

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

**TIQUISATE-SIPACATE ISRA**  
**Central and South American Pacific Region**

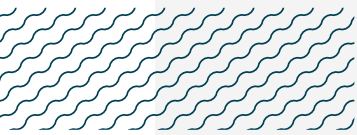
**SUMMARY**

Tiquisate-Sipacate is located in the Escuintla department of the Guatemalan Pacific. This area is within an Ecologically or Biologically Significant Marine Area, the Sipacate-Cañón San José Marine Ecosystem, and includes a protected area. It encompasses coastal wetlands, mangroves, dunes, estuaries, volcanic sand beaches, and two river mouths. Within this area there are: **threatened species** (e.g., Longtail Stingray *Hypanus longus*); **range-restricted species** (Pacific Chupare *Styracura pacifica*); and **reproductive areas** (e.g., Scalloped Hammerhead *Sphyrna lewini*).

**CRITERIA**

**Criterion A - Vulnerability; Criterion B - Range Restricted; Sub-criterion C1 - Reproductive Areas**

— —  
**GUATEMALA**  
 — —  
**0-100 metres**  
 — —  
**1,319.8 km<sup>2</sup>**  
 — —





## DESCRIPTION OF HABITAT

Tiquisate-Sipacate is a coastal area located in the Escuintla department on the Guatemalan Pacific. Situated within the Pacific Central-American Coastal Large Marine Ecosystem (LME), this area includes coastal wetlands, mangroves, dunes, estuaries, volcanic sand beaches, and river mouths, with Acomé River being the largest. Wetlands and mangroves have silt and clay substrates, while the rest of the area has sandy substrates. The area is characterised by a dry season (November–April) and a rainy season (May–October). Temperatures commonly range between 21–33°C (ASIES 1992). One of the main habitats within the area is the Sipacate estuary, characterised by a high mangrove coverage, and heavily influenced by freshwater input, which increases during the rainy season (CONAP 2002). The area is within an Ecologically or Biologically Significant Marine Area, the Sipacate-Cañón San José Marine Ecosystem (CBD 2022) and includes one protected area, National Park Sipacate-Naranjo (CONAP 2002).

This Important Shark and Ray Area is delineated from inshore and surface waters (0 m) to a depth of 100 m based on the depth where fishers commonly catch Qualifying Species.

## ISRA CRITERIA

### CRITERION A – VULNERABILITY

Seven Qualifying Species considered threatened with extinction according to the IUCN Red List of Threatened Species™ regularly occur in the area. Threatened sharks comprise one Critically Endangered species, and three Vulnerable species; threatened rays comprise three Vulnerable species (IUCN 2022).

### CRITERION B – RANGE RESTRICTED

Tiquisate-Sipacate holds the regular presence of Pacific Chupare, Vermiculate Numbfish, and Spinytail Round Ray as resident range-restricted species. These species occur year-round in the area and are regularly encountered and caught in local fisheries (Ávalos-Castillo & Santana-Morales 2021). Pacific Chupare is restricted to the Pacific Central-American Coastal LME, while Vermiculate Numbfish is essentially restricted to the Gulf of California LME and Pacific Central-American Coastal LME, its range only marginally extending into the California Current LME. Spinytail Round Ray is restricted to the Pacific Central-American Coastal LME and California Current LME.

### SUB-CRITERION C1 – REPRODUCTIVE AREAS

Tiquisate-Sipacate is an important reproductive area for five shark and two ray species.

Between 2006–2007, neonate Silky Shark (based on visibly open umbilical scars) of sizes <75 cm total length (TL) were reported in the area. In addition, pregnant females were observed with near-term embryos from February to May (Ixquiac et al. 2009b). The neonate sizes overlap with the reported size-at-birth (56–87 cm TL; Ebert et al. 2021). A small number of neonates has also recently been reported from landing surveys of artisanal fisheries operating in the area (Ávalos-Castillo & Santana-Morales 2021; Tewfik et al. 2022).

Neonate Blacktip Sharks (n = 22) were recorded in landings from artisanal fisheries between 2017–2020 (Ávalos-Castillo & Santana-Morales 2021). Sizes were between 40–70 cm TL, which are similar



to the reported size-at-birth of 38–72 cm TL (Ebert et al. 2021). In addition, between 2019–2020, 85 Blacktip Sharks were reported in landings from artisanal gillnets and longlines, with a mean size of 74 cm TL (Polanco-Vásquez et al. 2022).

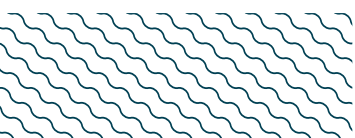
Neonate Longtail Stingrays (n = 20) have been reported in landings from artisanal fisheries (Ávalos-Castillo & Santana-Morales 2021). Neonates landed from 2017–2020 were between 40–50 cm disc width (DW), which is close to the reported size-at-birth for the species (~40 cm DW; Last et al. 2016). Between 2019–2020, neonates (n = 6, 22–28 cm DW) below the reported size-at-birth were recorded in landings from artisanal fisheries (Morales-Aguilar & Ortíz-Aldana 2022). Pregnant females have also been observed in the area (Polanco-Vásquez 2022; Polanco-Vásquez et al. 2022; E. Segovia pers. comm. 2022).

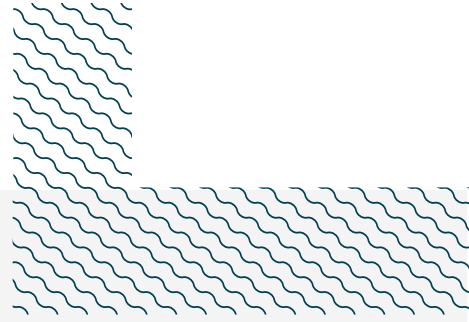
Neonate Sicklefin Smoothhounds (n = 40; 23.5% of all individuals recorded) were reported in landings from artisanal fisheries between 2017–2020 (Ávalos-Castillo & Santana-Morales 2021). Sizes were between 30–40 cm TL, which is similar to the reported size-at-birth for the species (28–35 cm TL; Ebert et al. 2021). Pregnant females have also been observed in the same surveys.

All Whitesnout Guitarfish (n = 17) recorded between 2017–2020 were below the reported size-at-birth (~19 cm TL; Ávalos-Castillo & Santana Morales 2021; Ebert et al. 2021).

Neonate Pacific Sharpnose Sharks (n = 15) between 30–40 cm TL were reported in landings from artisanal fisheries during November (2017–2020) (Ávalos-Castillo & Santana-Morales 2021). Size-at-birth for this species has been reported at 33–34 cm TL (Ebert et al. 2021).

There is historical and contemporary information reporting the presence of Scalloped Hammerhead nursery areas, in particular during the rainy season (May–September). Between 2006–2007, 633 neonates and young-of-the-year were recorded from artisanal fisheries landings (Ixquiac-Cabrera et al. 2009b). Sizes ranged between 35–60 cm TL, which are similar to the reported size-at-birth (31–57 cm TL; Ebert et al. 2021). Recent data confirm that the majority of sharks landed are between 30–70 cm, confirming that the area still serves as a nursery (Ávalos-Castillo & Santana-Morales 2021; Polanco-Vásquez 2022).





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## **Suggested citation**

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## QUALIFYING SPECIES

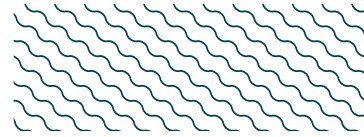
Scientific Name	Common Name	IUCN Red List Category	Global Depth Range (m)	ISRA Criteria/Sub-criteria Met							
				A	B	C1	C2	C3	C4	C5	D1
<b>SHARKS</b>											
<i>Carcharhinus falciformis</i>	Silky Shark	VU	0-500	X		X					
<i>Carcharhinus limbatus</i>	Blacktip Shark	VU	0-140	X		X					
<i>Mustelus lunulatus</i>	Sicklefin Smoothhound	LC	9-200			X					
<i>Rhizoprionodon longurio</i>	Pacific Sharpnose Shark	VU	0-100	X		X					
<i>Sphyrna lewini</i>	Scalloped Hammerhead	CR	0-1,043	X		X					
<b>RAYS</b>											
<i>Hypanus longus</i>	Longtail Stingray	VU	0-118	X		X					
<i>Narcine vermiculatus</i>	Vermiculate Numbfish	LC	0-100		X						
<i>Pseudobatos leucorhynchus</i>	Whitesnout Guitarfish	VU	0-50	X		X					
<i>Styracura pacifica</i>	Pacific Chupare	VU	0-30	X	X						
<i>Urotrygon aspidura</i>	Spinytail Round Ray	NT	5-100		X						

## SUPPORTING SPECIES

Scientific Name	Common Name	IUCN Red List Category
<b>SHARKS</b>		
<i>Alopias pelagicus</i>	Pelagic Thresher	EN
<i>Alopias superciliosus</i>	Bigeye Thresher	VU
<i>Alopias vulpinus</i>	Common Thresher	VU
<i>Carcharhinus leucas</i>	Bull Shark	VU
<i>Carcharhinus longimanus</i>	Oceanic Whitetip Shark	CR
<i>Galeocerdo cuvier</i>	Tiger Shark	NT
<i>Ginglymostoma unami</i>	Pacific Nurse Shark	EN
<i>Nasolamia velox</i>	Whitenose Shark	EN
<i>Prionace glauca</i>	Blue Shark	NT
<i>Rhincodon typus</i>	Whale Shark	EN
<i>Sphyrna mokarran</i>	Great Hammerhead	CR
<b>RAYS</b>		
<i>Aetobatus laticeps</i>	Pacific Eagle Ray	VU
<i>Gymnura crebripunctata</i>	Mazatlán Butterfly Ray	NT
<i>Hypanus dipterus</i>	Diamond Stingray	VU
<i>Mobula mobular</i>	Spinetail Devil Ray	EN
<i>Mobula munkiana</i>	Munk's Pygmy Devil Ray	VU
<i>Mobula tarapacana</i>	Sicklefin Devil Ray	EN
<i>Mobula thurstoni</i>	Bentfin Devil Ray	EN
<i>Narcine entemedor</i>	Cortez Numbfish	VU
<i>Pteroplatytrygon violacea</i>	Pelagic Stingray	LC
<i>Rhinoptera steindachneri</i>	Pacific Cownose Ray	NT
<i>Urotrygon chilensis</i>	Blotched Round Ray	NT
<i>Urotrygon munda</i>	Munda Round Ray	NT
<i>Urotrygon rogersi</i>	Rogers' Round Ray	NT

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

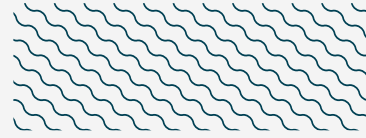
## SUPPORTING INFORMATION



There are additional indications that this area is important for reproductive, feeding, and aggregating purposes. Southern Banded Guitarfish, Cortez Numbfish, Vermiculate Numbfish, Blotched Round Ray, and Spinytail Round Ray may breed in the area based on the presence of all size classes (Ávalos-Castillo & Santana-Morales 2021; Morales-Saldaña et al. 2022; Tewfik et al. 2022; C. Ávalos-Castillo et al. unpubl. data 2022).

Furthermore, Pacific Sharpnose Shark, Sicklefin Smoothhound, Whitesnout Guitarfish, Southern Banded Guitarfish, Cortez Numbfish, Vermiculate Numbfish, Longtail Stingray, Pacific Chupare, Blotched Round Ray, and Spinytail Round Ray possibly feed in the area (Morales-Saldaña et al. 2022; Y. Cabrera pers. comm. 2022; A. Bolaños pers. comm. 2022).

Several species including Bentfin Devil Ray, Munk's Pygmy Devil Ray, and Sicklefin Devil Ray have been observed aggregating in the area (E. Segovia, Sipacate fisher pers. comm. 2022). These species are present within this area seasonally in the boreal winter/spring when they can be incidentally caught by artisanal fisheries (Polanco-Vásquez et al. 2022). The function for these aggregations is unknown and more evidence is needed to confirm their regular presence.



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