

Main Solomon Islands IMMA

Summary, continued.

Photo-identification and genetic data support the presence of small, resident, populations of coastal dolphins that are genetically distinct from neighbouring populations (spinner dolphins and Indo-Pacific bottlenose dolphins). Finally, dugongs (Vulnerable on the IUCN Red List) are widely distributed in the IMMA.

Description

This IMMA encompasses the waters surrounding and connecting the main islands of the Solomon Islands, from Choiseul in the west, to Makira in the east. It includes waters around the islands of Guadalcanal, Malaita, Santa Isabel and New Georgia. This represents the northwestern part of the Solomon Islands EEZ. Limits of the area are roughly designed around the 3000 m contour, except for the northern limit which has been extended to include the area of high Omura's whale density (Shimada and Pastene, 1995).

A total of 21 different species of marine mammals have been reported in the IMMA from different sources (Shimada and Pastene 1995; Kahn, 2004; Oremus et al., 2013), yet there are no estimates of population abundance for any marine mammals in the Solomon Islands apart from *T. aduncus* around the region of Guadalcanal (Oremus et al., 2014). A few species, including Indo-Pacific bottlenose dolphins, spinner dolphins and dugongs, occur in coastal habitats. However, coastal surveys also show that presumed Omura's whales are regularly observed very close to shore (Oremus et al., 2013). Pantropical spotted dolphins appear to be the most commonly sighted species in offshore waters of the IMMA, but several other odontocete species have been sighted on multiple occasions (e.g., common bottlenose dolphin, false killer whale, killer whale, Risso's dolphin). Spinner dolphins are observed in both



Area Size

278,494 km²

Qualifying Species and Criteria

Indo-Pacific bottlenose dolphin – *Tursiops aduncus*

Criterion B1

Dugong – *Dugong dugon*

Criterion A

Omura's whale – *Balaenoptera omurai*

Criterion B2

Marine Mammal Diversity

Physeter macrocephalus, *Peponocephala electra*,
Mesoplodon densirostris, *Lagenodelphis*
hosei, *Kogia breviceps*, *Ziphius*
cavirostris, *Globicephala macrorhynchus*, *Pseudorca*
crassidens, *Balaenoptera acutorostrata*, *Orcinus*
orca, *Stenella attenuata*, *Steno bredanensis*,
Tursiops truncatus, *Tursiops aduncus*, *Stenella*
coeruleoalba, *Grampus griseus*, *Delphinus*
delphis, *Orcaella brevirostris*, *Stenella longirostris*,
Dugong dugon, *Balaenoptera omurai*

Summary

The Main Solomon Islands IMMA includes coastal and offshore waters located in the northwestern part of the Solomon Islands, around the islands of Guadalcanal, Malaita, Santa Isabel and New Georgia. Overall, knowledge on marine mammal populations in the area remains scarce, but a few dedicated surveys have highlighted a high diversity of species and aggregations of Omura's whales.

coastal and deep offshore waters (Shimada and Pastene, 1995). It is unclear whether these are the same sub-population, but we note that communities involved in traditional dolphin drive-hunting recognized three distinct forms of spinner dolphins (Takekawa 1996).

The Solomon Islands is known for its long history of traditional drive hunting of delphinids, primarily around the islands of Malaita. This practice has evolved over time with a significant increase in the 1960s, with over 1,000 dolphins killed in some years (Oremus et al., 2015). The disappearance of one species (*Peponocephala electra*) in the area is suspected to be the result of drive-hunting (Reeves et al., 1999). In recent years, several species of dolphins (primarily *T. aduncus*) were live captured, primarily around Guadalcanal and Malaita, and exported overseas for public display. It is highly likely that resident populations of Indo-Pacific bottlenose dolphins were heavily depleted because of this trade (Oremus et al., 2014). However, a dolphin export ban was put in place in 2015 in the Solomon Islands.

Criterion A: Species or Population Vulnerability

A study by Bass (2010), based on interviews, showed that dugongs occur throughout the Solomon Islands. Dugong are classified as Vulnerable on the IUCN Red List. Dugong status in the Solomon Islands is poorly known, however a recent questionnaire survey suggests a high rate of bycatch, with 40% of fishermen declaring the by-catch of one dugong in the last five years (Pilcher et al., 2016). Furthermore, 51% of interviewees claimed to know dugong hunters.

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

Photo-identification data collected over three consecutive years show strong support for the presence of several small and resident Indo-Pacific bottlenose dolphin populations in the IMMA. Oremus

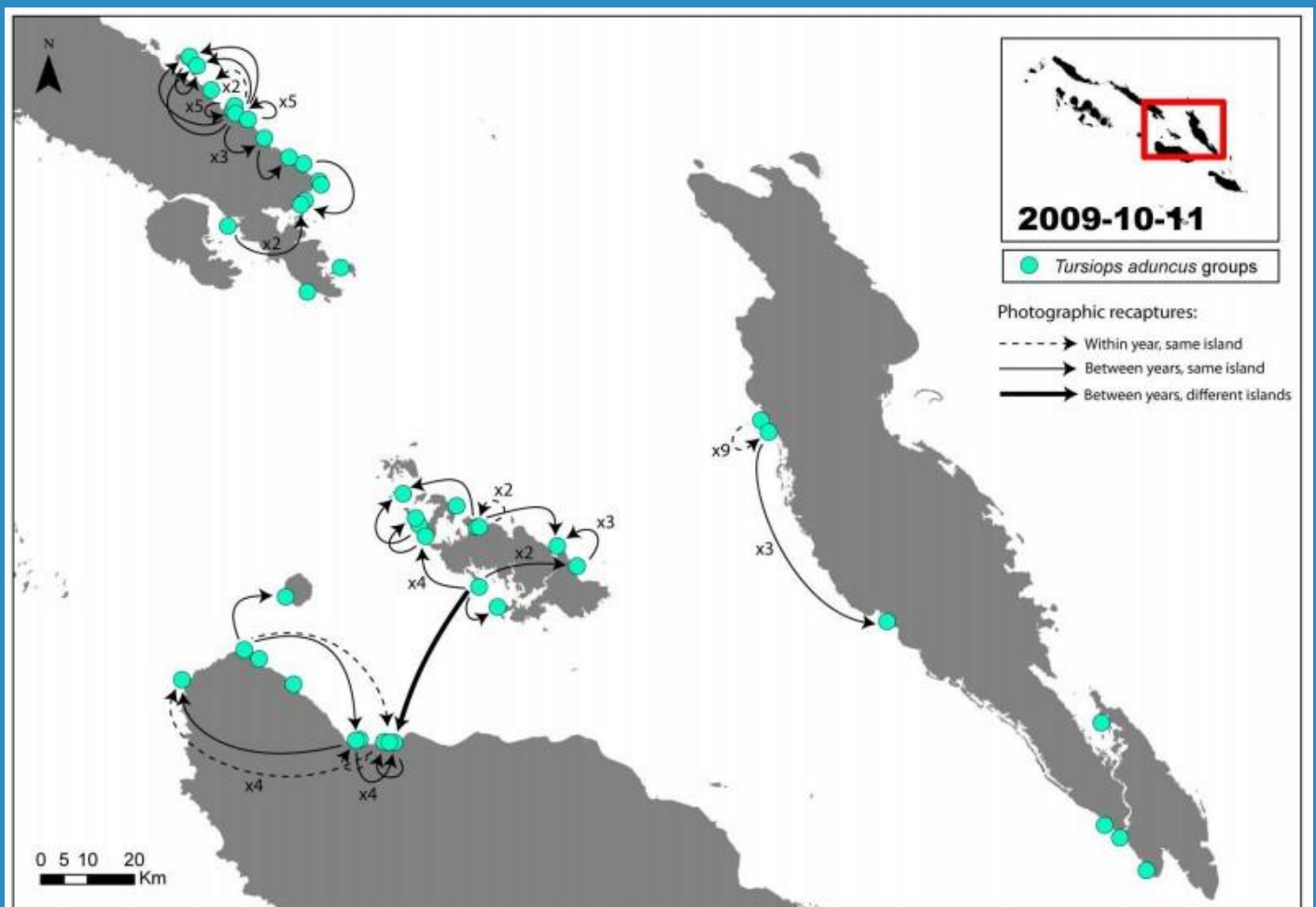


Figure 1: Geographic positions of *Tursiops aduncus* encounters in the Solomon Islands during small boat surveys in 2009, 2010, and 2011, including individual movements within and between years (detected by photo-ID). From: Oremus et al., 2013.

et al. (2013) conducted small boat surveys (n = 62) in the Solomon Islands in November 2009, November 2010 and July 2011 (Fig. 1). Total research effort was 5196 km in coastal waters of Guadalcanal, Florida Islands, Santa Isabel and Malaita (Fig. 1). Photographs were obtained from 44 groups of *T. aduncus* and 225 unique individuals were identified. Twenty individuals were re-sighted within the same year while 46 individuals were re-sighted between different years. All re-sightings but one (Florida Islands to Guadalcanal) were found within study sites, indicating a high degree of site fidelity and suggesting a demographic partitioning between the study sites. Therefore, the four islands or group of islands appear to shelter distinct populations, most likely isolated demographically from each other. Abundance was estimated to be approximately 100 animals in Guadalcanal and in Florida Islands and around 300 individuals in Santa Isabel. Abundance estimates for the west coast of Malaita were considered to be less reliable because of insufficient data, however, population size in this area is probably also in the low 100s.

Criterion B: Distribution and Abundance

Sub-criterion B2: Aggregations

Shimada and Pastene (1995) described an area of high density for Bryde's whales in the north of the IMMA from a research trip in the Solomon sea in the 1990s. Eight whales presumed to be Bryde's were also taken in scientific hunting in the late 1970s (Ohsumi 1978). Later, Wada (2003) presented evidence that these presumed Bryde's whales were in fact a distinct species of *Balenoptera* which he described as Omura's whales (*Balenoptera omurai*). Furthermore, Oremus et al. (2013) observed unidentified baleen whales (*Balenoptera* sp.) very close to shore at each of their four study sites (Guadalcanal, Santa Isabel, Florida Islands and Malaita), involving feeding behavior on one occasion. Although the *Balaenoptera* species was not conclusively identified, total estimated length (ranging from 6 to 10m), and photographs of the rostrum and back of the animals suggest that they were Omura's whales.

Supporting Information

Bass, D.K. 2010. Status of dugong *Dugong dugon* and Australian snubfin dolphin *Orcaella heinsohni*, in the Solomon Islands. *Pacific Conservation Biology*, 16: 133-143.

Brownell Jr., R.L., Ralls, K., Baumann-Pickering, S., Poole, M.M. 2009. Behavior of melon-headed whales, *Peponocephala electra*, near oceanic islands. *Marine Mammal Science* 25, 639–658.

Kahn, B. 2006. Oceanic cetaceans and associated habitats. In: Green A, Lokani P, Atu W, Ramohia P, Thomas P, Almany J (eds). *Solomon Islands Marine Assessment: Technical report of survey conducted May 13 to June 17, 2004*. TNC Pacific Island Countries, Report No. 1/06

Ohsumi, S. 1978. Provisional report on Bryde's whales caught under special permit in the Southern Hemisphere. *Reports of the International Whaling Commission* 28: 281-288.

Oremus, M., Leqata, J., Hurutarau, J., Tabei, S., Donoghue, M. and Baker, C.S. 2013. Population status of Indo-Pacific bottlenose dolphins, *Tursiops aduncus*, in the Solomon Islands and assessment of live-capture sustainability. Report (SC/65a/Forinfo32) to the Scientific Committee of the International Whaling Commission.

Oremus, M., Leqata, J. and Baker, C.S. 2015. Resumption of traditional drive hunting of dolphins in the Solomon Islands in 2013. *Royal Society Open Science*. DOI: 10.1098/rsos.140524.

Oremus, M., Garrique, C., Tezanos-Pinto, G. and Baker, C.S. 2015. Phylogenetic identification and population differentiation of bottlenose dolphins (*Tursiops* spp.) in Melanesia, as revealed by mitochondrial DNA. *Marine Mammal Science*. DOI: 10.1111/mms.12210.

Reeves, R.R., Leatherwood, S., Stone, G.S. and Eldredge, G. 1999. *Marine mammals in the area served by the South Pacific Regional Environment Programme (SPREP)*, p. 48. Apia, Samoa: South Pacific Regional Environment Programme.

Shimada, H. and Pastene, L.A. 1995. Report of a sighting survey off the Solomon Islands with comments on Bryde's whale distribution. Report of the International Whaling Commission 45:413-418.

Takekawa, D. 1996. The method of dolphin hunting and distribution of teeth and meat: dolphin hunting in the Solomon Islands 2. Senri Ethnol. Stud. 42, 67-80.

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.



**MARINE MAMMAL
PROTECTED AREAS
TASK FORCE**

IMMA

IUCN SSC WCPA

GOBI

TETHYS
since 1986

WDC
WHALE AND
DOLPHIN
CONSERVATION

Supported by:

Federal Ministry for the
Environment, Nature Conservation,
Building and Nuclear Safety

OFB
OFFICE FRANÇAIS
DE LA BIODIVERSITÉ

SPREP
Secretariat of the Pacific Regional
Environment Programme

based on a decision of the German Bundestag

Suggested Citation: IUCN-Marine Mammal Protected Areas
Task Force, 2021. Main Solomon Islands IMMA Factsheet.
[https://www.marinemammalhabitat.org/wp-content/
uploads/imma-factsheets/PacificIslands/main-solomon-
islands-PacificIslands.pdf](https://www.marinemammalhabitat.org/wp-content/uploads/imma-factsheets/PacificIslands/main-solomon-islands-PacificIslands.pdf). Downloaded on (day month year).

PDF made available for download at
[https://www.marinemammalhabitat.org/wp-content/
uploads/imma-factsheets/PacificIslands/main-solomon-
islands-PacificIslands.pdf](https://www.marinemammalhabitat.org/wp-content/uploads/imma-factsheets/PacificIslands/main-solomon-islands-PacificIslands.pdf).