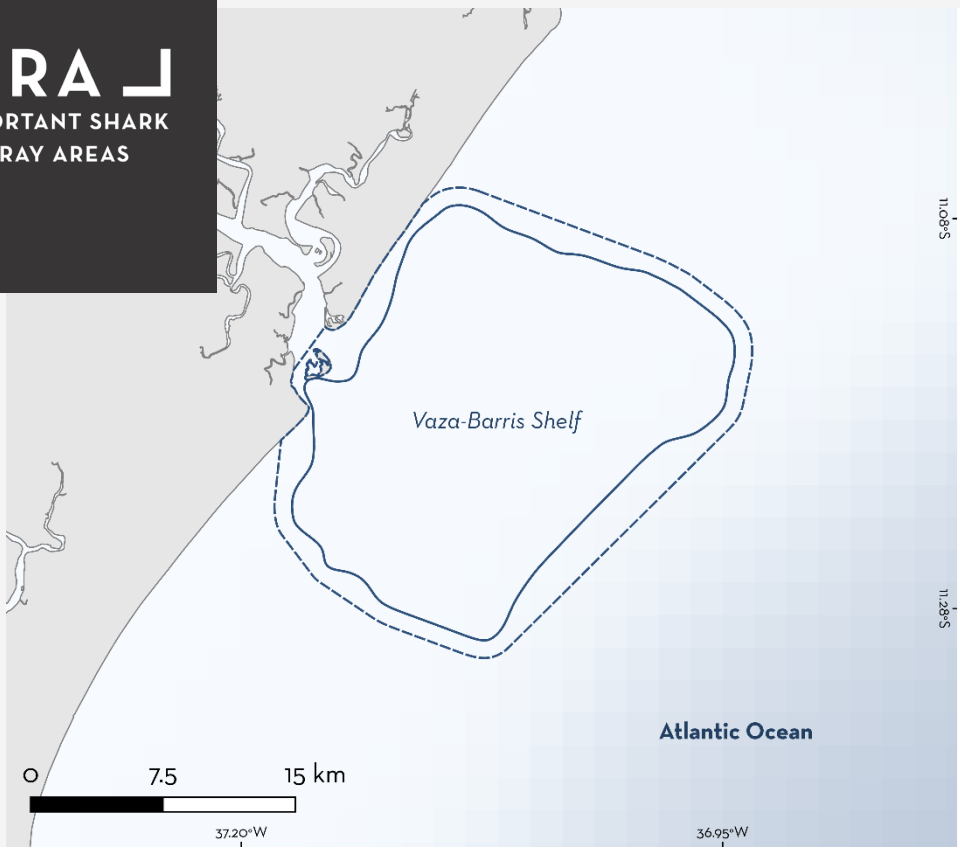
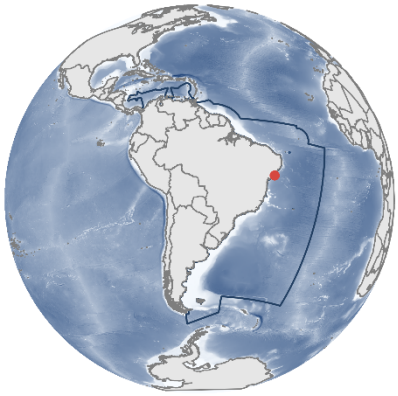
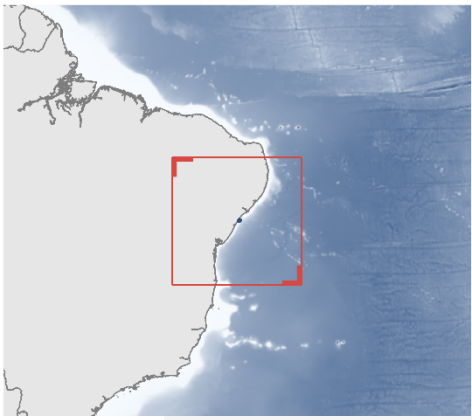
ISRA
IMPORTANT SHARK AND RAY AREAS







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

VAZA-BARRIS SHELF ISRA

South American Atlantic Region

BRAZIL

0–40 metres

370. 3 km²

SUMMARY

Vaza-Barris is located in the Sergipe state of Brazil. The area is characterised by carbonate sediment, with some sandy and muddy areas in shallow waters due to river input. This area is influenced by the Vaza-Barris River discharge. Within this area there are: **threatened species** (e.g., Blacktip Shark *Carcharhinus limbatus*) and **reproductive areas** (e.g., Brazilian Sharpnose Shark *Rhizoprionodon lalandii*).

CRITERIA

Criterion A – Vulnerability; Sub-criterion C1 – Reproductive Areas

DESCRIPTION OF HABITAT

Vaza-Barris is located in the Sergipe state of Brazil. The area is situated within the narrowest portion of the continental shelf in Brazil. The substrate is mostly composed of carbonate sediments, with some sandy and muddy areas in shallow waters due to river input (Pereira et al. 2014). This area is influenced by the Vaza-Barris River discharge, increasing nutrients during the rainy season that extends from March to August (Santos & Severi 2019).

This Important Shark and Ray Area is benthic and pelagic and is delineated from inshore and surface waters (0 m) to a depth of 40 m based on the bathymetry of the area.

ISRA CRITERIA

CRITERION A – VULNERABILITY

Three Qualifying Species considered threatened with extinction according to the IUCN Red List of Threatened Species regularly occur in the area. These are the Vulnerable Blacktip Shark (Rigby et al. 2021), Brazilian Sharpnose Shark (Pollom et al. 2020), and Caribbean Sharpnose Shark (Carlson et al. 2021).

SUB-CRITERION C1 – REPRODUCTIVE AREAS

Vaza-Barris Shelf is an important reproductive area for three shark species.

Between May 2002–February 2005, landings from an artisanal vessel operating within this area with bottom longlines at Praia do Mosqueiro, located at the mouth of the Vaza-Barris River, were monitored (Meneses et al. 2011). Fishing occurred at depths ranging between 6–42 m in areas with sandy, muddy, and rocky substrates (Meneses et al. 2011). Additionally, surface and bottom-set gillnet landings were monitored between January–February 2003 (Meneses et al. 2005). Between November 2017–March 2018, approximately two tons of shark landings were assessed to identify the species composition and maturity stage of landed specimens (Lima et al. 2018). Neonates were identified by the presence of an open umbilical scar (Lima et al. 2018). The primary fishing gear sampled was bottom gillnets (96%) along with bottom longlines (4%) (Lima et al. 2018).

In 2003, 27 Blacktip Sharks were captured in surface-set gillnets (Meneses et al. 2005). All individuals were sexually immature, with 85.2% classified as neonates (<70 cm total length [TL]; Meneses et al. 2005). Size-at-birth for Blacktip Sharks is 38–72 cm TL (Ebert et al. 2021). Between 2017–2018, Blacktip Sharks comprised 1% of the approximately two tons of shark landings, measuring ~69 cm TL on average (Lima et al. 2018).

Between May 2002–February 2005, 134 Brazilian Sharpnose Sharks were captured using bottom longlines, including 65 males (48.5%) measuring between 51.9–65.3 cm in TL and 69 females (51.5%) measuring between 52.5–73.3 cm TL, of which 31 (44.9% of females) were pregnant. This species was only recorded in the austral summer and autumn months. Pregnant females measured between 63.1–73.3 cm TL (Meneses et al. 2005). Between April 2014–April 2015, of 29 Brazilian Sharpnose Sharks captured, 12 were neonates with open umbilical scars (Andrade et al. 2016). Between June 2014–December 2015, 55 Sharpnose Sharks were captured in the area. Of these, 37 (67.3%) were Brazilian Sharpnose Sharks, of which 18 (58%) were neonates and 19 (79%) were juveniles (Santos et al. 2016). Size-at-birth for Brazilian Sharpnose Sharks is 33–34 cm TL (Ebert et al. 2021).

Between May 2002–February 2005, 636 Caribbean Sharpnose Sharks accounted for 74.2% of the captured sharks (Meneses et al. 2011). Individuals from all length classes were recorded including neonates, juveniles, and adults, with sizes ranging from 39.2–113.1 cm TL (Meneses et al. 2011). Size-at-birth for Caribbean Sharpnose Shark is 31–39 cm TL (Ebert et al. 2021). Between April 2014–April 2015, of 10 Caribbean Sharpnose Sharks captured, eight were neonates with open umbilical scars (Andrade et al. 2016). Between June 2014–December 2015, 55 *Rhizoprionodon* spp. captured in the area were acquired for stomach content analysis. Of these, 14 (25.4%) were Caribbean Sharpnose Sharks, of which 12 (39%) were neonates and two (8%) were juveniles (Santos et al. 2016). Between 2017–2018, Caribbean Sharpnose Sharks represented 78% of the landings, measuring 33–84.4 cm TL. Only 4.7% of recorded animals were adults; the remaining ones were neonates, young-of-the-year (YOY), and juveniles (Lima et al. 2018).

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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
SHARKS												
Carcharhinus limbatus	Blacktip Shark	VU	0–140	X		X						
Rhizoprionodon lalandii	Brazilian Sharpnose Shark	VU	0–149	X		X						
Rhizoprionodon porosus	Caribbean Sharpnose Shark	VU	0–500	X		X						

SUPPORTING SPECIES

Scientific Name	Common Name	IUCN Red List Category
SHARKS		
Carcharhinus acronotus	Blacknose Shark	EN
Carcharhinus porosus	Smalltail Shark	CR
Ginglymostoma cirratum	Atlantic Nurse Shark	VU
Sphyrna lewini	Scalloped Hammerhead	CR
RAYS		
Aetobatus narinari	Whitespotted Eagle Ray	EN
Hypanus berthalutzae	Lutz's Stingray	VU
Hypanus guttatus	Longnose Stingray	NT
Pseudobatos percellens	Chola Guitarfish	EN
Rhinoptera bonasus	American Cownose Ray	VU

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.

SUPPORTING INFORMATION

There are additional indications that this area is important for the reproductive purposes of two shark species.

Between May 2002–February 2005, neonate and juvenile Smalltail Sharks were captured using bottom-set gillnets. Additionally, three adult specimens were caught using bottom longlines, including one pregnant female measuring 109.1 cm TL, carrying eight embryos with sizes ranging from 17.7–20.6 cm TL (Meneses et al. 2005). Between 2017–2018, Smalltail Sharks comprised 3% of the landings, with a TL range of 33–40 cm. Size-at-birth for the species is 30–40 cm TL (Ebert et al. 2021).

Between May 2002–February 2005, small juvenile Scalloped Hammerheads were captured in bottoms longline (Meneses et al. 2005). Between 2017–2018, Scalloped Hammerheads accounted for 18% of shark landings, with a size range of 39–77 cm TL (Lima et al. 2018). Between April 2014–2015, 19 individuals (42.4–54 cm TL) were captured within a broader area encompassing this area. Of these, 15 were neonates with the umbilical scar open and four were YOY.

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