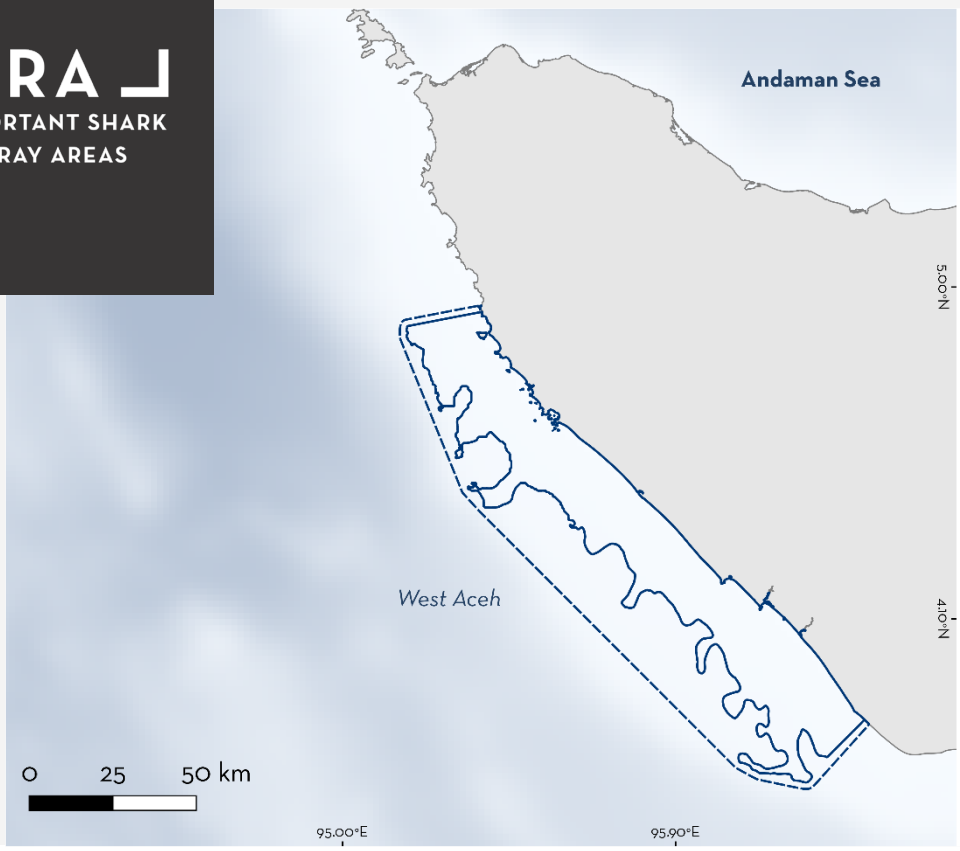
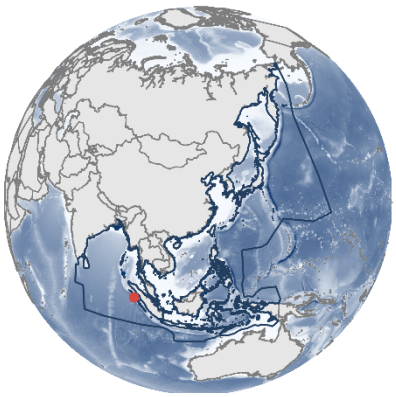
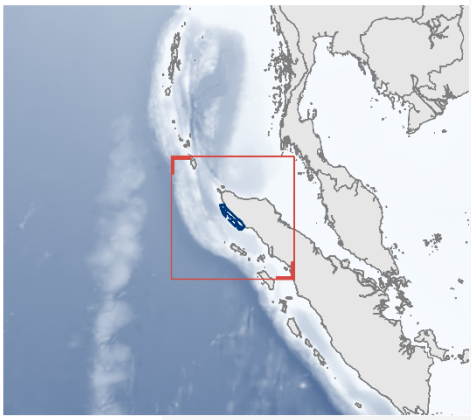
ISRA
IMPORTANT SHARK AND RAY AREAS







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

WEST ACEH ISRA

Asia Region

INDONESIA

0–50 metres

3,812.01 km²

SUMMARY

West Aceh is located on the west coast of Aceh province, Sumatra, Indonesia. The area is characterised by fringing coral reefs, seagrass beds, and mangroves with muddy substrates. The area includes Raya Island. It overlaps with the Aceh Jaya Coastal and Small Island Conservation Area and Surrounding Waters in the Aceh Province marine protected area. Within the area there are: **threatened species** (e.g., Scalloped Hammerhead *Sphyrna lewini*) and **reproductive areas** (e.g., Smoothnose Wedgefish *Rhynchobatus laevis*).

CRITERIA

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

DESCRIPTION OF HABITAT

West Aceh is located on the west coast of Aceh province, Sumatra, Indonesia. It also includes Raya Island situated <1 km from the coast. The area is characterised by muddy substrates, coral reefs, seagrass beds, and mangroves. The muddy substrate can be as deep as 25 cm and can vary as a result of the high wave action which influences the area. The nutrient characteristics of the mud enrich the surrounding environment (Agus et al. 2012). The fringing coral reefs that occupy this area are dominated by the genera *Acropora, Montipora, Pocillopora,* and *Porites* (Rudi 2011). The average percentage coral coverage in the area is >45%, of which ~50% is considered to be in good condition (Fadli et al. 2012).

This Important Shark and Ray Area overlaps with the Aceh Jaya Coastal and Small Island Conservation Area and Surrounding Waters in Aceh Province marine protected area (Database Peraturan 2024).

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

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. These are the Critically Endangered Scalloped Hammerhead (Rigby et al. 2019), Bottlenose Wedgefish (Kyne et al. 2019), and Smoothnose Wedgefish (Kyne & Jabado 2019).

SUB-CRITERION C1 – REPRODUCTIVE AREAS

West Aceh is an important reproductive area for one shark and two ray species.

West Aceh is a breeding ground for Scalloped Hammerheads almost year-round, peaking from April to October, and this is the most landed shark species caught in artisanal fisheries using fixed gillnet and line fishing gear placed in the area (Fajri et al. 2024; BM Simeon pers. obs. 2024). Between 2019–2022, 2,772 neonate Scalloped Hammerheads were landed in the area in 2019 (n = 311), 2020 (n = 393), 2021 (n = 571), and 2022 (n = 1,497). These ranged in size from 42–55 cm total length (TL) which is similar to their known size-at-birth of 42–55 cm TL (Ebert et al. 2021). Pregnant individuals were also often caught by local fishers using fixed gillnet and line fishing gear. Pregnant females were found > 15 nautical miles from the coast of West Aceh, while neonates were found <5 nautical miles and close to the smaller islands that lie off the coast (Fajri et al. 2024; BM Simeon pers. obs. 2024). This demonstrates the regular and predictable use of this area for sustaining Scalloped Hammerheads at early life-cycle stages.

Between 2017–2022, 343 Bottlenose Wedgefish were caught in the area and landed with no clear seasonal pattern. Of these records, 48 were classed as neonate/young-of-the-year (YOY) measuring 40–60 cm TL. The neonates/YOY were recorded in 2019 (n = 8), 2020 (n = 6), 2021 (n = 20), and 2022 (n = 4) (Fajri et al. 2024; BM Simeon pers. obs. 2024). These were determined to be neonates/YOY as the size-at-birth of this species is 46–50 cm TL (Last & Stevens 2009). These were caught in shallow and muddy waters close to the coast (Fajri et al. 2024; BM Simeon pers. obs. 2024).

Observations of Bottlenose Wedgefish at this size and regularity are lower in other adjacent areas (BM Simeon pers. obs. 2024).

Between 2017–2022, 25 Smoothnose Wedgefish were caught and landed in the area with no clear seasonal pattern. Of these records, 21 were classed as neonate/YOY measuring 40–60 cm TL. The neonates/YOY were recorded in 2020 (n = 4), 2021 (n = 10), and 2022 (n = 7) (Fajri et al. 2024; BM Simeon pers. obs. 2024). These were determined to be neonates/YOY as although the size-at-birth for this species is unknown, the closely related Whitespotted Wedgefish *Rhynchobatus djiddensis* has a size-at-birth of ~60 cm TL (Last et al. 2016). These were caught in shallow and muddy waters close to the coast (Fajri et al. 2024). Observations of Smoothnose Wedgefish at this size and regularity are lower in other adjacent areas – it is one of few known locations where neonates/YOY are regularly observed in Asia (BM Simeon pers. obs. 2024).

An additional combined total of 50 Bottlenose Wedgefish and Smoothnose Wedgefish individuals measuring 40–60 cm TL were landed since 2020, however, these data were not separated by species (Fajri et al. 2024; BM Simeon pers. obs. 2024).

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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
SHARKS												
Sphyrna lewini	Scalloped Hammerhead	CR	0–1,043	X		X						
RAYS												
Rhynchobatus australiae	Bottlenose Wedgefish	CR	0–60	X		X						
Rhynchobatus laevis	Smoothnose Wedgefish	CR	0–60	X		X						

SUPPORTING SPECIES

Scientific Name	Common Name	IUCN Red List Category
SHARKS		
Alopias pelagicus	Pelagic Thresher	EN
Carcharhinus amblyrhynchos	Grey Reef Shark	EN
Carcharhinus leucas	Bull Shark	VU
Carcharhinus limbatus	Blacktip Shark	VU
Cephaloscyllium pictum	Painted Swellshark	DD
Galeocerdo cuvier	Tiger Shark	NT
Mitsukurina owstoni	Goblin Shark	LC
Orectolobus leptolineatus	Indonesian Wobbegong	LC
Proscyllium magnificum	Magnificent Catshark	NT
Stegostoma tigrinum	Indo-Pacific Zebra Shark	EN
RAYS		
Gymnura poecilura	Longtail Butterfly Ray	VU
Mobula kuhlii	Shorthorned Pygmy Devil Ray	EN
Rhina ancylostomus	Bowmouth Guitarfish	CR
Rhinoptera jayakari	Oman Cownose Ray	EN

IUCN Red List of Threatened Species Categories are available by searching species names at 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 West Aceh may be important for two range-restricted shark species and reproductive purposes of one shark species.

West Aceh may hold the regular presence of Indonesian Wobbegong *Orectolobus leptolineatus* and Magnificent Catshark *Proscyllium magnificum* as resident range-restricted species. Between 2020–2022, 12 Indonesian Wobbegongs were caught and landed in this area and in 2022, seven Magnificent Catshark were caught (Simeon et al. 2020; BM Simeon pers. obs. 2024). This area is one of a few known locations where the Magnificent Catshark has been recorded (the other main area being the Nicobar and Andaman Islands). Given the rarity of sightings and landings data for this species, West Aceh may be an important area for this range-restricted species. Further, Indonesian Wobbegongs are endemic to Indonesia. Further information is required to show the regularity and predictability of the presence of these species in West Aceh.

Pregnant Bull Sharks measuring >300 cm TL are sometimes caught in the area. Based on fishers' local ecological knowledge and the fishing ground patterns, pregnant Bull Sharks are caught close to Raya Island: a small island located in the covered bay and close to river mouths on Sumatra Island. Thirteen pregnant Bull Sharks were recorded between 2020–2023 (Fajri & BM Simeon pers. obs. 2024). Further information is required to show the regularity and predictability of the importance of this area for reproductive purposes.

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