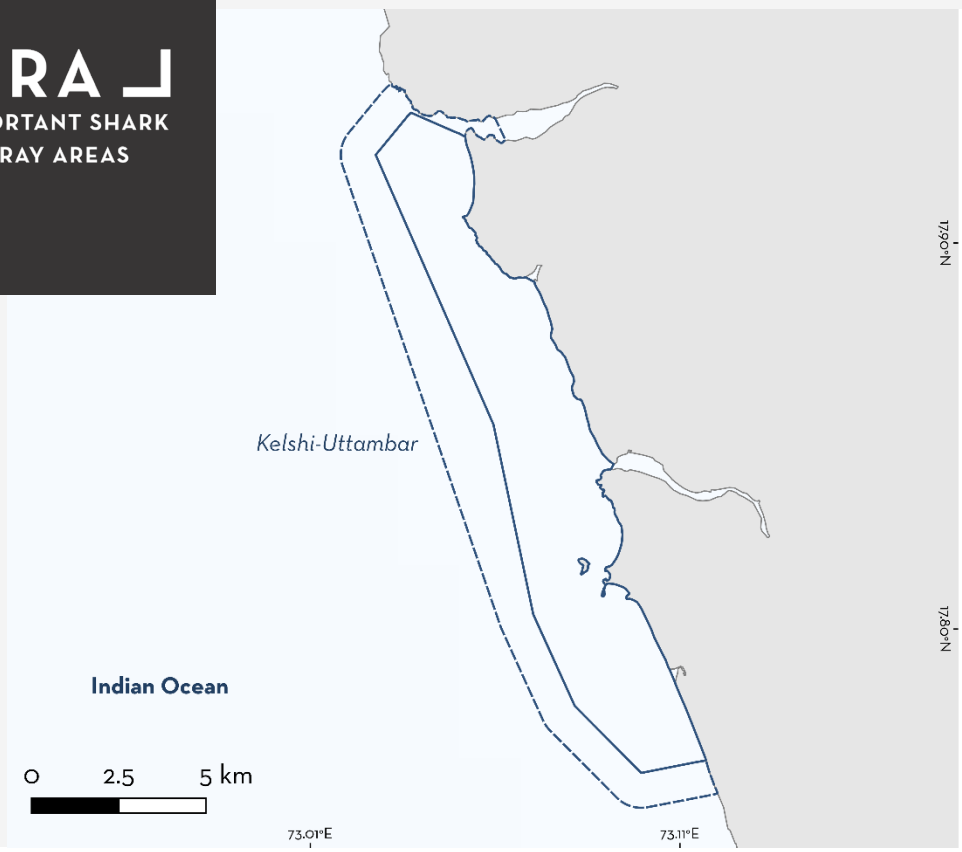
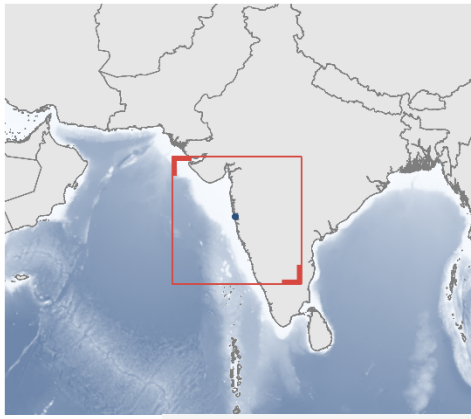
ISRA
IMPORTANT SHARK AND RAY AREAS





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

KELSHI-UTTAMBAR ISRA

Western Indian Ocean Region

INDIA

0–12 metres

50.13 km²

SUMMARY

Kelshi–Uttambar is the northwestern section of the Ratnagiri coast of Maharashtra, India. These nearshore coastal waters are interspersed with diverse habitats including mangroves, estuaries, rocky areas, and extensive sandy shores. Within this area there are: **threatened species** (e.g., Sharpnose Guitarfish *Glaucostegus granulatus*); **range-restricted species** (e.g., Arabian Carpetshark *Chiloscyllium arabicum*); and **undefined aggregations** (e.g., Widenose Guitarfish *Glaucostegus obtusus*).

CRITERIA

Criterion A – Vulnerability; Criterion B – Range Restricted;
Sub-criterion C5 – Undefined Aggregations

DESCRIPTION OF HABITAT

Kelshi-Uttambar is located in northern Ratnagiri, a coastal district along the west coast of India in the State of Maharashtra. The coastline is indented by numerous river mouths, creeks, small bays, headlands, promontories, hillocks, coastal cliffs, and wave-cut platforms (Sathasivam et al. 2021). These features also function as natural breakwaters and effectively moderate tidal and wave conditions to create a mosaic of habitats including sandy beaches, rocky areas, estuaries, and mangrove belts (Qasim & Wafer 1979).

The coast experiences two main climatic conditions: the dry season and the cool wet season (including the monsoons). During the monsoons, the area receives ~3,000 mm of rainfall (Sathasivam et al. 2021), causing heavy sediment runoff from major westward-flowing rivers such as the Savitri. These rivers meet the Arabian Sea to form an estuarine-creek-river complex resulting in extensive tidal mudflats. This has led to the profuse growth of a mangrove ecosystem along these estuarine banks (Rathod & Sapkale 2015). Other habitats such as rocky shores, are outcrops of the foothills of the Sahyadri hill range. These are formed between sandy shores and are made up of eroded cliffs. These wave-cut platforms and vertical cliffs have characteristic 'c' shapes, forming bays (Gole 2006–2007). During low tide, the rocky patches expose large pools containing small patches of coral (Qasim & Wafer 1979). In addition to these small corals, there have been records of sporadic coral patches along the 100 km wide continental slope of the Ratnagiri coast (Qasim & Wafer 1979; Untawale et al. 2000). The area mainly consists of shallow waters of <6 m, with the exception of some small areas where the depths extend to 12 m.

Away from the shoreline, the southwest monsoon winds bring about variations in sea surface temperatures that affect the movement of fish along the coastline (Radhakrishna 1989). Sea surface temperatures, upwelling, and the shoreward uplifting of the minimum oxygen layer in October–November result in the shoreward migration of demersal fish from deeper water (Johannessen et al. 1987; Radhakrishna 1989). The post-monsoon winds cause a peak in plankton production in October–December with a secondary peak of plankton in March (Radhakrishna 1989).

This Important Shark and Ray Area is benthic and is delineated from inshore and surface waters (0 m) to 12 m based on the observed local occurrence of Qualifying Species and the bathymetry of 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 Critically Endangered Sharpnose Guitarfish (Kyne et al. 2022) and Widenose Guitarfish (Kyne & Jabado 2021).

CRITERION B – RANGE RESTRICTED

This area holds the regular presence of Arabian Carpetshark and Sharpnose Guitarfish as resident range-restricted species.

Arabian Carpetsharks occur year-round among rocky patches ~0–3 km offshore at depths <12 m along the coastal belt (AJ Barnes et al. unpubl. data 2023). This species is usually part of the incidental

catch during lobster fishing where fishers have observed them in their traps regularly throughout the year over a 10-year period. This species has also been observed regularly at landings sites during monitoring surveys (AJ Barnes et al. unpubl. data 2023).

Sharpnose Guitarfish appear to be seasonal, with regular occurrences nearshore between June–December, and are also captured in small-scale gear such as shore and beach seines (AJ Barnes et al. unpubl. data 2023). This species forms an assemblage with Widenose Guitarfish and through fisher interviews, eight key respondents have observed these assemblages every year over a 20-year period.

Both Arabian Carpetshark and Sharpnose Guitarfish are restricted to the Arabian Sea Large Marine Ecosystem.

SUB-CRITERION C5 – UNDEFINED AGGREGATIONS

Kelshi–Uttambar is important for undefined aggregations of two species of ray.

Assemblages of Widenose Guitarfish and Sharpnose Guitarfish have been observed seasonally every year for the past two decades along the northern coast of Ratnagiri district. Most of the interviewed fishers (8 of 11) have observed 5 to >20 small individuals (potentially neonates and/or young-of-the-year based on observed sizes, although noting that Sharpnose Guitarfish reach a considerably larger size than Widenose Guitarfish and therefore very small individuals are more likely to be Widenose Guitarfish) in the post-monsoon season (October to December). These observations are typically made in two instances: (1) when currents are cooler during the morning hours, very close to the shore in depths as shallow as 0.15 m, and (2) while hauling in Rampan nets (traditional shore seines that are manually set and dragged by more than four fishers) post-monsoons where >20 individuals have been captured in a single set (AJ Barnes et al. unpubl. data 2023).

The habitat in which these aggregations are found are predominantly sandy/muddy habitats near shore (Kerlekar pers. comm. 2023). These observations are based on a collective assemblage of guitarfishes but landings from within the area confirm that the assemblage is comprised of Sharpnose Guitarfish and Widenose Guitarfish. Further information is required to understand the function of these assemblages.

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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												
Chiloscyllium arabicum	Arabian Carpetshark	NT	2–100		X							
RAYS												
Glaucostegus granulatus	Sharpnose Guitarfish	CR	0–120	X	X					X		
Glaucostegus obtusus	Widenose Guitarfish	CR	0–60	X						X		

SUPPORTING SPECIES

Scientific Name	Common Name	IUCN Red List Category
SHARKS		
Carcharhinus limbatus	Blacktip Shark	VU
Carcharhinus melanopterus	Blacktip Reef Shark	VU
Chiloscyllium griseum	Grey Bambooshark	VU
Rhizoprionodon acutus	Milk Shark	VU
Rhizoprionodon oligolinx	Grey Sharpnose Shark	NT
Scoliodon laticaudus	Spadenose Shark	NT
Sphyrna lewini	Scalloped Hammerhead	CR
RAYS		
Aetobatus ocellatus	Spotted Eagle Ray	EN
Brevitrygon walga	Scaly Whipray	NT
Gymnura poecilura	Longtail Butterfly Ray	VU
Himantura leoparda	Leopard Whipray	EN
Himantura uarnak	Coach Whipray	EN
Maculabatis arabica	Pakistan Whipray	CR
Maculabatis gerrardi	Whitespotted Whipray	EN
Pastinachus sephen	Cowtail Ray	NT
Pateobatis bleekeri	Bleeker's Whipray	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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