

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

MONAD AND KIMUD SHOALS ISRA

Asia Region

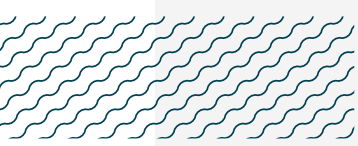
SUMMARY

Monad and Kimud Shoals are located southeast of Malapascua Island in the central Visayan Sea, in the Philippines. The Visayan Sea is a relatively shallow area with frequent wind-driven vertical mixing due to its shallow nature, and land-based nutrient run-off which plays an important role in supplementing the overall primary production. Monad & Kimud Shoals are shallow seamounts, 7 km apart. The tops of the seamounts form a plateau at 15–25 m depths. This area overlaps with the Sulu-Sulawesi Marine Ecoregion Ecologically or Biologically Significant Marine Area, and two marine protected areas. Within this area there are: **threatened species** and **distinctive attributes** (Pelagic Thresher *Alopias pelagicus*).

CRITERIA

Criterion A - Vulnerability; Sub-criterion D1 - Distinctiveness

— —
PHILIPPINES
 — —
0-250 metres
 — —
32.05 km²
 — —





DESCRIPTION OF HABITAT

Monad and Kimud Shoals are located southeast of Malapascua Island in the central Visayan Sea, in the central Philippines. The Visayan Sea is a relatively shallow area (Bacalso et al. 2023). There are no identifiable upwelling mechanisms of deep cold water within the Visayan Sea. However, frequent wind-driven vertical mixing occurs due to its shallow nature, and land-based nutrient run-off plays an important role in supplementing the overall primary production (Cordero-Bailey et al. 2004; Willette et al. 2011). The Visayan Sea has a tropical monsoon climate with only two seasons each year: the dry (boreal winter) season that prevails from November to April, and the rainy (summer) season, extending from May to October (Ha et al. 2012). The surface wind of the Sulu Sea is strongly influenced by the East Asian Monsoon System: northeasterly in winter, southwesterly in summer, and highly variable during the transitional periods (Wyrтки 1961).

Monad and Kimud Shoals are shallow seamounts at 8 and 15 km east from Malapascua Island, respectively. These two seamounts are 7 km apart. The tops of the seamounts form a plateau at 15-25 m depths and drop off to ~250 m in Monad Shoal and ~200 m in Kimud Shoal (Oliver et al. 2011).

This area overlaps with Sulu-Sulawesi Marine Ecoregion Ecologically or Biologically Significant Marine Areas (EBSA; CBD 2024). Monad Shoal and Kimud Shoal are two marine protected areas.

This Important Shark and Ray Area is benthopelagic and is delineated from surface waters (0 m) to 250 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 Pelagic Thresher is assessed as Endangered (Rigby et al. 2019).

SUB-CRITERION D1 – DISTINCTIVENESS

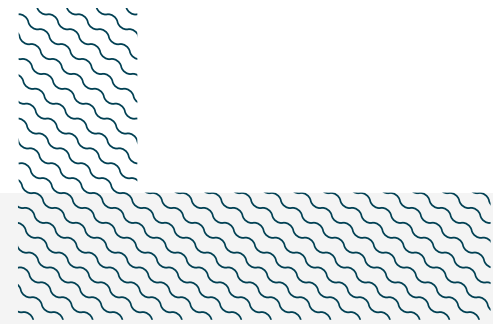
Monad and Kimud Shoals is an important area for distinctive behaviour of one shark species.

From 1,230 hours of observations recorded by remote video camera during 198 days between July 2005 and December 2009, 97 Pelagic Thresher cleaning events were recorded at Monad Shoal (Oliver et al. 2011). Observations of this species interacting with cleaner wrasse fishes (i.e., *Labroides dimidiatus*, *Thalassoma lunare*) at the seamount were recorded at all times of day but their frequency declined gradually from morning until evening. Pelagic Thresher ‘clients’ modified their behaviour by stance ‘circular-stance-swimming’ (i.e., wherein sharks initiate cleaning from cleaner fish species through circular swimming) presumably to facilitate cleaner inspections. Five cleaning stations have been identified ~100 m apart on the southeast section of the plateau. In January 2018, from 68.4 hours of video on the edge of Monad Shoal seamount, 118 cleaning events were recorded (Grepp & Oliver 2018; S Oliver unpubl. data 2023). This cleaning behaviour has also been recorded at Kimud Shoal (S Oliver unpubl. data 2023).

Between June to mid-August 2014, 10 Pelagic Threshers were fitted with acoustic tags and their fine-scale movements monitored for 66 days at Monad Shoal (Oliver et al. 2019). Individuals were present at the seamount for 32% of their days at liberty, and 42% of the tagged sharks were still being

detected there at the end of the study in 2014. Tagged Pelagic Threshers showed preferences for visiting specific locations on the seamount where they interact with cleaner fish.

For the past two decades, Pelagic Threshers have been observed by SCUBA divers being cleaned at Monad Shoal year-around (Oliver et al. 2011, 2019). This distinctive behaviour has been studied since 2007 by the Thresher Shark Research and Conservation Project. This area has been one of the most consistent diving destinations around the world for thresher shark sightings (PADI 2024). Across the Asia region, this behaviour has been reported at only one additional location. In other locations worldwide, this behaviour has only been recorded for this shark species in the Maldives within the Fuvahmulah Atoll ISRA (Jabado et al. 2023).



Acknowledgments

Simon Oliver (The University of Chester; The Thresher Shark Research and Conservation Project), Gary Cases (Project Sharklink), James Brown (The University of Chester), Alp Gokgoz (The University of Chester; The Thresher Shark Research and Conservation Project), Isabelle Faringstam (The Thresher Shark Research and Conservation Project), and Adriana Gonzalez-Pestana (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.

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.

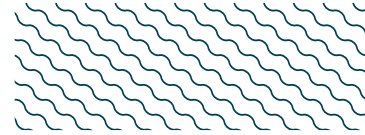
Suggested citation

IUCN SSC Shark Specialist Group. 2024. Monad and Kimud Shoals 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	
SHARKS													
<i>Alopias pelagicus</i>	Pelagic Thresher	EN	0-584	X								X	

SUPPORTING SPECIES

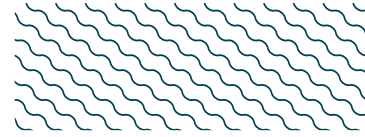


Scientific Name	Common Name	IUCN Red List Category
SHARKS		
<i>Carcharhinus amblyrhynchos</i>	Grey Reef Shark	EN
<i>Carcharhinus plumbeus</i>	Sandbar Shark	EN
<i>Galeocerdo cuvier</i>	Tiger Shark	NT
<i>Rhincodon typus</i>	Whale Shark	EN
<i>Sphyrna lewini</i>	Scalloped Hammerhead	CR
<i>Triaenodon obesus</i>	Whitetip Reef Shark	VU
RAYS		
<i>Mobula birostris</i>	Oceanic Manta Ray	EN
<i>Mobula eregoodoo</i>	Longhorned Pygmy Devil Ray	EN
<i>Mobula kuhlii</i>	Shorthorned Pygmy Devil Ray	EN
<i>Mobula thurstoni</i>	Bentfin Devil Ray	EN

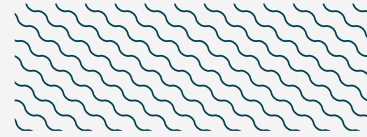
IUCN Red List of Threatened Species Categories are available by searching species names at www.iucnredlist.org. Abbreviations refer to: CR, Critically Endangered; EN, Endangered; VU, Vulnerable; NT, Near Threatened; LC, Least Concern; DD, Data Deficient.



SUPPORTING INFORMATION



There are additional indications that this area might be important for the reproduction of Pelagic Threshers. In April 2013, the first record of a Pelagic Thresher giving birth was documented at Monad Shoal (Oliver & Bicskos-Kaszo 2014). Furthermore, females with distended abdomens (i.e., likely pregnant) have been recorded in this area (S Oliver unpubl. data 2023). However, further information is needed to understand the function and the use of this area as a pupping ground.



REFERENCES

- Bacalso RT, Romagnoni G, Mesa S, Wolff M. 2023.** Annual and seasonal environmental drivers of species-and gear-specific catch rates in the Visayan Sea, Philippines. *Regional Studies in Marine Science* 57: 102734. <https://doi.org/10.1016/j.risma.2022.102734>
- Convention on Biological Diversity (CBD). 2024.** Sulu-Sulawesi Marine Ecoregion. Ecologically or Biologically Significant Areas (EBSAs). Available at: <https://chm.cbd.int/database/record?documentID=237880> Accessed January 2024.
- Cordero-Bailey K, Villanoy C, David L, Silvano K. 2004.** Estimating integrated phytoplankton biomass in the seas around the Philippines. Hainan: Asia-Pacific Economic Cooperation Marine Resource Conservation Working Group, 11th Workshop of 20 OMISAR (WOM-11).
- Grepp H, Oliver SP. 2018.** Cleaning interactions by bluestreak cleaner wrasse (*Labroides dimidiatus*) and moon wrasse (*Thalassoma lunare*) on pelagic thresher sharks (*Alopias pelagicus*). Unpublished Masters Thesis, Uppsala Universitet, Uppsala.
- Ha KJ, Heo KY, Lee SS, Yun KS, Jhun JG. 2012.** Variability in the East Asian monsoon: A review. *Meteorological Applications* 19(2): 200–215. <https://doi.org/10.1002/met.1320>
- Jabado RW, Kyne PM, García-Rodríguez E, Charles R, Armstrong AO, Mouton TL, Gonzalez-Pestana A, Battle-Morera A, Rohner CA. 2023.** Western Indian Ocean: A regional compendium of Important Shark and Ray Areas. Dubai: IUCN SSC Shark Specialist Group. <https://doi.org/10.59216/ssg.isra.2023.r7>
- Oliver SP, Bicskos-Kaszo AE. 2014.** A pelagic thresher shark (*Alopias pelagicus*) gives birth at a cleaning station in the Philippines. *Coral Reefs* 34(1): 17. <https://doi.org/10.1007/s00338-014-1249-8>
- Oliver SP, Hussey NE, Turner JR, Beckett AJ. 2011.** Oceanic sharks clean at coastal seamount. *PLoS One* 6(3): e14755. <https://doi.org/10.1371/journal.pone.0014755>
- Oliver SP, Grothues TM, Williams AL, Cerna V, Silvosa M, Cases G, Reed M, Christopher S. 2019.** Risk and resilience: High stakes for sharks making transjurisdictional movements to use a conservation area. *Biological Conservation* 230: 58–66. <https://doi.org/10.1016/j.biocon.2018.11.013>
- Professional Association of Diving Instructors (PADI). 2024.** Dive with thresher sharks in Malapascua Island, Philippines. Available at: <https://blog.padi.com/dive-with-thresher-sharks-in-the-philippines/> Accessed January 2024.
- Rigby CL, Barreto R, Carlson J, Fernando D, Fordham S, Francis MP, Herman K, Jabado RW, Liu KM, Marshall A, et al. 2019.** *Alopias pelagicus*. *The IUCN Red List of Threatened Species* 2019: e.T161597A68607857. <https://dx.doi.org/10.2305/IUCN.UK.2019-3.RLTS.T161597A68607857.en>
- Willette DA, Bognot EDC, Mutia MTM, Santos MD. 2011.** Biology and ecology of sardines in the Philippines: A review. Quezon: Bureau of Fisheries and Aquatic Resources, National Fisheries Research and Development Institute.
- Wyrtki K. 1961.** Physical oceanography of the South Asian Water: Scientific results of marine investigations of the South China Sea and the Gulf of Thailand, NAGA Rep. 2. La Jolla: Scripps Institution of Oceanography.