



## Marine Mammals

### Short-finned pilot whale

*Globicephala macrorhynchus*

**SPECIES STATUS:**

IUCN Red List - Lower Risk/Conservation Dependent

**SPECIES INFORMATION:** Short-finned pilot whales (*Globicephala macrorhynchus*) feed primarily on squid, but they may also feed on octopus and fish, all from moderately deep water. When they are swimming and probably looking for food, pilot whales form ranks that can be over a kilometer (one mile) long. They are polygynous and are often found in groups with a ratio of one mature male to about every eight mature females. Females have gestation periods of approximately 15 months and lactate for at least two years. The last calf born to a mother may be nursed for as long as 15 years. The calving interval is five to eight years, but older females do not give birth as often as younger females. These whales form schools of 15 to 50. Additionally, they commonly associate with other cetaceans, such as the bottlenose dolphin.

**DISTRIBUTION:** Short-finned pilot whales are found throughout Hawai'i. Possible resident populations are located off the coast of Kona on the island of Hawai'i and off southwest Lāna'i.

**ABUNDANCE:** The 2002 NOAA Stock Assessment Report estimates short-finned pilot whale abundance at 1,700, but this number underestimates the total population because it does not include the Northwestern Hawaiian Islands and only includes short-finned pilot whales within 25 nautical miles offshore. Barlow (2003), however, estimates population abundance for the entire Hawaiian Exclusive Economic Zone at 8,800.

**LOCATION AND CONDITION OF KEY HABITAT:** Short-finned pilot whales are found primarily in the deep waters off of the Main Hawaiian Islands. Areas with high density of squid are their primary foraging habitats. Currently their key habitat condition can be considered stable, with no habitat issues of concern.

#### THREATS:

- Fishery bycatch is a threat to short-finned pilot whales in Hawai'i. They interact with the longline fishery, the bottomfish fishery, and squid fisheries that use drift and gill nets and seines in the NWHI, but whether these interactions result in death or injury are unknown. This threat needs to be further investigated. They also steal bait and catch from fisherman, which can result in intentional killing of these whales;
- Marine debris, such as tiny plastic particles that accumulate in the Hawaiian Archipelago, is a significant threat to short-finned pilot whales. Not only do these particles contain harmful chemicals such as PCBs and DDEs, but when ingested they also can cause a variety of effects such as internal injury and intestinal blocking. Marine

debris such as derelict fishing gear can entangle whales, often resulting in injury or death;

- Man-made noise is a threat that results from high vessel traffic and military vessels that use Hawaiian waters for operations involving sonar and explosions. This man-made noise can interfere with acoustic signals critical to reproduction and feeding. Man-made noises also have been shown to cause disturbance responses from far away, hearing loss, and physical harm;
- Interactions with whale watching tours may impact these whales; however, these are few tours focusing on this species.

**CONSERVATION ACTIONS:** The goals of conservation actions are to not only protect current populations, but to also establish further populations to reduce the risk of extinction. In addition to common statewide and island conservation actions, specific actions include:

- Establish a systematic fisheries monitoring system for interactions with short-finned pilot whales;
- Continue working to decrease marine debris;
- Work with partners to decrease pollutants and chemicals in the marine environment;
- Continue to collaborate with NOAA on enforcement of the Marine Mammal Protection Act as it relates to preventing marine mammal harassment and disturbance;
- Continue collaboration with NOAA, agency partners and stakeholders in the process of considering species for inclusion in the HIHWNMS;
- Work with and assist local conservation organizations on cetacean conservation, education, and marine debris clean-up.

**MONITORING:**

- Survey nearshore habitat for detailed population size and distribution;
- Monitor the number of short-finned pilot whales entangled or otherwise impacted by marine debris and taken as fisheries bycatch.

**RESEARCH PRIORITIES:**

- Continue researching habitat use, feeding behaviors, and other biological information;
- Improve understanding of impacts from tourism related activities on short-finned pilot whales;
- Collaborate with NOAA to understand interactions with nearshore fisheries;
- Research impacts and toxicity of small plastic pellet debris on marine mammals;
- Initiate studies to determine threats and minimize their impacts.

**References:**

Baird RW, McSweeney DJ, Webster DL, Gorgone AM, Ligon AD. 2003. Studies of odontocete population structure in Hawaiian waters: results of a survey through the Main Hawaiian Islands in May and June 2003. Seattle, WA: National Oceanic and Atmospheric Administration, Western Administrative Support Center.

Barlow J. 2003. Cetacean abundance in Hawaiian waters during summer/fall of 2002. Administrative Report. La Jolla, California: National Marine Fisheries Service, Southwest Fisheries Science Center. Report nr LJ-03-12. 20 pp.

Bernard HJ, Reilly SB. 1999. Pilot whales *Globicephala* Lesson, 1828. pp. 245-279 In: S Ridgeway and Sir R

Harrison editors. Handbook of marine mammals. Volume 6. The second book of dolphins and the porpoises. London, UK: Academic Press.

Carretta JV, Muto MM, Barlow J, Baker J, Forney KA, Lowry M. 2002. U.S. Pacific marine mammal stock assessments. La Jolla, California: National Marine Fisheries Service, Southwest Fisheries Science Center. NOAA-TM-NMFS-SWFSC-346. 290 pp.

Donohue MJ, Boland RC, Sramek CM, Antonelis GA. 2001. Derelict fishing gear in the Northwestern Hawaiian Islands: Diving surveys and debris removal in 1999 confirm threat to coral reef ecosystems. Marine Pollution Bulletin 42 (12): 1301-1312.

McDermid K J McMullen TL. 2004. Quantitative analysis of small-plastic debris on beaches in the Hawaiian Archipelago. Marine Pollution Bulletin 48: 790-794.

Reeves RR, Stewart BS, Clapham PJ, Powell JA. 2002. Guide to marine mammals of the world. New York, NY: Alfred A. Knopf, Inc. 527 pp.

Roberts AC, Meadows DW. 2003. Distribution and abundance of short-finned pilot whales (*Globicephala macrorhynchus*) and other odontocetes in the four-island region of Hawaii. Maui, Hawai'i: Pacific Whale Foundation. 19 pp.