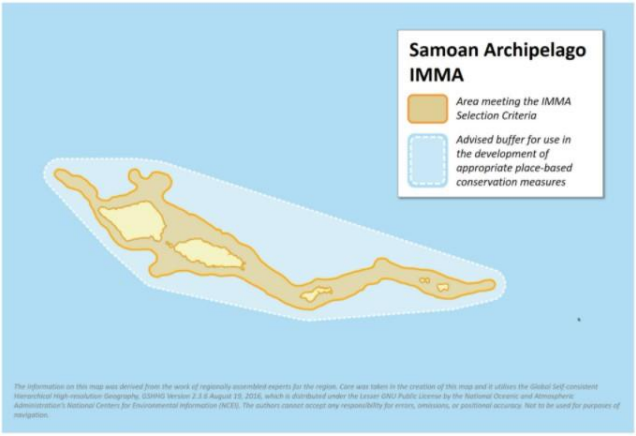

Area Size

12,548 km²

Qualifying Species and Criteria

Humpback Whale – *Megaptera novaeangliae*

Criteria A, B2, C1

Spinner dolphin – *Stenella longirostris*

Criteria B1, B2, C1, D1

Rough-toothed dolphin – *Steno bredanensis*

Criteria B1, B2, C1, D1

Marine Mammal Diversity

Kogia sima, Mesoplodon densirostris, Ziphius cavirostris, Globicephala macrorhynchus, Pseudorca crassidens, Stenella attenuata, Physeter macrocephalus, Tursiops truncatus , Megaptera novaeangliae, Stenella longirostris, Steno bredanensis

Summary

The Samoan Archipelago IMMA includes the productive shelf and slope waters of the Islands of the Samoan Archipelago (including the Rose Atoll). Recent marine mammal surveys have identified unique, resident populations of spinner dolphins and rough-toothed dolphins throughout the larger islands in the archipelago. Short-finned pilot whales, sperm whales, beaked whales and dwarf sperm whale have also been sighted regularly. Other species of cetaceans are spotted periodically in the area. Humpback whales from the Oceania population inhabit the shelf waters around the islands in the Austral winter, primarily July – October, with all breeding classes and behaviors recorded, particularly around the island of Tutuila.

Samoan Archipelago IMMA

Criterion A: Species or Population Vulnerability

The Oceania stock of humpback whales (Fig. 1) which seasonally use the waters of the Samoan Archipelago, are considered endangered on the IUCN Red List. Sperm whales also occur around Samoa and are considered vulnerable on the IUCN Red List.

Criterion B: Distribution and Abundance Sub-criterion B1: Small and Resident Populations

The spinner dolphins (Fig. 2) around Tutuila, Savaii and Upolu have been documented, through photo-ID, to be resident year-round and from year to year (Johnston et al., 2008; Ward, 2011). Similarly, rough-toothed dolphins around Tutuila have also been documented to be long-term residents (Johnston et al., 2008). The numbers of identified individuals range from approximately one hundred (rough-toothed) to several hundred (spinners).

Criterion B: Distribution and Abundance Sub-criterion B2: Aggregations

The productive slope waters of the Samoan Archipelago provide foraging opportunities that allow the populations of (at least) spinner and rough-toothed dolphins to remain resident in the defined waters throughout the year and from year to year (Fig. 3) (Johnston et al., 2008; Ward, 2011). The shelf waters of Tutuila in particular, provide suitable habitat that attracts aggregations of breeding humpback whales during the Austral winter. Based on the frequency and span of within-season resightings, lack of clear directional travel and evidence for calving and nursing, it is apparent that American Samoa is a migratory aggregation area for some of Oceania's humpback whales (Robbins and Mattila, 2006).

Figure 1: A humpback whale surfaces nearshore within the IMMA. Photo: Center for Coastal Studies image taken under NMFS research permit # 20311

Criterion C: Key Life Cycle Activities Sub-criterion C1: Reproductive Areas

Given the high level of residency of some species (e.g. spinner and rough-toothed dolphins), both within and between years, this habitat is very likely used for breeding by these species. In addition, very young (e.g. nursing) sperm whales, short-finned pilot whales and Cuvier's beaked whales have been documented, suggesting that some aspects of breeding occur. Robbins and Mattila (2006) have observed all known breeding behaviors of humpback whales (e.g. singing, nursing, male-male competition) in the waters surrounding Tutuila. This, combined with the frequency and span of within-season re-sightings, lack of clear directional travel and evidence for calving in the area, indicate that the waters surrounding (at least) Tutuila are important for humpback whale reproduction.

Criterion D: Special Attributes Sub-criterion D1: Distinctiveness

Genetic analyses of rough-toothed dolphins indicate that they are distinct from two other comparable island-associated populations found in the

Marquesas and Hawaiian island groups (Albertson et al., 2016; Baker, 2015). Genetic analyses of spinner dolphins suggest weak differentiation between samples collected from the main islands of Samoa, but highly significant differences between the pooled Samoan samples and other island-associated populations in the Pacific. Genetic analyses for other species that are suspected to be resident, have not yet been conducted.

Criterion D: Special Attributes Sub-criterion D2: Diversity

The IMMA is believed to provide essential and important habitat for at least the following species: spinner dolphin, rough-toothed dolphin, sperm whale, short-finned pilot whale, Cuvier's beaked whale, Blainville's beaked whale, *Kogia spp*. and humpback whales. It is also used, perhaps more sporadically, by common bottlenose dolphins, pantropical spotted dolphins, false killer and minke whales.

Figure 2: A spinner dolphin breaches off the Samoan Archipelago. Photo: Center for Coastal Studies image taken under NMFS research permit # 15240

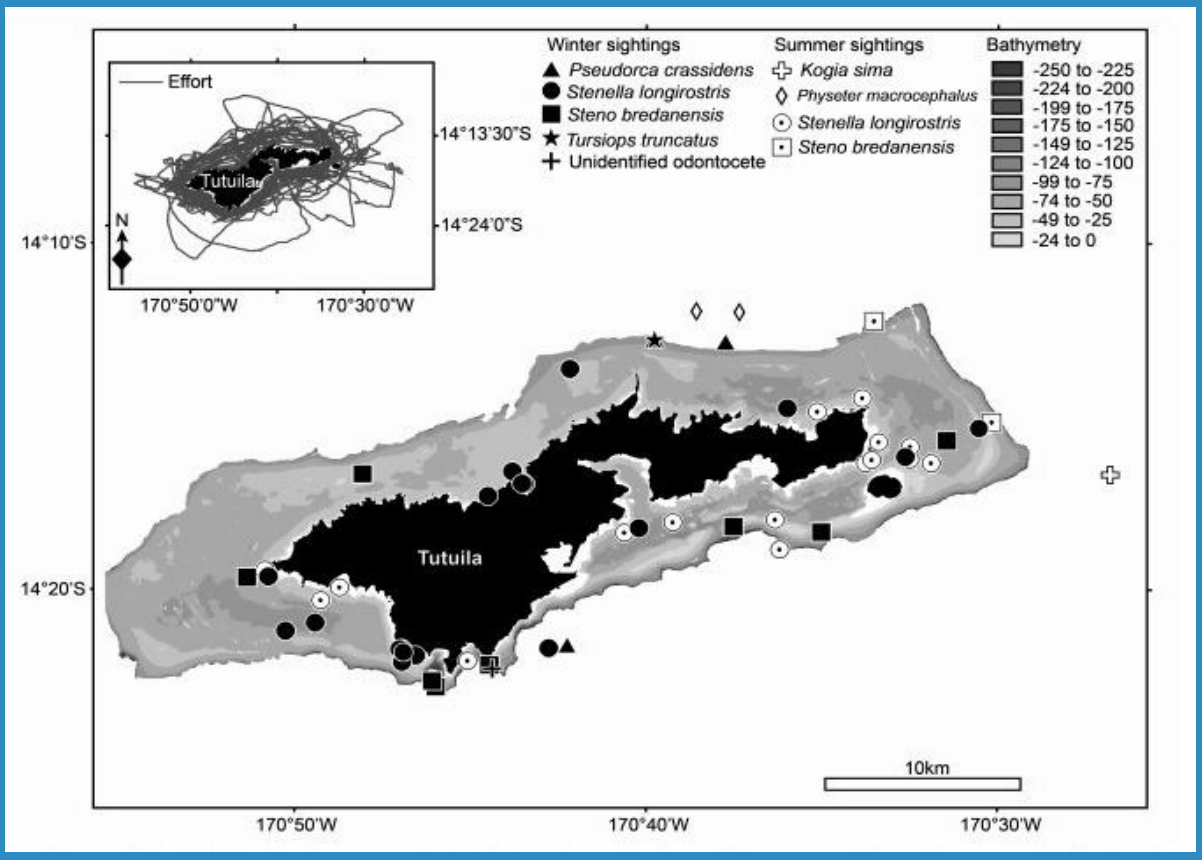

Figure 3: Survey effort and sighting locations for odontocetes observed during small boat surveys in the coastal waters of Tutuila, American Samoa, during the austral winter (2003-06) and austral summer (2006). From Johnston et al., 2008.

Supporting Information

Albertson, G.R., Baird, R.W., Oremus, M., Poole, M.M., Martien, K.K. and Baker, C.S. 2016. Staying close to home? Genetic differentiation of rough-toothed dolphins near oceanic islands in the central Pacific Ocean. Conservation Genetics DOI 10.1007/s10592-016-0880-z

Baker, C.S., Ward, J., Albertson, R., Baker, D.N., Steel, D., Johnston, D., Andrews, K., Poole, M. and Oremus, M. 2013. A pattern of dolphins (aPOD) in Samoa, and beyond. Report (SC/65/SM19) to the Scientific Committee of the International Whaling Commission.

Baker, C.S. 2015. A pattern of dolphins (aPOD) – the seascape genetics of island populations in protected and unprotected habitats of Oceania. Unpublished report to Pew Marine Conservation Fellowship.

Craig, P. 2005. Natural History Guide to American Samoa. National Park of American Samoa, Pago Pago, American Samoa. [Available from www.nps.gov].

Dolar, M.L.M. 2005. Cetaceans of American Samoa. Report submitted to the Department of Marine and Wildlife Resources, American Samoan Government, June 2005 (unpublished). 24pp.

Johnston, D.W., Robbins, J., Chapla, M.E., Mattila, D.K. and Andrews, K.R. 2008. Diversity, relative abundance and stock structure of odontocete cetaceans in the waters of American Samoa, 2003-2006. Journal of Cetacean Research and Management 10: 5966.
Lindsay, R.E., Constantine, R., Robbins, J., Mattila, D.K., Tagarino, A., Dennis, T.E. 2016. Characterising essential breeding habitat for whales informs the development of large-scale Marine Protected Areas in the South Pacific. Marine Ecology Progress Series 548: 263–275, 2016.

Munger, L.M., Lammers, M.O., Fisher-Pool, P. and Wong, k. 2012. Humpback whale (*Megaptera novaeangliae*) song occurrence at American Samoa in long-term passive acoustic recordings, 2008-2009. Journal of the Acoustical Society of America 132(4).

Noad, M.J., Paton, D.A., Gibbs, N.J. and Childerhouse, S.J. 2006. A combined visual and acoustic survey of humpback whales and other cetaceans of Samoa. Paper SC/A06/HW28 presented to the IWC Workshop on Comprehensive Assessment of Southern Hemisphere Humpback Whales, Hobart, Tasmania, 3-7 April 2006 (unpublished). 15pp. [Paper available from the office of the Journal of Cetacean Management].

Robbins, J. and Mattila, D.K. 2006. Summary of humpback whale research at American Samoa, 2003-2005. Paper SC/58/SH5 presented to the IWC Scientific Committee, May 2006, St. Kitts and Nevis, West Indies (unpublished). 4pp. [Paper available from the Office of The Journal of Cetacean Management].

Walsh, S.A. and Paton, D.A. 2003. Final Report on the Survey of Whales and Dolphins in Samoa. Report to the Australian Department of Environment and Heritage.

Ward, J. and Asotasi, I. 2007. Status of Whales and Dolphins of Samoa: Scientific and Watching Feasibility Surveys Report. Unpublished report by the Marine Conservation Section of the Division of Environment and Conservation, Ministry of Natural Resources and Environment (MNRE), Samoa.

Ward, J., Momoemausu, M., Asotasi, I. and Solomona, I. 2008a. Report on the whale and dolphin watching feasibility survey of the north-western coast of Savaii Island. MNRE Report. Unpublished.

Ward, J., Asotasi, I., Ifopo, P. and Solomona, I. 2008b. An assessment on the occurrence of cetaceans along the southern coast of Upolu Island, October 2008. MNRE Report. Unpublished.

Ward, J., Iese, C., Pesaleli, T. and Teofilo, M. 2009. Survey of whales and dolphins on the northern coast of Upolu Island, November 2009. MNRE Report. Unpublished.

Ward, J., Momoemausu, M., Ifopo, P., Simi, T. and Solomona, I. 2010. Building on the local knowledge of whales and dolphins along the Southern coast of Upolu and Northwestern coast of Savaii. MNRE Technical Report. Samoa. Unpublished.

Acknowledgements

We would like to thank the participants of the 2017 IMMA Regional Expert Workshop held in Apia, Samoa for the identification of IMMAs in the Pacific Islands Region. Funding for the identification of this IMMA was provided to the Global Ocean Biodiversity Initiative by the International Climate Initiative (IKI). The German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU) supports this initiative on the basis of a decision adopted by the German Bundestag. Support was also provided by SPREP, the French Biodiversity Agency, Whale and Dolphin Conservation and the Tethys Research Institute.

Suggested Citation: IUCN-Marine Mammal Protected Areas Task Force, 2021. Samoan Archipelago IMMA Factsheet. https://www.marinemammalhabitat.org/wp-content/uploads/imma-factsheets/PacificIslands/samoan-archipelago-PacificIslands.pdf. Downloaded on (day month year).

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