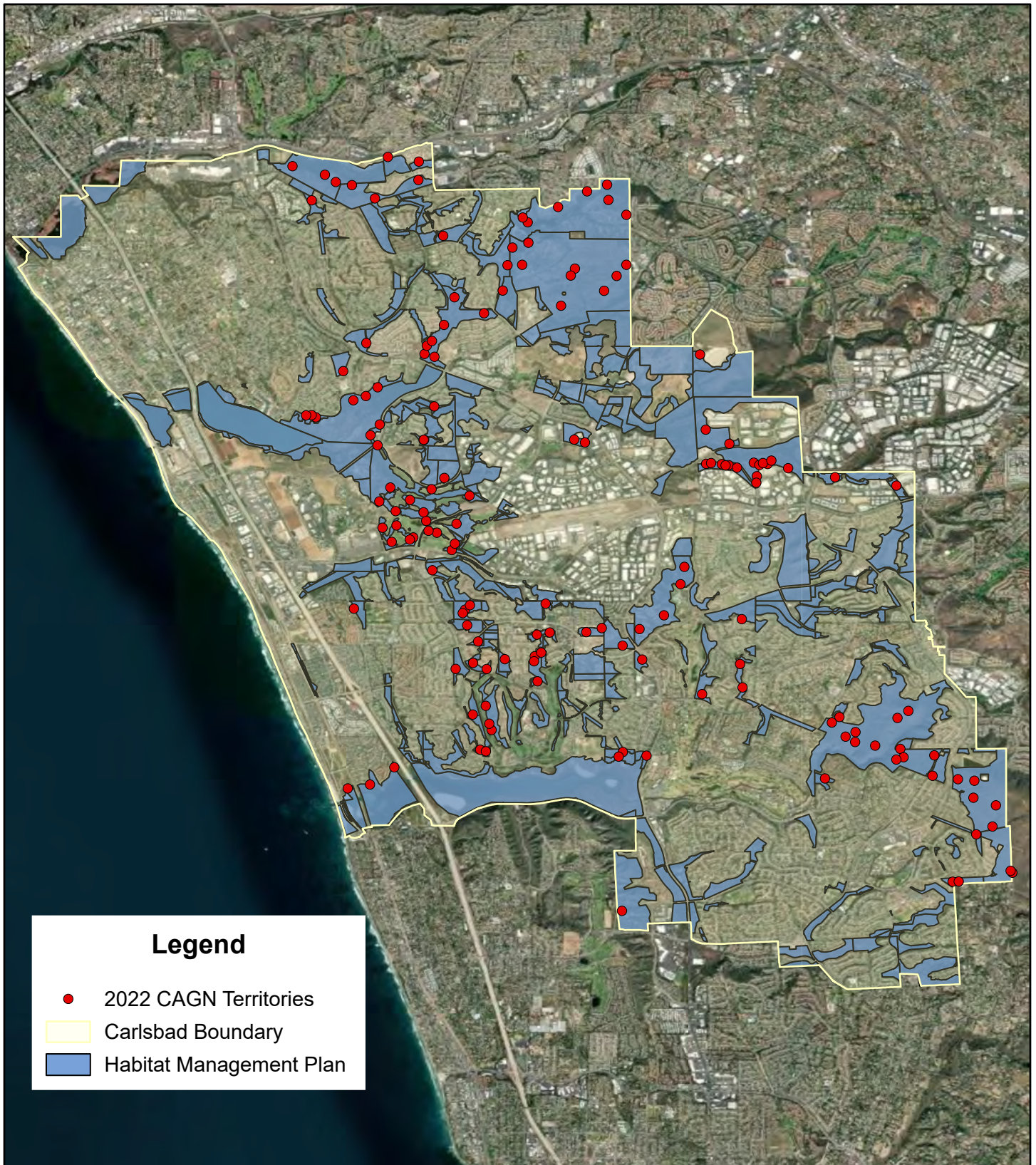


Figure 2. 2013 CAGN Observations

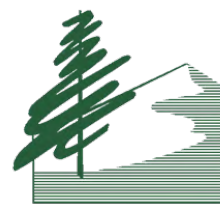
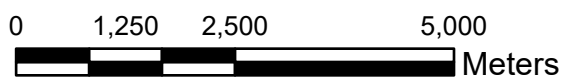
Carlsbad, California



Legend

- 2022 CAGN Territories
- Carlsbad Boundary
- Habitat Management Plan

Figure 3. 2022 CAGN Observations from Carlsbad City-Wide Survey



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Table 1. CAGN Survey Results from 2010, 2013, and 2022, City of Carlsbad

Preserve or Area Name	Manager	Surveyors (2022)	Acres of CSS Surveyed	Most recent survey	2022 Survey results	2012/2013 Survey Results	2010 Survey Results
Agua Hedionda Lagoon Ecol. Reserve	CDFW	CDFW	24	2022	4 pair, 3 single male	7 pair, 3 single males	3 pair and 1 single male
Alemere-County off-site	CNLM	CNLM	60	2022	1 pair	1 pair	1 pair
La Costa Valley	None				NS	NS	NS
Aura Circle	City-CNLM	CNLM	15.1	2022	1 pair		
Aviara Conservation Area	HOA	ESA	Parcel A: 7.8	2022	1 pair	2 pair	1 pair
		ESA	Parcel B: 17.5		2 pair, 1 single male	2 pair,	1 pair, 2 single male
		ESA	Parcel C: 30.1		2 pair, 1 single male	2 pair	2 single male
		ESA	Parcel D: 4.0		0	1 pair	1 pair
		ESA	Parcel E: 8.0		0	1 male	0
		ESA	Parcel F: 10.5		2 pair	2 male	2 single male
		ESA on behalf of SDHC	Parcel G/Muroya: 3.3		recorded below (Muroya)	1 pair, 1 male	0
		ESA	Parcel H North*: 7.0		1 pair, 1 male	0	
		ESA	Parcel H: 26.4		4 pair	1 male, 1 pair	1 single male
		ESA	Parcel I: 20.9		3 pair, 1 single male	1 pair, 1 s male	N/S
Aviara Park	City-CNLM	CNLM	5.6		1 pair		
Batiquitos Drive	City-CNLM	CNLM	2.6	2022	0	1 pair	1 juvenile out of breeding season
Batiquitos Lagoon Parcel					NS	NS	NS
Batiquitos Lagoon Ecological Reserve	CDFW	CDFW	East: 16	2022	2 pair, 1 single male	5 pair, 2 single male	4 pair, 3 single male
			West: 14		2 pair, 1 single male	3 pair, 1 single male	1 pair, 3 single male
Bressi Ranch	SDHC				NS	NS	NS

Preserve or Area Name	Manager	Surveyors (2022)	Acres of CSS Surveyed	Most recent survey	2022 Survey results	2012/2013 Survey Results	2010 Survey Results
Buena Vista Creek Ecological Reserve	CNLM-CDFW	CNLM-CDFW	12	2022	3 pair	3 pair, 2 single males (1 additional individual heard off-site)	3 pair heard on adjacent land, one of these pair observed anecdotally on Reserve in June. 2 SM heard incidentally
Buena Vista Lagoon Ecological Reserve	CDFW			2022	0		
Calavera Hills Phase II Habitat Consv. Area (aka Calavera West of Calavera Heights) & Robertson Ranch	CNLM	CNLM	Village K	2022	1 pair	4 pair, 1 single male	5 pair
			Village H		0	1 single male	1 pair and 1 single male
			Village U/W		1 pair (recorded as single male by CNLM, then pair by CDFW)	2 pair	1 pair
			Village X		1 single male	2 pair	1 single male
			Robertson Ranch West (Reveg in progress, < 1 acre pre-existing)		6 pair	1 pair	3 pair
			Robertson Ranch East (28 + 10 ac. css reveg)		2 pair	6 pair, 1 single male	3 pair, 2 single males
			Total 210 acres				
Cantarini/Holly Springs	None		?	2011 (Helix)	NS	1 individual	NS
Cassia	CNLM	CNLM	No CSS, but some suitable habitat	2022	0	None	None
Carlsbad Highlands ER	CDFW	CDFW	East Side: 124	2022	4 pair, 1 single male	1 pair, 3 single male, 1 unk	2 pair and 6 single male
			West Side: 115		2 pair, 2 single male (one pair was in CNLM preserve)	3 pair and 1 single male	
Carlsbad Oaks North	CNLM	CNLM	73	2022	13 pair, 1 single male, 1 unk	5 pair	3 pair

Preserve or Area Name	Manager	Surveyors (2022)	Acres of CSS Surveyed	Most recent survey	2022 Survey results	2012/2013 Survey Results	2010 Survey Results
Carlsbad Raceway	SDHC	SDHC	46.25	2022	1 pair, 1 unk	1 individual in restoration area (not a complete survey)	(with 3 nestlings)
Carlsbad Village	City-CNLM	CNLM	5.8	2022	1 pair	1 single male	1 pair
City Ventures/La Costa Collection	Urban Corps	Urban Corps	Approximately 5	2022	1 pair	1 pair	NS
Copper Creek-County Off-site purchase by City of Carlsbad	CNLM	CNLM	Approximately 125	2022	4 pair, 1 unk	1 pair	NS
Daybreak Community Church*	SDHC	ESA on behalf of SDHC		2022	See "Aviara Parcel H North", which includes Daybreak	NS	NS
Emerald Pointe Estates	SDHC	ESA	10.1	2022	1 pair	1 pair (and 1 fledgling)	1 pair
Encinas Creek/N. County Habitat Bank	CNLM	CNLM-presence/absence	1	2022	0	1 male	1 pair
Fox Miller	Helix	Helix	5.3	2022	1 pair, 1 single male		
Kelly-JRM	None				NS	NS	NS
Kelly Ranch HCA	CNLM	CNLM	49	2022	2 pair, 2 unk	2 pair	5 pair and 3 single male
La Costa Canyon Park	City-CNLM	CNLM	6.9	2022	1 pair	1 pair	0
La Costa Glen	CNLM	CNLM	21	2022	1 pair	5 pair, birds using site + adjacent areas.	NS
La Costa /Romeria	City-CNLM	CNLM	3.3	2022	0	0	0
Lake Calavera	City-CNLM	CNLM	70	2022	5 pair and 1 single male	2 pair and 2 single males	2 pair and 1 single male
Laurel Tree Lane	SDHC	SDHC			NS	NS	NS
Los Monos	City-CNLM	CNLM	18.9	2022	1 pair	1 pair	2 males
U.C. Dawson-Los Monos	UC	UC			NS	NS	NS
Macario Canyon	City-CNLM	CNLM	14.4	2022	1 single male	0	2 pair
Manzanita Partners	Dudek/HRS	ESA		2022	1 pair		
Morning Ridge	Urban Corps	ESA		2022	0	NS	NS

Preserve or Area Name	Manager	Surveyors (2022)	Acres of CSS Surveyed	Most recent survey	2022 Survey results	2012/2013 Survey Results	2010 Survey Results
Municipal Golf Course	City-CNLM	CNLM	121	2022	12 pair, 7 single male	23 pair	13 pair
Muroya	SDHC	SDHC	8.5	2022	1 pair		
New Crest	Urban Corps				NS		
N. Coast Calvary Chapel	Helix	Helix	8.4	2022	1 pair, (2 pair off-site (ESA))	2 pair	NS
Palomar Pointe	None				NS	NS	NS
Paseo Del Norte	Urban Corps				NS		
Poinsettia Park	City-CNLM	CNLM	5.6	2022	1 single male	0	0
Poinsettia Place	Urban Corps	Urban Corps	0 (none is mapped, but could have patchy CSS)	2022	2 pair	0	NS
Poinsettia Station	City-Dudek	ESA	3				
Quarry Creek	SDHC	SDHC	1	2022	5 pair		
Rancho La Costa (La Costa Villages) ~650 acres	CNLM	CNLM	Choumas-P-County	2022	15 pair, 1 single male	9 pair	7 pair and 1 single male
			Greens		7 pair, 1 single male	5 pair 2 single males	8 pair
			Ridgeline-West		7 pair, 1 unk	5 pair	5 pair and 4 single male
			Ridgeline-East		2 pair, 2 single male	4 pair	3 pair
			Denk Mountain		4 pair, 4 single male (1 pair, 1 single male in wildlife corridor)	7 pair	3 pair
Nelson-County	0	1 pair	0				
Sage Creek	SDHC				NS		
Sonata	SDHC				NS		
Southern	Urban Corps	Urban Corps	Less than 55 acres (whole preserve is 55 acres and was surveyed in 2020)	2022	1 pair	NS	NS
Summit	CDFW		Less than 2 acres	2013	NS	0	0
Veterans Preserve	City-CNLM	CNLM	14.9	2022	0	3 pair	1 pair

* The area labeled "Aviara Parcel H North" consists of the following three adjacent preserves: (1) Daybreak Community Church, (2) Encantada, and (3) Aviara Premier Collection.