

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

MOSO ISLAND ISRA

New Zealand & Pacific Islands Region

SUMMARY

Moso Island is located off the island of Efate in the Republic of Vanuatu. The area is situated in Havana Harbour, a sheltered stretch of water which separates Moso Island from the island of Efate. The climate in Vanuatu is characterised by high rainfall and high temperatures throughout the year, and experiences severe tropical cyclones during the austral summer months (December–February). The habitat of Moso Island is comprised of coral reefs and bommies. Within this area there are: **threatened species** and **undefined aggregations** (Spinetail Devil Ray *Mobula mobular*).

CRITERIA

Criterion A - Vulnerability; Sub-criterion C5 - Undefined Aggregations

— —
VANUATU
 — —
0-35 metres
 — —
0.23 km²
 — —





DESCRIPTION OF HABITAT

Moso Island is located off the island of Efate in the Republic of Vanuatu. The area is situated in Havana Harbour, a sheltered stretch of water which separates Moso Island from the island of Efate. The climate in Vanuatu is characterised by high rainfall and high temperatures throughout the year, and experiences severe tropical cyclones during the summer months of December-February (Walshe et al. 2017). The area runs parallel to the beach on the southern side of Moso Island, and starts from ~10 m depth extending down the slope to ~35 m depth (M Burbeary pers. obs. 2024). Moso Island is characterised by coral reefs and bommies which host cleaner fish.

This Important Shark and Ray Area is benthic and pelagic and is delineated from inshore and surface waters (0 m) to 35 m based on the bathymetry of the area.

ISRA CRITERIA

CRITERION A - VULNERABILITY

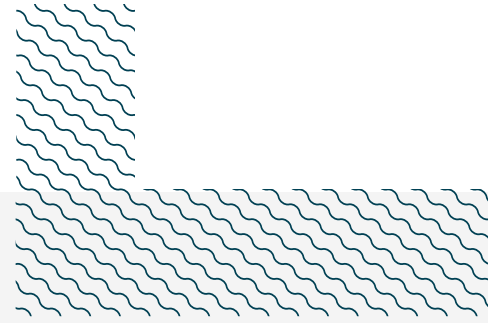
One Qualifying Species considered threatened with extinction according to the IUCN Red List of Threatened Species regularly occurs in the area. This is the Endangered Spinetail Devil Ray (Marshall et al. 2022).

SUB-CRITERION C5 - UNDEFINED AGGREGATIONS

Moso Island is an important area for undefined aggregations of one ray species.

Spinetail Devil Rays have been observed regularly and predictably using this area as a cleaning station. The occurrence of these aggregations is supported by local ecological knowledge from recreational divers regularly visiting the area. Between June 2020 and April 2021, ~70 dives were conducted in the area (every ~2 weeks year-round), and Spinetail Devil Rays were observed cleaning on every dive (M Burbeary pers. obs. 2024). Divers recorded aggregations of 10-15 individuals on average, but >30 individuals have been observed on occasion. Aggregations of Spinetail Devil Rays have been observed year-round indicating no seasonality in the importance of the area (M Burbeary pers. obs. 2024). Mobulid rays are known to aggregate for a range of reasons, including attending cleaning stations (Palacios et al. 2023). Between 2022-2024, the dive operator has been going less frequently to the area, however, still report predictably encountering Spinetail Devil Rays (O Drew pers. comm. 2024). Moso Island is an important area for Spinetail Devil Rays as it is the only location in Vanuatu where the species is regularly and predictably reported.





Acknowledgments

Mick Burbeary (Turtle Bay Lodge) and Asia O Armstrong (IUCN SSC Shark Specialist Group - ISRA Project) contributed and consolidated information included in this factsheet. We thank all participants of the 2024 ISRA Region 10 - New Zealand and Pacific Islands 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. Moso Island ISRA Factsheet. Dubai: IUCN SSC Shark Specialist Group.

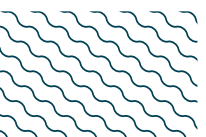
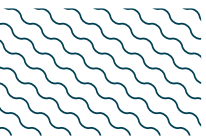
QUALIFYING SPECIES

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
RAYS												
<i>Mobula mobular</i>	Spinetail Devil Ray	EN	0-1,112	X						X		

SUPPORTING SPECIES

Scientific Name	Common Name	IUCN Red List Category
RAYS		
<i>Mobula alfredi</i>	Reef Manta Ray	VU

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

Marshall A, Barreto R, Carlson J, Fernando D, Fordham S, Francis MP, Herman K, Jabado RW, Liu KM, Rigby CL, et al. 2022. *Mobula mobular* (amended version of 2020 assessment). *The IUCN Red List of Threatened Species* 2022: e.T110847130A214381504. <https://dx.doi.org/10.2305/IUCN.UK.2022-1.RLTS.T110847130A214381504.en>

Palacios MD, Stewart JD, Croll DA, Cronin MR, Trejo-Ramírez A, Stevens GM, Lezama-Ochoa N, Zilliacus KM, González-Armas R, Notarbartolo di Sciara G, et al. 2023. Manta and devil ray aggregations: conservation challenges and developments in the field. *Frontiers in Marine Science* 10: 1148234. <https://doi.org/10.3389/fmars.2023.1148234>

Walshe RA, Chang Seng D, Bumpus A, Auffray J. 2018. Perceptions of adaptation, resilience and climate knowledge in the Pacific: The cases of Samoa, Fiji and Vanuatu. *International Journal of Climate Change Strategies and Management* 10(2): 303–322. <https://doi.org/10.1108/IJCCSM-03-2017-0060>