

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

## MURRAY ISLAND ISRA

### Australia and Southeast Indian Ocean Region

#### SUMMARY

Murray Island is located on the eastern shelf of Torres Strait, Queensland, Australia. The area is characterised by a shallow lagoon surrounded by a coral reef. It is influenced by strong tidal currents, seasonal wind regimes, and surrounding water mass interactions between the Coral Sea and Gulf of Carpentaria. Within this area there are: **threatened species** and **feeding areas** (Tawny Nurse Shark *Nebrius ferrugineus*).

#### CRITERIA

**Criterion A - Vulnerability; Sub-criterion C2 - Feeding Areas**

— AUSTRALIA —

— 0-20 metres —

— 5.82 km<sup>2</sup> —





## DESCRIPTION OF HABITAT

Murray Island is located on the eastern shelf of Torres Strait, Queensland, Australia. The area is a basaltic island formed from an extinct volcano. It is characterised by a shallow lagoon surrounded by a coral reef, with its crests often very shallow and sometimes exposed at low tides (P Cogollos pers. obs. 2024). The outer reef crest, outside the area, slopes steeply, descending rapidly to 80 m.

The area is influenced by strong tidal currents, seasonal wind regimes, and surrounding water mass interactions between the Coral Sea and Gulf of Carpentaria (Wolanski et al. 2013). North-westerly monsoon winds in the austral summer and south-easterly trade winds in winter drive low-frequency circulation (Church et al. 1988). The area benefits from seasonal upwelling when the poleward boundary current along the shelf is weakened or reversed by eddies forming in the Gulf of Papua (Condie & Dunn 2006).

This Important Shark and Ray Area is benthic and pelagic and is delineated from inshore and surface waters (0 m) to 20 m based on the bathymetry of the area.

## ISRA CRITERIA

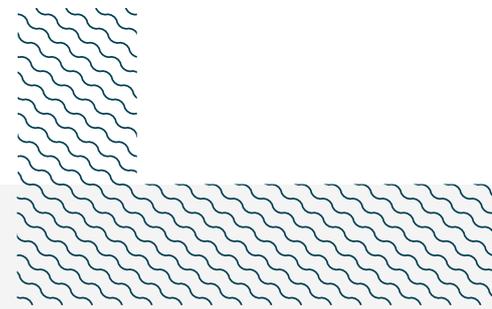
### CRITERION A - VULNERABILITY

One Qualifying Species considered threatened with extinction according to the IUCN Red List of Threatened Species regularly occurs in the area. This is the Vulnerable Tawny Nurse Shark (Simpfendorfer et al. 2021).

### CRITERION C<sub>2</sub> - FEEDING AREAS

Murray Island is an important feeding area for one shark species.

Tawny Nurse Shark aggregations of up to 20 individuals have been regularly seen feeding in this area on schools of sardines (family Clupeidae). Between 2012–2024, large schools of sardines aggregating in the inner lagoon of the island, very close to shore, have been recorded and shared across video platforms. Tawny Nurse Shark feeding aggregations (n = 4) were recorded preying on these large schools in 2012 (n = 4 individuals), 2020 (n = >20), and twice in 2021 (n = >10 each time). During feeding aggregations, adult Tawny Nurse Sharks exhibit a near-stranding behaviour, propelling themselves onto the shoreline to capture prey fishes. Individuals frequently expose most or all of their body onto the beach and subsequently return to the water using abrupt movements of the tail and pectoral fins. Additional aggregations of adult Tawny Nurse Sharks (n = 6) ranging between 3–>20 individuals were recorded in 2015, 2016, 2017 (involving a mating event with three adults), 2021, 2023, and 2024 (P Cogollos pers. obs 2024). Murray Islanders have traditionally fished for large schools of sardines in the shallow waters around the area using hand-held conical scoop baskets since before the beginning of the 20th century (Weisler & McNiven 2015). This practice indicates that the presence of the prey has been regular and predictable in the area for centuries.



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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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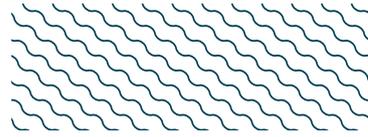
### **Suggested citation**

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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	
<b>SHARKS</b>													
<i>Nebrius ferrugineus</i>	Tawny Nurse Shark	VU	0-70	X			X						

## SUPPORTING SPECIES



Scientific Name	Common Name	IUCN Red List Category
<b>SHARKS</b>		
<i>Galeocerdo cuvier</i>	Tiger Shark	NT
<i>Sphyrna mokarran</i>	Great Hammerhead	CR

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





## REFERENCES

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