

*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*

## ISLA DE LA PLATA ISRA

### Central and South American Pacific Region

#### SUMMARY

Isla de la Plata is a small island located ~25 km from mainland Ecuador within the Pacific Central-American Coastal Large Marine Ecosystem. It is situated within the Parque Nacional Machalilla and overlaps with an Ecologically or Biologically Significant Marine Area, the Carnegie Range-Equatorial Front. The area is located on the continental shelf, with surrounding waters characterised by sandy benthos with coral and rocky reef patches to around 30 m depth. In this area there are: **threatened species** and **undefined aggregations** (Oceanic Manta Ray *Mobula birostris*).

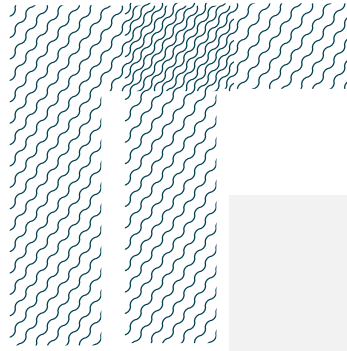
#### CRITERIA

**Criterion A - Vulnerability;**  
**Sub-Criterion C5 - Undefined Aggregations**

## ECUADOR

0-109 metres

27.24 km<sup>2</sup>



## DESCRIPTION OF HABITAT

Isla de la Plata is a small island located ~25 km from mainland Ecuador within the Pacific Central-American Coastal Large Marine Ecosystem. It is situated within the Parque Nacional Machalilla (Machalilla National Park) and overlaps with an Ecologically or Biologically Significant Marine Area, the Carnegie Ridge-Equatorial Front. The area is located on the continental shelf, approximately 5 km from the shelf-edge, where the depth (around 200 m) drops sharply. The surrounding waters are characterised by sandy benthos with coral and rocky reef patches to around 30 m depth. The island is fringed with shallow rocky reefs between 5 and 15 m depth with inter-dispersed sandy areas.

The area encompasses the north and west sides of the island, where the bathymetry rapidly descends to >100 m (Harty et al. 2022). It is influenced by the Humboldt Current System, where the merger of coastal and equatorial currents generates upwelling, resulting in high productivity, especially during June–September when the Equatorial Front (the transition zone between water-masses characterised by a large temperature gradient) is at its strongest (Flachier et al. 1997). The increased productivity leads to high zooplankton abundance, which supports a large and diverse food web (Pennington et al., 2006). Inter-annual variability is driven primarily by the El Niño–Southern Oscillation (Burgess et al. 2017).

This Important Shark and Ray Area is delineated from inshore surface waters to a depth of 109 m based on the maximum depth range of the habitat used by the Qualifying Species in the area.

## 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 Endangered Oceanic Manta Ray (Marshall et al. 2022).

### SUB-CRITERION C5 – UNDEFINED AGGREGATIONS

Isla de la Plata is an important aggregation area for Oceanic Manta Rays. This area hosts the largest known global population of Oceanic Manta Rays, which occur seasonally between June and October (Burgess 2017; Harty et al. 2022). Photo-identification data from 2005 to 2018 has recorded over 2,800 individuals, with estimated annual abundances of 949–7,650 females and 5,226–9,340 males (Harty et al. 2022). Multi-year resightings of 158 individuals were recorded, with a 13-year maximum period between resightings of an individual. Visual estimates of maturity for males classed 82.5% as mature, 8.4% as subadults, 1.2% juveniles, with 6.9% unknown (Harty et al. 2022).

Drivers for the aggregation are poorly understood, but research suggests that Isla de la Plata provides both a good cleaning and social environment during the day, and the Island's proximity to the continental shelf-edge provides Oceanic Manta Rays with access to productive nearby habitats (continental shelf edge) to feed during the night (Burgess et al. 2016; Burgess et al. 2017; Guerrero & Hearn 2017).



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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>Mobula birostris</i>	Oceanic Manta Ray	EN	0-1,000	X							X		

SUPPORTING SPECIES

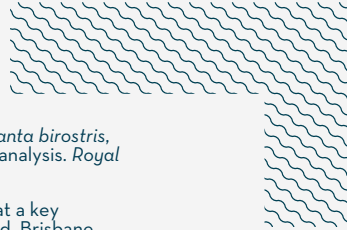
Scientific Name	Common Name	IUCN Red List Category
<b>SHARKS</b>		
<i>Isurus oxyrinchus</i>	Shortfin Mako	EN
<i>Sphyrna zygaena</i>	Smooth Hammerhead	VU
<i>Rhincodon typus</i>	Whale Shark	EN
<i>Triakis acutipinna</i>	Sharpfin Houndshark	EN
<b>RAYS</b>		
<i>Pseudobatos prahli</i>	Gorgona Guitarfish	VU
<i>Urobatis halleri</i>	Haller's Round Ray	LC

**Commented [51]:** Should these 'sharks' and 'rays' subheadings be in black, i.e., consistent with the Qualifying Species table subheadings? In the previous Puerto Cabal factsheet I sent out for final review they were.

IUCN Red List categories: *CR*, Critically Endangered; *EN*, Endangered; *VU*, Vulnerable; *NT*, Near Threatened; *LC*, Least Concern; *DD*, Data Deficient.

## SUPPORTING INFORMATION

There are additional indications that Isla de la Plata may be an important reproductive area for the Oceanic Manta Ray. Adult females have been observed in consecutive years (2012-2015) with fresh mating scars on their pectoral fins, and at least eight individuals have been reported to appear pregnant, based on their distended dorsal areas (Guerrero & Hearn 2017; Palomino et al. 2020). Moreover, in-situ ultrasounds have been conducted, which validate the observations of pregnancy in Oceanic Manta Rays found within the area (Guerrero 2019). Photo-ID data found a relatively low 21 of 2,803 individuals showing mating injuries, however, the authors note mating scars are hard to determine from ventral photographs (Harty et al. 2022). Hence, more information is needed to determine the use of Isla de la Plata as a reproductive area.



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