

Rufous-crowned Sparrow *Aimophila ruficeps*

The Rufous-crowned Sparrow is one of the characteristic birds of coastal sage scrub. Preferring this threatened habitat and sensitive to habitat fragmentation, the sparrow has seen its numbers and range reduced over much of coastal San Diego County. Yet it remains fairly common over wide areas, as it can use steep slopes that discourage development, readily colonizes burned chaparral, and persists in openings in mature chaparral. A year-round resident, the Rufous-crowned Sparrow is rarely seen even a short distance away from the habitat where it breeds.

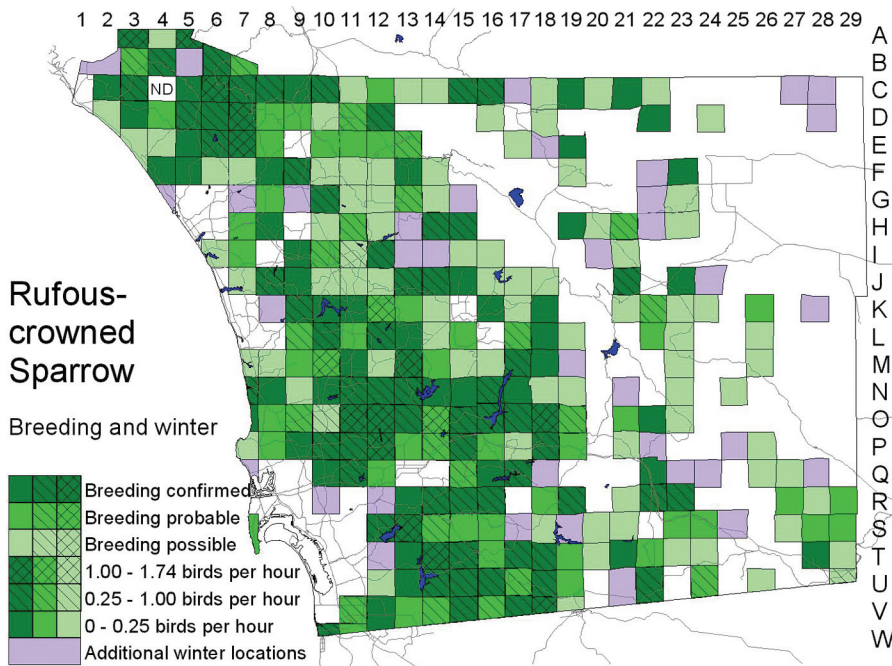
Breeding distribution: The Rufous-crowned Sparrow is widespread over the coastal lowland and foothills of San Diego County in sage scrub, broken or burned chaparral, and grassland with scattered shrubs. Collins (1999) found that its average habitat in northwestern Santa Barbara County is fairly steep south-facing slopes with about 50% cover of low shrubs, and this represents the current situation in San Diego County as well. Sage scrub on gentle rolling hillsides is even more favorable but now greatly reduced and fragmented. The Rufous-crowned Sparrow avoids flat valley floors and floodplains, impenetrable chaparral, woodland, and developed areas. It ranges down to the coast where suitable habitat remains, as in Camp Pendleton, Torrey Pines State Reserve, and Point Loma. The denser populations are at low elevations, as in eastern Camp Pendleton and the Fallbrook Naval Weapons Station (D7, 36 on 4 April 2000, W. E. Haas), from Mission Trails Regional Park and Miramar east to San Vicente Reservoir (N13, 22 on 22 March 1998, C. G. Edwards) and Lake Jennings, and from Sweetwater Reservoir east to Rancho Jamul (T15, 18 on 5 April 2000, P. Unitt). The local distribution shifts with time, though, because the Rufous-crowned Sparrow quickly invades



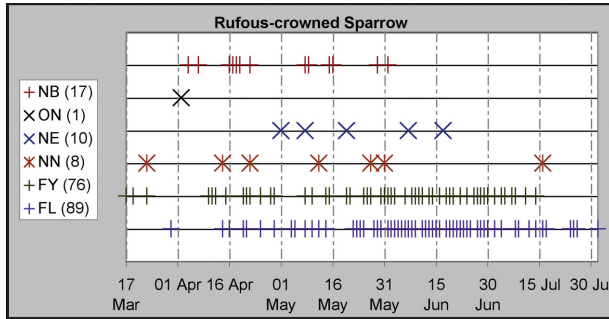
Photo by Anthony Mercieca

recovering burned chaparral while it is still dominated by grasses and herbs, then drops out as the chaparral matures. At higher elevations, largely covered with thick chaparral, the species is linked to microhabitats such as rock outcrops or gabbro soil that make for openings or sparser growth. Rocks surrounded by clumps of the giant needlegrass are a frequent clue for the Rufous-crowned Sparrow in San Diego County's foothills. Man-made openings like firebreaks and small abandoned clearings also attract the species. The Rufous-crowned Sparrow largely avoids the mountain zone, being rare above 4000 feet elevation, but occurs almost continuously, though in low density, along the mountains' steep east slope. In the Anza-Borrego Desert it is a rare resident in the Vallecito Mountains (K26, pair on 3 May 2001; L26, two on 10 May 2000, J. R. Barth) and possibly the Santa Rosa Mountains, though all records in the latter are for winter.

Nesting: The Rufous-crowned Sparrow nests primarily on the ground, only rarely in low shrubs. Of 304 nests studied around San Diego by Morrison and Bolger (2002) and M. A. Patten (pers. comm.), 42% were on the ground at the base of a bunchgrass, typically the native



purple needlegrass or giant needlegrass, but one pair used an exotic African fountain grass. Other nests (32%) were at the bases of small shrubs like flat-top buckwheat, white sage, and California sagebrush, and most others were among rocks or dirt clods. Only 4% of nests were above ground in low shrubs. Like most resident birds of its habitat, the Rufous-crowned Sparrow usually begins nesting in the third week of March; collected egg sets range from 11 March to 7 June. In 2001, M. A. Patten found 26 nests with eggs between 3 April and 15 June, with nestlings between 6 April and 25 June. A few individuals start earlier: pairs seen carrying insects near the Highway 94



crossing of the Sweetwater River (R13) 17 March 1997 (D. and M. Hastings) and at the De Luz Road crossing of the Santa Margarita River (C7) 19 March 1997 (K. L. Weaver) must have laid in the first week of March, slightly earlier than previously reported. Likewise, a nest with eggs in Pueblitos Canyon (F5) 17 June 1999 (C. Reynolds) and one with nestlings near the summit of Mt. Woodson (L13) 16 July 1997 (P. von Hendy) demonstrate nesting somewhat later than previous records.

Migration: The Rufous-crowned Sparrow is sedentary. Studies with banded birds addressing this issue directly are lacking, but probably juveniles disperse only a few miles from the place where they hatched and adults remain in their established territories for life.

Winter: Few records of the Rufous-crowned Sparrow suggest even short-distance shifting in winter outside its breeding habitat. The birds at higher elevations remain there through the winter, e.g., one at 4290 feet on the ridge 0.5 mile north of the Indian exhibit, Cuyamaca Rancho State Park (N21), 10 February 2000 (J. Fitch) and one at 4640 feet in Scove Canyon (P22) 31 December 1998 (P. Unitt). A couple of records from isolated urban canyons in Pacific Beach (Q7, one on 22 January 2000, L. Polinsky) and East San Diego (R10, one on 20 December 1997, J. A. Dietrick) suggest occasional birds still reach habitat fragments where the species is unable to sustain itself. Other locations where the Rufous-crowned Sparrow was recorded in the winter but not the breeding season are mostly in marginal habitat where the species probably occurs in low density year round. Possible exceptions are in the northeast-draining canyons of the Santa Rosa Mountains (C27/C28/D28) and in the Alma Wash/Starfish Cove area at the east end of the Vallecito Mountains (K28). Winter visits to these areas yielded daily counts of up to

five at the east base of the Santa Rosa Mountains (C28) 20 January 2000 (R. Thériault) and four near Starfish Cove 5 December 1999 (L. J. Hargrove, J. O. Zimmer), but an equal level of effort during the breeding season yielded none. In these very marginal habitats the Rufous-crowned Sparrow may be irregular.

Conservation: The Rufous-crowned Sparrow's susceptibility to habitat fragmentation is attested by multiple studies (e.g., Lovio 1996, Bolger et al. 1997, K. L. Weaver unpubl. data) and is clear in the distribution we observed 1997–2002. The native maritime scrub on Point Loma (S7) is the only site where the species survives far isolated by development. If this is a minimum, and the population is viable indefinitely, it implies that nearly 400 hectares of habitat are necessary to support a self-sustaining population. Lovio (1996) found the Rufous-crowned Sparrow consistently only in tracts of scrub of 17 hectares or greater; the habitat fragments he studied were less isolated in both space and time than Point Loma. Morrison and Bolger (2002) reported the sparrow's abundance in small, isolated habitat fragments (1–100 hectares) to be only 2% of that in expanses over 1000 hectares. The Rufous-crowned Sparrow's apparent absence from patches of sage scrub in Oceanside and Encinitas also implies loss due to habitat fragmentation. The outlook is therefore not good for the birds persisting in smaller isolated patches like Soledad Natural Park in La Jolla (P7). The Rufous-crowned Sparrow's survival over much of the coastal lowland of San Diego County may depend on how well multiple-species conservation plans succeed in linking patches of sage scrub. Because the process of piecing together habitat reserves under these plans is gradual, their success with the Rufous-crowned Sparrow cannot yet be predicted. Even if this success is poor, and the species disappears from large areas west of Interstate 15, the Rufous-crowned Sparrow is likely to survive farther inland. Although the Rufous-crowned Sparrow is sparser here than at lower elevations, its adaptability as a fire follower seems certain to ensure its place in San Diego County's biota.

Taxonomy: The Ashy Rufous-crowned Sparrow, *A. r. canescens* Todd, 1922, is the subspecies occurring in San Diego County. It is restricted to the San Diegan District of the California Floristic Province, and its characters typify the pattern of this area's endemic birds: it is darker both above and below than the subspecies to both the north and the south, and the underparts differ from those of the other subspecies in having a gray wash.