

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

CAÑO ISLAND ISRA

Central and South American Pacific Region

SUMMARY

Caño Island is located around an inshore island 15 km off the coast of Costa Rica in the Eastern Tropical Pacific. It is a Biological Reserve with a marine no-take area. The area includes one of the most diverse coral reef formations on the Pacific coast of Costa Rica, characterised by five fringing coral reef flats. In this area there are: **threatened species** (Whitetip Reef Shark *Triaenodon obesus*); **range restricted species** (Leopard Round Ray *Urobatis pardalis*); and **resting areas** (Whitetip Reef Shark).

CRITERIA

Criterion A - Vulnerability; Criterion B - Range Restricted; Sub-criterion C3 - Resting Areas

COSTA RICA

0-40 metres

67.98 km²



DESCRIPTION OF HABITAT

Caño Island is a relatively small (3.2 km²) inshore island located 15 km off the coast of Puntarenas in Costa Rica. Situated in the Pacific Central-American Coastal Large Marine Ecosystem (LME), this area was declared a Biological Reserve (marine no-take area extent of 55.4 km²) in 1987. The island has one of the most diverse coral reef formations from the Pacific coast of Costa Rica, characterised by five fringing coral reef flats ranging in size from 0.008 to 0.042 km² (Guzmán & Cortez 1989). Reefs are mainly formed by Lobe Coral *Porites lobata* and branching corals (*Pocillopora* spp.). The Honeycomb Coral *Gardineroseris planulata*, Superficial Coral *Psammocora superficialis*, and *Pavona* spp. reef-building species are also common. The shallow sections of the reef are structured mainly by physical factors (e.g., wave action, temperature and salinity fluctuations, and low tide exposure), whereas the deeper sections are influenced by biological interactions such as bioerosion, damselfish algal lawns, and corallivores (Guzmán and Cortes 1989, 2001; Naranjo-Arriola 2001; Guzmán et al. 2009).

This Important Shark and Ray Area is delineated from surface waters to a depth of 40 m based on the maximum depth range of the habitat used by the Qualifying Species.

ISRA CRITERIA

CRITERION A – VULNERABILITY

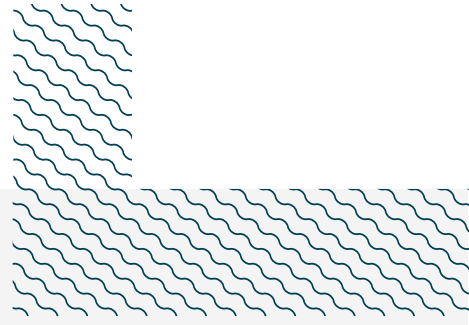
One Qualifying Species considered threatened with extinction according to the IUCN Red List of Threatened Species™ regularly occurs in the area. This is the Vulnerable Whitetip Reef Shark (Simpfendorfer et al. 2020).

CRITERION B – RANGE RESTRICTED

This area holds the regular presence of the Leopard Round Ray as a resident range-restricted species. This species is known to occur only in the Pacific Central-America Coastal LME. The Leopard Round Ray has been recorded year-round in the area and individuals are regularly encountered by local diving tour-operator companies (M. Cambra pers. comm. 2022). The presence of this species is also confirmed by Baited Remote Underwater Video Surveys (BRUVS) and Underwater Video Census (UVC) data from surveys conducted between 2017 and 2022 with 167 BRUVS and 80 UVS deployed during that period (Espinoza et al. 2020; M. Espinoza et al. unpubl. data). Between 2017–2019, BRUVS and UVS surveys were conducted in February (dry season). From 2020–2022, surveys were conducted two to three times per year, during the wet (June–November) and dry (December–May) seasons.

SUB-CRITERION C3 – RESTING AREAS

Caño Island is an important resting area for one shark species. Whitetip Reef Sharks aggregate in groups of 6–15 individuals whilst resting on the substrate at Bajo del Diablo. These observations are primarily reported from surveys undertaken during the dry season (February), but local tour-operators regularly see aggregations of this species resting at this site year-round (M. Cambra pers. comm. 2022). Observations were also made from the 167 BRUVS and 80 UVS deployed between 2017 and 2022 (Espinoza et al. 2020; M. Espinoza et al. unpubl. data).



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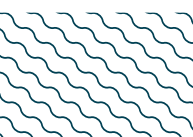
QUALIFYING SPECIES

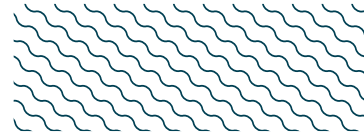
Scientific Name	Common Name	IUCN Red List Category	Global Depth Range (m)	ISRA Criteria/Sub-criteria Met							
				A	B	C1	C2	C3	C4	C5	D1
SHARKS											
<i>Triaenodon obesus</i>	Whitetip Reef Shark	VU	0-330	X				X			
RAYs											
<i>Urobatis pardalis</i>	Leopard Round Ray	LC	1-53		X						

SUPPORTING SPECIES

Scientific Name	Common Name	IUCN Red List Category
SHARKS		
<i>Carcharhinus leucas</i>	Bull Shark	VU
<i>Carcharhinus limbatus</i>	Blacktip Shark	VU
<i>Galeocerdo cuvier</i>	Tiger Shark	NT
<i>Ginglymostoma unami</i>	Pacific Nurse Shark	EN
<i>Negaprion brevirostris</i>	Lemon Shark	VU
<i>Rhincodon typus</i>	Whale Shark	EN
<i>Sphyrna mokarran</i>	Great Hammerhead	CR
RAYS		
<i>Aetobatus laticeps</i>	Pacific Eagle Ray	VU
<i>Hypanus dipterurus</i>	Diamond Stingray	VU
<i>Hypanus longus</i>	Longtail Stingray	VU
<i>Mobula birostris</i>	Oceanic Manta Ray	EN
<i>Mobula tarapacana</i>	Sicklefin Devil Ray	VU
<i>Pseudobatos leucorhynchus</i>	Whitesnout Guitarfish	VU
<i>Rhinoptera steindachneri</i>	Pacific Cownose Ray	NT
<i>Urotrygon chilensis</i>	Blotched Round Ray	NT

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 additional indications that Caño Island is important for reproductive, feeding, and movement activities. These observations are based on tour-operator records over multiple years in the area.

Mating behaviour of Oceanic Manta Ray has been observed on two separate occasions in this area through dive observations by well-trained tour-operators and biologists (Espinoza et al. 2020; M. Espinoza et al. unpubl. data; A. Naranjo pers. comm. 2022).

Foraging activity has been observed for Whale Sharks and Sicklefin Devil Rays (Guzmán et al. 2022; A. Naranjo pers. comm.; M. Espinoza et al. unpubl. data). Furthermore, other unidentified *Mobula* spp. have been observed feeding at Bajo del Diablo by local divers and are reported to be common during the dry season (December-May) (A. Naranjo pers. comm. 2022).

In an ongoing tagging study, at least two tagged Oceanic Manta Rays in Cabo Blanco, Costa Rica have been recorded at receivers in the area (J. Madrigal pers. comm. 2022). The Oceanic Manta Ray are observed seasonally (mainly during the dry season), rather than being a resident species. Whale Sharks may also use the area for migratory purposes as they are opportunistically sighted (Espinoza et al. 2020; Guzmán et al. 2022; J. Madrigal pers. comm. 2022).

Pregnant and juvenile Leopard Round Rays and Blotched Round Rays have been observed in this area from UVC and BRUVS (Salas et al. 2015; Espinoza et al. 2020; M. Espinoza et al. unpubl. data). During UVC surveys and on some BRUVS footage, there was strong evidence of pregnant females based on the visual appearance of extended abdomens (M. Espinoza pers. obs.).





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