

## Spotted Shovelnose Ray, *Aptychotrema timorensis*

Report Card assessment	Negligible		
IUCN Red List Australian Assessment	Vulnerable	IUCN Red List Global Assessment	Vulnerable
Global Assessors	Last, P.R., Kyne, P.M. & Sherman, C.S.		
Australian Assessors	Kyne, P.M., Heupel, M.R., White, W.T., Simpfendorfer, C.A. (Shark Action Plan) & Rigby, C.L.		
Report Card Remarks	Small geographic range, less than 10 locations, continuing population decline inferred due to intense, unregulated fishing pressure in Indonesian waters adjacent to its Australian range. Very low catches in Australia.		

### Summary

The Spotted Shovelnose Ray is a rare and poorly-known medium-sized ray with a highly restricted range in the tropical waters of the Timor Sea, adjacent to the edge of the Australian Exclusive Economic Zone (EEZ). It is only known from a limited number of specimens. It is possibly caught incidentally in northern Australian trawl fisheries although catches would likely be minimal as the species occurs deeper than most trawl effort. Although the impact of fishing is unknown, a



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continuing population decline is suspected due to the possible presence of this species in adjacent Indonesian waters where fisheries are intense, unregulated, and target batoids. This would affect the population within Australian waters. It is also subject to illegal, unreported, and unregulated (IUU) small-scale foreign fishing effort within northern Australian waters. The population may have undergone historic decline as only a few specimens have been reported in spite of considerable surveys. There is considerable uncertainty about the population trend of the species but a Vulnerable status is warranted due to its small geographic range, with an extent of occurrence of approximately 18,000 km<sup>2</sup> and presence in less than 10 locations, combined with an inferred continuing population decline. Therefore, it is assessed as Vulnerable globally and within Australia (IUCN) (Kyne et al. 2021), and Negligible (SAFS) due an uncertain population trend and very low catches.

### Distribution

The Spotted Shovelnose Ray is currently known from tropical waters in a highly restricted range off Melville Island, Timor Sea, Northern Territory (Last 2004). It occurs on the edge of the Australian EEZ and while currently only recorded from Australia, it may also occur in Indonesian waters of the Timor Sea. It has an estimated extent of occurrence of approximately 18,000 km<sup>2</sup> (Last et al. 2015, Kyne et al. 2021).

## Stock structure and status

The Spotted Shovelnose Ray is known only from a limited number of specimens and there is currently no information on population size, structure, or trend for the species. The population size is suspected to be small as numerous surveys have not reported any additional specimens (Last et al. 2015).

## Fisheries

The Spotted Shovelnose Ray may be incidentally taken in the Northern Prawn Fishery; it has not been observed in the Northern Territory Demersal Fishery. However, catches would likely be minimal as it occurs deeper than most trawl effort (Last et al. 2015). In the Indonesian waters adjacent to the Australian EEZ where the range of this species likely extends, fishing pressure is intense and unmanaged and may catch this species (Kyne et al. 2021). Batoids are targeted and comprise a significant portion of the Indonesian catch and are all retained and traded (Last et al. 2015, Kyne et al. 2021). Illegal, unreported and unregulated small-scale foreign fishing effort in northern Australian waters increased significantly during the early 2000s and has since decreased markedly (Field et al. 2009) and it may take this species.

## Habitat and biology

The Spotted Shovelnose Ray is demersal on the continental shelf at a depth of 124 m (Last et al. 2015). Maximum size is at least 58 cm total length (TL) with males mature by 48 cm TL (Last et al. 2016). Nothing else is known of its biology.

Longevity and maximum size	Longevity: unknown Max size: at least 58 cm TL
Age and/or size at maturity (50%)	Males: by 48 cm TL Females: unknown

**CAAB Code:** 37 027007

**Link to IUCN Page:** <https://www.iucnredlist.org/species/60179/68609203>

**Link to page at Shark References:** <https://shark-references.com/species/view/Aptychotrema-timorensis>

## References

- Field, I.C., Meekan, M.G., Buckworth, R.C. and Bradshaw, J.A. 2009. Protein mining the world's oceans. Australasia as an example of illegal expansion-and-displacement fishing. *Fish and Fisheries* 10: 323–328.
- Last, P.R. 2004. *Rhinobatos sainsburyi* n.sp. and *Aptychotrema timorensis* n.sp.-Two new shovelnose rays (Batoidea: Rhinobatidae) from the Eastern Indian Ocean. *Records of the Australian Museum* 56: 201–208.
- Last, P.R., Kyne, P.M. and Sherman, C.S. 2015. *Aptychotrema timorensis*. *The IUCN Red List of Threatened Species* 2015: e.T60179A68609203.
- Kyne, P.M., Heupel, M.R., White, W.T. and Simpfendorfer, C.A. 2021. *The Action Plan for Australian Sharks and Rays 2021*. National Environmental Science Program, Marine Biodiversity Hub, Hobart.