

## GREAT FRIGATEBIRD

*Fregata minor*

Other: 'Iwa

*F.m. palmerstoni*

### breeding visitor, indigenous

Great Frigatebird is nearly a pantropical species, being absent only from the Atlantic Ocean north of the equator (King 1967, Harrison 1983, Marchant and Higgins 1990, Metz and Schreiber 2002). It is a common breeder at Johnston and Wake atolls (Amerson and Shelton 1976, Rauzon et al. 2008). In the Northwestern Islands it breeds in Mar-Oct, roosts in large numbers on certain islets of the Southeastern Islands, and is a fairly common sight soaring over most islands (although uncommon over Hawai'i I.) throughout the year. POBSP data indicate a slight depression in monthly counts during Nov-Feb, especially in the more northwestern of the islands: when not breeding, it disperses widely throughout tropical and subtropical seas, with vagrants recorded N to California (CBRC 2007), and individuals banded at Kure recovered as far away as the Marshall and Philippine Is (Woodward 1972). Hadden (1941) records a great movement of birds from Midway toward Kure on 29 Dec 1938. A frigatebird, probably Great, is present in the fossil record of Ulupau Head, O'ahu, indicating presence in the islands for at least 200,000 years (James 1987).

There was much confusion about the naming of frigatebirds in the 1800s. Early ornithologists in Hawaii (Isenbeck *in* Kittlitz 1834, Dole 1869, Stejneger 1888, Wilson and Evans 1899, Rothschild 1900) considered the Hawaiian population to be the same species as Ascension Island Frigatebird (*F. aquila*) of the c. Atlantic Ocean, although Cassin (1858) and Dole (1879) correctly assigned them to "*palmerstoni*" based on Gmelin's (1789) "*Pelecanus palmerstoni*" from Palmerston I in the Cook Is group. Wilson and Evans acknowledged that *F. minor*, then considered restricted to the S Pacific, might also occur in Hawaii. It was left to Mathews (1914) and Rothschild (1915) to figure it all out, identifying the Hawaiian birds as *minor* and attributing them to the widespread Pacific subspecies "*palmerstoni*". Magnificent Frigatebirds (*F. magnificens*) could reach the Hawaiian Islands from the Americas and are difficult to distinguish from Great Frigatebirds in most plumages (Harrison 1983, 1987; Howell 1994). Observers in Hawaii have made attempts to identify Magnificent Frigatebirds without success.

Great Frigatebirds breed on all *Northwestern Hawaiian Islands* except **Gardner Pinnacles** (where roosting birds are frequently noted), with an overall estimated breeding population size of 10,345 pairs during the 1980-2000s ([Table](#)). The largest breeding colony was found on *Nihoa*, followed by *Laysan*, *Lisianski* and *Necker*, **French Frigate** ([HRBP](#) 5702), *Pearl and Hermes*, *Kure*, and *Midway* ([Table](#)). Populations on Lisianski and Laysan were reduced after rabbits decimated breeding vegetation in the 1800s and early 1900s but both vegetation and breeding populations have since recovered (Fefer et al. 1987). Substantial numbers of roosting, non-breeding birds result in counts at colonies that are often twice as high or more as the totals of breeders, and numbers of both breeding and non-breeding birds can show substantial inter-annual variation. Roost counts of 1994 individuals on the Midway [Christmas Bird Count](#) in Dec 2003 and 381 on Kure 18 Aug 2007 (Vanderlip 2007) were notable. Information on the history of Great Frigatebird 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](#)).

W. Beresford *in* Dixon (1789) noted frigatebirds "breeding" on Kaula Rock, where feathers were collected by Polynesians for short cloaks (King 1779, Cook and King 1784), but this may have referred to roosting birds. A leucistic individual was noted there in Apr 1984 (*E* 46:19, [HRBP](#) 1447). Caum (1936) casually noted Great Frigatebirds nesting on Lehua Islet off *Ni'ihau* in 1931-1932 and VanderWerf et al. (2007) observed courting birds there, suggesting occasional breeding. Otherwise, only one breeding record of a single nest exists for the *Southeastern Hawaiian Islands*, on Mokumanu Islet off *O'ahu* in summer 1970 (*E* 31:18, *E* 32:98-99; Shallenberger and Myers 1971 include a photo of a chick). This is also the site of the largest roost counts in the Southeastern Islands, at times exceeding 1,000 birds (e.g., Richardson and Fisher 1950, 1153 counted there as part of the Honolulu [Christmas Bird Count](#) on 26 Dec 1971; *E* 32:70); higher numbers are undoubtedly present in Jul-Sep when totals at other roosts can be 3-4 times as high as winter counts. Large numbers commuting to and from this roost site are frequently seen flying along or just off the NE coast of O'ahu; Honolulu Christmas Count data further indicate a peak in abundance around the island during the 1950s-1970s ([Graph](#)), likely reflecting increase in seabird activity related to sewage deposition off Honolulu during this period (see [Pomerine Jaeger](#)). Roosting sites (along with high counts) off other southeastern islands include Kaula Rock SW of Ni'ihau ("dozens" *E* 22:02; a mostly white leucisitic bird was also photographed there 16-18 Apr 1984, *E* 46:19); Lehua Islet off *Ni'ihau* (up to 50+ in 2001-2002); Mokuaeae Islet off *Kaua'i* (up to 700 in Jul 2000; see also Byrd and Zeillemaker 1981); Moku-Ho'oniki Islet off *Moloka'i* (up to 4 birds on 9 Sep 1981; *E* 50:77); and Moku Mana (up to 54 on 14-15 Aug 1998), Alau (up to 125 on 23 Jun 2009; [HRBP](#) 5633), and Molokini (up to 43 on 8 Jun 1999) islets off *Maui*. During storms (or periods of approaching storms) large flocks of frigatebirds can be seen soaring in swirls over the Southeastern Islands. Counts of these can be >100 over Kaua'i and O'ahu (e.g., >300 over Punaluu, Oahu, 25 Jul 1981 and 225 over Waipi'o Peninsula, O'ahu, 16 Aug 1985), and occasionally > 20 over the other islands (e.g., 30 over *Kaho'olawe* 14 Aug 2002, 25 over Hapuna Beach, *Hawai'i*, 28 Jun 1978 [*E* 39:61] and 30+ over Honomaliu Bay, Hawai'i, 29 May 1988 [*E* 48:65]). The high count for *Lana'i* was of 8 over Kauumlapau Harbor 11 Jan 1980. At least 21 Great Frigatebirds were found stranded on O'ahu in 1990-2003 and turned into the SLP rehabilitation facility.

Densities of Great Frigatebirds *at sea* drop quickly > 9 km from shore; they frequently feed by kleptoparasitizing tropicbirds and boobies (Gilardi 1994), a more productive activity near roosting and breeding colonies than at sea. Although Rowlett (2002) recorded them on 69 of 93 observing days at sea around the Hawaiian Islands in Aug-Nov 2002, daily counts were usually 0-2 when > 45 km from an island. King (1970) also recorded Great Frigatebirds in low numbers throughout the year in his study area S and E of the Southeastern Islands, with little indication of seasonal patterns. Spear et al. (1999) recorded only 3 during 144 hrs of surveys SE of Hawai'i I. in spring and fall 1984-1991.

### [Acronyms and Abbreviations](#)

### [Literature cited](#)

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