

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

## GUATEMALA LAS LISAS-HAWAII ISRA

### Central and South American Pacific Region

#### SUMMARY

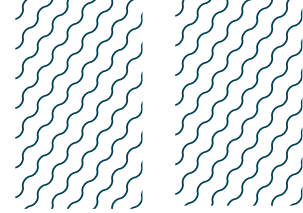
Guatemala Las Lisas-Hawaii is located in the western part of the Pacific coast of Guatemala near the border with El Salvador. This area includes one protected area and one Key Biodiversity Area. It is characterised by a variety of habitats, including coastal wetlands, mangroves, estuaries, volcanic sand beaches, and river mouths (including El Jiote and El Chapeton). Within this area there are: **threatened species** (e.g., Silky shark *Carcharhinus falciformis*); **range-restricted species** (Vermiculate Numbfish *Narcine vermiculatus*); **reproductive areas** (e.g., Scalloped Hammerhead *Sphyrna lewini*); and **feeding areas** (Scalloped Hammerhead).

#### CRITERIA

**Criterion A - Vulnerability; Criterion B - Range Restricted; Sub-criterion C1 - Reproductive Areas; Sub-criterion C2 - Feeding Areas**

—	—
<b>GUATEMALA</b>	—
—	—
<b>0-200 metres</b>	—
—	—
<b>1,172.7 km<sup>2</sup></b>	—
—	—





## DESCRIPTION OF HABITAT

Guatemala Las Lisas-Hawaii is located in the Guatemalan Pacific near the border with El Salvador in the Municipality of Chiquimulilla, Department of Santa Rosa. Situated within the Pacific Central-American Coastal Large Marine Ecosystem (LME), the area is characterised by coastal wetlands, mangroves, estuaries, volcanic sand beaches, and river mouths, including El Jiote and El Chapeton (CONAP & PNUD 2017). This area is strongly influenced by two important ocean currents: the California Current and the Equatorial Counter Current. There is year-round riverine discharge of freshwater into the area that increases significantly during the rainy season (May–September) (CONAP & PNUD 2017). Sea surface temperatures range between 24–30°C, with maximum values occurring in April (CONAP & PNUD 2017).

The area includes one protected area, the Multiple Use Area Hawaii (CONAP & PNUD 2017), and one Key Biodiversity Area, Monterrico-Río La Paz (KBA 2022). Due to the high biodiversity recorded in Las Lisas, it has been proposed, and is in the process of being approved by the Guatemalan government, as a protected area (Las Lisas-La Barrona).

This Important Shark and Ray Area is delineated from inshore and surface waters (0 m) to a depth of 200 m based on the depths of capture of Qualifying Species in local artisanal fisheries.

## 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. Threatened sharks comprise the Vulnerable Silky Shark (Rigby et al. 2021) and the Critically Endangered Scalloped Hammerhead (Rigby et al. 2019); threatened rays comprise the Vulnerable Longtail Stingray (Pollom et al. 2020).

### CRITERION B – RANGE RESTRICTED

Guatemala Las Lisas-Hawaii holds the regular presence of Vermiculate Numbfish as a resident range-restricted species. Vermiculate Numbfish is restricted to the Gulf of California LME and the Pacific Central-American Coastal LME. This species was commonly caught in shrimp trawls between 2017–2020 (Castillo & Santana-Morales 2021).

### SUB-CRITERION C1 – REPRODUCTIVE AREAS

Guatemala Las Lisas-Hawaii is an important reproductive area for two shark and one ray species.

Scalloped Hammerhead nursery areas have been identified, particularly during the rainy season (May–September) when turbidity increases and provides protection from predators. This species is commonly caught as bycatch in bottom trammel nets for catfish. Between 1997–1999, 2006–2007, 2014–2015, and 2017–2020, most individuals caught were <60 cm total length (TL) (size range 40–200 cm TL), which is close to the reported size-at-birth (31–57 cm TL; Rigby et al. 2019). Most individuals sampled had umbilical scars indicating they were neonates or young-of-the-year with juveniles between 70–150 cm TL also recorded in multiple years (Ruiz et al. 2000; Ixquiac et al. 2009; CONAP & PNUD 2017; Ixquiac 2020; Ávalos-Castillo & Santana-Morales 2021).

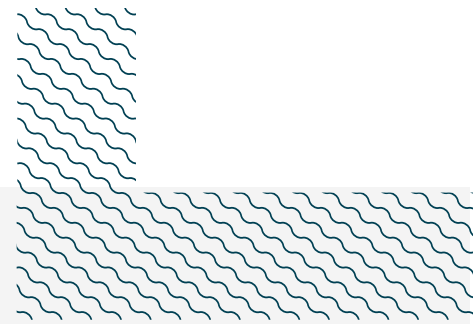


Based on fishery landings monitoring during 2006–2007, Silky Sharks were one of the most abundant shark species in the area. Neonates represented 23% of landings of this species (n = 163) with sizes of 65–71 cm TL (size-at-birth 65–81 cm TL; Ebert et al. 2021) while young-of-the-year represented 14% of catches (n = 100), with sizes of 72–80 cm TL, with most catches from February to May (Ixquiac et al. 2009).

Longtail Stingray is present year-round in the area (Ávalos-Castillo & Santana-Morales 2021). Preliminary results from a project focused on ray bycatch of benthic trawl fisheries operating within the area includes catches of pregnant females and neonates year-round (Cristopher Ávalos-Castillo et al. unpubl. data 2022).

## SUB-CRITERION C2 - FEEDING AREAS

Scalloped Hammerhead stomach content analysis of neonates and young-of-the-year from 2014–2015 revealed that, from 57% of full stomachs, the main prey for immature sharks were stomatopods (Squillaidae) and shrimps (Peneidae). These prey are very abundant, especially during summer, when neonate and juvenile Scalloped Hammerhead are present in the area (Ixquiac 2020).



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### Acknowledgments

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### Suggested citation

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## QUALIFYING SPECIES

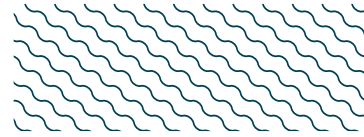
Scientific Name	Common Name	IUCN Red List Category	Global Depth Range (m)	ISRA Criteria/Sub-criteria Met									
				A	B	C1	C2	C3	C4	C5	D1	D2	
<b>SHARKS</b>													
<i>Carcharhinus falciformis</i>	Silky Shark	VU	0-500	X		X							
<i>Sphyrna lewini</i>	Scalloped Hammerhead	CR	0-1,043	X		X	X						
<b>RAYS</b>													
<i>Hypanus longus</i>	Longtail Stingray	VU	0-118	X		X							
<i>Narcine vermiculatus</i>	Vermiculate Numbfish	LC	0-100		X								

## SUPPORTING SPECIES

Scientific Name	Common Name	IUCN Red List Category
<b>SHARKS</b>		
<i>Alopias pelagicus</i>	Pelagic Thresher	EN
<i>Carcharhinus leucas</i>	Bull Shark	VU
<i>Carcharhinus limbatus</i>	Blacktip Shark	VU
<i>Carcharhinus longimanus</i>	Oceanic Whitetip Shark	CR
<i>Galeocerdo cuvier</i>	Tiger Shark	NT
<i>Mustelus lunulatus</i>	Sicklefin Smoothhound	LC
<i>Prionace glauca</i>	Blue Shark	NT
<i>Rhincodon typus</i>	Whale Shark	EN
<i>Rhizoprionodon longurio</i>	Pacific Sharpnose Shark	VU
<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>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>Nasolamia velox</i>	Whitenose Shark	EN
<i>Pseudobatus leucorhynchus</i>	Whitesnout Guitarfish	VU
<i>Pteroplatytrygon violacea</i>	Pelagic Stingray	LC
<i>Rhinoptera steindachneri</i>	Pacific Cownose Ray	NT
<i>Styracura pacifica</i>	Pacific Chupare	VU
<i>Urotrygon aspidura</i>	Spinytail Round Ray	NT
<i>Urotrygon chilensis</i>	Blotched Round Ray	NT
<i>Urotrygon munda</i>	Munda Round Ray	NT
<i>Urotrygon rogersi</i>	Roger's Round Ray	NT
<i>Zapteryx xyster</i>	Southern Banded Guitarfish	VU

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





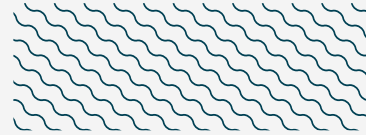
## SUPPORTING INFORMATION

There are additional indications that this area is important for reproductive, feeding, and aggregation purposes. Whitesnout Guitarfish, Southern Banded Guitarfish, Cortez Numbfish, Vermiculate Numbfish, Blotched Round Ray, and Spinytail Round Ray, are recorded across all size classes (Ávalos-Castillo & Santana-Morales, 2021; Morales-Saldaña et al. 2022; Cristopher Ávalos-Castillo et al. unpubl. data).

Sicklefin Smoothhound, Whitesnout Guitarfish, Southern Banded Guitarfish, Cortez Numbfish, Vermiculate Numbfish, Longtail Stingray, Pacific Chupare, Blotched Round Ray, and Spinytail Round Ray are assumed to spend important time in the area feeding. Preliminary research on some of these species shows stomach content of prey present in the area (Morales-Saldaña et al. 2022; Cristopher Ávalos-Castillo et al. unpubl. Data 2022).

Bentfin Devil Ray, Munk's Pygmy Devil Ray, and Sicklefin Devil Ray have been observed to aggregate in this area. These species are present in this area mostly in the boreal winter/spring when up to dozens of individuals per aggregation have been observed. However, the function for these aggregations is unknown and more evidence is needed to support their regular presence within the area (Cristopher Ávalos-Castillo pers. obs. 2022).

Blacktip Shark, Sicklefin Smoothhound, and Pacific Sharpnose Shark catches of pregnant females as well as neonates have been reported between 2017-2021 in local artisanal fisheries operating within the area (Cristopher Ávalos-Castillo et al. unpubl. data. 2022). Blacktip Shark neonates are commonly caught between February and April, while neonates of Pacific Sharpnose Shark and Sicklefin Smoothhound are caught mainly between October and November.



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