

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

## PENGHU ISLANDS ISRA

### Asia Region

### SUMMARY

Penghu Islands is located off the west coast of the island of Taiwan. It includes 92 islands and islets and is characterised by shallower waters with coral reefs, rocky areas, and flat and sandy seabeds. The area overlaps with four Key Biodiversity Areas and three marine protected areas. Within the area there are: **threatened species** (Brown Guitarfish *Rhinobatos schlegelii*); and **reproductive areas** (e.g., Spottail Shark *Carcharhinus sorrah*).

### CRITERIA

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

— CHINESE TAIPEI —

— 0-50 metres —

— 2,426.3 km<sup>2</sup> —





## DESCRIPTION OF HABITAT

Penghu Islands is located in the Taiwan Strait, off the west coast of Chinese Taipei. The archipelago includes 92 islands and islets (Chen et al. 2020). The area is characterised by shallower waters and the inner coastlines are bordered by flat and sandy seabeds (Chen et al. 2020). The eastern coasts, battered by strong currents and monsoons, are predominantly rocky with significant coral reef formations while the western coasts are hallmarked by basalt formations (Chen et al. 2020). The northern shores display a composite of rock, decreased coral, and shell sediments and the southern parts of accumulate finer sands.

Penghu Islands is shaped significantly by the intersection of three major currents: the China Coastal Current, the Kuroshio Current branch, and the South China Sea Monsoon Current (Jan et al. 2002). The southwest monsoon from May to September produces upwellings throughout the Taiwan Strait, while from November to April, the northeast monsoon brings warm and high salinity waters from the Kuroshio Current (Hu et al. 2003). Sea surface temperature ranges from 22°C in winter to 30°C in summer (Lee et al. 2014).

The area overlaps with four Key Biodiversity Areas (KBA): Northeastern Sea Islets, Northern Sea Islets, Southern Sea Islets, and Cat Islet Seabird Refuge, Penghu County Refuge (KBA 2024a, 2024b, 2024c, 2024d). In addition, it overlaps with three marine protected areas: the Xiaomen Aquatic Organisms Propagation and Conservation Zone, the Qimei Aquatic Organisms Propagation and Conservation Zone, and the South Penghu Marine National Park.

This Important Shark and Ray Area is benthopelagic and is delineated from inshore and surface waters (0 m) to 50 m based on the depth range of the Qualifying Species in the area.

## ISRA CRITERIA

### CRITERION A – VULNERABILITY

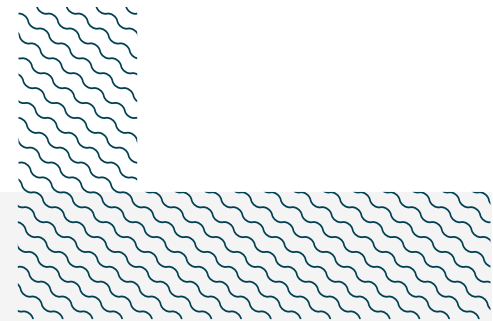
One Qualifying Species within the area is considered threatened with extinction according to the IUCN Red List of Threatened Species. The Brown Guitarfish is assessed as Endangered (Rigby et al. 2021).

### SUB-CRITERION C1 – REPRODUCTIVE AREAS

Penghu Islands is an important reproductive area for one shark and one ray species.

A total of 327 Spottail Sharks (171 females and 156 males) were collected from fisheries operating in the area between October 2010 to December 2011 and July 2019 to August 2021 (Hsu 2012; Joung et al. 2022). Individuals measured between 52.5-123.0 cm total length (TL) and were caught mainly with artisanal longlines operating at depths 20-60 m. A few individuals were also caught with drift nets operating between 10-50 m (Joung et al. 2022). Vertebral growth band readings revealed that individuals <80 cm TL were neonates or young-of-the-year, and these life stages represented 50% of the sampled sharks (Hsu 2012; Joung et al. 2022). Individuals between 60-70 cm TL were caught mostly between June-August, while sharks between 70-80 cm TL were caught mainly from September-November, representing 50% and 75% of the sharks caught in those months, respectively (Hsu 2012). The large number of individuals close to the reported size-at-birth (45-60 cm TL; Ebert et al. 2021) during the boreal summer indicates that pupping occurs during this season (Joung et al. 2022).

Thirteen mature female Brown Guitarfish, of which 10 were pregnant, were sampled opportunistically on 29 May 2005 and between 4 and 25 April 2006 from fisheries operating in the area (Schluessel et al. 2014). In addition, in March 2024, 66 individuals (all females) were recorded from fisheries operating in the area (H Hsu unpubl. data. 2024). Of these individuals, 25 were pregnant and 34 showed indication of recent mating due to the presence of an inflamed cloaca. Pregnant females and juveniles are commonly caught by benthic trawlers operating in Penghu Islands, with near-term embryos found during summer, indicating that pupping occurs during this season (H Hsu pers. obs. 2023). This species is regularly caught in aggregations (>10 individuals) in the area (H Hsu pers. obs. 2023).



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### **Acknowledgments**

Hua Hsun Hsu (Coastal and Offshore Fishery Research Center, Fisheries Research Institute, Ministry of Agriculture, Taiwan; Institute of Marine Ecology and Conservation, National Sun Yat-sen University), Chia Yun Joanne Li (Coastal and Offshore Fishery Research Center, Fisheries Research Institute, Ministry of Agriculture, Taiwan), and Emiliano García-Rodríguez (IUCN SSC Shark Specialist Group - ISRA Project) contributed and consolidated information included in this factsheet. We thank all participants of the 2024 ISRA Region 9 - Asia workshop for their contributions to this process.

This factsheet has undergone review by the ISRA Independent Review Panel prior to its publication.

This project was funded by the Shark Conservation Fund, a philanthropic collaborative pooling expertise and resources to meet the threats facing the world's sharks and rays. The Shark Conservation Fund is a project of Rockefeller Philanthropy Advisors.

### **Suggested citation**

**IUCN SSC Shark Specialist Group. 2024.** Penghu Islands ISRA Factsheet. Dubai: IUCN SSC Shark Specialist Group.

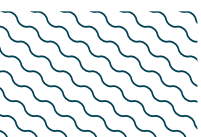
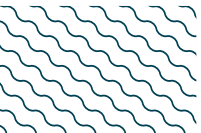
## QUALIFYING SPECIES

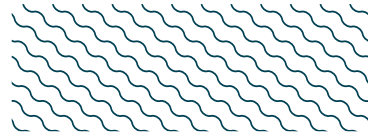
Scientific Name	Common Name	IUCN Red List Category	Global Depth Range (m)	ISRA Criteria/Sub-criteria Met									
				A	B	C1	C2	C3	C4	C5	D1	D2	
<b>SHARKS</b>													
<i>Carcharhinus sorrah</i>	Spottail Shark	NT	0-140			X							
<b>RAYS</b>													
<i>Rhinobatos schlegelii</i>	Brown Guitarfish	CR	1-230	X		X							

## SUPPORTING SPECIES

Scientific Name	Common Name	IUCN Red List Category
<b>SHARKS</b>		
<i>Carcharhinus leucas</i>	Bull Shark	VU
<i>Rhincodon typus</i>	Whale Shark	EN
<i>Sphyrna lewini</i>	Scalloped Hammerhead	CR
<b>RAYS</b>		
<i>Aetobatus ocellatus</i>	Spotted Eagle Ray	EN
<i>Rhina ancylostomus</i>	Bowmouth Guitarfish	CR
<i>Rhinoptera javanica</i>	Javanese Cownose Ray	EN
<i>Rhynchobatus australiae</i>	Bottlenose Wedgefish	CR
<i>Rhynchobatus immaculatus</i>	Taiwanese Wedgefish	CR

*IUCN Red List of Threatened Species Categories are available by searching species names at [www.iucnredlist.org](http://www.iucnredlist.org) Abbreviations refer to: CR, Critically Endangered; EN, Endangered; VU, Vulnerable; NT, Near Threatened; LC, Least Concern; DD, Data Deficient.*





## SUPPORTING INFORMATION

There are additional indications that Penghu Islands may be an important reproductive area for one shark species. Young-of-the-year and juvenile Scalloped Hammerheads are common in fisheries operating in the area. More information is needed to confirm the reproductive importance of the area (H Hsu unpubl. data 2023).

This area may also be important for the range-restricted Taiwanese Wedgefish. Since November 2023, individuals have been recorded from fisheries operating in the area (H Hsu pers. obs. 2024). More information is needed to confirm their regular presence in the area.

Lastly, aggregations of juvenile Spotted Eagle Rays are frequently caught in set nets (pelagic trap net), gillnets, and longlines (H Hsu pers. obs. 2023). More information is needed to confirm the regularity and size of the aggregations and their nature.



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