

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

#### SINNAMARY ISRA

#### South American Atlantic Region

#### SUMMARY

Sinnamary is located on the central coast of French Guiana. It is characterised by muddy and sandy substrates and continuous coastal mangrove stands. This coastal area is influenced by the Amazon River and other regional rivers, leading to highly turbid and low salinity waters. Sinnamary overlaps with the Amazonian-Orinoco Influence Zone Ecologically or Biologically Significant Marine Area. Within this area there are: **threatened species** (e.g., Blacktip Shark *Carcharhinus limbatus*); **reproductive areas** (e.g., Silky Shark *Carcharhinus falciformis*); and **undefined aggregations** (American Cownose Ray *Rhinoptera bonasus*).

# – FRENCH GUIANA

### 0-30 metres

- -

### **797.5** km<sup>2</sup>

CRITERIA

Criterion A – Vulnerability; Sub-criterion C1 – Reproductive Areas; Sub-criterion C5 – Undefined Aggregations

sharkrayareas.org



# DESCRIPTION OF HABITAT

Sinnamary is located on the central coast of French Guiana. This area is characterised by muddy and sandy substrates, and a continuous mangrove forest along the coast. The highly turbid, low salinity, inshore waters that extend along French Guiana's coast, including in this area, are called 'brown water' (De Boer et al. 2015). The brown water zone is strongly influenced by outflows from the Amazon River and other regional rivers leading to high mud resuspension. The influence of the Amazon River outflow on coastal waters in French Guiana is particularly heightened during January-July, when the North Brazil Current and its extension, the Guianas Current, flow northwestward along the coast (Artigas et al. 2003).

This area 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 (O m) to 30 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 Silky Shark (Rigby et al. 2021b), Blacktip Shark (Rigby et al. 2021a), and American Cownose Ray (Carlson et al. 2020).

## SUB-CRITERION C1 - REPRODUCTIVE AREAS

Sinnamary is an important reproductive area for two shark species.

A fishing survey was conducted in 2008-2009 (n = 23 fishing sets) and repeated in 2014 (n = 66) (WWF/CRPMEM Guyane unpubl. data 2025). The survey used a 2.5 km long drifting gillnet of 90 mm mesh (side mesh measurement), with soak time varying from 8.3-27.8 h (mean = 15 h). Fishing locations stretched from off the Approuague River estuary in the east to off Montagne Sable in the west along almost all of French Guiana's coast. Of the 89 fishing sets, about one third (n = 32) were made in this area. Species identification, number of individuals, and total weight per species were recorded and the average weight per individual was then calculated.

Neonate and young-of-the-year (YOY) Silky Sharks are regularly captured in this area (WWF/CRPMEM Guyane unpubl. data 2025). Captures with a mean weight of up to 3.1 kg were classified as neonate based on the size-at-birth for the species (56-87 cm total length [TL]; Ebert et al. 2021) and conversion factors (Kindong et al. 2022). Captures with a mean weight of 3.1-5 kg were classified as YOY. A total of 16 neonates (15% of 107 individuals captured in this area) from four fishing sets and 36 YOY (34%) from two fishing sets were captured in this area, with neonates and YOY captured in both survey years. Additional captures were also recorded outside the area, but not across multiple years, highlighting the regular use of this area by early life stage Silky Sharks.

Neonate and YOY Blacktip Sharks are regularly captured in this area (WWF/CRPMEM Guyane unpubl. data 2025). Captures with a mean weight of 2.2 kg were classified as neonates, based on the size-at-birth for the species (38-72 cm TL; Ebert et al. 2021) and using conversion factors from Blacktip Sharks in the western north Atlantic Ocean (Pollack et al. 2019). Captures with a mean weight of 2.2-4 kg were classified as YOY. A total of 35 neonates (56% of 62 individuals captured in

this area) from 11 fishing sets and 15 YOY (24%) from three fishing sets were captured in this area, with neonates and YOY captured in both surveys. Blacktip Sharks were also captured outside of the area, but either not across multiple years or they had a larger mean weight indicating other life stages were present at those locations (WWF/CRPMEM Guyane unpubl. data 2025).

### SUB-CRITERION C5 - UNDEFINED AGGREGATIONS

Sinnamary is an important area for undefined aggregations of one ray species.

A fishing survey was conducted in 2008/2009 (n = 23 fishing sets) and repeated in 2014 (n = 66) (WWF/CRPMEM Guyane unpubl. data 2025). The survey used a 2.5 km long drifting gillnet, with soak time varying from 8.3-27.8 h (mean = 15 h). Fishing locations stretched along most of French Guiana's coast. Of the 89 fishing sets, about one third (n = 32) were made in this area. Species identification and total weight per species were recorded and the average weight per individual was then calculated.

Aggregations of American Cownose Rays are regularly recorded in this area (WWF/CRPMEM Guyane unpubl. data 2025). Four aggregations of 26–31 individuals (mean = 30 individuals) were recorded in 2008, and nine aggregations of 13–72 individuals (mean = 28.7 individuals) were recorded in 2014. Almost half of the fishing sets in this area (44%) recorded aggregations of this species. The overall average weight per individual was 2.1 kg (WWF/CRPMEM Guyane unpubl. data 2025), which is below the 2.6–8.6 kg weight equivalent to the size-at-maturity of 62–94 cm disc width (DW; Last et al. 2016) using the length-weight conversion from FishBase (Froese et al. 2013; Froese & Pauly 2024). Although soak time was long, we deem it likely that fishing sets recording >10 individuals represent aggregations. First, American Cownose Rays commonly aggregate in schools (Rogers et al. 1990). Second, aerial surveys conducted in 2017 recorded aggregations (n = 10 and n = 20 individuals) of 'ray species' within this area (Laran et al. 2019). These surveys identified manta rays, devil rays, and eagle rays separately, meaning that these aggregations were likely of American Cownose Rays.



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# QUALIFYING SPECIES

Scientific Name	Common Name	IUCN Red List Category	Global Depth Range (m)	ISRA Criteria/Sub-criteria Met								
			<b>C</b>	Α	В	Cı	C2	C3	C4	C5	Dı	D2
SHARKS												
Carcharhinus falciformis	Silky Shark	VU	O-1,112	Х		Х						
Carcharhinus limbatus	Blacktip Shark	VU	0-140	Х		Х						
RAYS												
Rhinoptera bonasus	American Cownose Ray	VU	0-60	Х						Х		

## SUPPORTING SPECIES

Scientific Name	Common Name	IUCN Red List Category					
RAYS							
Fontitrygon geijskesi	Wingfin Stingray	CR					
Gymnura micrura	Smooth Butterfly Ray	NT					
Hypanus guttatus	Longnose Stingray	NT					

IUCN Red List of Threatened Species Categories are available by searching species names at <u>www.iucnredlist.org</u> Abbreviations refer to: CR, Critically Endangered; EN, Endangered; VU, Vulnerable; NT, Near Threatened; LC, Least Concern; DD, Data Deficient.



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