

2019 Pacific Seabird Group 46th Annual Meeting



Kaua'i Beach Resort Lihue, Kaua'i, Hawai'i
27 FEBRUARY – 3 MARCH, 2019

DIVING IN! FIRST REPORT OF THE UNDERWATER BEHAVIOR OF CHRISTMAS SHEARWATERS (*PUFFINUS NATIVITATIS*) ON KURE ATOLL

Ilana Nimz (inimz@my.hpu.edu)¹ and K. David Hyrenbach (khyrenbach@hpu.edu)¹
1 Hawaii Pacific University, 41-202 Kalaniana'ole Highway, Waimanalo, Hawai'i 96795

Morphologically, the Christmas shearwater (*Puffinus nativitatis*) is a highly-aquatic tropical shearwater with laterally compressed tarsi and a high wing loading for its body mass. While this species engages in pursuit plunging and diving, there are no published reports quantifying their sub-surface foraging behavior. We obtained information from Lotek-1500 time-depth-recorders deployed on eight chick-rearing Christmas shearwaters on Kure Atoll, during June-August of 2017. We recorded 1,519 dive events during thirty-three tagging days. Deployment on individuals ranged from three to eight days, and were independent from maximum depth ($r^2 = -0.004$). Individual maximum depths ranged from 10.7 to 24.1 m, with a mean of 15.4 \pm 4.2 m. While the deepest and longest recorded dive reached 24 meters and lasted 31 seconds, the majority of the dives were shallower than three meters (64%), and lasted three seconds or less (53%). Overall, deeper dives were longer ($r^2 = 0.91$). Diving occurred exclusively during daylight hours, with peak diving activity (13%) occurring during the evening (1700-1800 HST). This study provides the first insights into the diving behavior of the Christmas Shearwater, and highlights the epipelagic foraging habitat of this species of concern within the Papahānaumokuākea Marine National Monument.