

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

## ANTONGIL BAY ISRA

### Western Indian Ocean Region

#### SUMMARY

Antongil Bay is a semi-enclosed bay in northeast Madagascar. It is the largest bay in Madagascar, extending ~80 km inland, and encompasses several habitats including mangroves, seagrass beds, coral reefs, soft sediment habitats, and estuaries. The area overlaps with four marine protected areas - Anoromby, Mananara Nord, Masoala, and Nosy Mangabe, several Key Biodiversity Areas, and an additional 26 locally managed marine areas. Within this area there are **threatened** and **range-restricted species** (Malagasy Blue-spotted Guitarfish *Acroteriobatus andysabini*).

#### CRITERIA

**Criterion A - Vulnerability; Criterion B - Range Restricted**

**MADAGASCAR**

**0-80 metres**

**4,279.11 km<sup>2</sup>**





## DESCRIPTION OF HABITAT

Antongil Bay is a semi-enclosed bay in northeast Madagascar that extends inland ~80 km (Ersts & Rosenbaum 2003), making it the largest bay in Madagascar. It is sheltered from the Indian Ocean by the Masoala Peninsula and comprises shallow productive waters (Doukakis et al. 2007). This area encompasses benthopelagic habitats, with a mean depth of 41.5 m, and a maximum depth of 70 m (Ersts & Rosenbaum 2003). Many habitat types characterise the bay, including mangroves, seagrass beds, coral reefs, and estuaries, with nine major rivers entering the bay (Doukakis et al. 2011). The area is characterised by a long, wet season (December–August) and receives in excess of 2,000 mm of rainfall per year (Doukakis et al. 2007).

Antongil Bay is a managed area, zoned with several area uses, including several small marine protected areas (MPAs) – Anoromby, Mananara Nord, Masoala and Nosy Mangabe MPAs – and an additional 26 locally managed marine areas (LMMAs). There are also several Key Biodiversity Areas (KBAs) that fall inside or overlap with the area, including the Nosy Mangabe Special Reserve KBA, Antongil Bay KBA, and Mananara-North Biosphere Reserve KBA (KBA 2023a, 2023b, 2023c).

This Important Shark and Ray Area is benthic and is delineated from inshore and surface waters (0 m) to 80 m based on the bathymetry of the area and the depth range of the Qualifying Species.

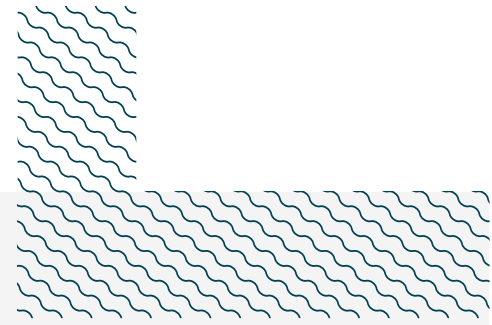
## ISRA CRITERIA

### CRITERION A – VULNERABILITY

The one Qualifying Species in the area is considered threatened with extinction according to the IUCN Red List of Threatened Species™. The Malagasy Blue-spotted Guitarfish is assessed as Endangered (Jabado et al. Submitted).

### CRITERION B – RANGE RESTRICTED

This area holds the regular presence of Malagasy Blue-spotted Guitarfish as a resident range-restricted species. This species has been recorded in the bay during baited remote underwater video (BRUV) surveys in October 2017 and again in November 2020 (n = 2). It was also recorded in artisanal fisher landings in the bay between April 2020 and June 2023 (n = 4; Wildlife Conservation Society unpubl. data 2023), suggesting that this species is present in the area throughout the year. The Wildlife Conservation Society has conducted similar surveys at a number of locations around the coastline of Madagascar, and this area is one of only two locations where the regular presence of this species has been recorded (the other is located in the Toliara province on the southwestern side of the island). Given the rarity of sightings and landings data for this species, Antongil Bay is considered an important area for this range-restricted species, which is endemic to Madagascar, and occurs only in the Agulhas Current Large Marine Ecosystem.



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### **Suggested citation**

**IUCN SSC Shark Specialist Group. 2023.** Antongil Bay ISRA Factsheet. Dubai: IUCN SSC Shark Specialist Group.

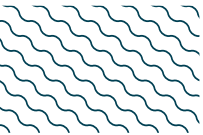
## QUALIFYING SPECIES

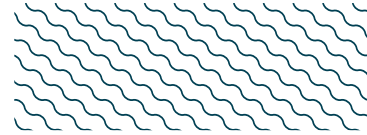
Scientific Name	Common Name	IUCN Red List Category	Global Depth Range (m)	ISRA Criteria/Sub-criteria Met								
				A	B	C1	C2	C3	C4	C5	D1	D2
RAYs												
<i>Acroteriobatus andysabini</i>	Malagasy Blue-spotted Guitarfish	EN	0-80	X	X							

## SUPPORTING SPECIES

Scientific Name	Common Name	IUCN Red List Category
<b>SHARKS</b>		
<i>Carcharhinus amblyrhynchos</i>	Grey Reef Shark	EN
<i>Sphyrna lewini</i>	Scalloped Hammerhead	CR
<i>Stegostoma tigrinum</i>	Indo-Pacific Leopard Shark	EN
<b>RAYS</b>		
<i>Himantura uarnak</i>	Coach Whipray	EN
<i>Pateobatis fai</i>	Pink Whipray	VU
<i>Taeniura lymma</i>	Bluespotted Lagoon Ray	LC
<i>Taeniurops meyeri</i>	Blotched Fantail Ray	VU

*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.*





## SUPPORTING INFORMATION

There are additional indications that this area may also be important for the reproduction of Scalloped Hammerheads. Landings data collected in the area between 2001-2002 indicated that out of 239 identified shark and ray specimens, 77 were Scalloped Hammerheads (Doukakis et al. 2011). Of these, six had a total length (TL) within the neonate range for this species (size-at-birth: 31-57 cm TL; Rigby et al. 2019). Another study looking at artisanal fisher landings from 2001-2003 (with sampling taking place each month) reported landings of 92 Scalloped Hammerheads in Antongil Bay, with a size range of 28-90 cm TL, and a mean of 52 cm TL (Doukakis et al. 2007). Half of these individuals fall within the known size range for neonates of this species. Historic data also indicate that pregnant females were being harvested in the target large-mesh artisanal fishery (Doukakis et al. 2011). In September 2017, a pregnant female Scalloped Hammerhead was reported from landings data in Antongil Bay (Wildlife Conservation Society unpubl. data 2023). While little contemporary data are available due to limited sampling, the historical records and the recent record of a pregnant female suggests the area remains an important reproductive area for the Scalloped Hammerheads, however more contemporary records are needed to support this.



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