

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

## MAR DEL PLATA SHELF BREAK ISRA

### South American Atlantic Region

#### SUMMARY

Mar del Plata Shelf Break is located off the coast of the Buenos Aires Province in Argentina. It includes part of the continental shelf and its transition to the slope. The habitat is characterised by sediment-covered substrates. The area is highly productive, influenced by the permanent Argentine Shelf-break Front. Within this area there are: **reproductive areas** (e.g., Shortfin Sand skate *Psammobatis normani*).

#### CRITERIA

##### Sub-criterion C1 - Reproductive Areas

— ARGENTINA —

— 50-250 metres —

— 5,042.2 km<sup>2</sup> —



## DESCRIPTION OF HABITAT

Mar del Plata Shelf Break is located off the coast of the Buenos Aires Province in Argentina. It includes part of the continental shelf and its transition to the slope. The habitat is characterised by sediment-covered substrates, shaped by the annual transport of over 80 million tons of suspended sediment from large river systems, such as the Río de la Plata (Preu et al. 2012). It also features large-scale contourite channels, morphological terraces, and plastered drift sequences, all controlled by the circulation of Antarctic Bottom Water (Hernández-Molina et al. 2009). This area is highly productive and influenced by the permanent Argentine Shelf-break Front (Vazquez et al. 2016). This front marks the boundary where subantarctic shelf waters meet the cooler, more saline waters of the Malvinas Current, creating a significant thermohaline front (Lutz & Carreto 1991).

This Important Shark and Ray Area is benthic and subsurface and is delineated from 50–250 m based on the bathymetry in the area.

## ISRA CRITERIA

### SUB-CRITERION C1 – REPRODUCTIVE AREAS

Mar del Plata Shelf Break is an important reproductive area for three ray species.

High densities of egg cases were found in the area for Broadnose Skate, Patagonian Skate, and Shortfin Sand skate (Vazquez et al. 2016).

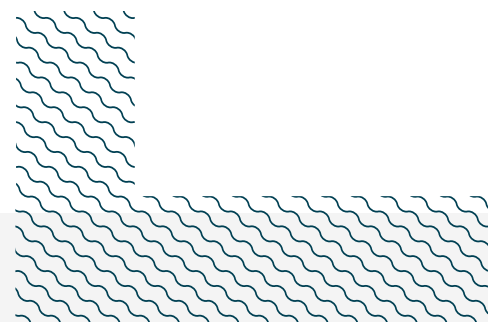
Between 2009–2014, eight research cruises conducted bottom trawls on the northern Argentine continental shelf (36°S–41°S) at depths of 50–200 m, with additional sampling on the continental slope down to the Mar del Plata Canyon (200–3,447 m depth) (Vazquez et al. 2016). Sampling employed two types of bottom trawl nets and two dredges, with trawling durations of 20–30 minutes at speeds of 1.5–3 knots, resulting in a total of 122 fishing hauls, capturing a total of 515 egg cases of 10 species of sharks, rays, or chimaeras. Catch-per-unit-effort (CPUE; egg cases/km<sup>2</sup>) for each species was calculated based on the area swept by survey trawls (Alverson & Pereyra 1969) expressed as egg cases per km<sup>2</sup> (egg cases/km<sup>2</sup>). After taxonomic identification, the number of egg cases per haul for each species was recorded (Vazquez et al. 2016).

Between 2009–2014, 49 Broadnose Skate egg cases were collected during 18 hauls in the area and adjacent areas limited to the shelf waters ranging from 94–251 m (Vazquez et al. 2016). The Broadnose Skate was the fourth most abundant species in the hauls across the broader region, with egg cases densities ranging from 62–540 egg cases/km<sup>2</sup> (Vazquez et al. 2016). Of the five hauls with the highest densities, three were within the area in depths up to 145 m (Vazquez et al. 2016).

Between 2009–2014, 94 Patagonian Skate egg cases were collected during 30 hauls in the area and adjacent areas limited to the shelf waters ranging from 84–201 m (Vazquez et al. 2016). The Patagonian Skate was the second most abundant species in the hauls across the broader region, with egg cases densities ranging from 169–1,619 egg cases/km<sup>2</sup> (Vazquez et al. 2016). The highest densities were observed within the area including all five hauls with similarly high densities between 1,001–1,619 egg cases/km<sup>2</sup>, five hauls (of the six) with 301–1,000 egg cases/km<sup>2</sup> and one haul (of the three) with 1–300 egg cases /km<sup>2</sup> (Vazquez et al. 2016).

Between 2009–2014, 238 Shortfin Sand skate egg cases were collected during 19 hauls in the area and adjacent areas from 73.7–112 m depth, finding full egg cases in hauls at 75 and 95.7 m depth (Vazquez et al. 2016). The Shortfin Sand skate was the most abundant species in hauls, with egg cases densities between 72–12,326 egg cases/km<sup>2</sup>. The major concentrations were observed within the

area, including three hauls (of the five with similar densities) with densities estimated between 3,001–12,326 egg cases/km<sup>2</sup>, two hauls (of the two) with 1,001–3,000 egg cases/km<sup>2</sup>, and one haul (of the three) with 301–1,000 egg cases/km<sup>2</sup> (Vazquez et al. 2016).



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## Suggested citation

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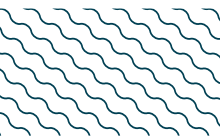
## QUALIFYING SPECIES

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
RAYS												
<i>Bathyraja brachyurops</i>	Broadnose Skate	NT	28–604			X						
<i>Bathyraja macloviana</i>	Patagonian Skate	NT	50–515			X						
<i>Psammobatis normani</i>	Shortfin Sandskate	LC	30–360			X						

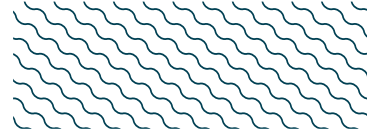
## SUPPORTING SPECIES

Scientific Name	Common Name	IUCN Red List Category
<b>SHARKS</b>		
<i>Schroederichthys bivius</i>	Narrowmouth Catshark	LC
<i>Squalus acanthias</i>	Spiny Dogfish	VU
<b>RAYS</b>		
<i>Amblyraja doellojuradoi</i>	Southern Thorny Skate	LC
<i>Bathyraja albomaculata</i>	White-dotted Skate	VU
<i>Bathyraja griseocauda</i>	Greytail Skate	EN
<i>Psammobatis rudis</i>	Smallthorn Sand skate	LC
<i>Zearaja brevicaudata</i>	Shorttail Yellownose Skate	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 might be important for reproductive purposes of one ray species.

Between 2009–2014, 70 Southern Thorny Skate egg cases were collected in 24 hauls in the area and adjacent areas from 84–1,006 m depth, finding full egg cases in hauls at 95–1,006 m depth (Vazquez et al. 2016). The Southern Thorny Skate was the third most abundant species in hauls, with relative egg case densities between 169–3,726 egg cases/km<sup>2</sup>. Although the major concentrations were observed further north of the area, the area included two hauls (of the six with similar densities) with densities estimated between 301–1,000 egg cases/km<sup>2</sup> (Vazquez et al. 2016). Further information is required to confirm the importance of the area for reproduction of this species.



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