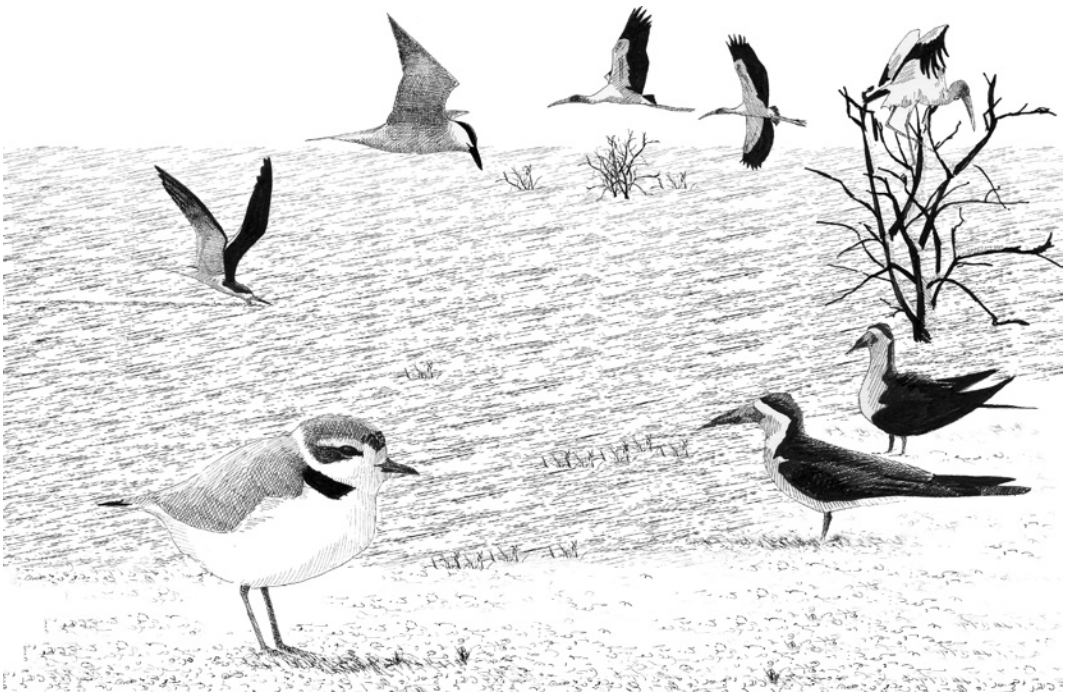


II

SPECIES ACCOUNTS



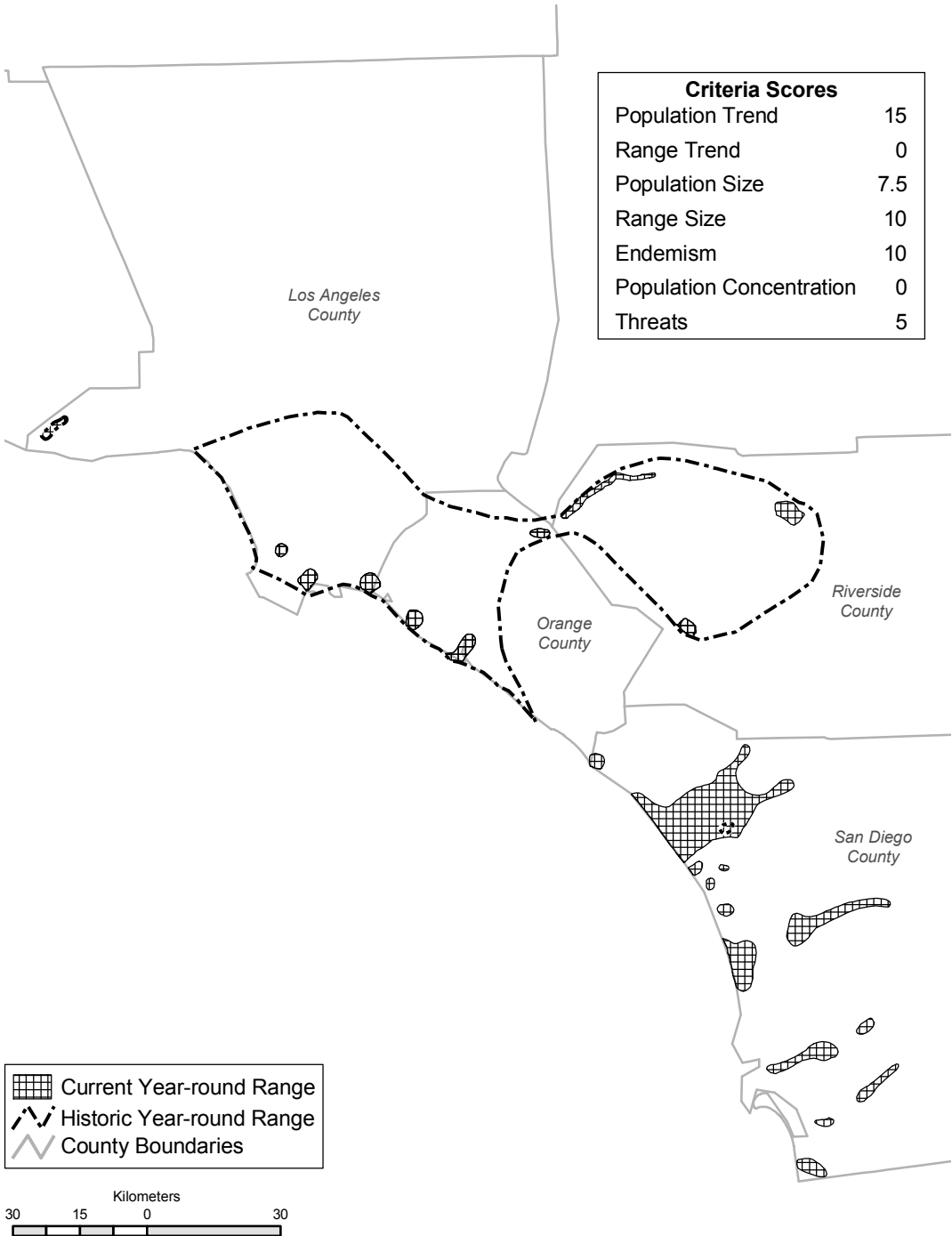
Andy Birch

PDF of Clark's Marsh Wren account from:

Shuford, W. D., and Gardali, T., editors. 2008. California Bird Species of Special Concern: A ranked assessment of species, subspecies, and distinct populations of birds of immediate conservation concern in California. Studies of Western Birds 1. Western Field Ornithologists, Camarillo, California, and California Department of Fish and Game, Sacramento.

CLARK'S MARSH WREN (*Cistothorus palustris clarkae*)

PHILIP UNITT



Current and historic (ca. 1944) year-round range of the Clark's Marsh Wren, a California endemic. Overall numbers have declined greatly. The former range in Los Angeles, Orange, and Riverside counties is now greatly fragmented; conversely, the range in San Diego County has expanded since 1950 (largely since 1975).

SPECIAL CONCERN PRIORITY

Currently considered a Bird Species of Special Concern (year round), priority 2. Not included on previous lists (Remsen 1978, CDFG 1992).

**BREEDING BIRD SURVEY
STATISTICS FOR CALIFORNIA**

Data inadequate for trend assessment (Sauer et al. 2005).

GENERAL RANGE AND ABUNDANCE

The Marsh Wren (*Cistothorus palustris*) breeds widely in North America. Migratory populations occur in southern Canada (mainly interior British Columbia, Prairie Provinces, Great Lakes vicinity) and the northern United States; resident populations occur in southern British Columbia, milder portions of western states, much of the Atlantic and Pacific coasts, and the central volcanic belt of interior Mexico (Kroodsmma and Verner 1997). Areas occupied only in winter include portions of southwestern and Gulf states, Baja California, and northern and central Mexico. Geographic variation is complex, and about 14 subspecies are recognized (references in Kroodsmma and Verner 1997). There are no estimates of overall abundance.

The Clark's Marsh Wren (*C. p. clarkae*) has a narrow distribution along the coast of southern California from the Los Angeles basin south to the Mexican border, as detailed below. Within this range, it is quite localized, though sometimes numerous. In winter (late Sep–early Apr), this resident subspecies is outnumbered in its range by Marsh Wrens of the migrant subspecies *C. p. pulverius* and *C. p. plesius* from the Great Basin region.

SEASONAL STATUS IN CALIFORNIA

Cistothorus palustris clarkae is sedentary. In San Diego County, the breeding season extends from late March to early August (Unitt 2004).

**HISTORIC RANGE AND
ABUNDANCE IN CALIFORNIA**

The Marsh Wren was formerly “a common resident of swampy regions in the lowlands” of the Los Angeles basin (Willett 1912), which presumably represented the historic core of the range of *Cistothorus palustris clarkae* (Unitt et al. 1996). Historical data from Orange County are too few to ascertain the pre-urbanization status of *C. p.*

clarkae in that area, but on the basis of the former extent of freshwater marshes such as Gospel Swamp, about 78 km² (Hamilton and Willick 1996), the species was undoubtedly common in the western part of the county. *C. p. clarkae* was recorded as a nesting species at Riverside in 1878 (F. Stephens in Willett 1912) and could have nested elsewhere along the San Jacinto and Santa Ana rivers in Riverside County. In San Diego County, the only area where *C. p. clarkae* was known to nest before 1949 was San Luis Rey/Guajome Lake, east of Oceanside, the southern limit of the species' known historic breeding range along the Pacific coast (Unitt 2004).

**RECENT RANGE AND
ABUNDANCE IN CALIFORNIA**

With agricultural and urban development, *C. p. clarkae* has been restricted to only a few sites in Los Angeles and Orange counties, but it has spread southward in San Diego County (see map). In Los Angeles County, six sites are currently known: two in the extreme west along Arroyo Sesquit, Torrance, Harbor Lake, Alamitos Bay, and along San Jose Creek in Diamond Bar (Los Angeles County bird atlas data, L. Allen pers. comm.). In Orange County, the only recent sites are Upper Newport Bay and the San Joaquin Marsh, Irvine (possibly over 100 pairs at each site), Huntington Central Park (fewer than 10 pairs, irregular), restored wetlands along the Santa Ana River in Anaheim east of Weir Canyon Road (fewer than 10 pairs, colonized in late 1980s, disappeared in 1996), and possibly Seal Beach National Wildlife Refuge (Hamilton and Willick 1996, Gallagher 1997). In western Riverside County, where subspecific identity needs confirmation, Marsh Wrens remain common all year in Prado Flood Control Basin along the Santa Ana River and occur locally along the river between Prado Basin and the city of Riverside (at least at Hidden Valley Wildlife Area at the western edge of the city of Riverside); they summer also along Alberhill Creek where it enters Lake Elsinore and at San Jacinto Wildlife Area near Lakeview (Unitt et al. 1996). Specimens from western Riverside County are needed to test whether this population represents *C. p. clarkae* or *aestuarinus*. A specimen from Point Mugu, Ventura County, is closer to *aestuarinus*, though intermediate toward *clarkae* in crown pattern and rump and scapular color.

In northern San Diego County, *C. p. clarkae* summers at every coastal wetland from the San Mateo Creek mouth south to Los Peñasquitos

Lagoon and extends inland along the Santa Margarita River valley as far as Fallbrook, along the San Luis Rey River valley as far as Couser Canyon between Bonsall and Pala, and less than 8 km inland in the valleys of Escondido Creek, the San Dieguito River, and Los Peñasquitos Creek (Unitt 2004). There are isolated colonies around Lake Hodges, in Boden Canyon east of San Pasqual, in La Jolla Valley west of Rancho Bernardo, and at Miramar Lake. Sites in southern San Diego County are along the San Diego River in Mission Valley and Santee, at Lake Murray, along the Sweetwater River between National City and Chula Vista and at Sweetwater Reservoir, and in the Tijuana River valley (Unitt et al. 1996, Unitt 2004). A few records of single individuals at scattered sites farther inland could represent pioneers of either *clarkae* or *aestuarinus*, which is resident in the Imperial Valley to the east.

Most of the range of *clarkae* in San Diego County represents colonization since 1950, largely since 1975. Several of the localities where the species now nests were well covered in the early 20th century by egg collectors, who found no Marsh Wrens. Thus range expansion in San Diego County contrasts sharply with range restriction in Los Angeles and Orange counties.

ECOLOGICAL REQUIREMENTS

Cistothorus palustris clarkae is restricted to freshwater and brackish marshes dominated by bulrushes (*Scirpus* spp.) or cattails (*Typha* spp.). Its biology has not been studied in detail but does not appear to differ from that of other subspecies of Marsh Wrens. The rest of this paragraph is based on data from other subspecies, especially *pulverius*. Marsh plants other than *Scirpus* and *Typha*, such as *Juncus*, *Phragmites*, and *Arundo*, are of moderate to low value to nesting Marsh Wrens (Gutzwiller and Anderson 1987, Rosenberg et al. 1991). A canopy coverage of trees over 6 m tall exceeding 30% renders a marsh unsuitable for nesting Marsh Wrens. The percentage of herbaceous cover in marshes used by nesting Marsh Wrens ranges from 50 to 100 (Verner 1964). Gutzwiller and Anderson (1987) inferred that percentages exceeding 80 are optimum. The birds nest in narrow strips of marsh along lakeshores, but nesting success may be less along edges than in the center of an extensive marsh, where predation is less (Leonard and Picman 1986). Bent (1948) wrote, under the subspecies *iliacus* of the northeastern United States, that "small, isolated marshes of less

than an acre in extent are usually avoided," but Gutzwiller and Anderson (1987) found Marsh Wren nests in scattered 0.04-ha patches of marsh vegetation. Verner (1965) found territory size to vary widely, from 167 m² in eastern Washington to 3595 m² at Seattle; means for these two areas were 465 and 1394 m², respectively. In coastal Georgia, Kale (1965) recorded smaller territories, mean size ranging from 60 to 156 m² at various sites. Territories tend to be larger as habitat suitability decreases (Welter 1935). Verner and Engelson (1970) found mean territory sizes in eastern Washington ranging from 517 m² for unmated males to 685 m² for bigamous males. Rosenberg et al. (1991) recorded densities up to 238 wrens per 40 ha in prime cattail/bulrush habitat along the lower Colorado River. *C. p. clarkae* is capable of colonizing new marshes that grow up after disturbance, as in old borrow pits in the Tijuana River valley or in a revegetation project in Mission Valley (pers. obs.). However, the only known example of long-distance dispersal across unsuitable habitat is a specimen from San Clemente Island, collected 13 November 1939 (LACM #19635, Unitt et al. 1996).

The major food items of the Marsh Wren in California are bugs (29%), moths (17%), and beetles (16%; Beal 1907). These wrens feed by gleaning from any plant surface near, at, or even below the surface of the water (Kroodsma and Verner 1997). In Seattle, Washington, they forage in dense shrub patches, and adults even lead fledglings into these thickets to forage (Verner 1965). Food selection is probably opportunistic, with birds eating whatever invertebrates are available.

Marsh Wrens are polygynous, and males build many dome-shaped nests within a season; these are inspected by prospective mates, which typically accept one of the nests and finish its construction (Kroodsma and Verner 1997). Nests are typically placed at about 1 m high in a wide variety of plant substrates. In Washington, males prefer to build nests in cattails rather than bulrushes, and females tend to prefer those nests as well; bulrushes are used later in the year, when cattails have dried out (Verner and Engelsen 1970). Nests are sometimes used as winter roosts. Pairs can raise two broods and will renest following nest failure.

Studies of population-limiting factors of the Clark's Marsh Wren are lacking, and data are insufficient to determine what primarily regulates populations for Marsh Wrens in general (Kroodsma and Verner 1997).

THREATS

Draining of marshes for agriculture and urban development has long been the primary factor affecting the Marsh Wren in coastal southern California (Garrett and Dunn 1981, Small 1994) and elsewhere (Kroodsma and Verner 1997). Stream channelization, flooding under reservoirs, overpumping of groundwater, and use of valley floors for sand mining are also widespread negative factors. Proliferation of Giant Reed (*Arundo donax*), serious along many of southern California's rivers, likely degrades Marsh Wren habitat (USDA 1994). New habitat is often created when cattails and bulrushes colonize reservoirs, but fluctuations in their water levels can eliminate habitat. At some reservoirs, cattails and bulrushes are cut deliberately. Urban runoff is now the primary source of water supporting marshes with *C. p. clarkae*, raising questions about the effects of water quality.

MANAGEMENT AND RESEARCH RECOMMENDATIONS

- Maintain and restore freshwater marshes, such as Buena Vista Lagoon, San Diego County.
- Use wastewater more creatively to enhance and create freshwater marshes, as through installation of bioremediation ponds, which increase the rate of biodegradation by naturally occurring microorganisms.
- Remove concrete floors from drainage channels.
- Clarify subspecies identification and status of Marsh Wrens breeding in western Riverside County.
- Investigate nesting success and population dynamics of Marsh Wrens in marshes of various configurations and sizes (narrowly linear versus extensive).

MONITORING NEEDS

Though the distribution of *C. p. clarkae* is known fairly well, its numbers are not. A rangewide survey to determine an index of population size, followed at intervals of several years by additional surveys, is desirable. If these surveys reveal a decline, investigation into the causes would be warranted. A wait-and-see approach is suggested by the species' biology and the subspecies' recent distributional trend, which suggest that numbers of *C. p. clarkae* likely vary in tandem with the amount of freshwater marsh habitat and that if further loss of this habitat is arrested the subspecies can maintain itself.

ACKNOWLEDGMENTS

Thanks to T. Beedy and J. Verner for their reviews of this account and to M. Alexander, T. Gardali, and W. D. Shuford for help with revisions.

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