

City of Carlsbad 2013 Coastal California Gnatcatcher Survey Results  
November, 2013

## **Introduction**

The City Carlsbad's 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, a total count of the number of territories of this species across the entire City in one breeding season had not been conducted. In 2010, preserve managers conducted the first City-wide survey for the species. In that year, the City and its management partners developed a 2010 breeding season survey protocol and coordinated surveys across much of the suitable CAGN habitat within the City. The results of that survey are available on the city's HMP website at <http://www.carlsbadca.gov/services/environmental/hmp/species-habitats/Documents/CAGN%20Carlsbad%202010%20Survey%20Results-Final.pdf>. In 2013, this effort was replicated. The primary objective for this effort was to determine the abundance, status (i.e. pair or single male) and distribution of CAGN across the City. This document summarizes the results of the 2013 surveys and compares it to the 2010 results.

### Monitoring Objective

**Objective 1:** Determine current distribution, status and abundance of CAGN in the City of Carlsbad.

## **Methods**

The City and its management partners (survey team) met prior to the CAGN breeding season to discuss the 2010 survey protocol (CNLM/TAIC, 2010) and determine if any changes were needed. As in 2010, all partners agreed that two to three visits per survey area (usually less than 100 acres per day) was sufficient to determine the presence or absence of the species. In 2013, approximately 15% of the areas surveyed received 3 survey visits, and 80% received 2 survey visits. Surveys were coordinated amongst the survey team in areas adjacent to one another to avoid double counting. In addition, it was noted in 2010 that there was a high male:female sex ratio, and as such, surveyors were asked to take extra time to determine pair or single status.

Most surveys were conducted in March and April and were separated by 7 to 14 days per unit area.

Surveyors either took GPS coordinates in the field during surveys, or hand mapped birds on aerial photographs and later entered the information into GIS. The 2013 CAGN GIS file

includes the name of the survey group (i.e. CNLM, CDFG, City, etc), the survey year, the common and scientific name and status (pair, single male or other). Due to the lack of correlation between occupancy and unit area or vegetation patch size determined in the 2010 study, this spatial analysis was not conducted as part of the 2013 study.

The CAGN surveys results and areas that were surveyed in 2010 are depicted in Figure 1. Most areas that were surveyed in 2010 were surveyed again in 2013 (Figure 2). There were only two areas that were surveyed in 2010, but were not surveyed in 2013:

1. Emerald Pointe Estates, between the Encinas Creek and Poinsettia Park and the areas along the west side of Hidden Valley Road, about ½ miles south of Palomar Airport Road (about 10 acres).
2. Evans Point (area just east of Kelly Ranch, about 5 acres).

There were additional areas surveyed in 2013 that were not surveyed in 2010:

1. La Costa Glen Uplands (CNLM). About 20 acres of suitable habitat on the preserve and about 20 acres of fringe habitat around the preserve. Total preserve acreage is about 104. The entire area, where possible, and including chaparral areas, was surveyed.
2. Shorepointe open space, approximately 21 acres of open space (Carlsbad Shorepointe HOA) located northeast of the Aviara Parkway/Poinsettia Lane intersection.
3. Copper Creek, approximately 125 acres of suitable habitat located east of Carlsbad in the County.

Last, there was an area mapped in 2010 as surveyed which was not actually surveyed in 2010, nor in 2013. It is known as “Fair Oaks” and lies south of the La Costa Villages preserve area (See Figure 2).

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. Another notable areas not surveyed in 2013 are the U.C. Dawson-Los Monos Preserve and Bressi Ranch, which were also not surveyed in 2010.

## **Survey Results**

A total of 122 pair and 33 single males (155 territories) CAGN were observed in 2013 in comparison to 85 pair and 42 male (127 total territories) observed in 2010 (Figure 1, Figure 2 and Table 1 attached to end of document). Observers concluded that nearly all males were single males. This is an increase of 28 territories despite little change in survey acreage.

As in 2010, CAGN were observed throughout the City in almost all areas that were surveyed and in most unit areas and vegetation patch sizes. Areas with notable between-year differences include the Crossings Golf Course, which increased by 10 pair (13 to 23), Agua Hedionda

Lagoon Ecological Reserve, which increased by 6 territories (4 to 10), Calavera Mountain, which increased by 5 territories (6 to 11) and Kelly Ranch, which decreased by 6 territories (8 to 2). The newly preserved La Costa Glen had a notable 5 pair, which were observed using the preserve and adjacent slopes.

## **Discussion**

The 2010 and 2013 survey season results have provided a useful snapshot of CAGN abundance, status and distribution in Carlsbad. CAGN are observed across the jurisdiction 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 play an important role in Carlsbad, especially during a catastrophic event, such as fire that burns some of the larger patches of coastal sage scrub (e.g., in La Costa Villages and Calavera), by serving as refugia. These small patches could be a source of CAGN recolonization after such an event occurs. In addition, the smaller patches are likely to be important “stepping stones” for CAGN movement throughout the City.

Future investigations should include:

- a. Ground-truthing and revising the AECOM GIS vegetation communities’ layer to determine suitable habitat for the CAGN.
- b. Mapping the City’s vegetation communities with the AECOM system.
- c. Conducting nest monitoring to determine breeding success in various unit and vegetation patch sizes (e.g., are small patches acting as a population sink?).
- d. Collecting genetic information from individual to determine the effectiveness of CAGN corridors/movement areas or,
- e. Conduct mist netting and banding to study CAGN movement
- f. Researching the potential to adopt a sampling methodology in lieu of focused surveys to provide a more statistically rigorous approach to determining population trends and occupancy estimates.

## **References**

CNLM/TAIC 2010. California Gnatcatcher Monitoring Program for the City of Carlsbad.

CNLM 2010. City of Carlsbad 2010 Coastal California Gnatcatcher Survey Results, December, 2010.

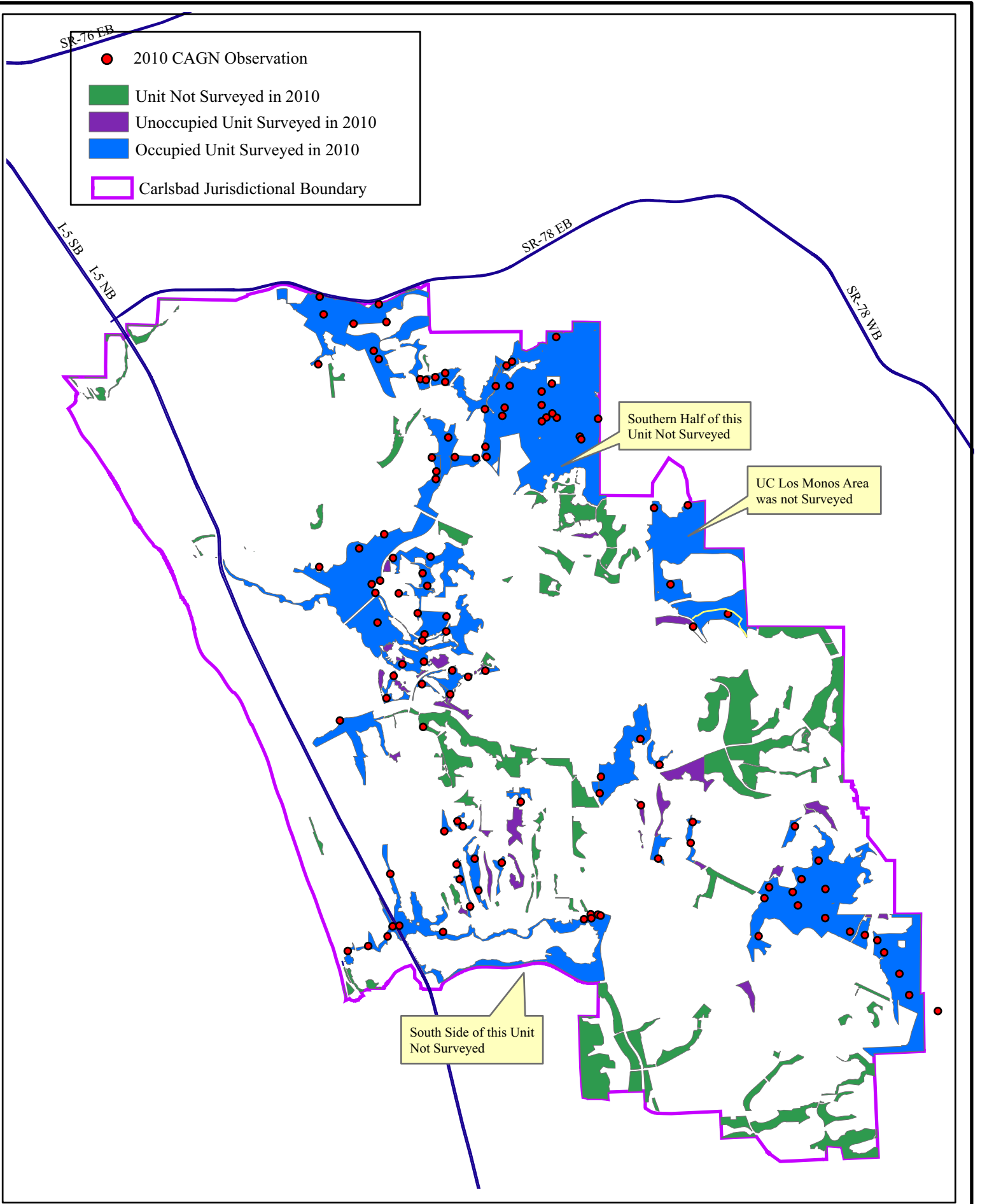


Figure 1  
 2010 CAGN Observations  
 Carlsbad, California

2,100 1,050 0 2,100 Feet

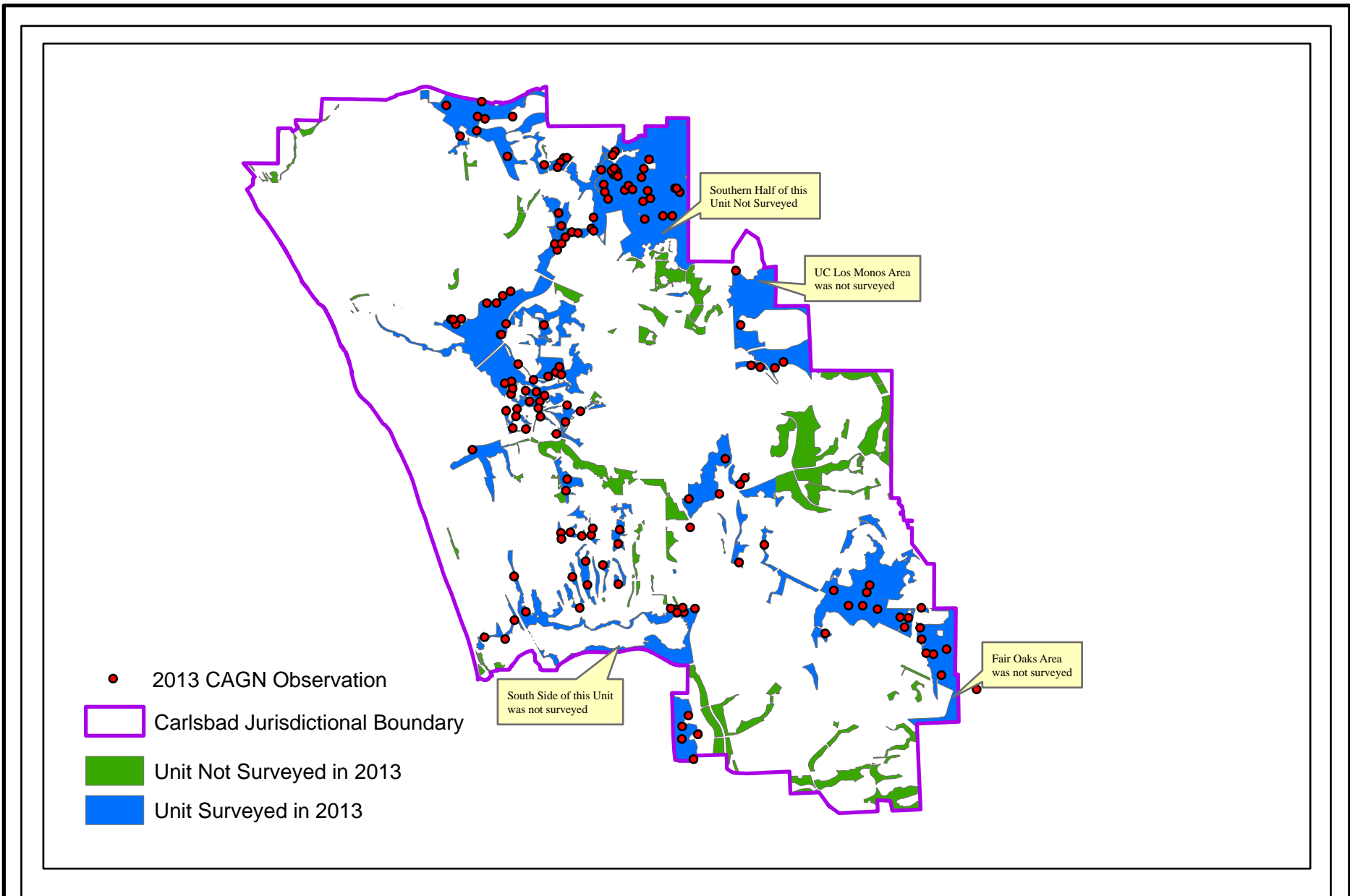


Figure 2. 2013 CAGN Observations

Carlsbad, California

1,600 800 0 1,600 Meters



Center for Natural Lands Management



Table 1. 2010 and 2012/2013 CAGN Survey Results, City of Carlsbad

Preserve or Area Name	Manager	Acres of CSS Surveyed	Most recent survey	2012/2013 Survey Results	2010 Survey Results
Agua Hedionda Lagoon Ecol. Reserve	CDFG	?	2013	7 pair, 3 single males	3 pair and 1 single male
Alemere-County off-site	CNLM	60	2013	1 pair	1 pair
La Costa Valley	None			NS	NS
Aviara Conservation Area	HOA	Parcel A: 7.8	2013	2 pair	1 pair
		Parcel B: 17.5		2 pair,	1 pair, 2 single male
		Parcel C: 30.1		2 pair	2 single male
		Parcel D: 4.0		1 pair	1 pair
		Parcel E: 8.0		1 male	0
		Parcel F: 10.5		2 male	2 single male
		Parcel G/Muroya: 3.3		1 pair, 1 male	0
		Parcel H North:		0	
		Parcel H: 26.4		1 male, 1 pair	1 single male
		Parcel I: 20.9		1 pair, 1 s male	N/S
Batiquitos Drive	City-CNLM	2.6	2013	1 pair	1 juvenile out of breeding season
Batiquitos Lagoon Parcel				NS	NS
Batiquitos Lagoon Ecological Reserve	CDFG	East	2013	2 pair, 2 single male	4 pair, 3 single male
		West		3 pair, 1 single male	1 pair, 3 single male
Bressi Ranch	None			NS	NS
Buena Vista Creek Ecological Reserve	CNLM-CDFG	12	2013	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
Calavera Hills Phase I (Calavera Mtn)	CDFG		2013	5 pair, 4 single males	4 pair and 2 single male
Calavera Hills Phase II Habitat Conserv. Area (aka Calavera West of Calavera Heights)	CNLM	Village K	2013	4 pair, 1 single male	5 pair
		Village H		1 single male	1 pair and 1 single male
		Village U/W		2 pair	1 pair
		Village X		2 pair	1 single male
		Total 110 acres			

Preserve or Area Name	Manager	Acres of CSS Surveyed	Most recent survey	2013 Survey Results	2010 Survey Results
Cantarini/Holly Springs	None	?	2011 (Helix)	1 individual	NS
Cassia-Professional Offices	CNLM	No CSS, but some suitable habitat	2013	None	None
Carlsbad Highlands ER	CDFG	East Side	2013	1 pair, 3 single male, 1 unk	2 pair and 6 single male
		West Side		3 pair and 1 single male	
Carlsbad Oaks North	CNLM	73	2013	5 pair	3 pair
Carlsbad Raceway	Helix (restoration area only)	?	2012	1 individual in restoration area (not a complete survey)	NS
Carlsbad Village	City-CNLM	5.8	2013	1 single male	1 pair
Rancho Carrillo	City-CNLM	none		NS	NS
La Costa Collection	SD Urban Corps	Approximately 5	2013	1 pair	NS
Copper Creek-County Off-site purchase by City of Carlsbad	CNLM	Approximately 125	2013	1 pair	NS
U.C. Dawson-Los Monos Reserve	UC			NS	NS
Emerald Pointe Estates	SDHC	10	2012	1 pair (and 1 fledgling)	1 pair
Kelly-JRM	None			NS	NS
Kelly Ranch HCA	CNLM	49	2013	2 pair	5 pair and 3 single male
La Costa Canyon Park	City-CNLM	6.9	2013	1 pair	0
La Costa Glen	CNLM	21	2013	5 pair Birds using site and adjacent areas.	NS
La Costa /Romeria	City-CNLM	3.3	2013	0	0
La Costa Villages:	CNLM	Choumas-P-County	2013	9 pair	7 pair and 1 single male
		Greens		5 pair 2 single males	8 pair
		Ridgeline-West		5 pair	5 pair and 4 single male
		Ridgeline-East		4 pair	3 pair
		Denk Mountain		7 pair	3 pair
		Nelson-County		1 pair	0
		Total 650			

Preserve or Area Name	Manager	Acres of CSS Surveyed	Most recent survey	2013 Survey Results	2010 Survey Results
Lake Calavera Mitigation Parcel	City-CNLM	70	2013	2 pair and 2 single males	2 pair and 1 single male
Los Monos	City-CNLM	18.9	2013	1 pair	2 males
Macario Canyon	City-CNLM	14.4	2013	0	2 pair
Municipal Golf Course	City-CNLM/Dudek	121	2012	23 pair	13 pair
N. County Habitat Bank	CNLM	1	2013	1 male	1 pair
N. Coast Calvary Chapel	Helix	?	2012	2 pair (unclear if entire property was surveyed)	NS
Palomar Pointe	None			NS	NS
Poinsettia Park	City-CNLM	5.6	2013	0	0
Poinsettia Place	Urban Corps	0 (none is mapped, but could have patchy CSS)	2013 (2 individuals observed in 2011)	0	NS
Research Center	City-CNLM	None		0	NS
Robertson Ranch East	CNLM	28 plus 10 acres of css reveg Parcel "A" Parcel "B"	2013	6 pair, 1 single male	3 pair and 2 single male
Robertson Ranch West Village Phase I	CNLM	Reveg in progress, less than 1 acre pre-existing	2013	1 pair	3 pair
Shelley Preserve	None			NS	NS
Special Resource Area 3: Encinitas Creek	None			NS	NS
Summit	CDFG	Less than 2 acres	2013	0	0
Veteran's Memorial Park	City-CNLM	14.9	2013	3 pair	1 pair
<b>Totals</b>		Approximately 1,500 acres		117 pair and 33 single males in Carlsbad for a total of <b>150 territories</b> . An additional 12 pair in County/Carlsbad off jurisdictional areas.	85 pair and 42 single male in Carlsbad for a total of <b>135 territories</b> . An additional 8 pair and 2 single male in County/Carlsbad-off jurisdictional areas