

STARLINGS — FAMILY STURNIDAE

European Starling *Sturnus vulgaris*

The European Starling has become a metaphor for the unforeseen effects of misguided introductions of foreign organisms. From 100 birds released in New York City in 1890 and 1891, the starling proliferated throughout North America. In San Diego County, it was found first as a winter visitor in the late 1940s, began breeding in 1959, and has been abundant since the mid 1960s. The most obvious effect of the starling's invasion in southern California is its competition for nest cavities with native birds such as the Acorn Woodpecker, Northern Flicker, and Purple Martin.

Breeding distribution: The European Starling now breeds over almost all of San Diego County's coastal slope. Because the birds feed largely by walking on the ground—probing for insects, worms, and snails—lawns, pastures, and dairies constitute ideal starling habitat. Thus the species is most abundant in urban and agricultural areas. As soon as the young begin fledging in May, starlings may be seen in flocks of hundreds, with up to 500 at Lake Henshaw (G17) 18 June 2000 (P. Unitt) and 1000 at Sweetwater Reservoir (S12) 28 July 1998 (P. Famolaro). But they are scarce or even absent in regions of extensive unbroken chaparral like the north slopes of Palomar Mountain (C15), Viejas Mountain (O17),



Photo by Anthony Mercieca

Otay Mountain (U15/V15), and Tecate Peak (V18). Even where there is good nesting habitat in the form of groves of oaks or sycamores inhabited by Acorn Woodpeckers and flickers, starlings may be absent if no foraging habitat is nearby, as along upper San Mateo Creek (A3/B3) and in Black Canyon (I16).

In the Anza-Borrego Desert the European Starling is confined largely to developed areas. Though it breeds

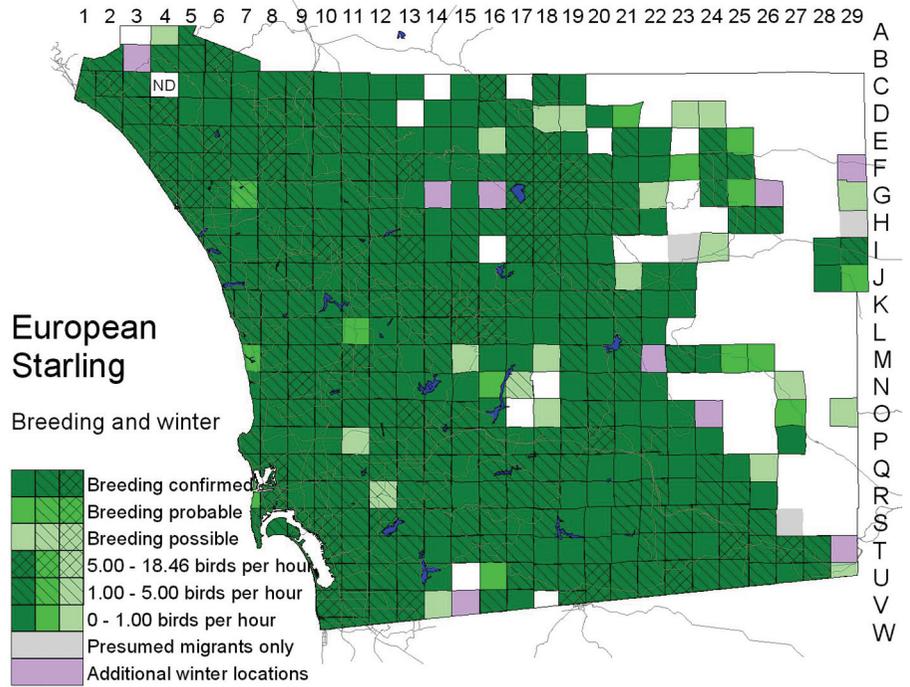
along San Felipe Creek at Scissors Crossing and Sentenac Ciénaga (J22/J23), it is not confirmed breeding at other riparian oases. At Lower Willows (D23) along Coyote Creek, for example, the starling is only occasional (Massey 1998), and we recorded it only once in the breeding season from 1997 to 2001. California fan palms offer nest sites, however, and the starling uses them in the native palm oasis at Mountain Palm Springs (Massey 1998; active nest at Southwest Grove, P27, 11 May 2001, D. G. Seay), possibly at Five Palms Springs (G29; two on 19 April 1998, G. Rebstock, K. Forney).

Nesting: The European Starling is a secondary cavity nester, commonly using woodpecker holes in trees, and sometimes ejecting other birds occupying them. Atlas observers described nests in palms, eucalyptus, and a wide variety of native trees, especially sycamores. The birds also use diverse man-made structures, such as the supports for street lamps, traffic lights, and power poles, wherever there is a pipe with an open end. They use the drain holes under box-frame bridges and any cavities in buildings, such as the spaces under roof tiles. Artificial structures may enable starlings to nest in areas where there are no trees, for example, in aircraft-warning spheres hung on power lines crossing Proctor Valley (T14).

Our observations from 1997 to 2001 show that in San Diego County starlings lay eggs mainly from mid March through early June; a few birds start as early as about 1 March.

Migration: Because the European Starling is abundant in San Diego County in both summer and winter, its migration and dispersal are not easily tracked. Single birds have been seen far from nesting sites in the Anza-Borrego Desert as late as 27 April 2001 in the Ocotillo Wells off-road vehicle area (H29; J. R. Barth) and 6 May 1998 at Carrizo Marsh (O29; P. D. Jorgensen).

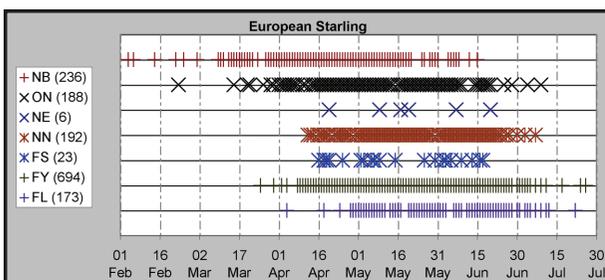
Winter: In winter the European Starling's distribution in San Diego County is similar to its breeding distribution. The species may be seen in suburbs and pasture-



lands in large flocks, up to 1000 in Sunnyside (T12) 19 December 1998 (E. Mirsky) and in Woods Valley (H12) 2 January 1999 (C. Bingham). Even at high elevations starlings may remain in large numbers in winter, with up to 200 around 4000 feet elevation near Julian (J20) 17 December 2001 (K. J. Winter) and up to 66 around 4900 feet at San Ignacio, Los Coyotes Indian Reservation (E21) 11 December 1999 (K. L. Weaver, C. R. Mahrtdt). In the Anza-Borrego Desert the starling is abundant in the Borrego Valley (up to 472 at Borrego Springs, G24, 19 December 1999, P. D. Ache et al.) and regular in smaller numbers in other developed areas but generally rare at natural oases (maximum 20 at Lower Willows 29 December 2001, F. A. Belinsky; five at Seventeen Palms, F29, 18 December 1999, G. Rebstock, K. Forney).

Conservation: The European Starling was first reported in San Diego County “in the winter of 1948 or 1949,” with a flock of about 25 at Julian (Banks 1965). It was first noted in San Diego 4 February 1959 (Stott 1959) and was first recorded nesting in May 1959 (Banks 1965). In the winter of 1963–64 it arrived in numbers; on the San Diego Christmas bird count that year, the first year the starling was recorded, there were 153. Counts over the next five years show an explosive increase: 974 in 1964, 1500 in 1965, 4448 in 1966, and 7928 in 1969. But subsequently this count and others throughout the county suggest stable numbers. Urban development creates new starling habitat, but when this replaces agriculture the effect on the starling is probably negative; pavement is as useless to the starling as to any other bird. Newer buildings are designed to discourage cavity-nesting birds like starlings. Nevertheless, the starling is ineradicably established as a common resident of southern California.

The effects of the European Starling on native birds are difficult to establish conclusively, but competition



with the starling for nest cavities is thought to be the primary factor in the steep decline of the Purple Martin as a nesting bird in the West (Brown 1977, 1981). Atlas participants observed starlings contesting ownership of cavities with Acorn Woodpeckers and occupying nest boxes designed for Western Bluebirds. In general, however, the smaller cavity-nesting birds, up through the size of the Western Bluebird and Nuttall's Woodpecker, are on the increase in San Diego County, so these may be making

or exploiting cavities too small for the starling. Possible negative effects should therefore be investigated with the larger cavity nesters: the Acorn and Hairy Woodpeckers, Northern Flicker, and American Kestrel.

Taxonomy: The subspecies of the European Starling in North America is *S. v. vulgaris* Linnaeus, 1758; the birds originated in England.