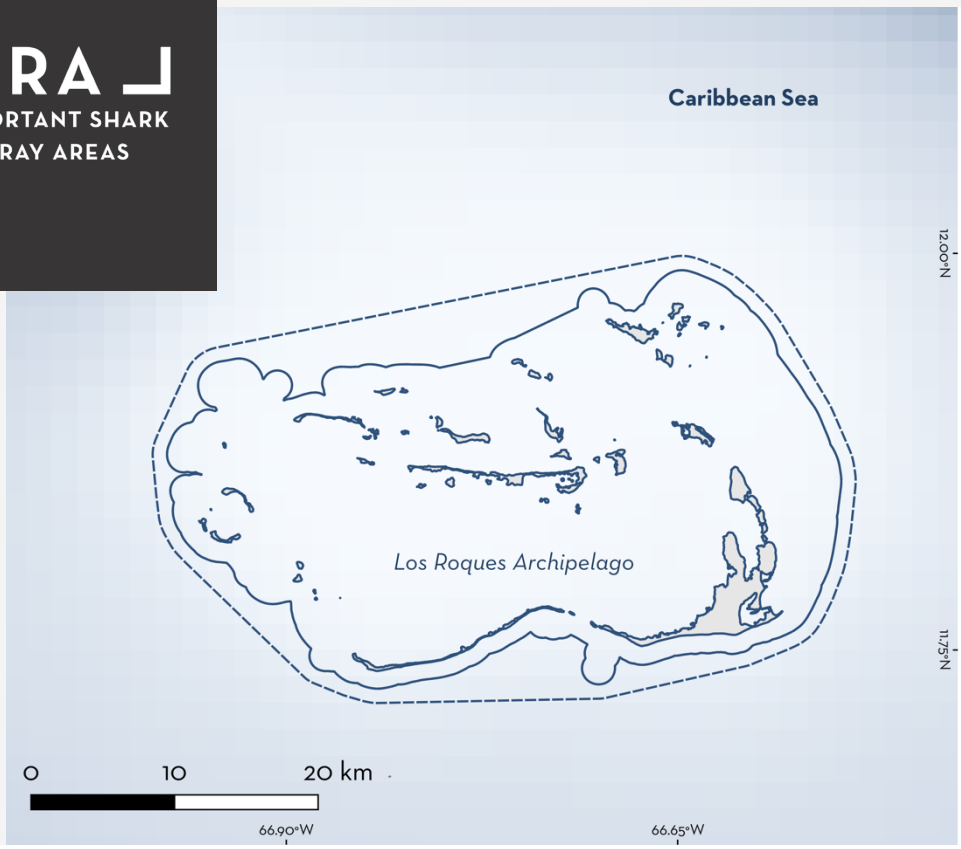
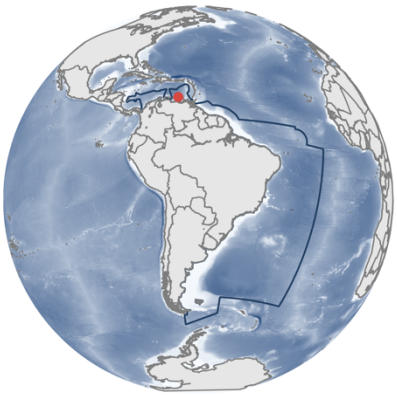
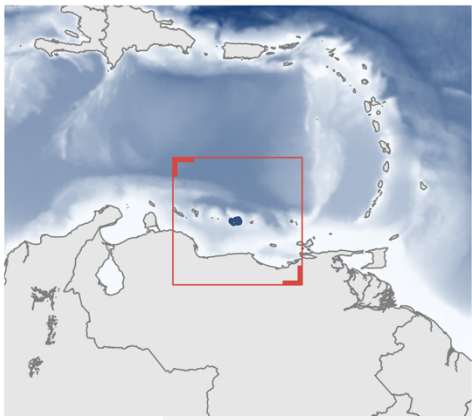
ISRA
IMPORTANT SHARK AND RAY AREAS







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

LOS ROQUES ARCHIPELAGO ISRA

South American Atlantic Region

VENEZUELA

0–30 metres

912.6 km²

SUMMARY

Los Roques Archipelago is located ~135 km north of Venezuela's central coast. It lies on a ridge that is separated from the mainland coast by deep waters. The area comprises a large, shallow lagoon, additional smaller lagoons, over 40 small, low islands, and fringing, patch, and barrier reefs. The habitat is characterised by coral reefs, sandy substrates, seagrass and macroalgal beds, and mangroves. It overlaps with the Los Roques Archipelago Marine Protected Area and the Parque Nacional Archipiélago Los Roques Ramsar site. Within this area there are: **threatened species** (e.g., Lemon Shark *Negaprion brevirostris*) and **reproductive areas** (e.g., Caribbean Reef Shark *Carcharhinus perezi*).

CRITERIA

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

DESCRIPTION OF HABITAT

Los Roques Archipelago is located in the Caribbean Sea off Venezuela. The area lies ~135 km north of the central Venezuelan coast and is part of a chain of oceanic islands, spanning from La Blanquilla Islands in the east to Aruba in the west, that sit on the Lesser Antilles Ridge. This ridge was formed by the subduction of the Caribbean plate under the South American plate (Silver et al. 1975). Los Roques Archipelago is spread over a volcanic plateau and surrounded by an insular shelf slope (Méndez-Baamonde 1978). The area consists of over 40 small and low islands and a large, shallow lagoon (Central Lagoon) that is partially enclosed by barrier reef systems to the east and south. The lagoon has an average depth of 4 m and a maximum of 8 m (Tavares 2008). One of the smaller lagoons in the east is Sebastopol Lagoon with a maximum depth of 2.5 m. The habitat of the area is characterised by sandy substrate, seagrass beds, and macroalgae in the shallow lagoons, by barrier reefs, patch reefs, and fringing reefs, and by mangrove forest in the eastern lagoons (Tavares et al. 2016). Water temperature seasonally varies between 25–30 °C and rainfall is low with 256 ml per year (Tavares 2009).

This area overlaps with the Archipiélago Los Roques Marine Protected Area (UNEP-WCMC & IUCN 2024) and with the Parque Nacional Archipiélago Los Roques Ramsar site (Ramsar 2025).

This Important Shark and Ray Area is benthic and pelagic and is delineated from inshore and surface waters (0 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 Endangered Caribbean Reef Shark (Carlson et al. 2021a); and the Vulnerable Blacktip Shark (Rigby et al. 2021) and Lemon Shark (Carlson et al. 2021b).

SUB-CRITERION C1 – REPRODUCTIVE AREAS

Los Roques Archipelago is an important reproductive area for three shark species.

Neonate and young-of-the-year (YOY) Blacktip Sharks are regularly observed in the Central Lagoon within Los Roques Archipelago (Tavares 2008). A study of artisanal bottom longline fishery captures in this area was conducted in 1995–1996, 1998–1999, 2001, and 2002 (Tavares 2008). Most effort was made in 2001 during intensive fishery monitoring, when Blacktip Sharks in the Central Lagoon were also tagged with number tags. Blacktip Sharks were the most abundant shark species captured in the fishery in this area, comprising almost half of the catch (49%). They ranged in size from 50–210 cm total length (TL; n = 861), although almost all (96%) were juveniles <120 cm TL. Neonates with an open or semi-healed umbilical scar (n = 71) ranged in size from 53–71 cm TL and were caught seasonally between mid-June to late August. Most of the other juveniles were likely to be YOY, considering the fast growth rate of 4.12 cm per month or ~50 cm per year (Tavares 2008). Two cohorts were observed, with the first (age = 0) being born that year and the second (age = 1) having been born the year before. No sharks from the second cohort were captured after November, showing that Blacktip Sharks remain in the lagoon for ~14–16 months before leaving the area (Tavares 2008). Seven of 31 tagged juveniles were recaptured within the Central Lagoon, highlighting their high residency to this area. Additionally, of the 12 adults recorded in 2001, five were female and three of these were

pregnant with advanced-stage embryos. Although detailed contemporary data are not available, small Blacktip Sharks were still regularly reported to be captured in this area as recently as in 2023 (Shark Research Centre of Venezuela pers. comm. 2025). Combined, these results show that this area is important for pupping and for the early life stages of the species.

Neonate and YOY Caribbean Reef Sharks are regularly observed around the offshore side of islands within the Los Roques Archipelago (Tavares 2009). A study of captures in an artisanal bottom longline fishery (n = 194 sets) in this area was conducted in 2001 and 2002 (Tavares 2009). Of the 803 sharks captured, Caribbean Reef Sharks (n = 303) accounted for 38% of the shark catch. They ranged in size from 67–270 cm TL. Neonates (n = 17) with an open or semi-healed umbilical scar ranged from 74–86 cm TL and were captured in August and September, demonstrating seasonal pupping in this area. Another 17 YOY with a recently closed umbilical scar were also captured in August and September. Size data show that ~22% of individuals were neonates or YOY (i.e., age = 0), and most sharks were juveniles (89%). Additionally, two pregnant females with advanced-stage embryos were captured in April. Neonate and YOY were primarily captured in <20 m water depth, while larger sharks were captured in areas with up to 60 m water depth (Tavares 2009). Although a shark fishing ban was declared in Los Roques Archipelago in 2012 and detailed contemporary data are lacking, small Caribbean Reef Sharks were still regularly captured in this area as recently as in 2021 (Shark Research Centre of Venezuela pers. comm. 2025). Combined, these results show that this is an important area for the early life stages and potentially for pupping of the species.

Neonate and YOY Lemon Sharks are regularly observed in Sebastopol Lagoon within Los Roques Archipelago (Tavares et al. 2016). This area was sampled during 34 field surveys in 2001–2002 and 2005–2014 using gillnets to capture, measure, tag, and release Lemon Sharks. Neonates were identified by an open or semi-healed umbilical scar. The study captured 254 juvenile Lemon Sharks ranging between 54.9–118 cm TL, with most catches made close to the mangroves (Tavares et al. 2016). Almost a quarter of individuals (24%) were recaptured during the study, indicating high site fidelity among juvenile Lemon Sharks. All 31 neonates (12% of total) were captured in June–August, highlighting seasonal pupping in this area. Considering the size-at-birth of 60 cm TL (Ebert et al. 2021) and a fast growth rate in this area of 21 cm TL per year (Tavares et al. 2020), most Lemon Sharks (~75%) were either neonates or YOY (i.e., <80 cm TL). Lemon Sharks remained in this area until they were up to ~120 cm TL (Tavares et al. 2016), highlighting the importance of this area for the early life stages of the species.

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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												
Carcharhinus limbatus	Blacktip Shark	VU	0–140	X		X						
Carcharhinus perezi	Caribbean Reef Shark	EN	0–697	X		X						
Negaprion brevirostris	Lemon Shark	VU	0–120	X		X						

SUPPORTING SPECIES

Scientific Name	Common Name	IUCN Red List Category
SHARKS		
Carcharhinus falciformis	Silky Shark	VU
Ginglymostoma cirratum	Atlantic Nurse Shark	VU
RAYS		
Aetobatus narinari	Whitespotted Eagle Ray	EN
Hypanus americanus	Southern Stingray	NT

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.

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