

### Gull-billed Tern *Sterna nilotica*

San Diego County's first Gull-billed Tern showed up in south San Diego Bay in 1985, and the species began nesting in the salt works two years later. It has nested there annually ever since, the population growing to 32–37 pairs by 2003. The Gull-billed Tern's only other site in the western United States is the Salton Sea, from 1992 to 2001 home to 72–155 pairs (Molina 2004). Only seven colonies are known in western Mexico (Palacios and Mellink 2003). Thus, even though the San Diego population is small, it has an important role in the species' conservation in western North America.

**Breeding distribution:** The south San Diego Bay salt works (U10/V10) are the Gull-billed Tern's only nesting site in San Diego County. From three pairs in 1987, the population grew to 27–30 pairs in 1991 and 1992 (Terp and Pavelka 1999, E. Copper, AB 45:1162, 1991, 46:1178, 1992). From 1993 to 1998 it stabilized around 8 to 12 pairs, then increased to 11–20 in 1999, 20–27 in 2000, 30 in 2001, 32–36 in 2002, and 32–37 in 2003. The number of young fledged reached 31–41 in 2003 (R. T. Patton).

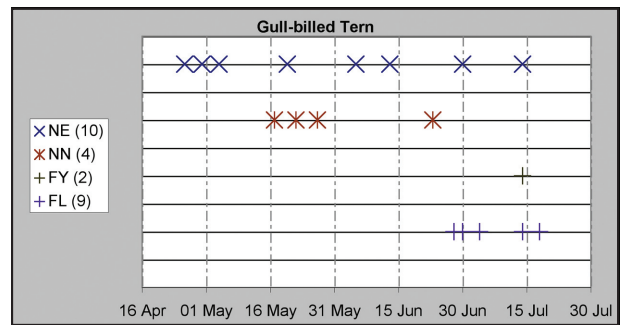
For foraging, the birds range from the salt works throughout south San Diego Bay, along the beach at Imperial Beach (V10; 5–12 seen daily through spring 2001, T. Stands), and to the Tijuana River estuary (two or three at Border Field State Park, W10, 19 July 2001, R. T. Patton). In 2002, studying the foraging behavior of the Gull-billed Tern, K. C. Molina noted 77% of foraging over beach strand and the tidal zone of the estuary, 23% over dunes and upland scrub. During weekly surveys of north San Diego Bay through 1993, Mock et al. (1994) encountered the Gull-billed Tern only once, two on 11 May. One flying over the intersection of Palomar Street



Photo by Jack C. Daynes

and Broadway in Chula Vista (U11) 11 July 2001 was 0.8 mile inland (R. T. Patton).

**Nesting:** Like the other terns, the Gull-billed nests on the bare dirt atop the dikes of the salt works. Unlike the larger terns and skimmers, the Gull-billed lines the rim of its nest scrape with materials at hand—pebbles, bits of veg-



etation, shells, and other debris (Parnell et al. 1995). Egg dates range from 19 April to 24 July, suggesting laying of replacement clutches until 1 July. From 1999 to 2003, dates of first hatching varied from 17 to 27 May, and dates of first fledging varied from 19 June to 4 July (R. T. Patton).

In 2002 the Gull-billed Terns nesting in the salt works fed their young primarily on small invertebrates (43% of all deliveries observed) and fish (25%) (Molina and Marschalek 2003).

**Migration:** Dates for the Gull-billed Tern in San Diego County extend from 1 March (1993, Stadtlander and Konecny 1994)

and 10 March (1995, G. McCaskie, NASFN 49:308, 1995) to 19 September (2002, R. T. Patton). The first sighting more than a few minutes' flight away from the salt works was of one at Los Peñasquitos Lagoon (N7) 14 April 2001 (K. Estey). Sightings elsewhere along the coast increased 2002–04 with up to six at the Santa Margarita River mouth (G4) 13 July 2003 (C. M. Manning, D. M. Parker). Nearly 10 miles inland were 10–15 at the north end of Lower Otay Lake (T13/U13) 24 April 2003 (A. Grassi) and single individuals there 26 April 2003 (R. T. Patton) and 14 June 2003 (A. Grassi).

**Conservation:** The survey of Mexican colonies by Palacios and Mellink (2003) yielded only 376 pairs, so the population of the entire subspecies *vanrossemi* of the Gull-billed Tern is less than 600 pairs (K. C. Molina). The California population is under 200 pairs, and the future of the colony at the Salton Sea is murky, given the decreasing water levels and wholesale environmental change in the offing there. Thus the colony at San Diego Bay represents a critical hedge against the species' extirpation from California. The California Department of Fish and Game has recognized the precarious position of the Gull-billed Tern by designating it a species of special concern—the position is more precarious than that of some species listed as endangered.

Ironically, around San Diego Bay the Gull-billed Tern preys regularly on the chicks of two endangered birds, the Snowy Plover and Least Tern. As a result, several Gull-billed Terns were killed as part of the predator control undertaken to sustain these smaller species (SDNHM 48544–5, 48943, 49343–4). Though the predation continues, after considerable debate among biologists and wildlife-management agencies, in 1999 the Gull-billed Tern was excused from the control program—at least temporarily. One proposal is that the eggs of the Gull-billed be removed, possibly for incubation and release of the young at the Salton Sea or Gulf of California. The conundrum is a prime example of the conflicts that arise when wildlife is confined to ever dwindling habitat, requiring ever more intensive management.

**Taxonomy:** On the basis of specimens from the Salton Sea, Bancroft (1929) described the Gull-billed Terns of the Pacific side of North America as *S. n. vanrossemi*. His measurements show their bills as substantially larger than those of the east coast, *S. n. aranea* Wilson, 1814, with no overlap in length or depth at angle of gony. But the measurements tabulated by Parnell et al. (1995) show great overlap and suggest the difference may be inadequate for recognition of subspecies.