

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

BOTUBARANI ISRA

Asia Region

SUMMARY

Botubarani is located in the waters from the Gulf of Tomini in Sulawesi, Indonesia. The area is highly influenced by discharge from the Bone Bolango River that, along with eastern monsoon winds, produce high productivity. The area overlaps with the Desa Olele (Bone Bolango) marine protected area. Within the area there are: **threatened species** and **feeding areas** (Whale Shark *Rhincodon typus*).

CRITERIA

Criterion A - Vulnerability; Sub-criterion C2 - Feeding Areas

INDONESIA

0-1,000 metres

171.3 km²



DESCRIPTION OF HABITAT

Botubarani is located in the Gorontalo Province of Sulawesi in Indonesia. It sits in the Gulf of Tomini and is a semi-enclosed area that is highly influenced by discharge from the Bone Bolango River (Kadim et al. 2019; Sahamani et al. 2020). The area includes an estuary and a wide continental shelf with coral reefs that steeply drops to depths >500 m.

East monsoon winds and river discharge produces high productivity from May to September which is also the season with higher abundances of *nike* fishes (*Awaous* sp.) that move between freshwater and marine habitats (Pasingi & Abdullah 2018; Kadim et al. 2019).

The area overlaps with the Desa Olele (Bone Bolango) marine protected area (UNEP-WCMC 2024).

This Important Shark and Ray Area is benthopelagic and is delineated from inshore and surface waters (0 m) to 1,000 m based on the bathymetry of the area.

ISRA CRITERIA

CRITERION A – VULNERABILITY

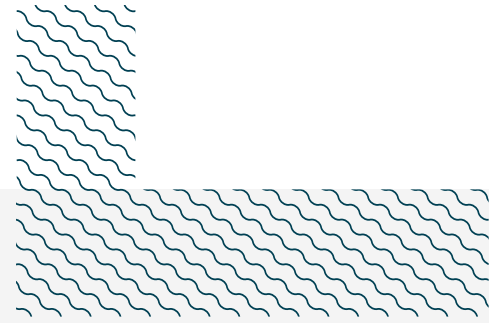
The one Qualifying Species within the area is considered threatened with extinction according to the IUCN Red List of Threatened Species. The Whale Shark is assessed as Endangered (Pierce & Norman 2016).

SUB-CRITERION C2 – FEEDING AREAS

Botubarani is an important feeding area for one shark species.

Aggregations of Whale Sharks have been reported regularly in the area since 2016 (Handoko et al. 2017a, 2017b, 2019; Rosalina et al. 2021; Rombe et al. 2022). The occurrence of these aggregations has been linked to tourist activities providing shrimp heads to attract the sharks and due to the presence of a shrimp processing factory disposing waste into the sea (Handoko et al. 2017a). However, local ecological knowledge from fishers revealed that aggregations have occurred in the area for at least the past 70 years (Handoko et al. 2017a; Monitoring Team Botubarani unpubl. data 2024). Aggregations are composed of juveniles and sub-adults between 300–800 cm total length (TL; mean = 500 cm). To date, 59 individuals have been identified with a maximum of 20 individuals reported in a single day (Rombe et al. 2022; Monitoring Team Botubarani unpubl. data 2023). Whale Sharks occur year-round in Botubarani with a peak in presence from May to August which coincides with the occurrence of the largest biomass of *nike* fish in the area (Pasingi & Abdullah 2018), on which Whale Sharks commonly feed (Rombe et al. 2022; Monitoring Team Botubarani, unpubl. data 2024). *Nike* is a local name for a group of small fishes in their post-larval and juvenile stages (Sahami et al. 2020). These fishes move from marine to estuarine and freshwater habitats and are present in the area from 3–9 days each month during the main fishing season (June to August), usually in the last quarter moon phase towards the new moon (Pasingi & Abdullah 2018; Pasingi et al. 2020; Sahami et al. 2020).





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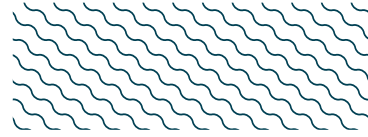
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QUALIFYING SPECIES

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													
<i>Rhincodon typus</i>	Whale Shark	EN	0-1,928	X			X						

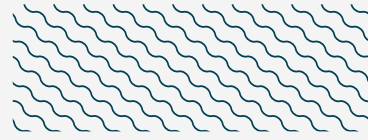
SUPPORTING SPECIES



Scientific Name	Common Name	IUCN Red List Category
SHARKS		
<i>Carcharhinus albimarginatus</i>	Silvertip Shark	VU
<i>Carcharhinus falciformis</i>	Silky Shark	VU
<i>Carcharhinus leucas</i>	Bull Shark	VU
<i>Carcharhinus limbatus</i>	Blacktip Shark	VU
<i>Carcharhinus melanopterus</i>	Blacktip Reef Shark	VU
<i>Triaenodon obesus</i>	Whitetip Reef Shark	VU
RAYS		
<i>Mobula alfredi</i>	Reef Manta Ray	VU
<i>Rhina ancylostomus</i>	Bowmouth Guitarfish	CR

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.





REFERENCES

- Handoko K, Himawan MR, Tani C, Syarifuddin U, Jakasukmana M, Maduppa H, Subhan B. 2017a.** *Hiu paus di pantai Botubarani, Gorontalo*. Maros: Balai Pengelolaan Sumberdaya Pesisir dan Laut Makassar/Whale Shark Indonesia/WWF-Indonesia/Institut Pertanian Bogor.
- Handoko K, Sukmoputro RAI, Himawan MR, Tania C. 2017b.** Characteristics of population hiu paus (*Rhincodon typus*) and pattern of behavior stay at the beach Botubarani, Bone Bolango, Gorontalo. *Coastal and Ocean Journal* 1: 169-178. <https://doi.org/10.29244/COJ.1.2.169-178>
- Handoko K, Sukmoputro RAI, Himawan MR, Tania C. 2018.** Pola kemunculan hiu paus (*Rhincodon typus*) di perairan Botubarani, Gorontalo. *Prosiding Simposium nasional Hiu Pari Indonesia Ke-2 Tahun* 1: 49-56.
- Kadim MK, Pasingi N, Arsad S. 2019.** Horizontal distribution of chlorophyll- α in the Gorontalo Bay. *Nature Environment and Pollution Technology* 18: 1381-1385.
- Pasingi N, Abdullah S. 2018.** Pola kemunculan ikan nike (Gobiidae) di Perairan Teluk Gorontalo, Indonesia. *Depik* 7: 111-118. <https://doi.org/10.13170/depik.7.2.11442>
- Pasingi N, Oliy AH, Habibie SA. 2020.** Morphology and growth pattern of Nike fish (amphidromous goby larvae) in Gorontalo Waters, Indonesia. *Tomini Journal of Aquatic Science* 1: 1-7.
- 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>
- Rosalina D, Arafat Y, Anjaya I, Jamil K. 2021.** Monitoring Hiu Paus (*Rhincodon typus*) di perairan desa Botubarani, Kecamatan Kabila Bone, Kabupaten Bone Bolango, Provinsi Gorontalo. *Aquatic Science* 3: 9-16.
- Rombe KH, Amiluddin M, Surachmat A, Noer A, Rahman A, Rosalina D. 2022.** Monitoring whale shark (*Rhincodon typus*) in Botubarani beach waters, Kabila Bone District, Bone Bolango Regency, Gorontalo Province. *Jurnal Kelautan: Indonesian Journal of Marine Science and Technology* 15: 216-225. <http://doi.org/10.21107/jk.v15i3.14021>
- Sahami FM, Kepel RC, Oliy AH, Pratasik SB, Lasabuda R, Wantasen A, Habibie SA. 2020.** Morphometric and genetic variations of species composers of nike fish assemblages in Gorontalo Bay waters, Indonesia. *Biodiversitas* 21: 4571-4581. <https://doi.org/10.13057/biodiv/d211015>
- United Nations Environment Program-World Conservation Monitoring Centre (UNEP-WCMC). 2024.** Protected area profile for Desa Olele (Bone Bolango) from the World Database on Protected Areas. Available at: <https://www.protectedplanet.net/555511966> Accessed February 2024.