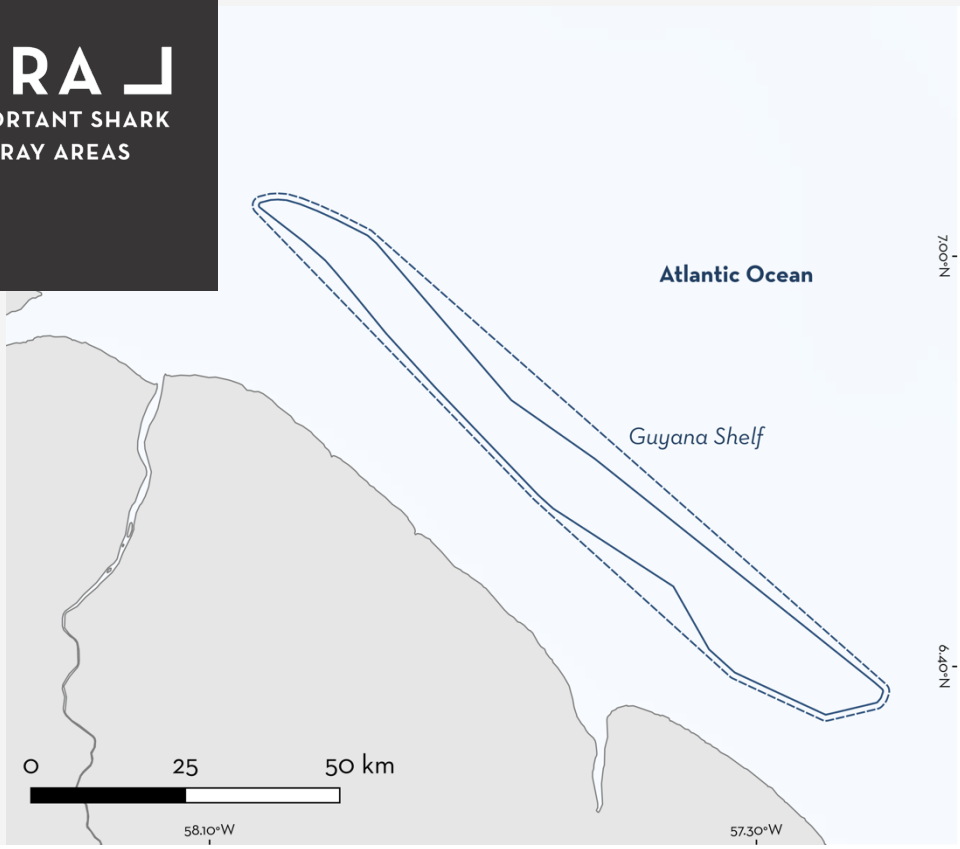
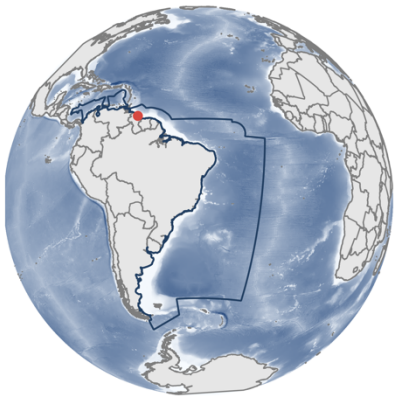
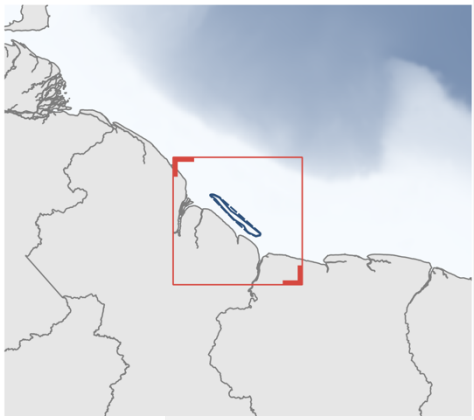
ISRA
IMPORTANT SHARK AND RAY AREAS







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

GUYANA SHELF ISRA

South American Atlantic Region

GUYANA

0–35 metres

1,124.1 km²

SUMMARY

Guyana Shelf is located off the coast of northeastern Guyana. The area is influenced by the northeastward Guyana Current and the Amazon River plume that carry low salinity, high turbidity waters to the area. The habitat is characterised by muddy substate. It overlaps with the Amazonian-Orinoco Influence Zone Ecologically or Biologically Significant Marine Area. Within this area there are: **threatened species** (e.g., Smalleye Smoothhound *Mustelus higmani*); **range-restricted species** (e.g., Wingfin Stingray *Fontitrygon geijskesi*); and **reproductive areas** (e.g., Longnose Stingray *Hypanus guttatus*).

CRITERIA

Criterion A – Vulnerability; Criterion B – Range Restricted
Sub-criterion C1 – Reproductive Areas

DESCRIPTION OF HABITAT

Guyana Shelf is located ~10–35 km off the northeast coast of Guyana. The area lies on the continental shelf and is characterised by muddy substrate (Garstin & Oxenford 2018). It is influenced by the Guyana Current flowing northeastward along the coast of northern South America from the bifurcation of the South Equatorial Current off northeastern Brazil (Lumpkin & Garzoli 2005). The flow is particularly strong near the Amazon River delta and the Guyana Current speed reduces to ~30–50 cm s^{-1} off Guyana (Arnauld 1987). The area is influenced by the Amazon River plume characterised by high turbidity, high nutrients, and low salinity water (Molleri et al. 2010).

Guyana Shelf overlaps with the Amazonian-Orinoco Influence Zone Ecologically or Biologically Significant Marine Area (EBSA; CBD 2025).

This Important Shark and Ray Area is benthic and pelagic and is delineated from surface waters (0 m) to 35 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 Critically Endangered Wingfin Stingray (Pollom et al. 2020a) and Smalleye Round Ray (Pollom et al. 2020b); and the Endangered Smalleye Smoothhound (Pollom et al. 2020c).

CRITERION B – RANGE RESTRICTED

This area holds the regular presence of the Wingfin Stingray and the Smalleye Round Ray as resident range-restricted species. Both species occur primarily in the North Brazil Shelf Large Marine Ecosystems (LME) and marginally in the East Brazil Shelf and the Caribbean Sea LMEs.

The relatively small range of the Wingfin Stingray extends from eastern Venezuela to northern Brazil (Pollom et al. 2020a). The species was recorded (n = 51 individuals) in a study of 131 trawl hauls of the Atlantic Seabob *Xiphopenaeus kroyeri* fishery conducted in July–August 2014 (Garstin & Oxenford 2018). Most of the individuals (88%) were recorded inside the area, with few captures in the northwest, outside the area. Another survey of the same trawl fishery conducted in 2019–2020 showed that Wingfin Stingrays were the most-captured of the Endangered, Threatened, and Protected (ETP) shark and ray species assessed, with the species present in 21 of 48 monitored hauls (Richardson 2021).

The small range of the Smalleye Round Ray extends from eastern Venezuela to northern Brazil (Pollom et al. 2020b). The species was recorded (n = 56 individuals) in 131 trawl hauls conducted in July–August 2014 (Garstin & Oxenford 2018). Almost all individuals (96%) were captured inside the area, with only two individuals caught in the northwest, outside the area. The species was also captured in another study of the same fishery in 2019–2020 (Richardson 2021), highlighting the importance of the area for Smalleye Round Rays.

SUB-CRITERION C1 – REPRODUCTIVE AREAS

Guyana Shelf is an important reproductive area for one shark and two ray species.

The Smalleye Smoothhound was the only shark species that was regularly captured (n = 140; 8% of shark and ray catch) in a detailed study examining the shark and ray incidental catch in 131 Atlantic Seabob trawl hauls conducted off Guyana's coast in July–August 2014 (Garstin & Oxenford 2018). The size of the animals ranged from 20.5–55.2 cm total length (TL). Most individuals (86%) were classified as neonates based on their size ≤29 cm TL; the size-at-birth for the species is 20–29 cm TL (Ebert et al. 2021). The hotspot of neonate captures was in the central and southeastern part of the area, with fewer neonates captured outside of the area (Garstin & Oxenford 2018). Although no size details are available, the species was also captured in another survey of the same fishery in 2019–2020 (Richardson 2021), highlighting its regular presence in the area.

Smooth Butterfly Rays had the highest abundance in shark and ray incidental catch (n = 1,187; 64%) in a detailed study assessing 131 trawl hauls in July–August 2014 (Garstin & Oxenford 2018). Animals sampled ranged in size between 15–64 cm disc width (DW). Individuals measuring ≤26 cm DW were classified as neonates and those measuring 27–30 cm DW were classified as young-of-the-year (YOY). The size-at-birth of the species is 15–26 cm DW (Last et al. 2016). Most Smooth Butterfly Rays were neonates (69%) or YOY (13%), highlighting the importance of the area for the early life stages of the species (Garstin & Oxenford 2018). Fishing gear influenced the size range of the captures, with fewer large individuals in trawls using a smaller grid opening of 4.5 cm compared to 9 or 10 cm in standard trawls, but both methods captured high numbers of neonates and YOY (Garstin & Oxenford 2018). Most neonates and YOY were captured in this area, with fewer records to the northeast, outside the area. Although detailed size data are only available from this short-term study, the species is regularly caught in large numbers in the Atlantic Seabob trawl fishery (Fisheries Department 2016, 2017, 2018, 2020) using the same gear, highlighting its regular presence in the area.

The Longnose Stingray was the second-most captured ray species (n = 360; 20% of shark and ray bycatch) in a survey of 131 trawl hauls conducted in July–August 2014 (Garstin & Oxenford 2018). The size of Longnose Stingrays ranged from 13–58 cm DW, with a mean of 20 cm DW. Individuals up to 15 cm DW were classified as neonates and those ranging 16–20 cm DW were classified as YOY. The size-at-birth of the species is 15 cm (Last et al. 2016). Most of the captured individuals were YOY (71%) or neonates (7%). Almost all neonates and YOY were captured inside the area, while larger individuals were also captured in the northwest, outside of the area, highlighting the importance of Guyana Shelf for the early life stages of the species (Garstin & Oxenford 2018). The species is regularly caught in large numbers in the Atlantic Seabob trawl fishery (Fisheries Department 2016, 2017, 2018, 2020) using the same gear, highlighting its regular presence in the area.

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Aaron D Garstin (Inwater Research Group) and Christoph A Rohner (IUCN SSC Shark Specialist Group – ISRA Project) contributed and consolidated information included in this factsheet. We thank all participants of the 2025 ISRA Region 05 – South American Atlantic workshop for their contributions to this process.

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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												
Mustelus higmani	Smalleye Smoothhound	EN	0–1,463	X		X						
RAYS												
Fontitrygon geijskesi	Wingfin Stingray	CR	0–80	X	X							
Gymnura micrura	Smooth Butterfly Ray	NT	0–40			X						
Hypanus guttatus	Longnose Stingray	NT	0–70			X						
Urotrygon microphthalmum	Smalleye Round Ray	CR	8–55	X	X							

SUPPORTING SPECIES

Scientific Name	Common Name	IUCN Red List Category
RAYS		
Narcine bancroftii	Caribbean Numbfish	LC
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.

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