

### **Forster's Tern *Sterna forsteri***

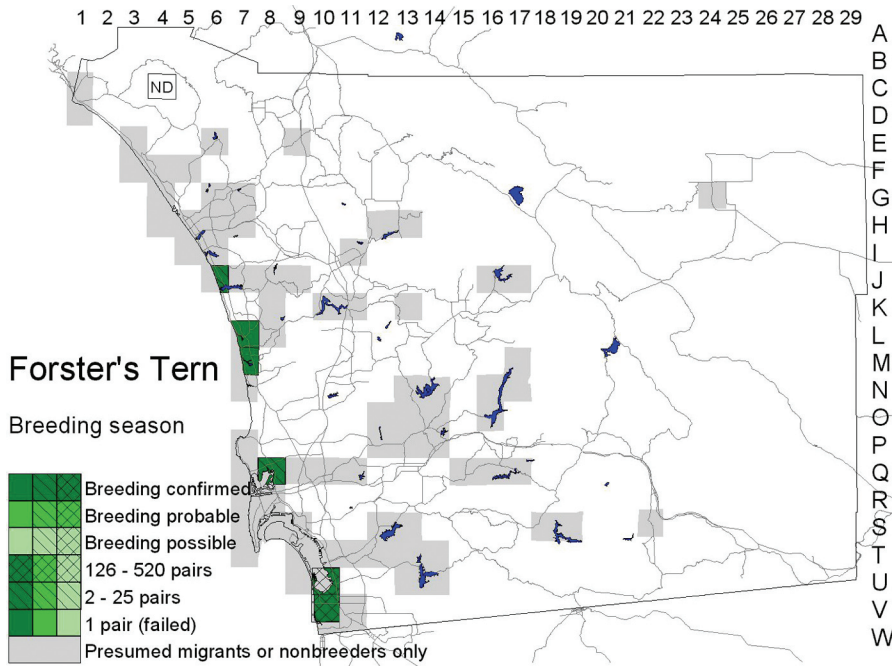
Forster's is the most widespread tern in San Diego County, most abundant in the coastal lagoons and bays but found regularly on inland lakes as well. Though migratory, it is common in the county year round. Hundreds of pairs nest annually in the salt works, site of the oldest and largest Forster's Tern colony in southern California. Since 1990, the birds have attempted to establish new colonies elsewhere along the county's coast, though these are still small and often unsuccessful.

**Breeding distribution:** First observed in 1962 (Gallup 1963), the Forster's Tern colony on the dikes of the salt works (U10/V10) has fluctuated between 100 and 600 pairs since 1963. Because of renesting and the nests' dispersion throughout the salt works the population is difficult to census accurately, but some recent figures are 548 nests in 1991, at least 510 in 1993, at least 345 in 1994,



*Photo by Anthony Mercieca*

520 in 1997, at least 225 in 1998 (Terp and Pavelka 1999), 126 in 1999, and at least 203 in 2003 (R. T. Patton). The Chula Vista Wildlife Reserve, a similar artificial site on



the north side of the salt works (U10), had 173 nests in 2001 (R. T. Patton). Within the salt works, the Forster's nests are less clumped than those of the larger terns; in 1998 the perimeter road was the section used most heavily (Terp and Pavelka 1999).

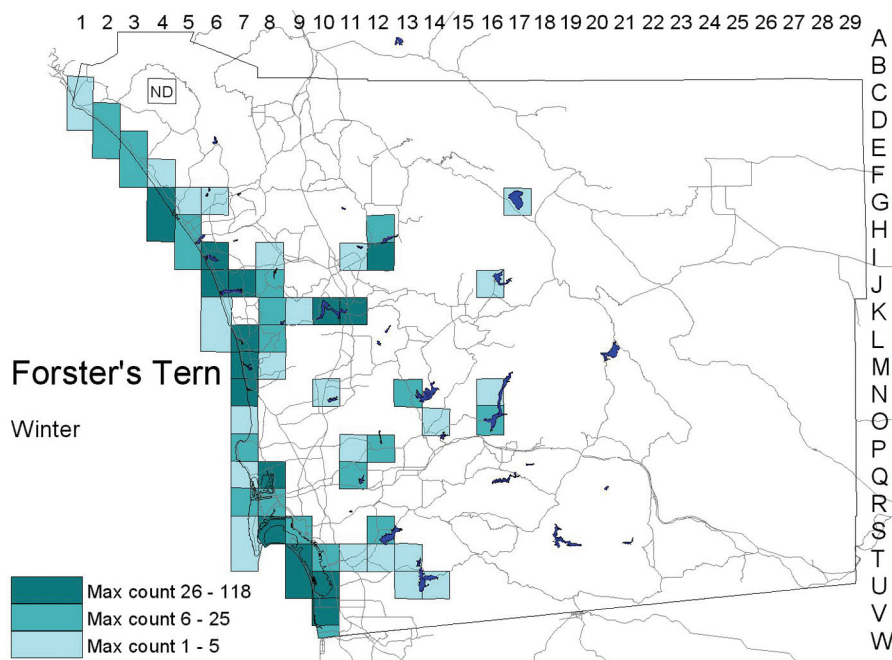
At the west end of Batiquitos Lagoon (J6) Forster's Terns began nesting in 1990 (mummified chick picked up 3 August, SDNHM 46863) and were still doing so at least in 1997, 1998 (M. Baumgartel), and 2002 (R. T. Patton). The number that nest is apparently small, though the birds are common in the area (122 in the lagoon's east basin, J7, 1 May 1998, F. Hall; 247 throughout the lagoon 10 July 1997, Merkel and Associates 1997). Attempts by single pairs at San Elijo Lagoon (L7) 5 June 2000 (A. Mauro) and at the San Dieguito River estuary

(M7) 5 June 2001 (D. R. Grine) were aborted. In 2001 the terns colonized Kendall–Frost Marsh, Mission Bay (Q8). On 10 July, scanning from Crown Point Drive, R. T. Patton noted one chick, two young fledglings, and 17 adults, including three incubating and six feeding chicks hidden in the marsh. Some nests were lost to tidal flooding. Nesting at Kendall–Frost continued through 2003; abandoned chicks were picked up there 7 and 15 June (SDNHM 50786, 50867).

During the breeding season, nonbreeding Forster's Terns are common away from the colonies at both coastal wetlands (50 at San Elijo Lagoon 2 May 1999, B. C. Moore; 40 at Famosa Slough, R8, 2 July 1998, A. E. Klovstad)

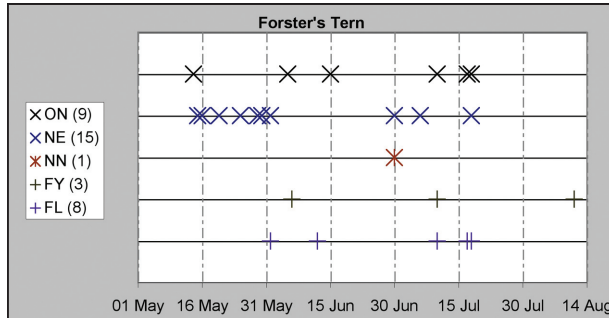
and lakes in the coastal lowland (50 at Sweetwater Reservoir, S12, 4 May 1998, P. Famolaro; 45 at Lower Otay Lake, U14, 29 May 2001, N. Osborn). Even on foothill reservoirs the tern is fairly common at times, with up to 22 at Barrett Lake (S19) 4 June 2000 (R. and S. L. Breisch) and 20 at the upper end of Loveland Reservoir (Q17) 20 May 1998 (P. Famolaro). If there were suitable secure islands in these reservoirs the birds would likely nest there; they engaged in courtship feeding at Barrett Lake 23 May 1999 and 4 June 2000 (J. Hannan, R. and S. L. Breisch) and at the upper end of El Capitan Reservoir (N16) 29 June 2001 (J. R. Barth).

**Nesting:** In the salt works, Forster's Terns tend to nest on the shoulders of the dikes, often in vegetation such as pickleweed and crystalline iceplant



rather than on bare dirt on top of the dikes like the larger terns. The birds lay eggs from late April to late June, occasionally to early August. A fledgling at Batiquitos Lagoon 12 June 1997 must have hatched from an egg laid no later than 23 April (M. Baumgartel). Some eggs were still being incubated in the salt works as late as 18 July in 2001 and 2 September in 2003 (R. T. Patton).

**Migration:** Seasonal variation in Forster's Tern abundance in San Diego County is not well marked. In the salt works, on the basis of weekly surveys February 1993–February 1994, Stadtlander and Konecny (1994) noted two seasonal peaks, in May and



November, and a maximum of 368 on 3 November. In central and southern San Diego Bay, on the basis of weekly surveys April 1993–April 1994, Manning (1995) noted larger numbers October–March than during the breeding season. At San Elijo Lagoon, however, on the basis of monthly surveys 1973–83, King et al. (1987), reported the largest numbers from July through September. At Lake Hodges (K10/K11) K. L. Weaver noted a peak in spring of 100 on 24 April 1982, a peak in late summer of 90, including many juveniles, on 13 August 1983. A Forster's Tern at Borrego Springs (G24) 30 March 1998 (P. D. Jorgensen) is the only one recorded in the Anza–Borrego Desert.

**Winter:** In winter Forster's Tern concentrates more along the coast, especially in San Diego Bay. Counts there range

up to 263 in the central bay 14 December 1994 (Mock et al. 1994). Winter numbers at other coastal sites range up to 75 at the Santa Margarita River mouth (G4) 27 January 1999 (P. A. Ginsburg) and 74 at San Elijo Lagoon 26 December 1999 (R. T. Patton). Inland, wintering Forster's Terns are sometimes common on Lake Hodges (K10; up to 75 on 22 December 2000, R. L. Barber) but generally uncommon elsewhere in the coastal lowland (up to 27 at Lake Wohlford, I12, 4 January 2001, J. O. Zimmer; 20 at San Vicente Reservoir, N13, 28 January 2002, N. Osborn). Above 1500 feet elevation, the only lakes where we found Forster's Tern in winter were Sutherland (J16; one on 22 February 2000, M. B. Stowe) and Henshaw (G17; three on 2 December 2001, C. G. Edwards; noted on 7 of 22 Christmas bird counts 1981–2002, maximum count seven).

**Conservation:** Between the salt works and the reservoirs inland, Forster's Terns exploit habitats not available in San Diego County until the 20<sup>th</sup> century. The attempts to colonize new sites suggest the population is vigorous. The dearth of suitable nesting sites secure from predators and disturbance, however, probably limits the population. Even within the salt works the intrusion of terrestrial predators is a constant problem for all the water birds nesting there.