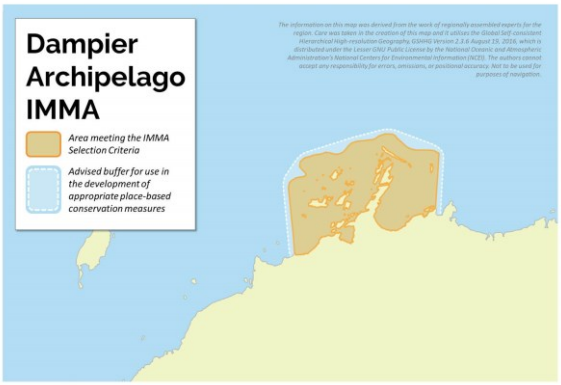

Area Size

2,733km^2

Qualifying Species and Criteria

Dugong – *Dugong dugon*
Criterion A; C (2)

Australian humpback dolphin – *Sousa sahulensis*
Criterion A; B (1); D(1)

Indo-Pacific bottlenose dolphin – *Tursiops aduncus*
Criterion B (1)

Humpback whale – *Megaptera novaeangliae*
Criterion B (2); C (1)

Other Marine Mammal Species Documented

Orcaella heinsohni, Pseudorca crassidens

Summary

This IMMA includes the Dampier Archipelago, a collection of small islands and coastal waters along the Pilbara coast in Western Australia. The marine and coastal environment of the Dampier Archipelago/Cape Preston region comprises a unique combination of offshore islands, intertidal and subtidal reefs, mangroves, macroalgal communities and coral reefs. The area incorporates the sea country of the Murujuga people.

Dampier Archipelago IMMA

Description:

The Vulnerable dugong (*Dugong dugon*), Australian humpback dolphin (*Sousa sahulensis*) and the Near Threatened Indo-Pacific bottlenose dolphin (*Tursiops aduncus*) are all known to reside in the IMMA. The Dampier Archipelago is also on the migration route for humpback whales and includes several sheltered bays that are used as resting or staging areas on their southbound migration.

Dugongs are resident in coastal waters of the Pilbara coast and are sighted year-round, having a strong association with seagrass habitat. This species was traditionally harvested for customary purposes by the Murujuga people and is revered as totems by some. In the Dampier Archipelago/Cape Preston region, small numbers of dugongs have been sighted in the shallow, warm waters in bays and between islands, including at East Lewis Island, Cape Preston, Regnard Bay, Nickol Bay and west of Keast Island. Current knowledge on the size of the population, distribution, migratory habits and regional and local importance of the Dampier Archipelago/Cape Preston area for dugongs is limited.

The annual migration path of the humpback whale (*Megaptera novaeangliae*) passes through the

Figure 1 – A leaping humpback dolphin in the Pilbara region. Photo: Holly Raudino

Figure 2 – A group of bottlenose dolphins in the Pilbara region. Photo: Holly Raudino

Dampier Archipelago/Cape Preston region. Humpback whales migrate north to the warm tropical waters off the Pilbara and Kimberley coasts in June and July to give birth and suckle their young. Non-migratory whale species recorded from the IMMA include Bryde's (*Balaenoptera edeni*) and Minke (*Balaenoptera acutorostrata*) whales. Additional dolphin species recorded include false killer whale (*Pseudorca crassidens*), Australian snubfin dolphin (*Orcaella heinsohni*), and killer whale (*Orcinus orca*).

Resident populations of bottlenose and humpback dolphins have been documented in the area from recent systematic survey effort (Department of Biodiversity Conservation and Attractions, 2018). Male humpback dolphins in the area exhibit a behavioural activity whereby they present marine sponges associated with visual and acoustic posturing to mature female humpback dolphins (Allen et al., 2017). It is believed to be a sexual display by male suitors to female humpback dolphins (Allen et al., 2017).

Criterion A: Species or Population Vulnerability

The dugong (*Dugong dugon*) and Australian humpback dolphin (*Sousa sahulensis*) are both listed as Vulnerable on the IUCN Red List of threatened species. In addition, though not as threatened globally, the Near Threatened Indo-Pacific bottlenose dolphin (*Tursiops aduncus*) are all known to reside in the IMMA.

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

Small resident populations of Indo-pacific bottlenose, Australian humpback dolphins and dugongs have all been recorded in the IMMA. Research by the Western Australian state government has been underway since 2015 investigating the population of coastal dolphins that inhabit this area using aerial surveys across the Pilbara region and more focused boat-based surveys in Dampier Archipelago. Three aerial surveys were conducted between 2015 and 2017 and 5 vessel-based surveys between 2014 and

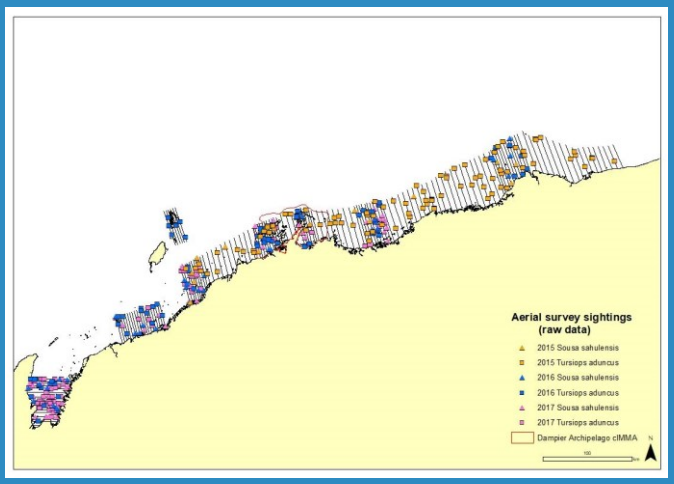

Figure 3 - Dolphin sightings from aerial surveys across the Pilbara Region, flown by Department of Biodiversity, Conservation and Attractions June 2015, 2016 and September 2017. (Unpublished raw data).

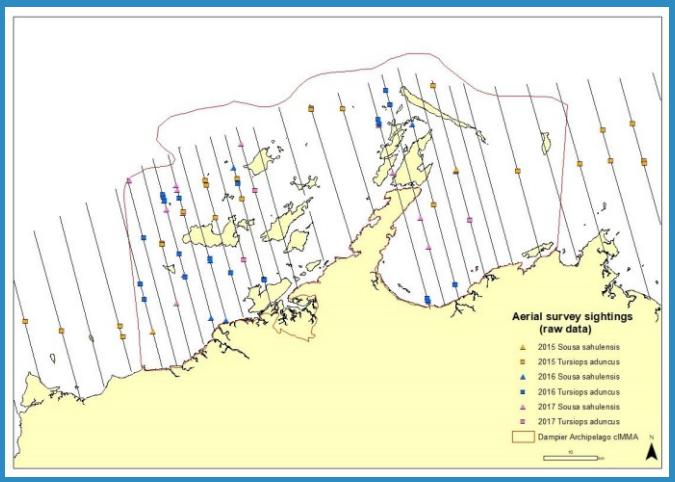

Figure 4 - Dolphin sightings from aerial surveys in the Dampier Archipelago, flown by Department of Biodiversity, Conservation and Attractions June 2015, 2016 and September 2017. (Unpublished raw data).

2019 (Waples and Raudino, 2019). Both species of dolphins have been recorded during each survey, with some individuals re-sighted over five years, indicating there may be a degree of site fidelity to the area. Foraging behaviour and the presence of calves have been observed indicating the area contains both foraging and breeding habitat. Results from these surveys are being analysed and abundance estimates will be published soon. Initial results indicate estimates for humpback and bottlenose dolphins are in the low thousands for both species across the Pilbara (~20,000km^2). Bottlenose dolphins are apparently more abundant than humpback dolphins (Raudino pers comms.) As an example, boat-based surveys conducted in May 2019 encountered 25 groups of dolphins during the 7 days of field work, including 76 Indo-Pacific bottlenose dolphins and 36 Australian humpback dolphins. Many of the dolphin groups also contained young calves.

Sub-criterion B2: Aggregations

The IMMA is on the migration route for the breeding stock D humpback whale population. Dampier Archipelago is recognised as a resting/staging area for adult females and calves during the southern migration (Jenner et al 2001). Female humpback whales occasionally give birth in the waters of the Dampier Archipelago, although the main calving area is further north. Adult humpback whales and their young also aggregate in the Archipelago on their southern migrations in early spring, and Mermaid Sound is a significant staging/resting area (Jenner et al 2001) and Nickol Bay is emerging as an important resting area with numbers ranging from a maximum of 188 sightings in August to a minimum of 15 sightings in November 2009 (Cummins 2010).

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

Vessel based surveys have been conducted across

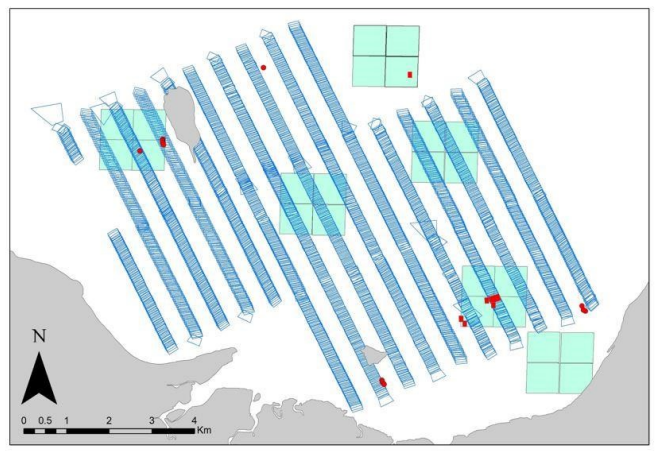

Figure 5 - Raw dugong sightings around Regnard Island, Dampier Archipelago. Cleguer & Hodgson 2019. Conserving critical seagrass habitats for dugongs: An integrated assessment across the Pilbara. Progress report. Department of Biodiversity, Conservation and Attractions.

the Dampier Archipelago IMMA since 2015 and have recorded the presence of humpback dolphin calves, including neonates. Humpback whale mothers and calves are reported to rest in the area on their southbound migration (Jenner et al 2001; Cummins 2010).

Sub-Criterion C2: Feeding Areas

Dugongs have been recorded in the IMMA, though little is known of their abundance, density or distribution to date. A recent study by Cleguer et al., 2021 found dugong abundance ranged from 47 individuals in June (CV = 0.17) to 103 individuals in May (CV = 0.36). Dugongs are thought to be resident in coastal waters of the Pilbara coast and are sighted year-round, having a strong association with seagrass habitat. Aerial surveys have confirmed the presence of dugongs in the IMMA, with herds in the shallow waters of Dampier, Cape Preston and Regnard islands (Waples and Raudino 2019).

Criterion D: Special Attributes
Sub-criterion D1: Distinctiveness

Humpback dolphin males display a multi-modal sexual behaviour whereby they present marine sponges to mature female humpback dolphins (Allen et al., 2017). This behaviour has only been observed in

northern Australia at a few key sites, other than Dampier, including Coral Bay, North West Cape, Cygnet Bay, Cone Bay (Allen et al., 2017) and in Queensland (Parra, 2007). The use of sponges in this context is very different to the use of sponges for foraging in Shark Bay by Indo-Pacific bottlenose dolphins. Indeed, the only other marine mammal known to carry objects (plant matter, stones and clay) in the context of socio-sexual display is Amazon river dolphins *(Inia geoffrensis)* (Martin et al., 2008).

Supporting Information

Allen, S. J., King, S. L., Krützen, M. & Brown, A. M. 2017. Multi-modal sexual displays in Australian humpbackdolphins. *Scientific reports* [Online], 7. [Accessed 2017/10//].

Cleguer C, Kelly N, Tyne J, Wieser M, Peel D and Hodgson A (2021) A Novel Method for Using Small Unoccupied Aerial Vehicles to Survey Wildlife Species and Model Their Density Distribution. Front. Mar. Sci. 8:640338. doi: 10.3389/fmars.2021.640338

Cummins, G. H. 2010. Humpback whale distribution and habitat use within Nickol Bay, Western Australia, a potential resting area. Bachelor of Science, Marine Science, Honours Honours, University of Western Australia.

Department Of Biodiversity Conservation And Attractions. 2018. Pluto LNG Environmental Offset D Program - Research and Monitoring in the Proposed Dampier Marine Reserves. *Annual Report.* Perth: Department of Biodiversity, Conservation and Attractions prepared for Woodside.

Jenner, C. Jenner, M-N. 1991. Season Report 1991 Dampier Archipelago Humpback Whale Project Western Australia. Centre for Whale Research.

Jenner, K. C. S., Jenner, M.-N. M. & Mccabe, K. A. 2001. Geographical and temporal movements of humpback whales in Western Australian waters. *APPEA*, 746-765.

Martin, A. R., Da Silva, V. M. F. & Rothery, P. 2008. Object carrying as sociosexual display in an aquatic mammal. *Biology Letters* [Online], 4.

Parra, G. J. 2007. Observations of an Indo-Pacific humpback dolphin carrying a sponge: object play or tool use? *Mammalia*, 147–149.

Waples, K. & Raudino, H. 2019. Wheatstone Offset C Milestone report to Chevron.

We would like to thank the participants of the 2020 IMMA Regional Expert Workshop for the identification of IMMAs in the Australia, New Zealand and South East Indian Ocean seas region. Funding for the identification of this IMMA was provided by the Global Ocean Biodiversity Initiative funded by the German government's International Climate Initiative (IKI). Support was also provided by Whale and Dolphin Conservation and the Tethys Research Institute.

Suggested Citation: IUCN-MMPATF (2022). Dampier Archipelago IMMA Factsheet. IUCN Joint SSC/WCPA Marine Mammal Protected Areas Task Force, 2022.

PDF made available for download at: https://www.marinemammalhabitat.org/portfolio-item/dampier-archipelago/