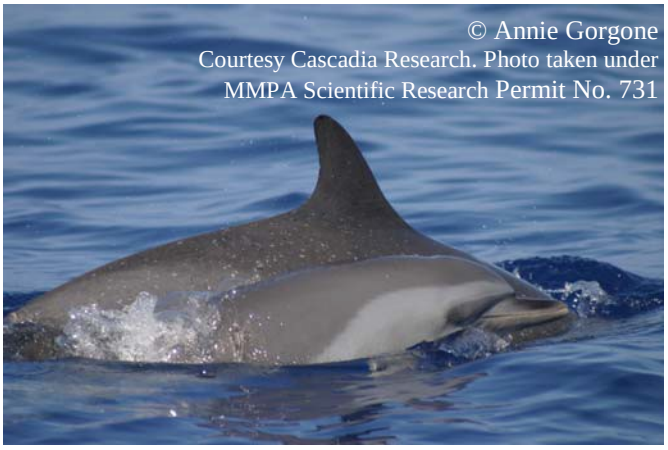

Marine Mammals

Nai'a or Spotted dolphin

Stenella attenuata

SPECIES STATUS:
IUCN Red List - Lower Risk/ Conservation Dependent

SPECIES INFORMATION: Nai'a or the spotted dolphin (*Stenella attenuata*) found in Hawaiian waters is considered one of three subspecies of *Stenella attenuata*. The diet of spotted dolphins in Hawai'i has been studied very little, but it appears that they feed primarily on mesopelagic cephalopods and fish. A recent study shows that although spotted dolphins may forage during the day, they appear to be more active feeders at night, diving deeper and longer. Spotted dolphins can be associated with yellowfin tuna, however, not as tightly as spotted dolphins in the Eastern Tropical Pacific. Spotted dolphins give birth to calves year-round with a few seasonal peaks. They have an 11 month gestation period. Lactation often takes place for two years, but also can last for only one year. At three to six months, however, calves will begin taking solid food. Calving intervals depend on the population, but range from two and a half to four years. During the day, spotted dolphins usually remain in shallower, nearshore waters around Maui ranging from 100 to 300 meters (330 to 1000 feet) deep, but they primarily stay within the top ten meters (33 feet) of the water column. Around the other islands they occur at 1500-2000m (5000 to 6300 feet) deep during daylight (Robin Baird, personal communication). They also are less active during this time. They are usually in small groups averaging approximately 40 individuals.

DISTRIBUTION: They are found throughout the Hawaiian Islands, often off leeward coasts. They have small home ranges and may not move between islands.

ABUNDANCE: The 2002 NOAA Stock Assessment estimates spotted dolphins abundance at approximately 2,900, but this number underestimates the total population because it does not include the Northwestern Hawaiian Islands and only includes dolphins within 25 nautical miles offshore. Barlow (2003) estimated population abundance for the entire Hawai'i Exclusive Economic Zone at approximately 10,300. It is important to note that within Hawai'i there may be distinct spotted dolphins populations that do not intermingle. There is no data to determine a clear trend in abundance.

LOCATION AND CONDITION OF KEY HABITAT: Spotted dolphins spend the majority of their day in nearshore, shallower water habitats typically between 90 to 300 meters (300 to 1,000 feet) deep. They can be found in deeper water habitats off of the island of Hawai'i, Kaua'i, Lāna'i, and Ni'ihau. At night they move further off shore into deeper waters to search for prey and dive to deeper depths than they do during the day. They are often found in locations that

have the highest prey density. The condition of their habitat is currently stable with no known habitat concerns.

THREATS: Spotted dolphins face a variety of threats similar to other cetaceans in Hawai'i; however, direct and indirect take of spotted dolphins in Hawaiian fisheries appears minimal, but these interactions are rarely reported and could be underestimated. Significant threats include the following:

- Tourism related interactions with dolphins such as tour boats and swim-with-dolphin programs represent a threat. Feeding, breeding, and social behaviors can be disrupted by the close range, high volume vessel traffic and the large numbers of swimmers, especially since spotted dolphins rest during the daytime. More studies need to be conducted to quantify this threat;
- Marine debris, such as tiny plastic particles that accumulate in the Hawaiian Archipelago, is a significant threat to spotted dolphins. 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 entangles the dolphins 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. This man-made noise can interfere with acoustic signals critical to dolphins' reproduction and feeding. Man-made noises also have been shown to cause disturbance responses, hearing loss and physical harm;
- Habitat degradation from coastal development and run-off is also a threat as spotted dolphins can live in nearshore waters.

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 state-wide and island conservation actions, specific actions include:

- Establish a systematic fisheries monitoring system for interactions with spotted dolphins;
- Continue working to decrease marine debris;
- 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 partners to decrease pollutants and chemicals in the marine environment;
- Work with and assist local conservation organizations working on cetacean conservation, education and marine debris clean-up;
- Continue collaboration with NOAA on education and outreach activities, such as the "Ocean Etiquette" program, to promote dolphin-friendly ecotourism activities.

MONITORING:

- Survey nearshore habitat for detailed population size and distribution;
- Monitor the number of pantropical spotted dolphins entangled or otherwise impacted by marine debris and taken as fishery bycatch.

RESEARCH PRIORITIES:

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

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