

Surf Scoter *Melanitta perspicillata*

San Diego Bay supports probably the largest concentration of Surf Scoters in the species' entire winter range: 8000 to 10,000 birds in the mid 1990s. It remains one of the scoter's key winter habitats in spite of numbers in the 1990s being no more than a third of what they were in the 1960s. Because of its dependence on mollusks as food and its sensitivity to disturbance by boats, the Surf Scoter is the most critical indicator of the biological health of San Diego Bay. San Diego County plays another major role in the Surf Scoter's life cycle by being the route through which birds wintering in the Gulf of California cross overland to the Pacific Ocean.

Winter: The Surf Scoter is the most abundant bird on San Diego Bay. The birds have a preference for water 5 to 35 feet deep and are concentrated largely from the Naval Amphibious Base south (Preston and Mock 1995). Because they feed largely on mollusks, especially mussels, they concentrate where these animals colonize. Rocky ocean bottom and the pilings for piers are habitats secondary to the bed of San Diego Bay.

The systematic surveys of the bay from 1993 to 1995 give us the most current picture of the species' status in this critical habitat. In the north bay, from the entrance to the bridge, in weekly surveys through 1993, Mock et al. (1994) found a maximum of 757 on 19 January. In the central bay, from the bridge to Crown Cove and the

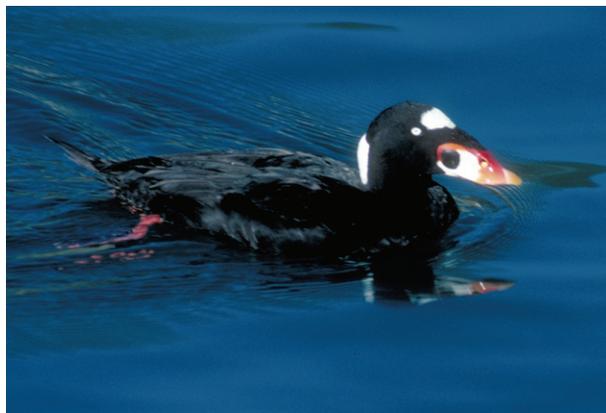


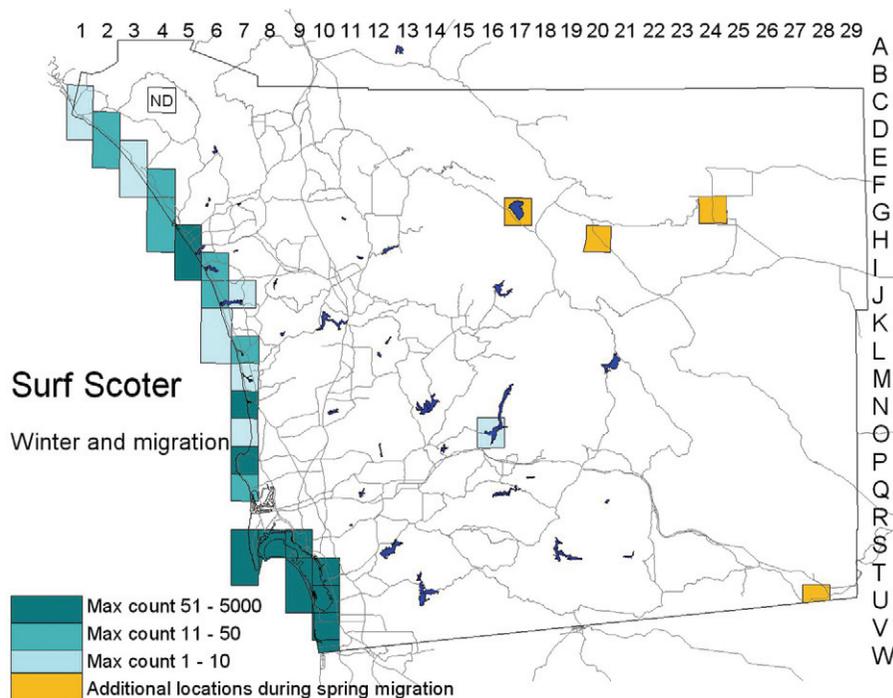
Photo by Anthony Mercieca

Sweetwater River, in monthly surveys through 1993 and weekly surveys through 1994, Preston and Mock (1995) found yearly maxima of 6583 on 20 January 1993, 5708 on 8 March 1994, and 8945 on 28 December 1994. In the central and south bay combined, in weekly surveys from April 1993 to April 1994, Manning (1995) found a maximum of 7458 on 28 December 1993. The combination of these results suggests the figure of 8000–10,000 for San Diego Bay's total winter population in the 1990s. Counts during the atlas period from 1997 to 2002 were largely from shore and not systematic. But numbers of up to 5000 on San Diego Bay near the Chula Vista Nature Center (U10) 15–21 December 1997 (B. C. Moore) and 3500 by boat on San Diego Bay 15 December 2001 (M. Bache) suggest the scoters sustained something close to

that level to the beginning of the 21st century.

In Mission Bay Surf Scoters are generally absent. But hundreds congregate on the ocean just off shore, especially off Imperial Beach and the Tijuana River estuary (V10/W10; up to 782 on 19 December 1998, R. B. Riggan) and Point Loma (S7; up to 415 on 18 December 1999, J. C. Worley). Elsewhere along the coast Surf Scoter numbers are highly variable. Results of Oceanside Christmas bird counts range from 1040 in 1987 to 10 in 2001 and 2002. Those of Rancho Santa Fe counts range from 1026 in 1986 to two in 2001.

Except for the outer basin of Agua Hedionda (I6), Surf Scoters avoid the lagoons of



northern San Diego County. As a result of the deepening of Batiquitos Lagoon, ordered as mitigation for loss of subtidal habitat in the Los Angeles harbor, the scoter visited that lagoon in small numbers, occasionally reaching the east basin (J7; up to eight on 15 February 1998, R. Campbell).

The Surf Scoter uses inland lakes as a migration stopover only, not as normal winter habitat. But nine on El Capitan Reservoir (O16) 20 December 1998 (S. Kingswood) were outside the main migration periods.

Migration: Fall arrival of Surf Scoters ranges from mid October to early November. In their weekly surveys of central San Diego Bay in 1994, Preston and Mock (1995) found no scoters summering, then two on 11 October and 131 on 19 October. But parallel surveys of the north bay in 1993 yielded no increase over summer numbers until 26 October with six, and 2 November with 17. Fall migration continues into early December: over 1000 were streaming south over the ocean at La Jolla (P7) 6 December 1998 (G. McCaskie). Numbers on San Diego Bay peak from mid December to early March.

Spring departure takes place mainly from March to mid April. No date can be given for final departure because small numbers remain through summer, at least in some years. In their studies of north and central San Diego Bay, Mock et al. (1994) and Preston and Mock (1995) found up to six on 6 June 1993. Atlas observers found up to 31 at Los Peñasquitos Lagoon (N7) 6 June 1998 (D. R. Grine), 30 along the Silver Strand (T9) 25 August 1998 (B. C. Moore), and 25 in south San Diego Bay 19 June 1998 (Y. Ikegaya). Earlier counts of summering birds ran as high as 85 (Unitt 1984).

The most interesting aspect of Surf Scoter migration is its use of San Diego County as a corridor for crossing between the Gulf of California and Pacific coast. Many of the birds make the trip nonstop, but storms may compel them to stop on lakes or, rarely, crash on land. The principal route parallels county Highway S2, the historic route of least resistance over the mountains for man and bird alike. Because Lake Henshaw (G17) lies just beyond the pass at the head of San Felipe Valley (H20), most records and the largest numbers have been on that lake, up to 1000 from 16 to 18 March 1983 (R. Higson, AB 37:912, 1983), over 1000 on 21 March 1992, and 900 on 23 March 1997 (G. McCaskie, AB 46:480, 1992; FN 51:927, 1997). Records elsewhere along the route are too numerous to list, but notable during the atlas period were two on a small pond in San Felipe Valley (H20) 22 March 1998 and 17 April 1999 (A. P. and T. E. Keenan). The passage is

not restricted to this narrow corridor, however. With the establishment of ponds the Surf Scoter has begun to stop occasionally at Borrego Springs (G24; up to two on 30 March 1998, P. D. Jorgensen), and other records are scattered south to Jacumba (U28; Sams and Stott 1959, one on 4 April 1999, P. Unitt).

Extreme dates for spring migrants inland are 21 January (2001, one at Borrego Springs, P. D. Jorgensen), the only record for January, and 12 May (1995, 60 on Lake Henshaw, G. McCaskie, NASFN 49:309, 1995). In 1983, when storms associated with El Niño brought many Surf Scoters down on Lake Henshaw, Roger Higson monitored the lake regularly, noting the species from 4 March to 1 May. The Surf Scoter's use of this route in fall is less clear than in spring, perhaps because the rarity of storms at this season means the birds are seldom obliged to stop. Nevertheless there are five fall records on dates from 12 November (1985, 238 on Lake Henshaw, R. Higson, AB 40:158, 1986) to 6 December (1986, one on Lake Cuyamaca, C. G. Edwards, AB 41:328, 1987)

Conservation: Because of its diet of mollusks, which concentrate contaminants in the water, the Surf Scoter is vulnerable to pollution and a possible indicator of water quality. Like other diving seabirds, it is highly susceptible to oil spills. Yet in spite of water quality in San Diego Bay improving since the 1960s, Surf Scoter numbers have declined over the same period. Guy McCaskie attempted to census scoters on San Diego Bay in the 1960s, and the results are reflected in totals of Christmas bird counts: an average from 1962 to 1967 of 24,084 and a maximum of 30,097 in 1962. Subsequent counts have not sampled scoters consistently, but the results of the surveys in the 1990s show that the numbers had dropped to about one third of the former figure. Two of the count's four lowest totals since the 1950s fell within the five-year atlas period, 1997–2002. The decrease may not be restricted to San Diego Bay alone. In spite of huge annual variation, totals on the Oceanside and Rancho Santa Fe counts, which represent scoters on the ocean, both reached their lowest ever in 2001. Taken together, all three species of scoter are on the decline in their breeding range in Alaska (Hodges et al. 1996).

One negative factor on San Diego Bay is disturbance by boats, which Macdonald et al. (1990) proposed as the primary reason for the scoter's decline. Preston and Mock (1995) found the scoter to be the water bird most sensitive to such disturbance, fleeing a boat at a distance greater than other species and concentrating in regions of central San Diego Bay with less boat traffic.