Other: Christmas Island Shearwater monotypic

breeding visitor, indigenous

The Christmas Shearwater is named for Christmas Island (now Kritimati), close to the Equator S of the Hawaiian Islands, which was "discovered" by Cook the day before Christmas, 1777. This shearwater breeds throughout the Tropical Pacific, including Johnston Atoll (Amerson and Shelton 1976) and possibly Wake Atoll (Rauzon et al. 2008), and reaches its northernmost breeding range extent in the Northwestern Hawaiian Islands (AOU 1998, Seto 2001). In the Hawaiian Islands, adults return to breeding grounds in February, eggs are laid in late spring, chicks fledge in early fall, and most or all individuals depart Hawaiian waters by early Nov to winter S and E of Hawaii (Pitman 1986, Seto 2001, Howell 2012). Munro (*E* 2:16) provides early historical notes on the Christmas Shearwater in the Hawaiian Islands.

Close to 3,000 pairs of Christmas Shearwaters are estimated to breed in the Northwestern Hawaiian Islands, with the largest total by far (more than half) occurring on Laysan, followed by Lisianski, Nihoa, Midway, Kure, French Frigate, and Pearl and Hermes (Table, HRBP 6222-6223). At Kure, an estimated 100+ nesting pairs were found in May 1995 and band-reading of adults during the 2000-2010s indicates that the population has increased to about 240 pairs in 2014 and that the population is robust (Vanderlip 2006-2007; DOFAW 2012; VanderWerf et al. 2015); 13 birds originally banded on Midway were captured breeding on Kure, indicating exchange between these two colonies. At Midway, 100 pairs were noted on Eastern I in 1945 (Fisher and Baldwin 1946) but these were evidently decimated by rats introduced at about that time; nesting pairs became re-established here and increased to at least 200 during the early 2000-mid 2010s following eradication of rats in 1997 (Rauzon 2001, Seto 2001). Populations on Laysan have either declined since 32,500 breeding pairs were estimated there in 1911 (Dill and Bryan 1912), or this estimate was not accurate; 1,500-2,000 pairs were estimated breeding in 2013. Populations in French Frigate appear to have increased since the 1960s due to expansion of breeding to Tern I in the 1970-1980s (Keller et al. 2009, Hartzell et al. 2012). Christmas Shearwaters are uncommon on Necker (Evenhuis and Eldredge 2001): a pair without egg or chick was found 26 Jun 1995 roosting in a rock crevice atop Flagpole Hill, and single or multiple birds in flight have been observed in Mar 1967, Mar 1969, and Jun 1995, but breeding has yet to be confirmed there. 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); see also Clapp and Woodward (1968).

In the *Southeastern Hawaiian Islands*, about 165 pairs of Christmas Shearwaters breed (<u>Table</u>), solely on offshore islets owing to human disturbance and non-native predators on the populated Southeastern Islands. Near *Ni'ihau*, 75-125 pairs breed on Kaula Rock, SW of the island, and a few pairs likely breed on Lehua Islet, N of the island (Fisher 1951, VanderWerf et al. 2007). Off *O'ahu*, 40-60 pairs breed on Mokumanu (Richardson and Fisher 1950, *E* 29:48; <u>Table</u>). On North Mokulua islet off Kailua, O'ahu,

1-2 adult Christmas Shearwaters were observed between May and Jul 1994. These birds produced two chicks that were found dead in Aug-Sep (BPBM 179744, Smith 1994). The species has yet to be documented from Manana or other islets off e. Oahu, though prospecting birds are occasionally seen flying over these islands.

Christmas Shearwaters are observed sparingly from shore and regularly from boats in small numbers a few miles off most Southeastern Islands, including *Kaua'i*, O'ahu, and *Hawai'i I*, in Mar-Oct, often one or two, less frequently more. They also strand ashore occasionally; e.g., 3 were turned in to the SLP rehabilitation facility on O'ahu in 1997-2003 and one was turned in to the SOS program 7 Jul 2011 (SOS data). One reported circling near a waterfall at 3050' elevation near the head of Waihoi Valley, *Maui* (E 34:49), is unusual. Another was observed circling a hill at the base of Kalaupapa Peninsula, *Moloka'i*, in May 1980. *At sea*, King (1970) found no Christmas Shearwaters in Hawaiian waters while surveying E of longitude 157° W (off Moloka'i) on cruises during 1964-1965 and Spear et al. (1999) observed only one during 72 hrs of observing on cruises SE of Hawai'i I in spring and fall, 1984-1991. HICEAS surveys reported relatively few Christmas Shearwaters: only 23 during 336 days of observing in 2002 and 2010 (168 days each in Northwestern and Southeastern Hawaiian Island waters), with observations fairly evenly distributed between waters off Kure and Hawai'i I.

Acronyms and Abbreviations

<u>Literature cited</u>

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