

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

## SHIB HABIL ISRA

### Western Indian Ocean Region

#### SUMMARY

Shib Habil is a submerged reef platform located in the central Saudi Arabian Red Sea. It is characterised by sand and silt substrate with mangrove forests and fringing reefs. The reef crests at ~8 m descends to a bottom depth of 25 m on its sheltered side and to ~80 m on its exposed side. Within this area there are: **threatened species** (e.g., Reef Manta Ray *Mobula alfredi*); **feeding areas** (Whale Shark *Rhincodon typus*); and **undefined aggregations** (Reef Manta Ray).

#### CRITERIA

**Criterion A - Vulnerability; Sub-criterion C2 - Feeding Areas; Sub-criterion C5 - Undefined Aggregations**

SAUDI ARABIA

0-80 metres

127.79 km<sup>2</sup>





## DESCRIPTION OF HABITAT

Shib Habil is located in the Red Sea, Saudi Arabia. It is a shallow reef platform off the coastal shelf, with diverse habitats, including mangrove forests and fringing reefs (Cochran et al. 2016). The northern and sheltered sides of the reef platform are exposed to high productivity waters from a large, sheltered mangrove swamp to the north of the reef (Cochran et al. 2019). These enriched waters along with local and mesoscale eddy patterns may influence seasonal blooms of planktonic crustaceans (L Ostrovski unpubl. data 2023). The substrate varies between sand (along the exposed side and in the south), silt (on the northern sheltered side), and small reefs (scattered throughout the area, mostly along the exposed side). Depth varies from 8 m on the reef flat to 25 m on sheltered side and to 80 m on the exposed side.

This Important Shark and Ray Area is benthopelagic and is delineated from inshore and surface waters (0 m) to a depth of 80 m based on the bathymetry of the area.

## ISRA CRITERIA

### CRITERION A - VULNERABILITY

The two Qualifying Species within the area are considered threatened with extinction according to the IUCN Red List of Threatened Species™. The Whale Shark is assessed as Endangered (Pierce & Norman 2016) and the Reef Manta Ray is assessed as Vulnerable (Marshall et al. 2022).

### SUB-CRITERION C2 - FEEDING AREAS

Shib Habil is an important feeding area for one shark and one ray species.

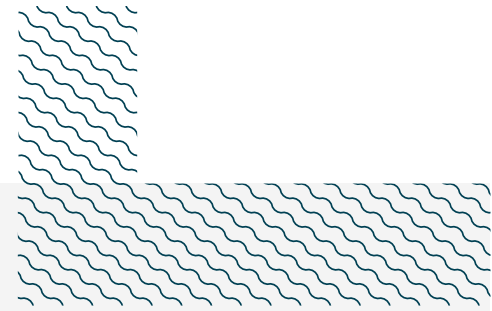
Based on research surveys undertaken since 2010, Whale Sharks aggregate in groups of up to 10 individuals at Shib Habil. However, they are most frequently encountered in groups of 2-4 comprising mostly juveniles and roughly equal numbers of males and females (Cochran et al. 2016). Animals aggregate to feed on seasonal blooms of crustaceous zooplankton (copepods, crab larvae, sergestid shrimp, and euphausiid shrimp; L Ostrovski unpubl. data 2023) in March, April, and May. The seasonal presence of large numbers of juvenile females and the apparent lack of sexual segregation at this site is unique among the known aggregations of Whale Sharks (Cochran et al. 2019). This behaviour is regularly and predictably observed from boat-based surveys that have been conducted in the area in each year from 2010 to 2019 and in 2022. Surveys have included visual census with photo-identification (Cochran et al. 2016), acoustic monitoring (Cochran et al. 2019), and satellite telemetry (Berumen et al. 2014). Photo-identification and acoustic monitoring showed evidence of interannual site fidelity. The combination of these methods points to seasonal immigration, short-term residency (weeks to months), and then emigration when the season ends.

### SUB-CRITERION C5 - UNDEFINED AGGREGATIONS

Shib Habil is an important area for undefined aggregations of one ray species.

Reef Manta Rays have been regularly encountered since 2011 (usually at sunrise or sunset) in a sheltered bay inshore of the area, directly adjacent to the mouth of a large, highly productive mangrove swamp. Acoustic monitoring has shown mobility of nine Reef Manta Rays throughout the

area (Braun et al. 2015). There is no clear seasonal pattern in their presence, but satellite telemetry has shown six tagged animals making extensive use of the depth range of this area (Braun et al. 2014). When basking, Reef Manta Rays are usually encountered singularly, but feeding individuals are usually encountered in groups of 2-3. Further information is required to define the nature and function of these aggregations.



---

### **Acknowledgments**

Jesse EM Cochran (King Abdullah University of Science and Technology), Royale Hardenstine (King Abdullah University of Science and Technology), Camrin Braun (Woods Hole Oceanographic Institution), Eloise B Richardson (King Abdullah University of Science and Technology), Raquel Lubambo Ostrovski (King Abdullah University of Science and Technology), Gregory Skomal (Massachusetts Marine Fishery), Simon Thorrold (Woods Hole Oceanographic Institution), Michael L Berumen (King Abdullah University of Science and Technology), and Ryan Charles (IUCN SSC Shark Specialist Group - ISRA Project) contributed and consolidated information included in this factsheet. We thank all participants of the 2023 ISRA Region 7 - Western Indian Ocean 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. 2023.** Shib Habil ISRA Factsheet. Dubai: IUCN SSC Shark Specialist Group.

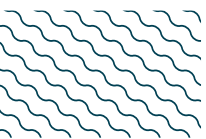
## QUALIFYING SPECIES

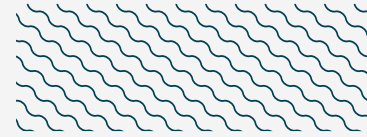
Scientific Name	Common Name	IUCN Red List Category	Global Depth Range (m)	ISRA Criteria/Sub-criteria Met									
				A	B	C1	C2	C3	C4	C5	D1	D2	
<b>SHARKS</b>													
<i>Rhincodon typus</i>	Whale Shark	EN	0-1,928	X			X						
<b>RAYs</b>													
<i>Mobula alfredi</i>	Reef Manta Ray	VU	0-711	X							X		

## SUPPORTING SPECIES

Scientific Name	Common Name	IUCN Red List Category
<b>SHARKS</b>		
<i>Nebrius ferrugineus</i>	Tawny Nurse Shark	VU
<b>RAYS</b>		
<i>Aetobatus ocellatus</i>	Spotted Eagle Ray	EN
<i>Rhinoptera javanica</i>	Javan Cownose Ray	EN
<i>Taeniura lymma</i>	Bluespotted Lagoon Ray	LC

*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.*





## REFERENCES

- Berumen ML, Braun CD, Cochran JE, Skomal GB, Thorrold SR. 2014.** Movement patterns of juvenile whale sharks tagged at an aggregation site in the Red Sea. *PLoS One* 9(7): e103536. <https://doi.org/10.1371/journal.pone.0103536>
- Braun CD, Skomal GB, Thorrold SR, Berumen ML. 2014.** Diving behavior of the reef manta ray links coral reefs with adjacent deep pelagic habitats. *PLoS One* 9(2): e88170. <https://doi.org/10.1371/journal.pone.0088170>
- Braun CD, Skomal GB, Thorrold SR, Berumen ML. 2015.** Movements of the reef manta ray (*Manta alfredi*) in the Red Sea using satellite and acoustic telemetry. *Marine Biology* 162: 2351-2362. <https://doi.org/10.1007/s00227-015-2760-3>
- Cochran JE, Hardenstine RS, Braun CD, Skomal GB, Thorrold SR, Xu K, Genton MG, Berumen ML. 2016.** Population structure of a whale shark *Rhincodon typus* aggregation in the Red Sea. *Journal of Fish Biology* 89: 1570-1582. <https://doi.org/10.1111/jfb.13054>
- Cochran JE, Braun CD, Cagua EF, Campbell Jr MF, Hardenstine RS, Kattan A, Priest MA, Sinclair-Taylor TH, Skomal GB, Sultan S, et al. 2019.** Multi-method assessment of whale shark (*Rhincodon typus*) residency, distribution, and dispersal behavior at an aggregation site in the Red Sea. *PLoS One* 14(9): e.0222285. <https://doi.org/10.1371/journal.pone.0222285>
- Marshall A, Barreto R, Carlson J, Fernando D, Fordham S, Francis MP, Herman K, Jabado RW, Liu KM, Pacoureau N, et al. 2022.** *Mobula alfredi*. *The IUCN Red List of Threatened Species 2022*: e.T195459A214395983. <https://dx.doi.org/10.2305/IUCN.UK.2022-1.RLTS.T195459A214395983.en>
- Pierce SJ, Norman B. 2016.** *Rhincodon typus*. *The IUCN Red List of Threatened Species 2016*: e.T19488A2365291. <https://dx.doi.org/10.2305/IUCN.UK.2016-1.RLTS.T19488A2365291.en>