Sooty Shearwater *Puffinus griseus*

Few changes in bird distribution have been as sudden and dramatic as the Sooty Shearwater's desertion of the ocean off southern California. Before the 1980s, this visitor from the southern hemisphere was the most abundant seabird on the ocean off San Diego in summer. After El Niño hit in 1982–83 and the ocean remained at an elevated temperature for the next 20 years, the shearwater's numbers dropped by 90% (Veit et al. 1996). A comparison confined to the ocean near San Diego County's coast would likely show a decline even steeper.

Migration: The Sooty Shearwater begins arriving in April, peaks in May (Briggs et al. 1987), remains (or remained) common through September, and then decreases in number through December. In the 1960s and 1970s, on day-long boat trips out of San Diego, counts in the hundreds were routine. Estimates ran as high as 5000 on 9 September 1972 and 14 May 1977 (G. McCaskie) and 10,000 on 22 June 1970 (AFN 24:715, 1970). By the 1990s, typical daily counts were under 10. A feeding flock of about 200 off Point Loma (S7) 3 August 1998 was exceptional (P. A. Ginsburg). Sightings from shore, especially at La Jolla (P7), were more regular when the species was common. Guy McCaskie noted one following a fishing boat into San Diego Bay 5 May 1963. Sick or starving birds are picked up regularly on the county's beaches.

Winter: From December to March the Sooty Shearwater is rare—currently much scarcer than the Short-tailed Shearwater. Before 1982, winter counts ranged up to 20 off San Diego 18 January 1969 (AFN 23:519, 1969). Since 1987, the highest winter count has been of three between San Diego and Los Coronados Islands 6 January 1995 (G. McCaskie).

Conservation: The decline of the Sooty Shearwater followed quickly on the heels of the decline in ocean productivity off southern California that began in the late 1970s: a decrease in zooplankton of 80% from 1951 to 1993 (Roemich and McGowan 1995, McGowan et al. 1998). The shearwater's declines were especially steep in years of El Niño, and from 1990 on there was no recovery even when the oceanographic pendulum swung the opposite direction (Oedekoven et al. 2001). Evidently much of the population has shifted farther north, into the north-central Pacific (Spear and Ainley 1999), but the species' total numbers may be declining as well (Oedekoven et al. 2001). The Sooty Shearwater offers the most striking example of how suddenly and profoundly a bird's distribution can be affected by climate change. It stands as a warning of how quickly anthropogenic global warming could render many places unsuitable for even their most abundant wildlife.