

## Spotted Shovelnose Ray, *Aptychotrema timorensis*

Report Card assessment	Undefined Stock		
IUCN Red List Australian Assessment	Refer to Global Assessment	IUCN Red List Global Assessment	Vulnerable
Assessors	Last, P.R., Kyne, P.M. & Sherman, C.S.		
Report Card Remarks	Known only from a few specimens but population estimated to be small and exposed to unregulated fisheries in waters off northern Australia		

### Summary

The Spotted Shovelnose Ray is known from only a few specimens. The population size is suspected to be very small. Numerous large Thai pair trawlers operate in the Arafura Sea, which lies adjacent to the Timor Sea. This fishery is unregulated and rays compose a substantial portion of the catch, all of which is retained and marketed.



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Although the impact of fishing on this species is unknown, the potential area of the Spotted Shovelnose Ray faces unregulated fishing, and this is of particular concern due to the species' apparent rarity, inferred small population size and limited distribution. While there is considerable uncertainty concerning the status of this species, a Vulnerable assessment is warranted due to an estimated small extent of occurrence in <10 locations, and an inferred continuing decline in the number of mature individuals. Continuing decline in this population is inferred, given that rays make up a significant proportion of the catch in unregulated fisheries in Indonesian waters where this species may occur. It is even possible that steep declines may have occurred already for this species as there have only been a few specimens encountered despite extensive survey work throughout their range. Therefore, the species is assessed as Vulnerable (IUCN) and Undefined (SAFS) due to the uncertainty of its status.

### Distribution

The Spotted Shovelnose Ray is presently known only from a small area of the Timor Sea off northern Australia at the edge of the Australian Fishing Zone and adjacent to Indonesian waters (Last 2004, Last and Stevens 2009). While currently only recorded from Australia, it may also occur in Indonesian waters of the Timor Sea. Its estimated extent of occurrence is ~18,000 km<sup>2</sup>, and this species is likely to be patchy throughout this range, rather than be evenly distributed. The number of locations that it occurs is unknown, but is inferred to be <10.

## Stock structure and status

The Spotted Shovelnose Ray is known only from a few specimens. Population size is suspected to be very small as considerable survey work has failed to find any other specimens.

## Fisheries

The primary threat to the Spotted Shovelnose Ray is fishing. The species faces unregulated fishing in some potential parts of its range. The species may be a bycatch of northern Australian prawn trawl fisheries, but this is likely to be negligible as it is thought to occur deeper than those fisheries mostly operate. The area adjacent to the Australian Fishing Zone in Indonesian waters is entirely unmanaged, with fishing vessels operating out of eastern Indonesia. About 650 large Thai pair trawlers operate in the Arafura Sea from the port of Merauke in West Papua. This fishery is unregulated and rays compose a substantial portion of the catch, all of which is retained and marketed. Rays are heavily fished in Indonesia, with catches and effort increasing (White and Dharmadi 2007). Pressure on any Indonesian portion of the range of the Spotted Shovelnose Ray would be intense through these unregulated fisheries.

## Habitat and ecology

The Spotted Shovelnose Ray has been recorded from the continental shelf at 124 m depth. Maximum size is at least 58 cm total length (TL) (Last and Stevens 2009) but 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%)	Unknown

**Link to IUCN Page:** <http://www.iucnredlist.org/details/60179/0>

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

### References

- 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. and Stevens, J.D. 2009. *Sharks and Rays of Australia*. Second Edition. CSIRO Publishing, Collingwood.
- White, W.T. and Dharmadi. 2007. Species and size compositions and reproductive biology of rays (Chondrichthyes, Batoidea) caught in target and non-target fisheries in eastern Indonesia. *Journal of Fish Biology* 70: 1809-1837.