

Blue solid 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

CLIPPERTON ISRA

Central and South American Pacific Region

SUMMARY

Clipperton is an atoll in the central Pacific, under the authority of the French government, approximately 1,100 km southwest of Mexico. It is the most westerly coral reef in the Eastern Tropical Pacific and is designated an Ecologically or Biologically Significant Marine Area (EBSA). The atoll comprises an enclosed stagnant freshwater lagoon and is surrounded by well-developed coral reefs that descend rapidly to deeper water (~70 m). Within the area there are: **threatened species** (Silvertip Shark *Carcharhinus albimarginatus*); and **nursery areas** (e.g., Galapagos Shark *Carcharhinus galapagensis*).

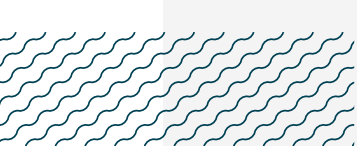
CRITERIA

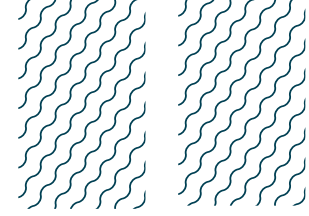
Criterion A - Vulnerability; Sub-criterion C1 - Reproductive Areas

FRANCE

0-100 metres

9.35 km²





DESCRIPTION OF HABITAT

Clipperton (Île de Clipperton) is located at approximately 10°N and 109°W at the western edge of the Eastern Tropical Pacific and is under the authority of the French government. Situated adjacent to the Pacific Central-American Coastal Large Marine Ecosystem, the nearest islands, the Islas Revillagigedo (Mexico), are approximately 1,000 km to the north. Due to its geographic location, the island has been proposed as an important stepping-stone for the dispersion of propagules of many marine species between Pacific regions (Glynn et al. 1996). Clipperton is of volcanic origin and contains an enclosed eutrophic inner lagoon. Well-developed fringing coral reefs are found on the outer atoll sides irregularly segmented by spurs and groves, reef terraces, and seaward slopes. The shallow waters (<20 m) are dominated by *Porites* and branching *Pocillopora* corals, with large *Porites*, *Pavona*, and *Leptoseris* corals common in deeper waters (20-70 m) (Pogoreutz et al. 2022). The seascape of the island is influenced by intense swells and hurricanes occurring during the tropical storm season from May to October. The atoll is primarily influenced by the North Equatorial Current from January to May, and the North Equatorial Counter Current from June to December.

This Important Shark and Ray Area is delineated from from surface waters to a depth of 100 m based on the depth preferences of Qualifying Species.

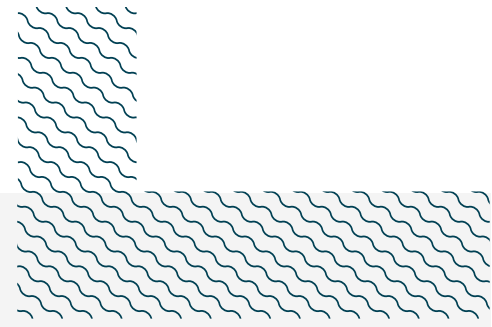
CRITERION A - VULNERABILITY

One Qualifying Species within the area is considered threatened with extinction according to the IUCN Red List of Threatened Species™. The Silvertip Shark is assessed as Vulnerable (Espinoza et al. 2021).

SUB-CRITERION C1 - REPRODUCTIVE AREAS

Clipperton is an important reproductive area for two shark species. Silvertip Sharks use the island as a nursery area as documented from an expedition in 2005 (Béarez & Séret 2009). Twenty-nine Silvertip Sharks were sampled using hook and line and consisted mainly of pregnant females carrying full-term or near full-term embryos and neonates with visible umbilical scars. The most recent systematic surveys of sharks undertaken in 2016 using stereo Baited Remote Underwater Video Surveys (BRUVS) recorded presence of the Gálapagos Shark on 83% of deployments and the Silvertip Shark on 33% of deployments. Importantly, the average length of Gálapagos Sharks and Silvertip Sharks were 82.3 cm fork length (FL) and 64.6 cm FL, respectively, with only one individual Gálapagos Shark considered large enough to be mature (Jost et al. 2016). Given published length-at-birth estimates of Gálapagos Sharks and Silvertip Sharks of ~80 cm total length (TL) (Wetherbee et al. 1996) and ~71 cm TL (Smart et al. 2017), respectively, it is likely these are 0+ year individuals.

Similarly, Clua (2016) reported 28 observations of sharks of both species over six survey dives in 2016, with only one Silvertip Shark and one Gálapagos Shark over 100 cm TL. The mean size of the remaining sharks was ~90 cm TL, comprising 82% Silvertip Sharks and 18% Gálapagos Sharks suggesting this area is still functional as a breeding ground for Silvertip Sharks and likely Gálapagos Shark. Tagging and subsequent redetections of two juveniles Gálapagos Sharks (120 and 131 cm TL) over a five-year period (2017-2022) confirms repeated use of this area over multiple years (Hoyos et al. 2022).



Acknowledgments

Mark Priest (IUCN SSC Shark Specialist Group - ISRA Project) contributed and consolidated information included in this factsheet. We thank all participants of the 2022 ISRA Region 12 - Central and South American Pacific workshop for their contributions to this process.

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QUALIFYING SPECIES

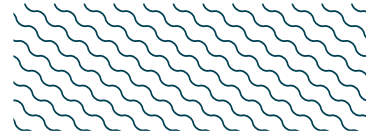
Scientific Name	Common Name	IUCN Red List Category	Global Depth Range	ISRA Criteria/Sub-criteria Met							
				A	B	C1	C2	C3	C4	C5	D1
SHARKS											
<i>Carcharhinus albimarginatus</i>	Silvertip Shark	VU	0-800	X		X					
<i>Carcharhinus galapagensis</i>	Gálapagos Shark	LC	0-680			X					

SUPPORTING SPECIES

Scientific Name	Common Name	IUCN Red List Category
SHARKS		
<i>Carcharhinus falciformis</i>	Silky Shark	VU
<i>Carcharhinus limbatus</i>	Blacktip Shark	VU
<i>Carcharhinus longimanus</i>	Oceanic Whitetip Shark	CR
<i>Echinorhinus cookei</i>	Prickly Shark	DD
<i>Galeocerdo cuvier</i>	Tiger Shark	NT
<i>Isurus oxyrinchus</i>	Shortfin Mako	EN
<i>Prionace glauca</i>	Blue Shark	NT
<i>Rhincodon typus</i>	Whale Shark	EN
<i>Sphyrna lewini</i>	Scalloped Hammerhead	CR
<i>Triakodon obesus</i>	Whitetip Reef Shark	VU
RAYS		
<i>Mobula birostris</i>	Oceanic Manta Ray	EN
<i>Mobula mobular</i>	Spinetail Devil Ray	EN
<i>Mobula tarapacana</i>	Sicklefin Devil Ray	EN
<i>Mobula thurstoni</i>	Bentfin Devil Ray	EN
<i>Pteroplatytrygon violacea</i>	Pelagic Stingray	LC

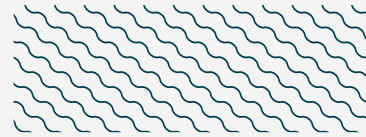
IUCN Red List categories: CR, Critically Endangered; EN, Endangered; VU, Vulnerable; NT, Near Threatened; LC, Least Concern; DD, Data Deficient.





OTHER SUPPORTING INFORMATION

There are indications that this area is also important for the connectivity of species between Pacific islands. Long-distance shark movements from Clipperton to other oceanic atolls within the Eastern Tropical Pacific have been documented. Gálapagos Sharks were documented moving between the island and Revillagigedo Archipelago whereas Silvertip Sharks moved between the island and the Gálapagos (Peñaherrera-Palma et al. 2018; Lara-Lizardi et al. 2020).



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