

**Coastal Cactus Wren Summary
Western Puente Hills
2009**



Cactus Wren, Sycamore Canyon, Whittier Hills
(ph. by Raul Roa, 2008)

Prepared for:

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August 31, 2009 (revised Sept. 8, 2009)

INTRODUCTION

During spring of 2009, The Nature Conservancy initiated a volunteer-based project to map and survey all known territories of the Cactus Wren in coastal-slope Los Angeles County. Two local biological consultants, Daniel S. Cooper (Cooper Ecological Monitoring, Inc.) and Robert A. Hamilton (Hamilton Biological, Inc.) were charged with designing and organizing the survey using a team of 20+ volunteer birders. The goal was to develop a baseline estimate on the number and distribution of Coastal Cactus Wren pairs in Los Angeles County, and to gather as much information on the 2009 breeding success of these pairs as possible. This report provides a summary of findings to the Puente Hills Landfill Native Habitat Preservation Authority ("Habitat Authority").

Prior to this 2009 effort, the recent range of the Coastal Cactus Wren in Los Angeles County was thought to include fewer than 10 areas, each one ecologically isolated from the others: Big Tujunga Wash upstream of Hansen Dam, the Palos Verdes Peninsula, the Montebello Hills, the Puente Hills, the San Jose Hills (including South Hills Park in Glendora), the San Gabriel River Wash upstream of Santa Fe Dam, and the eastern San Gabriel Mountains foothills (from the San Gabriel River east to vic. Claremont) (K.L. Garrett, unpubl. data). We were able to survey each of these areas with the exception of the Montebello Hills (access denied), as well as an isolated population of birds in north Orange County adjacent to Los Angeles County (Coyote Hills). We found birds in all these areas except for Claremont, where they appear to have been recently extirpated (though they are still present just west of here in Glendora-San Dimas). As a result of this study, we did not discover new areas for Cactus Wrens aside from these known areas, but rather clarified the size and boundaries of these known "sub-populations".

The western Puente Hills subpopulation was considered to include three areas: 1) the Whittier Hills (Workman Mill Rd. east to Colima Rd.); 2) the narrow corridor/patches of open space near Hacienda Blvd.; and 3) the Schabarum Park/Powder Canyon area between Azusa Rd. and Fullerton Rd. Elsewhere in the area, Cactus Wrens are known locally from the Montebello Hills to the west, the southeastern flank of the Puente Hills in Brea, the northeastern Puente Hills in Diamond Bar (see Cooper 2000), as well as at several locations in the San Jose Hills to the northeast. The status of a population in the western "Industry Hills" (vic. La Puente, west of the golf course/hotel complex) is unknown; extensive, appropriate-looking cactus scrub is present here (as of April 2009) but access is restricted.

Taxonomy

"Coastal Cactus Wren" is the name used for coastal populations of the Cactus Wren *Campylorhynchus brunneicapillus* that occupy the coastal slope of southern California. A desert bird over most of its global range, its coastal distribution extends along a relatively narrow band from eastern Ventura County (vic. Pt. Mugu/Conejo Grade) and central Los Angeles County (San Fernando Valley) south and east to western Riverside County, and south through Orange County, western San Diego County and into extreme northwestern Baja California, Mexico. The taxonomy of these non-desert wrens has been the subject of some dispute. Originally lumped with the more widespread race that occurs throughout the Southwest into Mexico (*Campylorhynchus brunneicapillus coeusi*; see e.g., Grinnell and Miller 1944), the birds along the immediate coast from southern Orange County south to northwestern Baja California were split off as a distinctive race (the "San Diego Cactus Wren" *C. b. sandiegensis*) by Rea and Weaver (1990), thus leaving the remainder of the coastal birds with the widespread desert birds, *C. b.*

anthonyi. In 2008, the "San Diego Cactus Wren" was identified as a California Bird Species of Special Concern (Unitt 2008), which affords it protection under CEQA (Calif. Environmental Quality Act); while other coastal populations of the Cactus Wren were technically omitted from this designation (including those in identical coastal sage scrub habitat in adjacent Orange County!), biologists with regulatory agencies in the region are treating all coastal cactus wrens as Species of Special Concern (L. Comrack, pers. comm. 2008).

However, the 1990 study used to determine these racial boundaries used a rather small number of specimens from the birds' range, including few from the north-coastal region (e.g., Ventura and Los Angeles County), and recent evidence (Atwood and Lerman 2007) suggests that *all* coastal birds, are quite distinct in their vocalizations and ecology from all desert birds, and are therefore probably best considered part of an expanded coastal-slope population (the "Coastal Cactus Wren") distinct from desert forms in southeastern California, the Southwest, and northern Mexico. Though limited interchange with desert birds was possible historically, the areas where this may have occurred (Banning Pass) has not supported Cactus Wrens in at least a century (Grinnell and Miller 1944) so it is impossible to speculate on the ecology of the two forms in this border area. In Los Angeles County, coastal birds approached the Mojave Desert populations via the Santa Clara River, but were apparently found from vic. Santa Clarita downstream, and were absent in the higher-elevation desert scrub and arid chaparral farther east (Cooper and Hamilton, in prep.).

In coastal southern California and adjacent Baja California, the Cactus Wren is wholly confined to low-elevation cactus scrub habitats within the coastal sage scrub and alluvial fan scrub plant communities, and is extremely sedentary, highly susceptible to local extinction, and isolated geographically from interior populations. Furthermore, the coastal range of the Cactus Wren, though currently small and shrinking, has been contracting for at least a century; as Grinnell and Miller wrote in 1944: "range on coastal slope of southern California now much restricted as compared with condition in 1880's and 1890's, owing to great reduction of requisite habitat..." During the 2009 study, observers noted such impacts as recent fire that killed cactus outright; clearing for brush control (by machine, hand, and goats); and invasion of cactus patches by both non-native and native plants. Potential predators of eggs and young were regularly observed, often being mobbed by adult wrens, including California ground-squirrel *Spermophilus beecheyi*.

Ecologically, this is not a bird that occurs in gardens and parks within developed areas (as is the case with desert birds), but is restricted to wildland areas with an ecological connection to hundreds - if not thousands - of acres of open space, and is absent from smaller habitat patches where dense urbanization separates habitat areas (Cooper and Hamilton, in prep.). Interestingly, they appear to be able to persist locally in small patches of suburban development, such as in the Diamond Bar/Phillips Ranch area, where high-density residential neighborhoods alternate with "fingers" of open space on hillsides, connecting to larger reserves of undeveloped habitat.

Puente Hills Population

The Cactus Wrens of the western Puente Hills, like those throughout the Los Angeles area, occur in a rare and imperiled habitat association (cactus scrub within coastal sage scrub), which is also home to many other protected and/or scarce plants and animals, including Greater Roadrunner *Geococcyx californianus* (not formally protected, but coastal population now rare), California Gnatcatcher *Polioptila californica*, Desert Woodrat *Neotoma lepida*, Coastal Western

Whiptail *Aspidoscelis tigris multiscutatus*, Robinson's Peppergrass *Lepidium virginicum* var. *robinsonii*, and Plummer's Mariposa-lily *Calochortus plummerae*, among others (RMC 2007, Cooper pers. obs.).

It should be noted that the cactus in which the birds occur across the Puente Hills represents a mix of both a native species (*Opuntia littoralis*) as well as hybrids, presumably with cultivated prickly-pear (probably *Opuntia ficus-indica*). Prickly-pear has been planted and informally cultivated in the region and in northern Mexico for centuries, and the wrens have simply adapted to it locally where it occurs adjacent to large patches of native cactus. The Coastal Cactus Wren also occurs at sites that might be judged to the untrained observer as impacted by settlement, including road edges and along the wildland-urban interface near housing tracts. Nonetheless, there is no indication that the species benefits from disturbance or occurs away from large blocks of open space; nor that it uses urban habitats preferentially. For a variety of reasons, some of these areas with birds just happen to be located near houses and roads, probably because there are a lot of houses and roads within its remaining range.

METHODS

Survey methods were modeled after those developed for Cactus Wren surveys of the Nature Reserve of Orange County ("NROC") over the past 10 years. Here, R.A. Hamilton has refined a territory-mapping method involving drawing the boundaries of appropriate cactus patches onto acetate placed over aerial photographs, and returning for 20-minute follow-up surveys weekly after mapping. Using this method, most cactus patches took around two hours to map, during which time surveyors would be simultaneously watching and listening for Cactus Wrens, and noting the locations of nests.

As part of his research in Orange County, Hamilton and others have developed a classification scheme for cactus patches capable of supporting Cactus Wren, which are typically at least an acre in extent, and include at least 20% aerial cover by cactus more than a meter tall. These were classified by surveyors as "Type I" cactus stands (Type II stands were at least an acre but did not support 20% cover by tall cactus), and our first priority was to map all Type I and II stands in the county, and survey them for nests (old or new) and wrens. In the course of these visits, we also made an effort to map all the other patches of cactus in the vicinity of these Type I/II stands, with the thought that birds could be using sub-optimal stands nearby if they were in the area.

Each contiguous patch of cactus scrub was called a "polygon", and as assigned a unique alpha-code based on its geographical location (for example, S-01 = Sycamore Canyon, Polygon 1). The polygons were further subdivided into "sites" which surveyors felt supported single territories of Cactus Wrens, as evidenced by one or two vocalizing birds, or a cluster of nests. Hence, S-01-a and S-01-b would be two adjacent territories within Polygon 1 at Sycamore Canyon. The terms "site" and "territory" were essential interchangeable in this study, as were the terms "polygons" and "cactus patches".

After mapping, these (presumed) territories were visited three to seven times during March and April (the peak of territory establishment), and if wrens or nests were still not detected after three visits, they were dropped from the survey. This was necessary since we did not have unlimited time and volunteers to visit unoccupied territories repeatedly on the chance that birds

would discover them later in the season. In addition, we did not want to over-estimate the number of birds by counting territories established mid-season by birds dispersing from already-censused sites. In all, all but two occupied sites in the western Puente Hills were visited five times between 09 Mar. and 06 June (including the initial visit for mapping the site), with two sites visited only twice, and two sites visited six times.

RESULTS

A total of 23 territories of the Coastal Cactus Wren were mapped and monitored in the western Puente Hills, all on south- or southeast-facing slopes. Within this area, the majority of sites/territories (n=16) were located in the Whittier Hills, split between slopes in and around Hellman Park (n=10) and Sycamore Canyon (6 sites). Figure 1 depicts the areas found to currently/recently support Cactus Wrens in the western Puente Hills, discussed in detail below.

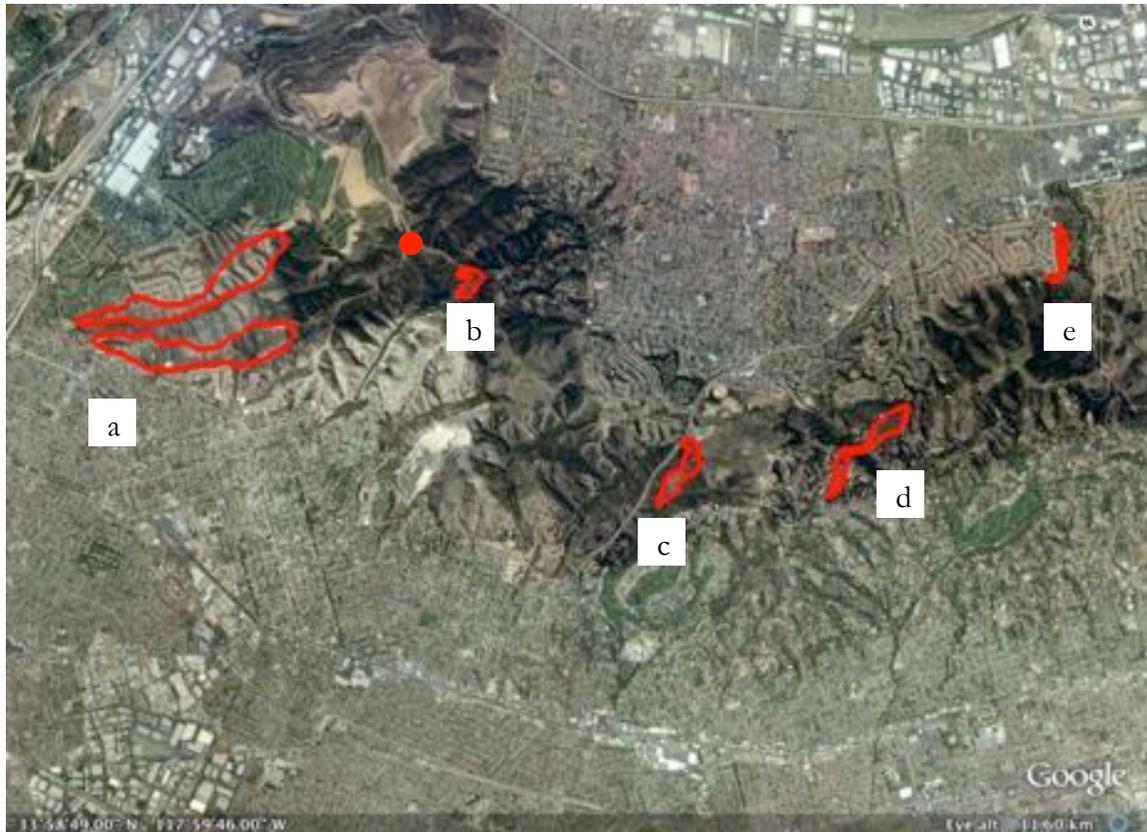


Figure 1. Regional map showing general area of Cactus Wren territories discussed in text. From west to east, they are: a) Sycamore Canyon/Hellman Park (= "Whittier Hills"), b) Upper Turnbull Cyn., c) Arroyo San Miguel (recent records from 2008; unrecorded spring 2009), d) Hacienda Blvd. area, and e) Schabarum Park. The red dot northwest of area "b" is the location of a small cactus patch at the base of a transmission tower where a pair of Cactus Wrens were observed in 1997.

In addition to these 23 sites, at least four potentially suitable areas of extensive cactus scrub were identified in Sycamore Canyon that were not accessible to surveyors during the study due to rugged terrain or private property boundaries, so the actual number of territories in the western Whittier Hills alone could be as high as 20 pairs, if not slightly higher (Fig. 2). In terms of land ownership, all but three of the known sites within the Sycamore-Hellman area were on lands managed by the Habitat Authority; the remaining three, plus the four sites not visited due to access issues, were all adjacent to Habitat Authority lands.



Figure 2. Cactus Wren territories in the western Whittier Hills (yellow pins). Red pins indicate appropriate habitat that was un-surveyed due to access issues. Unique alpha-numeric codes are explained in text.

Elsewhere in the western Puente Hills, three sites were identified on either side of Hacienda Blvd., with two on private property near Hacienda Blvd. (one territory is literally bisected by Skyline Dr. west of Hacienda), and a third site is on oil property to the southwest, near Virazon Dr., which was visited only briefly during this study due to access limitations (Fig. 3).



Figure 3. Cactus Wren territories in the Hacienda Blvd. area.

Three other sites were located along the western boundary of Schabarum Park (County of Los Angeles, Fig. 4), though this area may only support a single pair between them (down from four vocalizing birds on 14 May 1997, Cooper unpubl. data). This area has burned several times since then (including in 1998), and the extent of cactus scrub here has contracted noticeably, replaced by non-native grassland/forbs (esp. mustards, thistles).

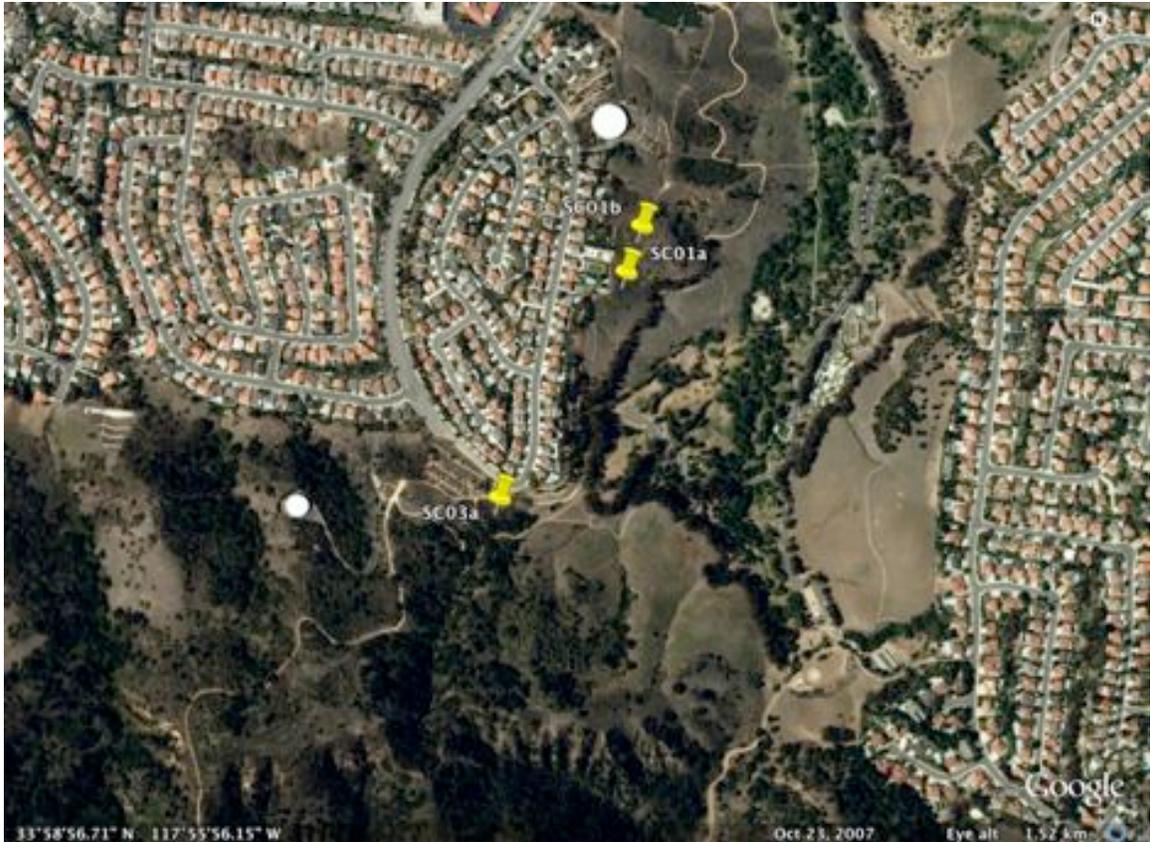


Figure 4. Cactus Wren territories vic. Schabarum Park. The southernmost site (SC03a) had nests but no birds (surveyed three times).

Finally, a single, highly-isolated site was identified at the head of Turnbull Canyon, just northwest of and downhill from the "Ford Property" (Fig. 5). Located on a very steep slope, this territory was the most difficult to survey, and it is possible that a small number of other territories (1-2 more?) may be present in this rugged area.

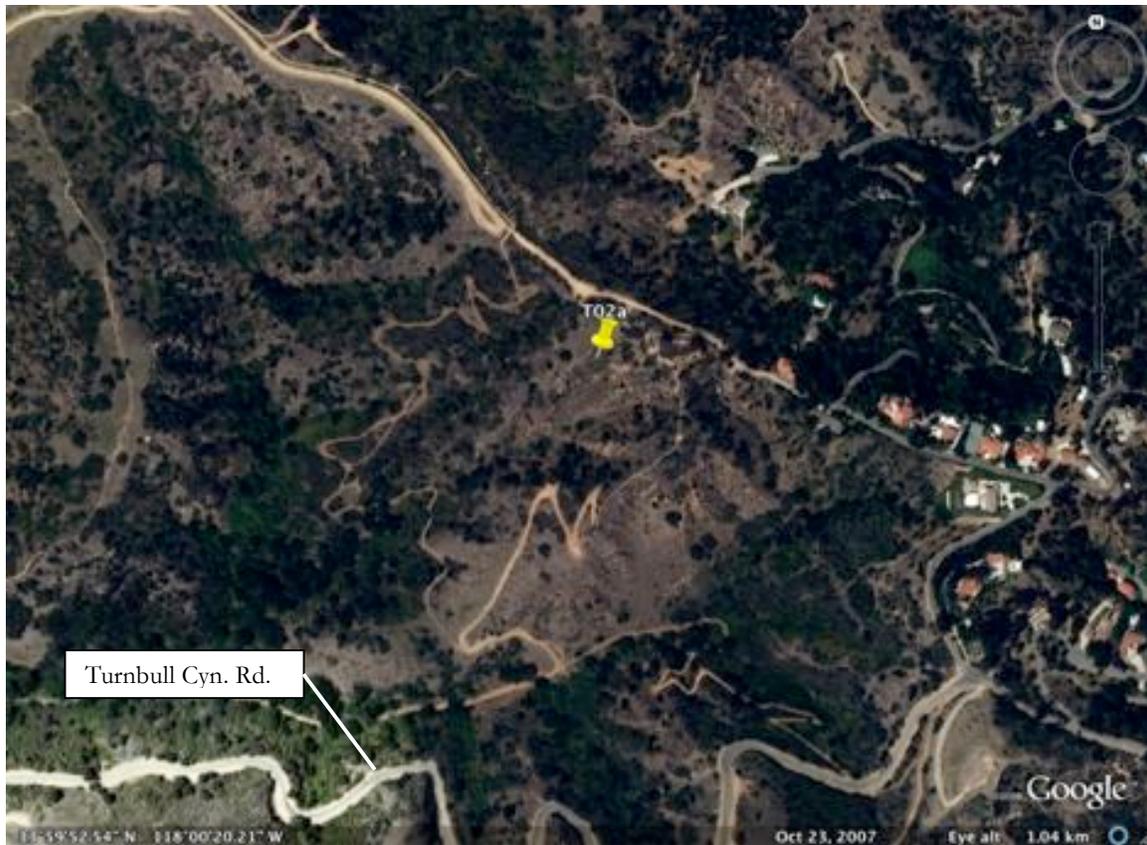


Figure 5. Cactus Wren territory, upper Turnbull Cyn. In 1997, a pair of Cactus Wrens was observed at the base of a transmission tower just off the upper left corner of the image.

As for nesting success, further analysis of the submitted maps and datasheets is required to determine outcome for these territories (volunteers often did not note nests and sightings on datasheets and/or maps, or did so incompletely, which has proven time-consuming to decipher). However, nests were observed at nearly all territories, and only one territory of the 23 mapped (SC03a, at Schabarum Park; see above) had nests but no birds.

DISCUSSION

Based on our 2009 study, an estimated 170-200 pairs of Coastal Cactus Wrens remain in Los Angeles County, which means that the western Puente Hills may support 15% of the remaining population of the county; perhaps 10% of the county's entire population is in the Sycamore Canyon-Hellman Park area alone, making it among the largest contiguous areas of open space with Cactus Wrens (the Montebello Hills, Bonelli Park, and the Glendora-San Dimas foothills appear to have similarly large contiguous populations). In addition to the sites monitored during this study, the Cactus Wren has been detected in three additional areas in the western Puente Hills:

Arroyo San Miguel

Up to three birds were observed "on a knoll just east of Colima Rd." (on land managed by Habitat Authority) during 2002 (TeraCor 2002). Though a follow-up visit to this area on 13 Dec. 2007 (by D.S. Cooper) yielded no detections, a single calling Cactus Wren was found on this day along the north/uphill side of Arroyo San Miguel Trail in the same general area on that visit. However, although this area was visited by S. Lucas as part of the 2009 survey, no further detections were made. So, while it seems possible that one pair may yet be in the Arroyo San Miguel area, we don't have the data to confirm this.

"Core Habitat" (per RCM 2007; Habitat Authority-managed open space west of Colima Rd.) A single bird was noted along the southern boundary of this area west of Catalina Dr. on 06 May 1997 (D.S. Cooper, unpubl. data); unfortunately soon after this observation, a large patch of prime cactus scrub habitat was cleared by the Los Angeles County Fire Dept., apparently for a training exercise, and no further detections from here are known.

Ridge between Turnbull Cyn. and Hacienda Hills (i.e., "Numbered Canyons")

A pair of Cactus Wrens was observed in cactus scrub at the base of a transmission tower on 08 April 1997 (D.S. Cooper, unpubl. data), and the species was marked as "Present" in "Canyon A" (exact location not known) of the Hacienda Hills in a multi-species table provided by LSA as part of the preparation of the RMC (2007). Though this area was not visited repeatedly during the 2009 survey, it was not found to have birds by the surveyor (S. Lucas), who found them a short distance to the south (upper Turnbull Cyn., vic. Ford property). Whether this is a pair that "winked out", or simply moved south and downslope a few hundred meters is not known.

Of the 23+ territories identified in the western Puente Hills during the 2009 survey, roughly half are on land controlled by the Habitat Authority, and many of the others are adjacent to Habitat Authority lands (incl. Rose Hills Cemetery). Therefore, the Habitat Authority may control this birds' fate to a large degree in the western Puente Hills. Elsewhere in the County, most of the territories are located on private lands or on habitat without a mandate for conservation. Exceptions do occur - for example, Bonelli Park supports at least 10 pairs, and the Palos Verdes Land Conservancy owns several parcels with wrens - but this is not a species whose habitat is well protected by any public agency, and is still highly-threatened here and throughout its range (in August 2009, a 200+ acre fire burned Cactus Wren habitat on the Palos Verdes Peninsula).

Therefore, it is critical that the Habitat Authority work closely with its neighbors to ensure the survival of this bird, and preserve the cactus scrub on which it depends, particularly in the Sycamore Canyon-Hellman Park area that supports the large aggregation. Suggested actions include the avoidance of brush-clearance of cactus (cactus is filled with moisture, and should not be considered fire-prone), and the prevention of fire, including smoking/campfires and other dangerous activities, in the Sycamore Canyon-Hellman Park area. Land acquisition of properties known to support the bird, as at Rose Hills or in the Hacienda Blvd. area, are also strongly recommended, particularly if the land is vulnerable to development or further disturbance (as most of the land in the area is). Planting of cactus pads, thereby expanding the amount of habitat, is recommended in areas known to have supported birds recently; planting cactus widely may not have much effect, as the chance of birds colonizing new areas where not recently known is so remote. Areas for this activity would include places like upper Turnbull Canyon

and Arroyo San Miguel, where the birds are probably in greatest danger of disappearing (if they haven't already).

Birds in the Hacienda Blvd./Virazon Rd. area may be the most at risk, given the lack of protected land here, and their proximity to roads and houses - any loss of cactus scrub habitat at the sites here could devastate this subpopulation, which is certainly fewer than five pairs. This disturbance could be as simple as aggressive brush-clearance along Skyline Dr. that happens to take out the tall cactus used by the birds here. Furthermore, these birds, and those at Schabarum Park may be a critical link between much larger populations in the western and eastern Puente Hills; if there is any genetic exchange between birds in the Whittier Hills and those in the Diamond Bar-Phillips Ranch area, it would likely be through this area, since the hills are completely hemmed-in by dense urbanization to the north and south, making dispersal difficult to envision.

Although there may be still time to save them, populations in the western Puente Hills appear to be continuing their decline: since intensive surveys of the late 1990s (by D.S. Cooper), territories have apparently been lost at Schabarum Park and vic. Arroyo San Miguel. Unlike the California Gnatcatcher, the Cactus Wren is an extremely poor re-colonizer, and once extirpated from an area of cactus, it virtually never re-appears (R.A. Hamilton, unpubl. data); for example the population of several pairs in the Baldwin Hills near Culver City disappeared suddenly in 1996 and hasn't reappeared (Molina 2001). Therefore, monitoring the remaining population and working to ensure the survival of birds now, where they are known to occur, is probably the best approach to their conservation. Examples of potential monitoring activities would include a region-wide count and mapping of territories (= nests and one pair consistently present on multiple visits) every five years, and sub-sampling counts of two or more areas every year (e.g., Sycamore Canyon and Schabarum Park).

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