

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

## DEEP BENTHIC MIDRIFF ISLANDS ISRA

### Central and South American Pacific Region

#### SUMMARY

Deep Benthic Midriff Islands is located in the central-northern part of the Gulf of California in Mexico. This area encompasses benthic waters near Tiburón Island and San Lorenzo Island in the southern part to areas north of Angel de la Guarda Island, in the Delfín and Salsipuedes basins. These basins have a maximum depth of ~1,450 m restricting the circulation between the northern and central gulf and serve as a place where very strong tidal currents produce intense mixing. This mixing also produces areas of high temperatures, salinities, and oxygen at great depths compared to other basins in the gulf at similar depths. Within this area there are **range-restricted species** (e.g., Peppered Catshark *Galeus piperatus*).

#### CRITERIA

##### Criterion B - Range Restricted

—	—
<b>MEXICO</b>	—
—	—
<b>90-847 metres</b>	—
—	—
<b>11,777 km<sup>2</sup></b>	—
—	—





## DESCRIPTION OF HABITAT

Deep Benthic Midriff Islands is located in the central-northern part of the Gulf of California in Mexico off the coast of Sinaloa and Baja California states. Situated within the Gulf of California Large Marine Ecosystem (LME), the area extends from near Tiburón Island and San Lorenzo Island to areas north of Angel de la Guarda Island, in the western coast of the gulf. This region is located in the Delfín and Salsipuedes basins. The first basin goes from 180 m to 720 m depth in the southern part, while the latter reaches a depth of 1,450 m. These basins restrict the circulation between the northern and central gulf and serves as a place where very strong tidal currents produce intense mixing. This mixing also produces areas of high temperatures, salinities, and oxygen at great depths compared to other basins in the gulf at similar depths. Habitats within this area include scarps, rocky areas, and sandy and muddy bottoms (Tovillo-Hernández 1991). This area also partially overlaps with an Ecologically and Biologically Significant Marine Area, the Midriff Islands Region.

This Important Shark and Ray Area is delineated at depths of 90-847 m based on the depth range of Qualifying Species in the area.

## ISRA CRITERIA

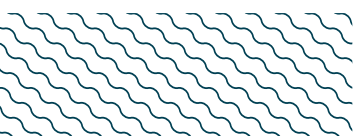
### CRITERION B - RANGE RESTRICTED

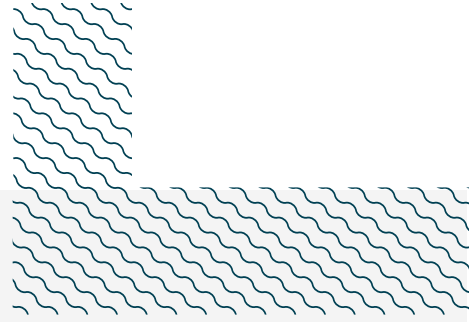
Deep Benthic Midriff Islands area holds the regular presence of three shark and one ray species as range-restricted species. Largenose Catshark, Lollipop Catshark, Peppered Catshark, and California Skate are regularly reported from fisheries operating in this area.

Largenose Catshark is restricted to the Gulf of California LME and was reported in the catch of experimental trawl-nets in the area during 2005 at depths of 90-540 m (López-Martínez et al. 2012). In addition, 143 individuals were caught during experimental trawling in 2007 within the area at 250-460 m (Acevedo-Cervantes et al. 2009).

California Skate and Lollipop Catshark are restricted to the Gulf of California LME and the California Current LME. These species were reported in the catch of experimental trawl-nets within the area during 2004 and 2005 at depths of 90-540 m. California Skate was recorded during September 2004 and February/May 2005. This species was also previously reported between 2003-2004 in the area, as bycatch in the hake fishery (Santana-Morales et al. 2005). In addition, Lollipop Catshark has been reported in the catch of trawlers in the Pacific Hake *Merluccius productus* fishery in the area from 2014-2017, when 12 individuals were caught at 847 m depth (López-Martínez et al. 2012; Cruz-Acevedo et al. 2019).

Peppered Catshark is restricted to the Gulf of California LME and has been reported in the catch of trawlers fishing for Pacific Hake in the area. In 2015 and during 2018-2020, 448 juveniles and adults (14.0-41.6 cm total length) were caught at depths of 234-462 m (Cruz-Acevedo et al. 2019; Espino-Leal 2022).





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## **Suggested citation**

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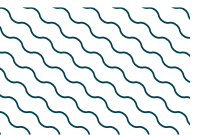
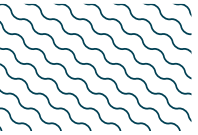
## QUALIFYING SPECIES

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	D2
<b>SHARKS</b>												
<i>Apristurus nasutus</i>	Largenose Catshark	LC	250-925		X							
<i>Cephalurus cephalus</i>	Lollipop Catshark	LC	155-927		X							
<i>Galeus piperatus</i>	Peppered Catshark	LC	275-1,326		X							
<b>RAYS</b>												
<i>Beringraja inornata</i>	California Skate	LC	17-671		X							

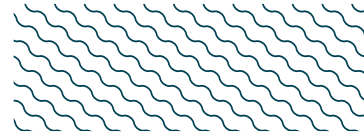
## SUPPORTING SPECIES

Scientific Name	Common Name	IUCN Red List Category
<b>SHARKS</b>		
<i>Mustelus californicus</i>	Grey Smoothhound	LC
<i>Mustelus henlei</i>	Brown Smoothhound	LC
<b>RAYS</b>		
<i>Rostroraja velezi</i>	Rasptail Skate	VU
<b>CHIMAERAS</b>		
<i>Hydrolagus colliei</i>	Whitespotted Chimaera	LC

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 Grey Smoothhound. This species is restricted to the Gulf of California LME and the California Current LME. Grey Smoothhound was reported in the catch of experimental trawl-nets within the area during 2005 at depths of 90-540 m (López-Martínez et al. 2012; Cruz-Acevedo et al. 2019). Further information is required on the regularity of occurrence of the species in the area.





## REFERENCES

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