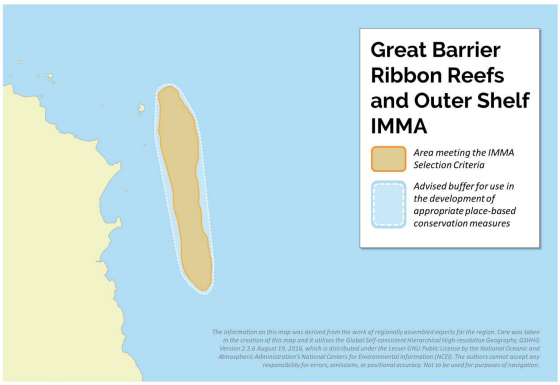

Area Size

1,872km^2

Qualifying Species and Criteria

Dwarf minke whale – *Balaenoptera acurostrata ssp.*

Criterion B2, C1, D1

Marine Mammal Diversity

Balaenoptera omurai, Megaptera novaeangliae, Pseudorca crassidens

Summary

The area around Ribbon Reefs in the northern part of the Great Barrier Reef is a known site for a unique winter aggregation of dwarf minke whales (*Balaenoptera acutorostrata ssp.*). This is the only known, reliable aggregation of this subspecies of minke whale in the world, and is likely to be associated with mating. In addition to being a spatially unique aggregation, the behaviour of the whales here is unique in that they often approach people in the water, initiating interactions that has led to a 'swim with' whale industry. Omura's whales have also been reliably sighted on several occasions over summer months in or adjacent to the southern end of this area, and humpback whales may also move through the area in winter.

Great Barrier Ribbon Reefs and Outer Shelf IMMA

Description

The area consists of a series of long, relatively narrow coral reefs, Ribbon Reefs #3-10, part of the northern Great Barrier Reef, northeast of Cooktown. Between late May and late August, this area supports an aggregation of dwarf minke whales, the only known regular aggregation of this subspecies in the world (Arnold et al., 1987; Arnold 1997). It is likely that this aggregation is primarily concerned with mating (Birtles et al., 2019). In addition to the winter aggregation of dwarf minke whales, there have also been a number of verified sightings of Omura's whale in the southern end of this area in summer months (J. Meager pers. comm.). Humpback whales from the east Australian population may also be present in winter as they move throughout the Great Barrier Reef and false killer whales are also known to frequent this area.

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

Dwarf minke whales have been observed at many locations in the Southern Hemisphere, usually at low latitudes, but have also been sighted around the Antarctic Peninsula, including during winter (Acevedo

Figure 1 – Dwarf minke whale –(*Balaenoptera acurostrata ssp.*)
Photo: https://www.tropicalnorthqueensland.org.au/

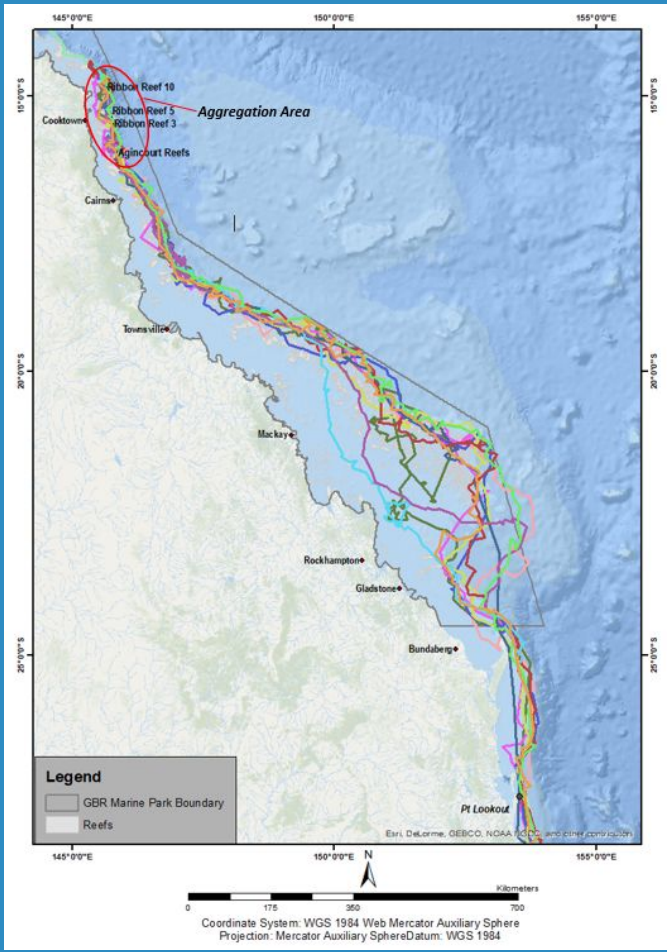

Figure 2 – Movements of satellite-tagged dwarf minke whales indicate aggregation area in the northern GBR (red circled area), and southward migration path (coloured lines); figure from Birtles et al. (2015). The corridor narrows and becomes inshore south of the Great Barrier Reef.

et al., 2011). This is the only known, regular aggregation in the world, for this subspecies and so represents an important aggregation (Birtles et al., 2014, Birtles et al., 2019). The aggregation is likely to consist of many hundreds of whales (Birtles et al., 2019). There are no global abundance data for this as of yet classified subspecies.

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

Birtles et al. (2019) contend that the balance of evidence points to this aggregation being a mating aggregation, or of importance to the reproductive life cycle of the dwarf minke whale. Adults have been re-sighted repeatedly, returning to this area over several

years. Young calves have been observed to accompany some females but calving may occur in deeper water adjacent to the Great Barrier Reef.

Criterion D: Special Attributes
Sub-criterion D1: Distinctiveness

This area is distinctive as it supports the only known regular aggregation of dwarf minke whales. Their behaviour here appears to be unique in that they not only aggregate, but interact readily with an active 'swim with' whale watching program (Fig.2 ; Valentine et al., 2004; Birtles et al., 2014, 2019). Birtles et al. (2014) report that the majority of interactions are initiated by the whales approaching people in the water.

Supporting Information

Arnold, P. W. 1997. Occurrence of dwarf minke whales (*Balaenoptera acutorostrata*) on the northern Great Barrier Reef, Australia. Report of the International Whaling Commission, 47, 419-424.

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Birtles, A., Valentine, P., Curnock, M., Mangott, A., Sobtzick, S. and Marsh, H. 2014. 'Report to the Great Barrier Reef Marine Park Authority on the dwarf minke whale tourism monitoring program (2003-2008),' Research Publication 112, Great Barrier Reef Marine Park Authority, Townsville; (i-xii, 60pp)

Birtles, A., Hillcoat, S., Sobtzick, S., Andrews, R., Curnock, M., Kusetic, M., Ramirez-Flores, O. and Williams, G. 2019. 'New insights about the World's only known, predictable winter aggregation of dwarf minke whales (*Balaenoptera acutorostrata subsp.*) in the remote northern Great Barrier Reef (Australia) and their implications for sustainable swim-with-whales management.' Poster presented at the World Marine Mammal Conference, Barcelona, December 2019.

Valentine, P.S., Birtles, A., Curnock, M., Arnold, P. and Dunstan, A. 2004. 'Getting closer to whales—passenger expectations and experiences, and the

management of swim with dwarf minke whale interactions in the Great Barrier Reef.' Tourism management, 25(6), 647-655.

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