

November 2, 2010

David Cottingham, Chief  
Marine Mammal and Sea Turtle Conservation Division  
Office of Protected Resources  
National Marine Fisheries Service  
1315 East-West Highway  
Silver Spring, MD 20910

Dear David,

Thank you for the opportunity to provide comments on the Draft 2010 Marine Mammal Stock Assessment Reports (SARs). My comments below focus on Hawaiian stocks, based primarily on studies Cascadia Research has been undertaking in Hawaiian waters since 2003.

*Evidence for at least two populations of melon-headed whales within the Hawaiian EEZ*

Our work and the work of others has helped provide evidence for multiple stocks of a number of species of odontocetes within the Hawaiian EEZ, and supports the designation of multiple stocks of common bottlenose dolphins and spinner dolphins as presented in the draft SARs. There is evidence of multiple stocks (either both insular and pelagic stocks, or multiple insular stocks) of other species that is acknowledged in some of the draft SARs but not in others. Such unrecognized population structure has implications for the susceptibility of stocks to impacts from a variety of anthropogenic activities, including fisheries and naval exercises. For many species limited sampling effort from areas other than around the island of Hawai‘i prohibits conclusive analyses to support designating multiple populations, however evidence available that there are at least two stocks of melon-headed whales within the Hawaiian EEZ is fairly conclusive and is not reflected in the draft SAR for this species. Based on association patterns and habitat use Aschettino (2010) presents evidence that there are two distinct populations of melon-headed whales in Hawai‘i; a small population resident off the northwest region of the island of Hawai‘i and a larger population that ranges throughout the main Hawaiian Islands. Movement data from satellite tagging (Schorr et al. unpublished) also support a restricted range for individuals from the resident population. As melon-headed whales may be susceptible to impacts from naval exercises (Southall et al. 2006; Brownell et al. 2009), the presence of a small population with a restricted range in an area adjacent to where naval exercises may be undertaken should be noted. Aschettino (2010) also notes evidence of fisheries interactions for both the Hawai‘i Island resident population and the main Hawaiian Islands population. In addition, it should be noted that genetic analyses are ongoing to assess population structure of melon-headed whales in Hawai‘i.

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*Likely occurrence of multiple populations of short-finned pilot whales within the Hawaiian EEZ*

For short-finned pilot whales, genetic evidence cited in the draft SAR is used to note that pilot whales in Hawai‘i may be isolated from those in the eastern tropical Pacific and also possibly from pilot whales around Johnston Atoll and Palmyra Atoll. However, the potential for multiple stocks within the Hawaiian EEZ, as has been documented for common bottlenose dolphins, spinner dolphins, false killer whales and melon-headed whales, is not noted in the draft SAR. Photo-identification efforts off the island of Hawai‘i since the mid-1980s indicates that individuals exhibit long-term fidelity to the island (McSweeney et al. unpublished). An analysis of sightings in relation to depth (corrected for effort, based on 292 sightings and 3,430 hours of effort) show a strong association with the island slope, with sighting rates five times greater in depths <2,500 m than in depths >2,500 m, indicating an island-associated population. Data on movements of 34 individuals satellite tagged between 2006 and 2009 indicate limited movements around the main Hawaiian Islands (Baird et al. unpublished). Combined, these lines of evidence indicate the existence of one or more island-associated populations of short-finned pilot whales around the main Hawaiian Islands. Given the sightings of short-finned pilot whales in offshore waters of the EEZ (draft SAR), there is likely an open-ocean population found in offshore waters in addition to the insular population(s).

*Cetacean interactions with troll fisheries around the main Hawaiian Islands*

The only commercial fisheries in Hawai‘i with observer programs are the pelagic longline fisheries, yet there is a variety of evidence for interactions between odontocetes and other fisheries in Hawai‘i. In our studies off the island of Hawai‘i we regularly observe fishing vessels (including charter operations, private recreational vessels and commercial vessels) trolling through groups of cetaceans. The majority of these interactions are with pantropical spotted dolphins, and some groups of dolphins will have multiple boats fishing in association with the dolphins for extended periods. We have also observed vessels trolling through or over top of groups of short-finned pilot whales, melon-headed whales, false killer whales, rough-toothed dolphins, bottlenose dolphins, Cuvier’s beaked whales, Blainville’s beaked whales and dwarf sperm whales, all presumably to try to catch fish that might be associated with these cetaceans. These fisheries are not noted in the section on human-caused mortality and serious injury in the draft SAR for pantropical spotted dolphins, yet as noted by Rizzuto (2007), fishermen at least occasionally hook dolphins, and thus likely cause serious injury. In addition, photographic evidence suggests that dolphins may be injured both by lines and by propeller strikes (see [www.cascadiaresearch.org/hawaii/pantropicalspotteddolphin.htm](http://www.cascadiaresearch.org/hawaii/pantropicalspotteddolphin.htm)).

I have attached a list of additional comments. Thank you very much for considering these comments.

Sincerely,



Robin W. Baird, Ph.D.  
Research Biologist  
rwbaird@cascadiaresearch.org

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## Additional Comments on the Draft 2010 Marine Mammal Stock Assessment Reports

Common Bottlenose dolphin – Hawaiian Islands Stock Complex. Hawai‘i Island Stock, Status of Stock. For this stock the draft SAR notes that “there is no systematic monitoring of gillnet fisheries that may take this species”. This should be expanded to include other types of fisheries (i.e., hook and line fisheries) that may also interact with this stock (see, e.g., [www.cascadiaresearch.org/hawaii/bottlenosedolphin.htm](http://www.cascadiaresearch.org/hawaii/bottlenosedolphin.htm)).

Striped dolphin – Hawaiian stock. The statement that “sightings have historically been infrequent” is no longer accurate. Recent surveys in deep-water areas off the island of Hawai‘i have documented this species fairly regularly (21 times since 2003), despite limited effort in deep-water areas, as frequently as one other species known to be resident to the island (pygmy killer whale; McSweeney et al. 2009).

Pygmy killer whale – Hawaiian stock. Stock definition and geographic range. McSweeney et al. (2009) note recent sightings of this species off Ni‘ihau, Lana‘i and the island of Hawai‘i. Schofield (2007) provided evidence of a hooking injury in a stranded pygmy killer whale from O‘ahu. Pygmy killer whales in Hawai‘i have a high incidence of mouthline injuries suggestive of fisheries interactions (see [www.cascadiaresearch.org/robin/pygmykillerwhale.htm](http://www.cascadiaresearch.org/robin/pygmykillerwhale.htm)). Given this species is likely long-lived (see McSweeney et al. 2009) and slow to reproduce, the ability of their populations to respond to even low-levels of fisheries interactions will be poor.

Dwarf sperm whale – Hawaiian stock. Mahaffy et al. (2009) note that high re-sighting rates off the island of Hawai‘i suggests a small population size and site fidelity. Individuals with dorsal fin injuries apparently caused by line injuries have been documented – see [www.cascadiaresearch.org/hawaii/dwarfspermwhale.htm](http://www.cascadiaresearch.org/hawaii/dwarfspermwhale.htm)

### References

- Aschettino, J.M. 2010. Population size and structure of melon-headed whales (*Peponocephala electra*) around the main Hawaiian Islands: evidence of multiple populations based on photographic data. M.Sc. Thesis, Hawai‘i Pacific University. 117 pp
- Brownell, R.L., K. Ralls, S. Baumann-Pickering, and M.M. Poole. 2009. Behavior of melon-headed whales, *Peponocephala electra*, near oceanic islands. *Marine Mammal Science* 25:639-658.
- Mahaffy, S.D., R.W. Baird, D.J. McSweeney, D.L. Webster, and G.S. Schorr. 2009. Individual photo-identification of dwarf sperm whales off the island of Hawai‘i; evidence of site fidelity and a small population size. Poster presented at the 18th Biennial Conference on the Biology of Marine Mammals, Quebec, October 2009. Available at [www.cascadiaresearch.org/hawaii/dwarfspermwhale.htm](http://www.cascadiaresearch.org/hawaii/dwarfspermwhale.htm)
- McSweeney, D.J., R.W. Baird, S.D. Mahaffy, D.L. Webster, and G.S. Schorr. 2009. Site fidelity and association patterns of a rare species: pygmy killer whales (*Feresa attenuata*) in the main Hawaiian Islands. *Marine Mammal Science* 25:557-572.
- Rizzuto, J. 2007. Big fish await HIBT teams. *West Hawaii Today* 39(218):1B,4B-5B.
- Schofield, D. 2007. Pygmy killer whale (*Feresa attenuata*) stranding of July 23, 2006. National Marine Fisheries Service, Honolulu, HI.
- Southall, B.L., R. Braun, F.M.D. Gulland, A.D. Heard, R.W. Baird, S.M. Wilkin, and T.K. Rowles. 2006. Hawaiian melon-headed whale (*Peponocephala electra*) mass stranding event of July 3-4, 2004. NOAA Technical Memorandum NMFS-OPR-31.
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