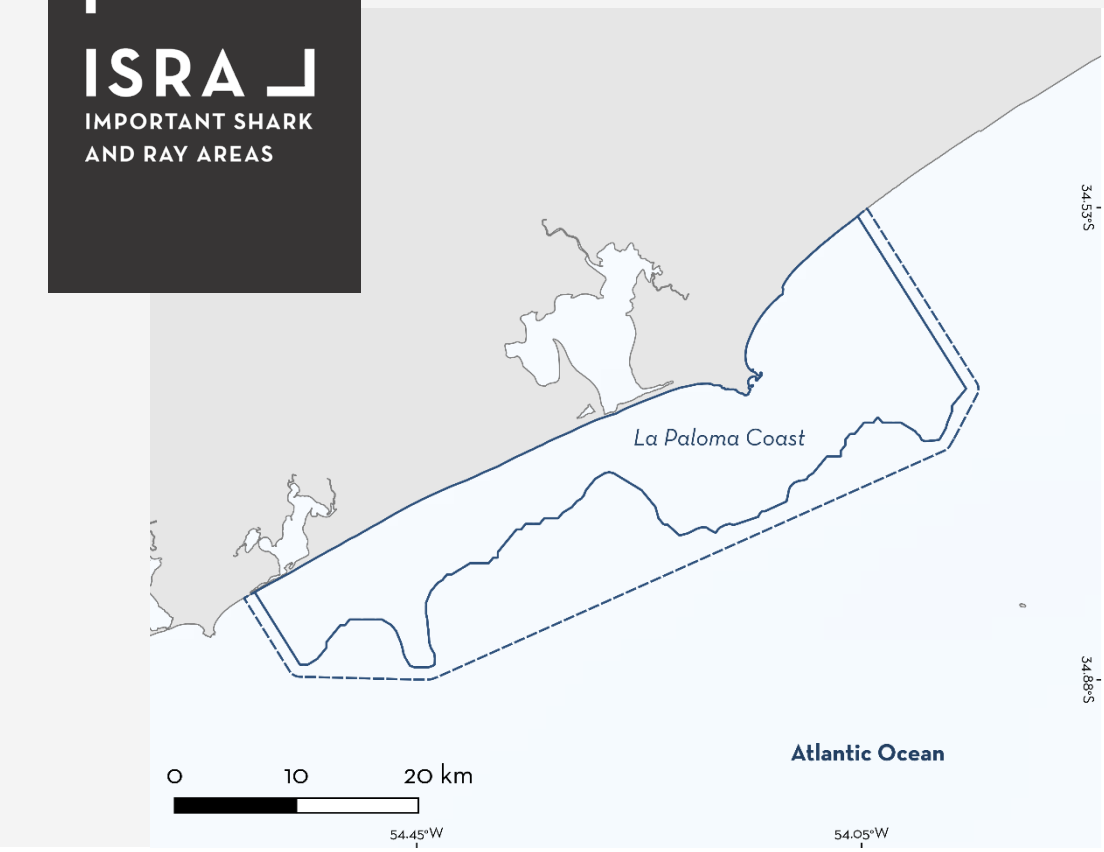
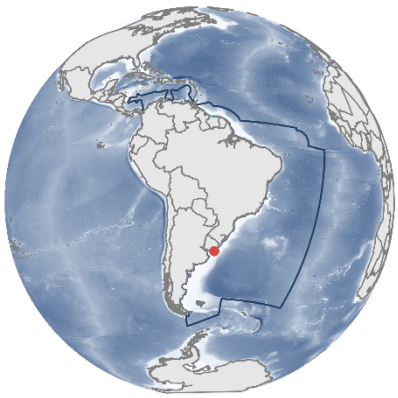
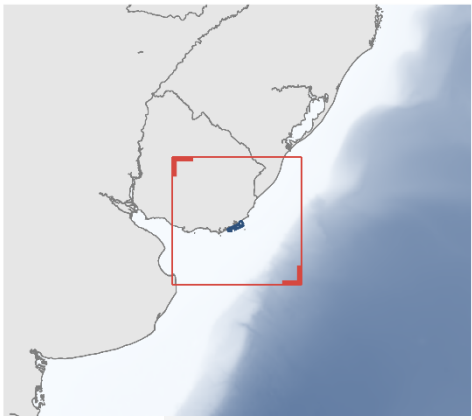
ISRA
IMPORTANT SHARK AND RAY AREAS





*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*

## LA PALOMA COAST ISRA

**South American Atlantic Region**

**URUGUAY**

**0–50 metres**

**565.4 km²**

## SUMMARY

La Paloma Coast is located off the coast of Rocha department in Uruguay. The area encompasses the southern coast of Rocha and La Paloma. This coastal area lies on the continental shelf. It is characterised by sandy substrates with mud patches, rock outcrops, and rocky reefs. The area is influenced by the Malvinas-Falkland and the Brazil currents, and experiences oceanic upwelling. Within this area there are: **threatened species** and **reproductive areas** (Smooth Hammerhead *Sphyrna zygaena*).

## CRITERIA

**Criterion A – Vulnerability; Sub-criterion C1 – Reproductive Areas**

## DESCRIPTION OF HABITAT

La Paloma Coast is located off the coast of Rocha department in Uruguay. The area encompasses the southern coast of Rocha and La Paloma headland and lies within the continental shelf. It is characterised by sandy substrates with mud patches, rock outcrops, and rocky reefs (Pereyra et al. 2017; Finkl & Makowski 2021). The area is influenced by a seasonal regime, where the cold Malvinas-Falkland Current dominates in austral winter being displaced in summer by the Brazil Current (Trinchin et al. 2019) and by the water exchange with coastal lagoons. The area is also influenced by an oceanic upwelling zone around La Paloma associated with northeasterly winds, with the frequency of upwelling events on interannual time scales dependent on the phase of El Niño Southern Oscillation (Trinchin et al. 2019). In addition, the area is influenced by the Rio de la Plata plume (i.e., freshwater with high turbidity) with an important seasonal and inter-annual variation across the South Atlantic Coastal System (Jaureguizar et al. 2023).

This Important Shark and Ray Area is benthic and pelagic and is delineated from inshore and surface waters (0 m) to 50 m based on the bathymetry of the area.

# ISRA CRITERIA

## CRITERION A – VULNERABILITY

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

## SUB-CRITERION C1 – REPRODUCTIVE AREAS

La Paloma Coast is an important reproductive area for one shark species.

Between 2014–2016, the Dirección Nacional de Recursos Acuáticos (DINARA) conducted landing surveys (at La Paloma) and sampling onboard the artisanal gillnet (n = 107 trips) and longline fleets (n = 31) along the coast of Maldonado and Rocha province during the four seasons each year (Silveira et al. 2016, 2018). Information on fishing location, season, fishing gear, and biological data of the individuals (size, sex, and maturity stage) were recorded. Neonates were identified as individuals having an open or semi-healing umbilical scar or by size in comparison with the size-at-birth for the species (Silveira et al. 2016, 2018).

Between 2014–2016, 100 neonate (56% of the total capture) Smooth Hammerheads (33 individuals with open umbilical scar, and 67 by size-at-birth range), and 41 young-of-the-year (YOY) (23% of the total captured) with healed umbilical scars were captured in the area (Silveira et al. 2016, 2018). Size-at-birth for the species is 49–63 cm total length (TL; Ebert et al. 2021). Neonates and YOY ranged in size from 52–73 cm TL. The remaining 38 individuals captured were juveniles measuring <120 cm TL, which is below the maturity size (~210–265 cm TL; Ebert et al. 2021). This indicates that this area is important for the early life stages of the species. Neonates were captured during the summer months, while juveniles were captured in summer and autumn (Silveira et al. 2016). Additionally, between 2022–2024, a total of 45 formal interviews were conducted with artisanal fishers using gillnets and longlines in the area (AC Milessi unpubl. data 2025). Of these, 40 fishers reported capturing pregnant hammerheads (*Sphyrna* species, primarily Smooth Hammerhead) during the months of October–December each year, a pattern they have observed since the fishery began in the mid-1940s. Although pregnant females represent a relatively small portion of the catch during

their presence, fishers consistently report high numbers of neonates and YOY between January and March (AC Milessi unpubl. data 2025). On average, neonates and YOY account for approximately 5% of the total annual catch of the species (AC Milessi unpubl. data 2025).

Smooth Hammerhead neonates and YOY have been reported across the Uruguayan coast around rocky areas (Doño-Melleras 2008; Silveira et al. 2016, 2018), however, La Paloma Coast has been consistently reported as an area where neonates/YOY are captured (Silveira et al. 2016, 2018).

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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 | | | | | | | | | | | | |
| *Sphyrna zygaena* | Smooth Hammerhead | VU | 0–500 | X | | X | | | | | | |

## SUPPORTING SPECIES

| Scientific Name | Common Name | IUCN Red List Category |
|---|---|---|
| **SHARKS** | | |
| *Carcharhinus brachyurus* | Copper Shark | VU |
| *Carcharias taurus* | Sandtiger Shark | CR |
| *Galeorhinus galeus* | Tope | CR |
| *Mustelus schmitti* | Narrownose Smoothhound | CR |
| *Notorynchus cepedianus* | Broadnose Sevengill Shark | VU |
| *Squalus acanthias* | Spiny Dogfish | VU |
| *Squatina guggenheim* | Angular Angelshark | EN |
| *Sphyrna lewini* | Scalloped Hammerhead | CR |
| **RAYS** | | |
| *Atlantoraja castelnaui* | Spotback Skate | CR |
| *Atlantoraja cyclophora* | Eyespot Skate | EN |
| *Myliobatis goodei* | Southern Eagle Ray | VU |
| *Pseudobatos horkelii* | Brazilian Guitarfish | CR |
| *Zapteryx brevirostris* | Shortnose Guitarfish | EN |

*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.*

## SUPPORTING INFORMATION

There are additional indications that La Paloma Coast is an important reproductive area for four shark and two ray species.

During the 2014–2016 landing surveys at La Paloma and sampling onboard the artisanal gillnet (n = 107) and longline fleets (n = 31) Copper Shark neonates with open umbilical scars were recorded (Silveira et al. 2016). Copper Sharks were captured in the area and in adjacent waters (n = 3), ranging in size between 66.6–99 cm TL (Silveira et al. 2016), with their size-at-birth at 59–70 cm TL (Ebert et al. 2021). The same monitoring from DINARA was extended to 2018 monitoring landings at La Paloma and captures within the area and adjacent waters from artisanal gillnets, captured a total of 15 neonates and juveniles with a size range of 67–115 cm TL (Laporta et al. 2018). Additionally, pregnant females with near-term embryos have been captured in the area between 2021–2024 (AC Milessi unpubl. data 2025).

Between 2014–2016, Sandtiger Shark neonates (n = 3) ranging in size between 100–107 cm TL (Silveira et al. 2016) were captured in the area. The known size-at-birth for the species is 85–105 cm TL (Ebert et al. 2021). DINARA monitoring was extended to 2018 to record landings at La Paloma and captures within the area and adjacent waters from artisanal gillnets. A total of seven neonates and juveniles were recorded with a size range of 100–237 cm TL (Laporta et al. 2018). Additionally, between 2022–2024, a total of 45 formal interviews were conducted with artisanal fishers using gillnets and longlines in the area and adjacent waters (Punta del Diablo) (AC Milessi unpubl. data 2025). Of these, 23 fishers reported capturing pregnant Sandtiger Sharks during October–December each year, a pattern they have observed since the fishery began in the mid-1940s. Pregnant females represent approximated 30% of the captures during the months when they were present (AC Milessi unpubl. data 2025). On average, neonates and YOY account for approximately 10% of the total annual catch of the species between December–March (AC Milessi unpubl. data 2025).

Between 2006–2007, sampling of pregnant females and embryos of the Narrownose Smoothhound was conducted in the artisanal gillnet fleet operating in La Paloma (Orlando et al. 2015). Boats operated at depths between 18–38 m and used 11 cm mesh size bottom gillnets. Individuals were randomly selected. A total of 459 embryos of Narrownose Smoothhound were collected, 219 of them during 2006 and 240 during 2007 (Orlando et al. 2015). Size ranged from 6.5–32.7 cm TL with a mean of 19.7 cm TL. According to the embryo TL distribution for both years, and the known size-at-birth (~24–36 cm TL; Ebert et al. 2021) it was inferred that parturition may occur at the beginning of November (Orlando et al. 2015). Contemporary landings (2024) from fishers at La Paloma corroborates that pregnant females with near-term embryos and YOY are still captured in the area (AC Milessi unpubl. data 2025).

Between 2014–2016, four neonate (40% of total capture) Broadnose Sevengill Sharks were captured in the area, ranging in size between 49–54 cm TL (Silveira et al. 2016, 2018). Size-at-birth for the species in the region is ~40.7 cm TL, and maturity in the region is reached at ~170 and 190 cm TL for males and females, respectively (Irigoyen et al. 2018; Jaureguizar et al. 2022). Neonates were captured during the summer months (Silveira et al. 2016, 2018). Additionally, sporadic reports of artisanal fishers and sport fishers with photographic evidence in the area reported four neonates inferred by size and open umbilical scars captured in 2021, 2024, and 2025 and a heavily pregnant female captured in the area in 2023 (AC Milessi unpubl. data 2025).

Between 2022–2024, Brazilian Guitarfish neonates, YOY, and pregnant females were reported in the area from artisanal fishers' interviews (AC Milessi unpubl. data 2025). A total of 45 formal interviews were conducted with artisanal fishers using gillnets and longlines in the area and adjacent waters (AC Milessi unpubl. data 2025). Of these, 30 fishers reported capturing pregnant Brazilian Guitarfish

during October–December each year, a pattern they have observed since the fishery began in the mid-1940s. Pregnant females represent approximated 20% of the species captures during the months when they were present (AC Milessi unpubl. data 2025). On average, neonates and YOY account for approximately 5% of the total catch between December–March (AC Milessi unpubl. data 2025).

Between 2022–2024, Shortnose Guitarfish neonates, YOY, and pregnant females were reported in the area from artisanal fishers' interviews (AC Milessi unpubl. data 2025). A total of 45 formal interviews were conducted with artisanal fishers using gillnets and longlines in the area and adjacent waters (AC Milessi unpubl. data 2025). Of these, 30 fishers reported capturing pregnant Shortnose Guitarfish during October–December each year, a pattern they have observed since the fishery began in the mid-1940s. Pregnant females represent ~25% of the captures during the months when they were present (AC Milessi unpubl. data 2025). On average, neonates and YOY account for approximately 5% of the total seasonal catch between December–March (AC Milessi unpubl. data 2025). Recently (2024–2025), aggregations of Shortnose Guitarfish were detected while diving in shallow coastal waters off La Paloma (A Loureiro unpubl. data 2025).

Further information is required to determine the importance of the area for the reproduction of these species.

## REFERENCES


**Doño-Melleras F. 2008.** Identificación y caracterización de áreas de cria del tiburón martillo (Sphyrna spp) en las costas de Uruguay. Unpublished Bachelor Thesis, Universidad de la Republica Uruguay, Montevideo.

**Ebert DA, Dando M, Fowler S. 2021.** *Sharks of the world: A complete guide*. Princeton: Princeton University Press.

**Finkl CW, Makowski C. 2021.** Alongshore classification and morphometric analysis of developed coastal belts: An example from Uruguay, South America. *Journal of Coastal Research* 37(5): 906-922. https://doi.org/10.2112/JCOASTRES-D-21A-00003.1

**Irigoyen AJ, De Wysiecki AM, Trobbiani G, Bovcon N, Awruch CA, Argemi F, Jaureguizar AJ. 2018.** Habitat use, seasonality and demography of an apex predator: sevengill shark *Notorynchus cepedianus* in northern Patagonia. *Marine Ecology Progress Series* 603: 147–160. https://doi.org/10.3354/meps12715

**Jaureguizar AJ, Cortés F, Braccini JM, Wiff R, Milessi AC. 2022.** Growth estimates of young-of-the-year broadnose sevengill shark, *Notorynchus cepedianus*, a top predator with poorly calcified vertebrae. *Journal of Fish Biology* 100(3): 625–631. https://doi.org/10.1111/jfb.14976

**Jaureguizar AJ, De Wysiecki AM, Cortés F, Milessi AC. 2023.** An estuarine system as possible nursery habitat for the broadnose sevengill shark: San Antonio cape - Southwest Atlantic. *Hydrobiologia* 850: 4149–4169. https://doi.org/10.1007/s10750-023-05293-5

**Laporta M, Scarabino F, Fabiano G, Silveira S, Pereyra I, Santana O. 2018.** Peces e invertebrados capturados en las pesquerías artesanales oceánicas de enmalle y palangre de fondo de Uruguay. *Frente Marítimo* 25: 325-348.

**Orlando L, Pereyra I, Silveira S, Paech S. 2015**. Determination of limited histotrophy as the reproductive mode in *Mustelus schmitti* Springer, 1939 (Chondrichthyes: Triakidae): analysis of intrauterine growth of embryos. *Neotropical Ichthyology* 13(4): 699-706. https://doi.org/10.1590/1982-0224-20150001

**Pereyra MI. 2017.** Biología reproductiva y estructura poblacional de *Sympterygia acuta* y *S. bonapartii* (Chondrichthyes: Rajoidei) en la zona costera de Punta del Diablo (Rocha, Uruguay). Unpublished Master Thesis, Universidad de la Republica Uruguay, Montevideo.

**Rigby CL, Barreto R, Carlson J, Fernando D, Fordham S, Herman K, Jabado RW, Liu KM, Marshall A, Pacoureau N, et al. 2019.** *Sphyrna zygaena. The IUCN Red List of Threatened Species* 2019: e.T39388A2921825. https://dx.doi.org/10.2305/IUCN.UK.20193.RLTS.T39388A2921825.en

**Silveira S, Laporta M, Pereyra MI, Fabiano G, Santana O, Mas F, Doño F. 2016.** Condrictios capturados en la pesca artesanal atlántica del puerto de la paloma (34°39's-54°08'w), Rocha, Uruguay (2014-2016). Conference: iv Congreso Uruguayo de Zoologia.

**Silveira S, Laporta M, Pereyra I, Mas F, Doño F, Santana O, Fabiano G. 2018.** Análisis de la captura de condrictios en la pesca artesanal oceánica de Uruguay, Atlántico Sudoccidental. *Frente Marítimo* 25: 301–324.

**Trinchin R, Ortega L, Barreiro M. 2019.** Spatiotemporal characterization of summer coastal upwelling events in Uruguay, South America. *Regional Studies in Marine Science* 31: 100787. https://doi.org/10.1016/j.rsma.2019.100787