BROWN BOOBY

Sula leucogaster

Other: 'A

S.l. plotus (resident) S.l. brewsteri (visitor) S.l. etesiaca? (visitor)

breeding visitor, indigenous

Brown Boobies breed widely across the tropical Pacific on oceanic islands from the Bonin Islands and northern Australia E to the Tuamotus and Marquesas, and off the W coast of Central America (Harrison 1983, Marchant and Higgins 1990, AOU 1998, CBRC 2007). Breeding colonies exist for both Johnston and Wake atolls (Amerson and Shelton 1976, Rauzon et al. 2008). They are a relatively uncommon breeder in the Hawaiian Islands (nesting primarily on rocky cliff faces but occasionally on the ground or in trees) but range fairly commonly along coasts of the Southeastern Islands, often perching on buoys. Breeding occurs primarily in Jan-Sep, with lower numbers and fewer nesting attempts observed in Oct-Dec. See Schreiber and Norton (2002) for information on the natural history of Brown Booby.

An estimated 425 pairs of Brown Boobies bred in the *Northwestern Hawaiian Islands* during the 1980-2000s (<u>Table</u>), the largest colony on *Nihoa*, followed in descending order by *Kure* and *Pearl and Hermes*, *French Frigate*, *Laysan*, *Necker*, *Lisianski*, and *Gardner Pinnacles* (<u>Table</u>). After Palmer found a small colony on *Midway* in 1891 (Rothschild 1900), Hadden (1941) considered them the most common breeding booby during the 1930s and Bailey (1956) noted six pairs in 1940-1941, none were recorded until 1-2 pair began nesting on Eastern I in 1999-2002, attempts that were not successful. Information on the history of the species and data on breeding phenology for each Northwestern Island, compiled as part of the POBSP, can be found in the Atoll Research Bulletins for each breeding locality (see Seabird Page).

In the Southeastern Hawaiian Islands at least 1,000 pairs bred during the 1980-2000s (Table), only on offshore islets (except possibly on *Ni'ihau* where information is not available). An estimated 300-500 pairs bred on Kaula Rock SW of Ni'ihau, up to 500 pairs bred on Lehua Islet N of Ni'ihau (VanderWerf et al. 2007), 50-125 pairs bred on Mokumanu islet off NE *O'ahu* (Richardson and Fisher 1950, Harrison 1990, HDFW 2006; E 26:110; Table), and they were reported as breeding on Pu'u Koa'e Islet off Kaho'olawe (Gon et al. 1992). The observation of two fledglings in 1976 among roosting birds on Mokuaeae Islet off Kilauea Point NWR, Kaua'i (Byrd and Zeillemaker 1981), indicates occasional breeding there. Observations of individuals perched along the Napali Coast, Kaua'i, in the late 2000s may indicate the potential to breed am among these isolated cliffs. Roosting Brown Boobies are present near breeding colonies during all seasons (lower numbers in Oct-Dec); e.g., observations since 1953 have yielded many counts from main islands of up to 53 birds on Mokumanu and up to 120 on Mokuaeae. On Kaho'olawe 24 Brown Boobies were flushed from cliffs along the southeast shore on 14 Jul 2003, and the skeleton of a banded Brown Booby found there in Dec 1996 had been banded as a chick on Johnston Atoll (Morin et al. 1999). At least 44 Brown Boobies were found stranded on O'ahu in 1990-2003 and turned into the SLP rehabilitation facility.

Brown Boobies occur commonly in offshore waters and are observed regularly from shore around all of the Southeastern Islands (e.g., HRBP 0325, 1225). They are regularly reported from many points around the entire perimeters of Kaua'i and O'ahu, where observer effort is high and breeding/roosting colonies are near. Christmas.bird Count data indicate no trends on Kaua'i (Table) but a peak in observations off Honolulu

during the late 1950s to 1970s (Graph), coincident with the deposit of wastewater off the city during that period (see Pomarine Jaeger). Reports are fewer but widespread around the perimeters of *Moloka'i*, *Maui*, *Lana'i*, and *Hawai'i I*. Most observations from shore are of 1-3 birds, but several were noted around Moku-ho'oniki islet off Moloka'i in Sep 1981 (E 50:77), 18 were resting on the water among porpoises one mile off W Lana'i 12 Dec 1977, and 20 were observed off Kawailoa, O'ahu 1 Jun 2007.

Farther *at sea*, King (1970) recorded 74 Brown Boobies in Hawaiian waters during surveys S and E of the Southeastern Islands, but all were within 90 km of O'ahu. They were found on all surveys Apr 1964-Jun 1965 with no significant seasonal peaks. Rowlett (2002) recorded them on only 17 of 93 observing days around the Hawaiian Islands in Aug-Nov 2002, nearly all on 10 days observing within 90 km of an island with a breeding colony. High daily counts were 65 near French Frigate and 35 near O'ahu. Beyond 90 km offshore he recorded 9 birds in 7 days scattered from NW of Kure to NE of O'ahu. None were recorded in 15 observing days near and east of Maui and Hawai'i and Spear et al. (1999) recorded none in 144 hrs of transect surveys S and SE of Hawai'i Island.

The subspecies of Brown Booby nesting in the central Pacific including Hawaii is S.l. plotus. There are also more than 20 records of one or more adult males of the distinctive, white-headed e. Pacific subspecies S.l. brewtseri (summarized by VanderWerf et al. 2008). In the Northwestern Hawaiian Islands these include individuals observed on Laysan 8 times in 1994-2000 and 3 times in 2007-2009; 1-2 on Lisianski in 1996-1999 (HRBP 1363) and one in Apr 2005 (HRBP 5545); one on Midway in Jan-Feb 2001 and another 19 Jan 2007 (HRBP 5543); 1-2 individuals on French Frigate in Nov 1990 (HRBP 1017), Jan-Feb 2003 and, 2007-2008 (HRBP 5957 published *NAB* 62:322); and two on Kure, in Jun 2006 (Vanderlip 2006; photograph in VanderWerf et al. 2008) and Aug 2009 (HRBP 5958). These could represent two to a few individuals working up and down the chain. Breeding attempts with local females (presumably of *plotus*) were photographed on Laysan in 1998 (photo published in VanderWerf et al. 2008) and observed on Lisianski in 2000. In the Southeastern Hawaiian Islands individuals were at Nu'upia Ponds O'ahu 18 Jun 1955; off Kaho'olawe 9-22 May 2001; on Mokumanu I, O'ahu 16 Oct 2006, and off O'ahu 19 Jun 2009 (HRBP 5758-5759). Brewster Brown Boobies were also photographed on Johnston Atoll 29 Apr 1984 (HRBP 0429), observed three times on Wake Atoll in 1998-2007 (Rauzon et al. 2008), and observed at Palmyra Atoll in 1996 (VanderWerf et al. 2008). One individual photographed at Barber's Point, O'ahu 8 Mar 2009 (HRBP 5544, 5757) had a white neck, perhaps indicating the subspecies S.l. etesiaca of C and S America. It is unclear how many of the other records of brewsteri may have ruled out this subspecies, as subadult male etesiaca can resemble brewsteri.

Acronyms and Abbreviations

Literature cited

Citation: Pyle, R.L., and P. Pyle. 2009. The Birds of the Hawaiian Islands: Occurrence, History, Distribution, and Status. B.P. Bishop Museum, Honolulu, HI, U.S.A. Version 1 (31 December 2009) http://hbs.bishopmuseum.org/birds/rlp-monograph/