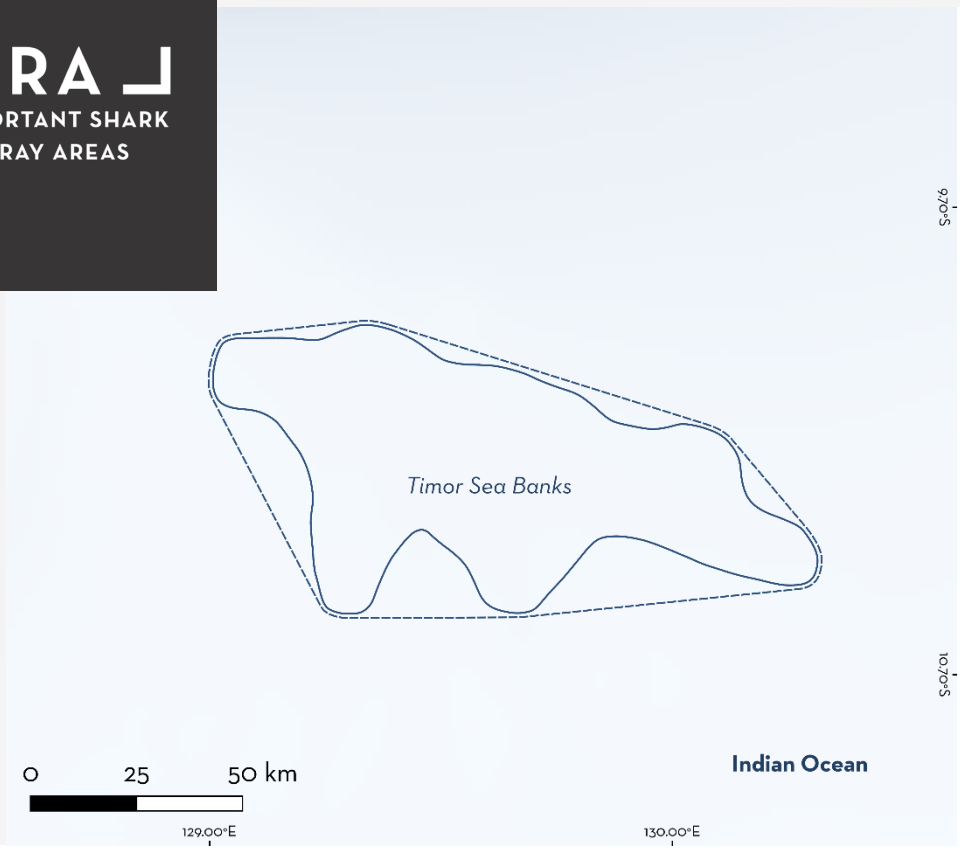
ISRA
IMPORTANT SHARK AND RAY AREAS



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

TIMOR SEA BANKS ISRA

Australia and Southeast Indian Ocean Region

AUSTRALIA

65–125 metres

5,294.9 km²

SUMMARY

Timor Sea Banks is located northwest of the Tiwi Islands, Northern Territory, Australia. The area sits close to the edge of the Australian Exclusive Economic Zone. The seafloor is characterised by intersecting soft sediment channels and hard sediment ridges. The resulting fine-scale topographic variation influences local hydrodynamics, sediment deposition, and productivity. Within the area there are: **threatened species** and **range-restricted species** (Spotted Shovelnose Ray *Aptychotrema timorensis*).

CRITERIA

Criterion A – Vulnerability; Criterion B – Range Restricted

DESCRIPTION OF HABITAT

Timor Sea Banks is located northwest of the Tiwi Islands, Northern Territory, Australia. The area sits on the Flinders-Evans Shoals close to the edge of the Australian Exclusive Economic Zone. The seafloor is characterised by an intersecting network of soft sediment valleys and hard sediment terraces of between 50–150 m depth (van Andel & Veevers 1967; Harris et al. 2005; Baker et al. 2008; Lucieer et al. 2025).

These channels and ridges create fine-scale topographic variation, influencing local hydrodynamics, sediment deposition, and productivity, driven primarily by tidal currents (Harris et al. 2005; Baker et al. 2008). The area is influenced by the eastern branch of the Indonesian Throughflow current flowing through the Timor Passage which persists for most of the year, and wind-driven coastal counter currents primarily during the austral spring and summer (D'Adamo & Onton 2003; Sprintall et al. 2014).

This Important Shark and Ray Area is benthic and subsurface and is delineated from 65–125 m based on the depth range of Qualifying Species in 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 Spotted Shovelnose Ray (Last et al. 2015).

CRITERION B – RANGE RESTRICTED

Timor Sea Banks holds the regular presence of Spotted Shovelnose Ray as a resident range-restricted species.

Sharks and rays were recorded by fishery observers monitoring the incidental catch of a demersal trawl fishery trial operating off the Northern Territory, Australia (GJ Johnson et al. unpubl. data 2015–2018). A total of 21 Spotted Shovelnose Rays were recorded across four years: 2015, 2016, 2017, and 2018. Captures occurred in the months of May, August, September, October, and November (GJ Johnson et al. unpubl. data 2015–2018). Of these records, 20 fall within Timor Sea Banks (the other record is ~80 km west of the area; GJ Johnson et al. unpubl. data 2015–2018). The spread of records across multiple months and years shows the regular occurrence of the species in the area. Additional temporal data are required to determine seasonality since records reflect the seasonality and years of the fishery trials. A subset of specimens (n = 12) were dissected to examine aspects of life-history, including reproductive status. Of five mature females, three were pregnant (GJ Johnson et al. unpubl. data 2015–2018). Pregnant females were recorded in September of both 2016 and 2017, with variable embryo sizes, the largest of which were close to being near-term (GJ Johnson et al. unpubl. data 2015–2018). This is the only known area where pregnant females of this range-restricted species have been documented, suggesting that Timor Sea Banks is important for reproduction.

Historic records comprise only six survey specimens, one of which (the holotype; Last 2004) falls within Timor Sea Banks in proximity to the contemporary records while the others are scattered across the Australian Northwest Shelf. In total, over three-quarters (78%) of all known records of the species are from Timor Sea Banks, highlighting the importance of the area. The species has not been

recorded during fishery monitoring elsewhere in the Northern Territory. Spotted Shovelnose Rays are restricted to the North Australian Shelf Large Marine Ecosystem (LME) and the Northwest Australian Shelf LME.

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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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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
RAYS												
Aptychotrema timorensis	Spotted Shovelnose Ray	VU	69–124	X	X							

SUPPORTING SPECIES

Scientific Name	Common Name	IUCN Red List Category
SHARKS		
Carcharhinus coatesi	Australian Blackspot Shark	LC
Rhizoprionodon acutus	Milk Shark	VU
RAYS		
Gymnura australis	Australian Butterfly 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.

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