

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

## RIO GRANDE RISE ISRA

### South American Atlantic Region

## SUMMARY

Rio Grande Rise is located in Areas Beyond National Jurisdiction (ABNJ) of the southwestern Atlantic. It is situated 1,200 km off the southern Brazilian coast. The area is geomorphologically complex and characterised by extensive seamounts. It is influenced by turbulent submarine flows and upwelling. Within this area there are: **threatened species** and **reproductive areas** (Porbeagle *Lamna nasus*).

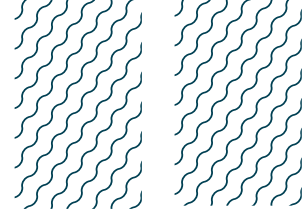
## CRITERIA

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

ABNJ

0-1,809 metres

69,528 km<sup>2</sup>



## DESCRIPTION OF HABITAT

Rio Grande Rise is located in the southwestern Atlantic, 1,200 km off the southeastern Brazilian coast, in Areas Beyond National Jurisdiction (ABNJ). The area is geomorphologically complex and characterised by extensive seamounts. Rio Grande Rise rises from 5,916 m up to 161 m below the sea level and has highly stable waters with high oxygen levels (Mohriak et al. 2010). It is influenced by turbulent submarine flows and upwelling, making the area a high biological productivity area in the southwest Atlantic (Mohriak et al. 2010).

This Important Shark and Ray Area is benthic and pelagic and is delineated from offshore and surface waters (0 m) to 1,809 m based on the depth range of the Qualifying Species.

## ISRA CRITERIA

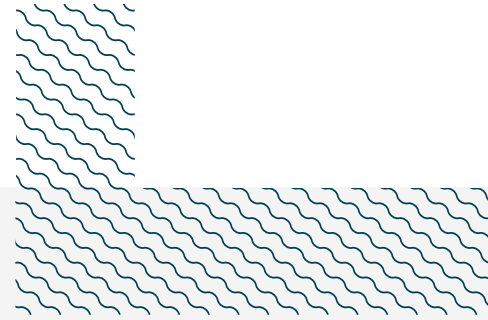
### CRITERION A – VULNERABILITY

One Qualifying Species considered threatened with extinction according to the IUCN Red List of Threatened Species regularly occurs in the area. This is the Vulnerable Porbeagle (Rigby et al. 2019).

### SUB-CRITERION C1 – REPRODUCTIVE AREAS

Rio Grande Rise is an important reproductive area for one shark species.

Surveys of longline fisheries operating in this area were undertaken between 2004–2009 (Soto & Montealegre-Quijano 2011). A total of 1,217 Porbeagles were captured in the area. All animals were immature and caught in austral summer. No adult Porbeagles were observed during this period in this area: adults are caught outside of the area, near Patagonia during winter months (Soto & Montealegre-Quijano 2011). The vast majority of Porbeagles recorded from longline fisheries were considered neonate/young-of-the-year (YOY) measuring 69.5–132.2 cm total length (TL), based on a size-at-birth of 60–70 cm TL (Ebert et al. 2021). This represents one of the only areas where Porbeagles at early lifestages are regularly and predictably observed in this region. Porbeagles generally segregate by temperature and latitude, with neonates and YOY being observed in warmer waters than adults and juveniles (Yatsu 1995; Semba et al. 2013). In December 2004, 328 animals (162 females, 139 males, and 27 of undetermined sex) were recorded. All were considered YOY, measuring between 73–108 cm TL (average = 82.4 cm TL). The catch-per-unit-effort (CPUE) was 19.1 animals/1,000 hooks. In November 2008, 613 animals (378 females and 235 males) were recorded. All were considered neonate/YOY, measuring 69.5–111 cm TL (average = 83.9 cm TL). The CPUE was 32 animals/1,000 hooks. In December 2008, 276 animals (152 females and 124 males) were recorded. Most were considered YOY, measuring 74.5–132.2 cm TL (average = 87.4 cm TL). The CPUE was 16.5 animals/1,000 hooks. In December 2009, 435 animals (228 females and 207 males) were recorded from this area. All were considered YOY, measuring 73.8–114.5 cm TL (average = 84.8 cm TL). The CPUE was 27.4 animals/1,000 hooks (Soto & Montealegre-Quijano 2011; Montealegre-Quijano et al. 2018).



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## **Suggested citation**

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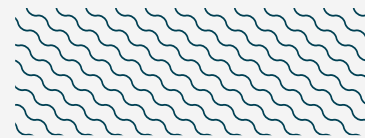
## QUALIFYING SPECIES

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												
Lamna nasus	Porbeagle	VU	0-1,809	X		X						

## SUPPORTING SPECIES

Scientific Name	Common Name	IUCN Red List Category
<b>SHARKS</b>		
<i>Alopias vulpinus</i>	Common Thresher	VU
<i>Isurus oxyrinchus</i>	Shortfin Mako	EN
<i>Prionace glauca</i>	Blue Shark	NT
<i>Sphyrna zygaena</i>	Smooth Hammerhead	VU
<b>RAYS</b>		
<i>Pteroplatytrygon violacea</i>	Pelagic Stingray	LC

*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.*



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