Eared Grebe *Podiceps nigricollis*

Though highly migratory, the Eared Grebe is also flightless for much of the year; its breast muscles atrophy except when needed for migration. Breeding birds use ponds and marshes with fresh to brackish water, but nonbreeders concentrate in water that is hypersaline. In San Diego County, such conditions are found in south San Diego Bay, where the Eared Grebe winters by the thousands. Though the grebe is still common on both fresh and salt water elsewhere, the numbers are much smaller. As a breeding bird the Eared Grebe is rare and irregular in San Diego County, which lies near the southern tip of the breeding range.

Winter: The salt works at the south end of San Diego Bay are the center for the Eared Grebe in San Diego County.

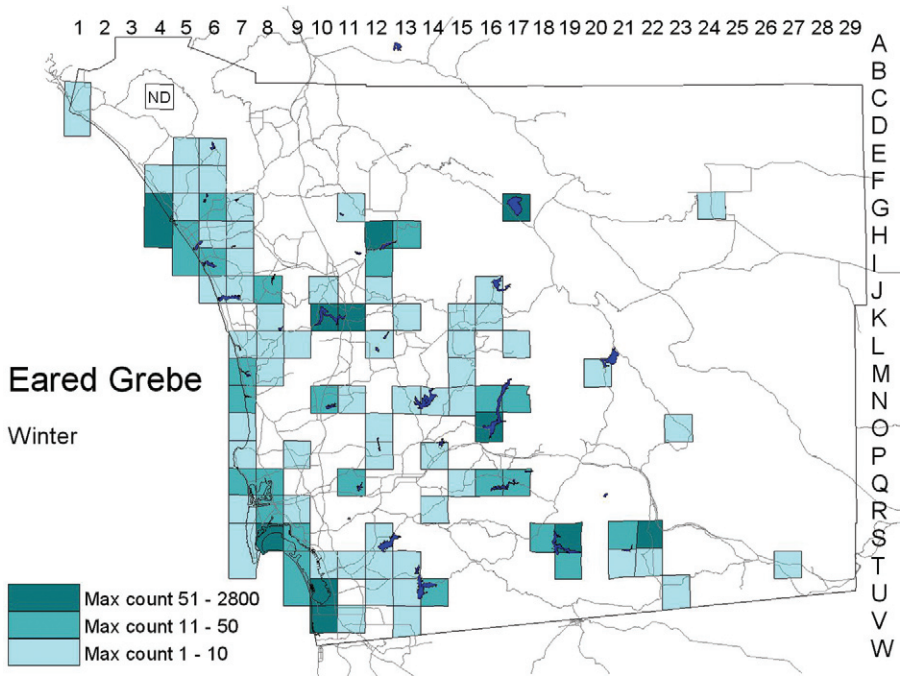
Numbers recorded here on San Diego Christmas bird counts range as high as about 4100 on 19 December 1998 and are almost always several hundred. Because this count takes place in the third week of December and wintering grebes may not finish arriving until January (Jehl 1988), the count may not always represent the species' peak abundance. Weekly surveys of the salt works from February 1993 to February 1994 yielded a maximum of 2359 on 17 March (Stadtlander and Konecny 1994). The Eared Grebe occurs in all other coastal wetlands, too, in lagoons and estuaries (up to 60 at the Santa Margarita River mouth, G4, 27 December 1999, P. A. Ginsburg, 50 in the west basin of Buena Vista Lagoon, H5, 22 December 2001, J. Determan), on Mission Bay (up to 30 in the northwest quadrant, Q7, 8 January 2000, L. Polinsky), and throughout San Diego Bay (up to 262 in the central bay 10 March 1993, Mock et al. 1994).

The Eared Grebe can be quite common as well on large reservoirs, with up to 85 on El Capitan Reservoir (O16) 11 January 1998 (S. Kingswood), 102 on Barrett Lake (S18/S19) 2 February 2001 (R. and S. L. Breisch), and an exceptional 465 on Lake Hodges (K10/K11) 27 December 1998 (R. L. Barber, O. Carter). A few winter sometimes as high as Cuyamaca Lake (six on 15 January and 11 February 1998, A. P. and T. E. Keenan). One at Big Laguna Lake (O23) 6 December 1999 (D. S. Cooper) was likely a transient. In the Borrego Valley the Eared Grebe occurs rarely on artificial ponds, in most cases as a migrant but a few times in winter (G24; up to three on 9 February 1998, P. D. Ache).

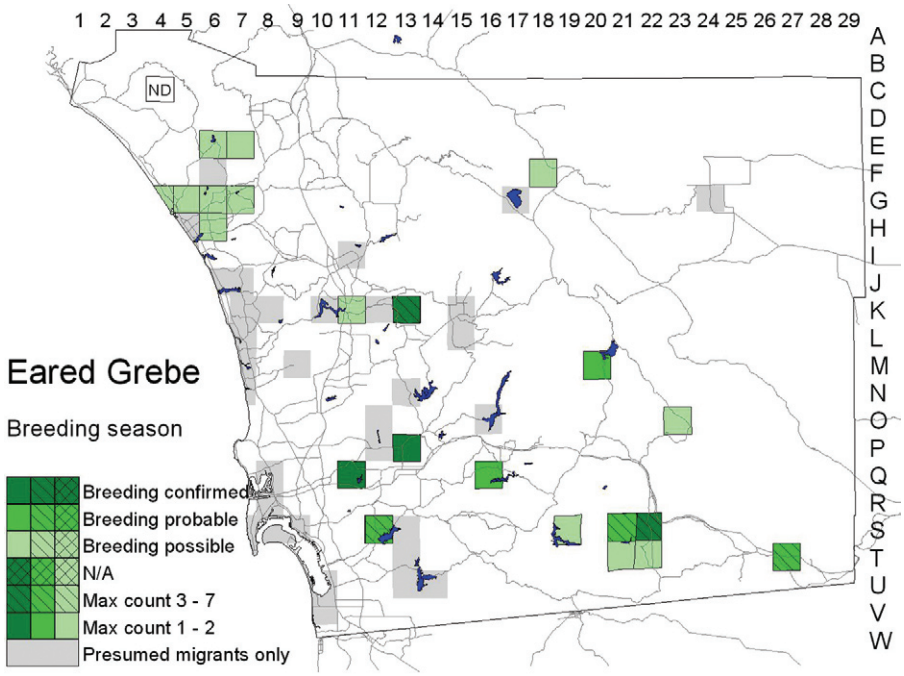
Migration: The Eared Grebe's migration pattern is unique: after breeding, most of the North American population gathers on Mono Lake and Great Salt Lake, remains through the fall, then migrates to the Salton Sea and Gulf of California. Thus, even though a few birds begin arriving in mid September, most arrive in October and November, and some arrive as late as January (Jehl 1988). In spring, most Eared Grebes depart in March and early April. Records from the Borrego Valley (Roadrunner Club, F24) range from 30 September (1986) to 28 April (1982; A. G. Morley).

Photo by Anthony Mercieca

Breeding distribution: The Eared Grebe breeds mainly in the intermountain region and northern Great Plains; southern California is marginal to its breeding range. During the atlas period, we confirmed the species' breeding at three sites: the Ramona Water District's pond 4.1 miles west of Ramona (K13; three young on 15 June 2000, W. E. Haas), in a borrow pit along the San Diego River in Santee (P13; young on 30 April 1998, W. E. Haas), and at the northeast corner of Lake Morena (S22; young two-thirds grown on 31 May 1998, R. and S. L. Breisch). In 2003, a pair with chicks was at Lake Murray (Q11) 27 April (N. Osborn). Typically, the Eared Grebe is colonial, and a few of the earlier records of nesting in San Diego County are of ephemeral colonies. In 1989, for example, 25 were on nests at Batiquitos Lagoon (J7) 8 July 1989 (J. Oldenettel, AB 43:1366, 1989). Unitt (1984) summarized other nesting records.



Nonbreeding birds are widespread through late spring and summer in small numbers; we recorded the species in 38 atlas squares in May, June, and July. These summering birds occur on both freshwater lakes (up to nine at Whelan Lake, G6, 17 June 1997, D. Rorick) and San Diego Bay (seven on the north bay, S8, 26 May 2000, R. T. Patton). The grebes are likely to nest irregularly at some of the freshwater sites, especially Sweetwater Reservoir (S12; up to six on 12 May 2000 and 16 May 2001, P. Famolaro), Loveland Reservoir (Q16; pair on 13 June 2001, J. K. Wilson), Lake Cuyamaca (M20; pair on



28 May 1998, A. P. and T. E. Keenan), and Tule Lake (T27; up to seven on 6 June 2000, J. K. Wilson).

Nesting: Like other grebes, the Eared nests on a platform of aquatic vegetation. And, like other grebes, it does not have a sharply defined breeding season. The family at Lake Murray implies egg laying as early as the beginning of April, yet R. A. Erickson noted a nest with eggs at the Stuart Mesa ponds, Camp Pendleton (G5), as late as 18–22 August 1978.

Conservation: With a total population of about 4 million, the Eared is the world's most abundant grebe, evidently because of its unique ability to exploit the superabundant brine shrimp, alkali flies, and pile worms in salt lakes (Jehl 2001). There is no demonstrable trend in the North American population (Cullen et al. 1999). An increase at the Salton Sea is likely due to the birds' shifting to this lake to take advantage of an increase in pile worms (Jehl and McKernan 2002). The grebe's reliance on three lakes for staging during migration, however, makes it vulnerable at these bottlenecks; Owens Lake, formerly a major site, was eliminated by water diversion (Jehl 1996a), and the remaining staging sites are all foci of environmental controversy. The Eared Grebe has suffered some mass die-offs as a result of disease or migrating birds being downed by storms (Jehl 1996b, Jehl et al. 1999). A die-off along the coast of San Diego County in January 1983 (Jehl and Bond 1983) was most likely due to food shortage during El Niño (Jehl 1996b)

In San Diego County, the Eared Grebe doubtless benefited from the installation of reservoirs and sand mining that left borrow pits. The building of the salt works, more than anything, created prime wintering habitat for the Eared Grebe. With the salt works now a national wildlife refuge, it has become a question of public policy how much of this artificial habitat will be maintained for the sake of the Eared Grebe and other water birds that have capitalized on it.

Taxonomy: *Podiceps n. californicus* Heermann, 1854, is the subspecies of the Eared Grebe in North America, differing from those in the Old World by lacking white in the primaries.