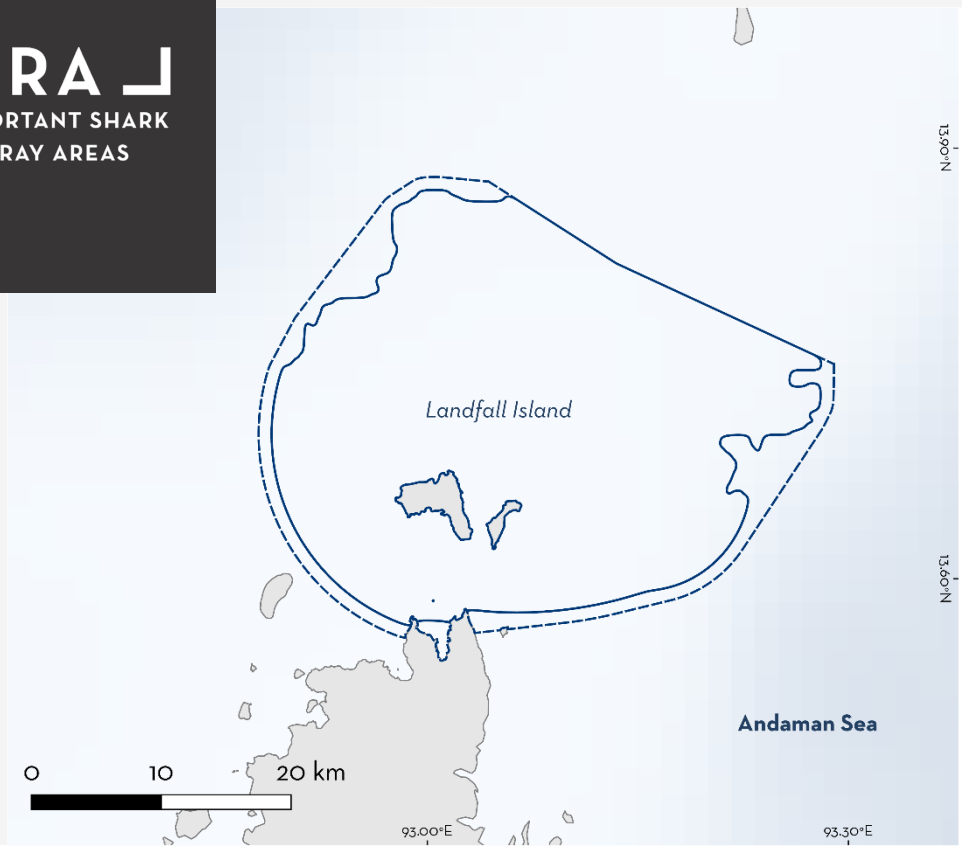
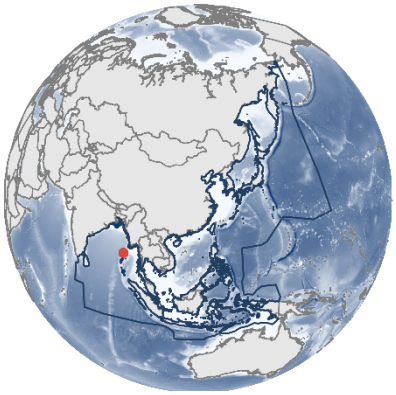
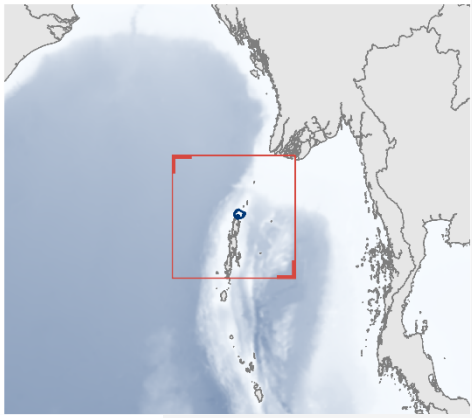
ISRA
IMPORTANT SHARK AND RAY AREAS







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

LANDFALL ISLAND ISRA

Asia Region

INDIA

0–70 metres

946.5 km²

SUMMARY

Landfall Island is the northernmost island of the Andaman and Nicobar Islands, a union territory of India. The area includes Landfall Island and East Island which are separated from the northern end of North Andaman Island by the Cleugh Passage. The area is characterised by mangroves, fringing coral reefs, and seagrass beds, and is under the influence of a monsoonal climate. Within this area there are: **threatened species** (e.g., Grey Reef Shark *Carcharhinus amblyrhynchos*); and **reproductive areas** (e.g., Slender Weasel Shark *Paragaleus longicaudatus*).

CRITERIA

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

DESCRIPTION OF HABITAT

Landfall Island is the northernmost island of the Andaman and Nicobar Islands, a union territory of India. The area includes Landfall Island and East Island which are separated from the northern end of North Andaman Island by the Cleugh Passage, which is ~5 km wide. The Andaman and Nicobar Islands are oceanic islands of the Bay of Bengal along a roughly latitudinal gradient and represent peaks of the submerged mountain range of Arakan-Yoma.

The area is characterised by various habitat types including mangroves, fringing coral reefs, and seagrass beds (Vinithkumar et al. 2008; Ramesh & Mohanraju 2020). The Indian Ocean tsunami of 2004 affected the topography of the Andaman Islands, such that the uplifting of North Andaman Islands was in the order of 30–40 cm at Landfall Island (Rajendran et al. 2007).

Landfall Island is influenced by the heavy southwest monsoon from the end of May to September, as well as intermittent or light to heavy rainfall when the northeast monsoon begins in November (Tyabji et al. 2020).

This Important Shark and Ray Area is benthopelagic and is delineated from inshore and surface waters (0 m) to 70 m based on the bathymetry and the depth range of Qualifying Species in the area.

ISRA CRITERIA

CRITERION A – VULNERABILITY

Two Qualifying Species considered threatened with extinction according to the IUCN Red List of Threatened Species regularly occur in the area. These are the Endangered Grey Reef Shark (Simpfendorfer et al. 2020) and the Vulnerable Slender Weasel Shark (VanderWright et al. 2021).

SUB-CRITERION C1 – REPRODUCTIVE AREAS

Landfall Island is an important reproductive area for two species of shark.

During fish landing surveys carried out in the Andaman Islands between January 2017 and May 2018, and through local ecological knowledge surveys of fishers and traders during January 2017, February 2019, and February 2023, the repeated presence of neonate and pregnant female Grey Reef Sharks and Slender Weasel Sharks caught from the area was documented (Tyabji et al. 2020, 2022; Z Tyabji unpubl. data 2023). Fishers and traders indicate that the presence of these life-stages of both species is a recurring event in the area.

During the fish landing surveys, three pregnant female Grey Reef Sharks were recorded in February 2017 and November 2017, which represented the majority (3 of 4) of the pregnant females recorded from the Andaman Islands. Additionally, 191 neonate Grey Reef Sharks were recorded in January and February 2018, representing 65% of all early life-stages recorded from the Andaman Islands. The pregnant females measured 157.5–186.5 cm total length (TL) and the neonates measured 51.0–63.6 cm TL. Individuals were categorised as neonates based on comparison with the published size-at-birth for this species of 45–64 cm TL (Ebert et al. 2021). Grey Reef Sharks are associated with the reef habitat of the area.

Thirteen pregnant female Slender Weasel Shark measuring 87.5–97.5 cm TL fished from the area were recorded during February 2017 and 2018. Of these, nine pregnant females were caught in February 2017, with seven individuals caught during the same fishing trip, and two individuals landed

the next day, fished from the same location, suggesting that this is an aggregation site for pregnant females. Dissection of two pregnant females revealed three fully developed embryos, measuring 43.5–47.5 cm TL in each female. Four aborted pups, measuring 42.3–45.0 cm TL, were also recorded at the landing site in February 2023. Size-at-birth is not specifically available for this species, but these data suggest it is ~42–48 cm TL. The habitat of the area associated with pregnant female Slender Weasel Shark is muddy mangrove or seagrass ecosystems (not reef associated). Little information is available on the reproductive biology of Slender Weasel Sharks globally and despite the small sample size, these observations are significant.

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Zoya Tyabji (Dalhousie University), Dipani Sutaria (James Cook University), and Peter M Kyne (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.

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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												
Carcharhinus amblyrhynchos	Grey Reef Shark	EN	0–280	X		X						
Paragaleus longicaudatus	Slender Weasel Shark	VU	1–18	X		X						

SUPPORTING SPECIES

Scientific Name	Common Name	IUCN Red List Category
SHARKS		
Carcharhinus albimarginatus	Silvertip Shark	VU
Carcharhinus brevipinna	Spinner Shark	VU
Loxodon macrorhinus	Sliteye Shark	NT
Sphyrna lewini	Scalloped Hammerhead	CR
RAYS		
Himantura leoparda	Leopard Whipray	EN
Himantura uarnak	Coach Whipray	EN
Pateobatis jenkinsii	Jenkins' Whipray	EN
Pateobatis fai	Pink Whipray	VU
Pastinachus ater	Broad Cowtail Ray	VU
Pastinachus gracilicaudus	Narrow Cowtail 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.

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