

SHORT-FINNED PILOT WHALE DIVING BEHAVIOR: DEEP FEEDERS AND DAY-TIME SOCIALITES

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Pilot whales have long been thought to be deep divers, yet until recently no information has been available on diving depths of either species. Limited information on long-finned pilot whales in the Ligurian Sea suggest they remain relatively inactive during the day, dive deeply at dusk following vertically migrating prey, and feed near the surface at night (Baird et al., 2002. Mar. Ecol. Prog. Ser.). In Hawai'i, short-finned pilot whales are found year-round associated with island slopes, typically in waters ranging from 1,000 to 2,000 m. We tested the hypothesis that this species dives deeply at dusk and dawn, presumably following vertically migrating prey, and forages near the surface at night. In 2002 we deployed 10 time-depth recorders (TDRs - 9 recovered) and 6 Crittercams (video systems), collecting 101 hours of TDR data and approx. 10 hours of video footage. The deepest dives recorded (typically 600-800 m, max. 27 minutes) were during the day. Such deep dives were recorded for all 5 individuals where TDRs remained attached for extended periods. At night, all whales dove regularly to between 300 and 500 m, and the rate of deep (>100 m) dives at night was almost four times greater than during the day. Long bouts of shallow (<100 m) diving or surface resting occurred only during the day. Video footage during these shallow dive bouts indicated the whales were engaged in social, rest and travel behaviors, but no feeding was documented. Overall our hypothesis of a crepuscular diving pattern and near-surface feeding at night was not supported. However, dive depth differences between day and night presumably reflect vertically migrating prey, though the prey were concentrated at depths of 300-500 m during the night. Differences in diving patterns from long-finned pilot whales likely reflect differences in the vertical movements of prey.

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