



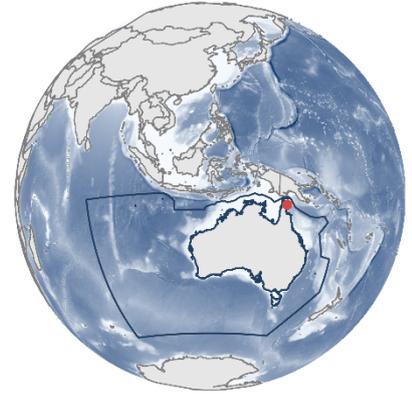
0 1 2 km



143.00°E

143.05°E

Coral Sea



Blue lines indicate the area meeting the ISRA Criteria; dashed lines indicate the suggested buffer for use in the development of appropriate place-based conservation measures

MILMAN ISLAND ISRA

Australia and Southeast Indian Ocean Region

SUMMARY

Milman Island is located off Cape York Peninsula, Queensland, Australia. It encompasses Milman Island and Aplin Islet and is part of the Denham group of islands. The area is characterised by a large reef flat, fringed with a rubble reef crest. It is influenced by strong tidal and wind-driven currents, seasonal wind regimes, and a restricted circulation. It overlaps with the Cape York to Cape Grenville Islands Key Biodiversity Area and the Great Barrier Reef Marine Park. Within this area there are: **threatened species** (e.g., Blacktip Reef Shark *Carcharhinus melanopterus*); and **reproductive areas** (e.g., Giant Guitarfish *Glaucostegus typus*).

CRITERIA

Criterion A - Vulnerability; Sub-criterion C1 - Reproductive Areas

— AUSTRALIA —

— 0-5 metres —

— 8.18 km² —





DESCRIPTION OF HABITAT

Milman Island is located off Cape York Peninsula, Queensland, Australia. It is situated 45 km offshore of Cape York Peninsula. The area encompasses Milman Island and Aplin Islet and is part of the Denham group of islands. It is an uninhabited, densely wooded sand cay connected to Aplin Islet, a small coral rubble island. The area is characterised by a large reef flat with sand, fringed with a rubble reef crest that extends around most of the island and dries during low tide (Freeman 2019; Freeman & Wright 2021).

The area is influenced by strong tidal and wind-driven currents, seasonal wind regimes, and a restricted circulation with the Coral Sea due to the presence of a barrier reef, functioning as a semi-enclosed shelf (Wolanski & Lambrechts 2020). During the trade wind season (austral winter), consistent south-easterly winds intensify northward-flowing currents and slow southward-flowing currents. In the monsoon season (during summer), there is little effect on currents from surface winds (Steinberg 2023).

Milman Island overlaps with Cape York to Cape Grenville Islands Key Biodiversity Area (KBA 2025) and the Great Barrier Reef Marine Park - Marine National Park Zone (UNEP-WCMC & IUCN 2025).

This Important Shark and Ray Area is benthic and pelagic and is delineated from inshore and surface waters (0 m) to 5 m based on the bathymetry of the area.

ISRA CRITERIA

CRITERION A – VULNERABILITY

Two Qualifying Species considered threatened with extinction according to the IUCN Red List of Threatened Species regularly occur in the area. These are the Critically Endangered Giant Guitarfish (Kyne et al. 2019) and the Vulnerable Blacktip Reef Shark (Simpfendorfer et al. 2020).

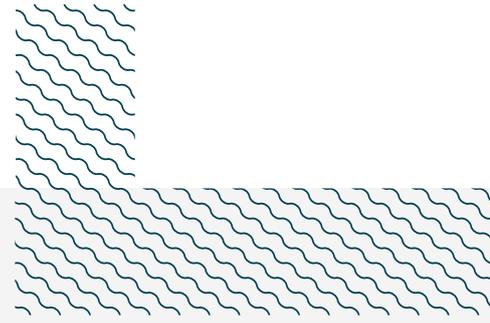
SUB-CRITERION C₁ – REPRODUCTIVE AREAS

Milman Island is an important reproductive area for one shark and one ray species.

Between 2019–2021, three research expeditions were conducted around Milman Island to monitor sea turtles, during which opportunistic observations of Blacktip Reef Sharks were obtained (Freeman & Wright 2021; A Freeman unpubl. data 2025). Body sizes of animals were visually estimated (Freeman & Wright 2021). Over four weeks in January–February 2020, nine aggregations of between 5–10 neonate and young-of-the-year (YOY) Blacktip Reef Sharks with an estimated size of 50 cm total length (TL) were observed in very shallow water (0.5 m) adjacent to a sandy beach (Freeman & Wright 2021). Published size-at-birth for the species in the region ranges between 51–54 cm TL (Chin et al. 2013), indicating that these were neonates or YOY. In northern Australia, Blacktip Reef Sharks give birth from December to March (Chin et al. 2013). Aggregations of neonates/YOY (estimated size 50 cm TL) were also recorded in February 2021, ranging from 6–7 individuals, while similar sized individuals were also recorded in February 2019. However, in 2019 only solitary individuals were sighted (A Freeman unpubl. data 2025). During all turtle monitoring field trips in 2019–2021 during January and February, adult and juvenile Blacktip Reef Sharks were also regularly observed in the area (A Freeman unpubl. data 2025).

Between 2015–2023, four turtle monitoring field trips were conducted on the island, during which opportunistic observations of Giant Guitarfish were obtained. In 2019, standardised surveys specific

for Giant Guitarfish ($n = 22$) were carried out along a 450 m beach transect for 10-min at the water's edge. Individuals were counted during the day and night, with a maximum of two transects surveyed per day (Freeman 2019). Size data were obtained by comparing a subset of individuals ($n = 15$) against a submerged builder's tape laid on the benthos, while prior to 2019, sizes were visually estimated (Freeman 2019). Between 2015-2023, an estimated 487 neonate and YOY Giant Guitarfish were observed, though this estimate may include duplicate counts across some transects (Freeman 2019; A Freeman unpubl. data 2025). Measured individuals ranged between 35–45 cm TL (Freeman 2019). Size-at-birth for the species ranges between 38–40 cm TL (Last et al. 2016), and nearly all the animals recorded were within this size range, indicating they were neonates or YOY. The number of individuals counted per transect ranged between 1–61 with the highest estimates coinciding with the highest tides when the lagoon was 1.5–3.0 m deep (Freeman 2019). In 2019, the average number of animals counted when tide height was less than 2 m was 7.6 individuals, while higher than 2 m, the mean number of rays was 28 individuals (Freeman 2019). Giant Guitarfish occurred in extremely shallow water, sometimes as little as 0.1 m deep at high tide, occasionally exposing their dorsal fins, and exhibited behaviours ranging from burying in the sand to moving parallel to the shoreline. The shoreline margin may provide a critical resting area and a refuge from predators. Several predators are present in the wider area, including small to medium-sized Estuarine Crocodiles *Crocodylus porosus*, which have occasionally been sighted in the lagoon, as well as Whitetip Reef Sharks *Triaenodon obesus* and Blacktip Reef Sharks (A Freeman unpubl. data 2025).



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Alastair Freeman (Nature North) and Marta D Palacios (IUCN SSC Shark Specialist Group - ISRA Project) contributed and consolidated information included in this factsheet. We thank all participants of the 2025 ISRA Region 08 - Australia and Southeast Indian Ocean workshop for their contributions to this process.

We acknowledge the Traditional Owners of Country throughout Australia and recognise the continuing connection to land, waters, and culture. We pay our respects to Elders past, present, and emerging.

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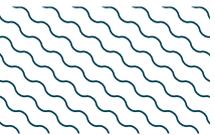
QUALIFYING SPECIES

Scientific Name	Common Name	IUCN Red List Category	Global Depth Range (m)	ISRA Criteria/Sub-criteria Met									
				A	B	C1	C2	C3	C4	C5	D1	D2	
SHARKS													
<i>Carcharhinus melanopterus</i>	Blacktip Reef Shark	VU	0-100	X		X							
RAYs													
<i>Glaucostegus typus</i>	Giant Guitarfish	CR	0-100	X		X							

SUPPORTING SPECIES

Scientific Name	Common Name	IUCN Red List Category
SHARKS		
<i>Carcharhinus amblyrhynchos</i>	Grey Reef Shark	EN
<i>Hemiscyllium ocellatum</i>	Epaulette Shark	LC
<i>Nebrius ferrugineus</i>	Tawny Nurse Shark	VU
<i>Triacnodon obesus</i>	Whitetip Reef Shark	VU
RAYS		
<i>Aetobatus ocellatus</i>	Spotted Eagle Ray	EN
<i>Taeniura lymma</i>	Bluespotted Lagoon Ray	LC

IUCN Red List of Threatened Species Categories are available by searching species names at www.iucnredlist.org. Abbreviations refer to: CR, Critically Endangered; EN, Endangered; VU, Vulnerable; NT, Near Threatened; LC, Least Concern; DD, Data Deficient.



SUPPORTING INFORMATION



There are additional indications that Milman Island is a potential feeding area for one shark species.

Adult Blacktip Reef Shark (>80 cm TL) have been recorded around the area ranging from individual sightings to a group of six feeding on recently emerged Hawksbill Turtle *Eretmochelys imbricata* hatchlings (during January–February) as they entered the shallow water at night. Further information is required to determine the importance of the area for the feeding of the species.



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