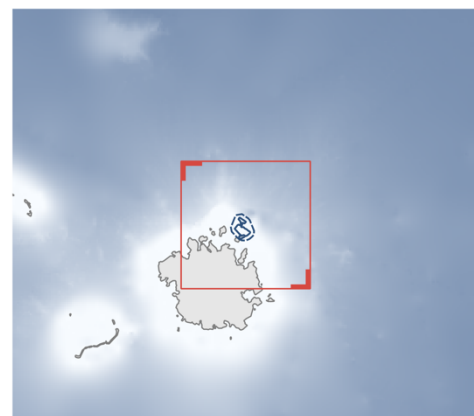
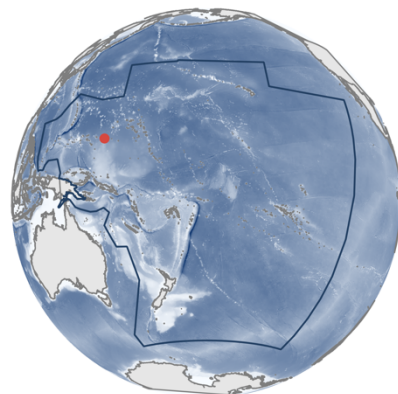
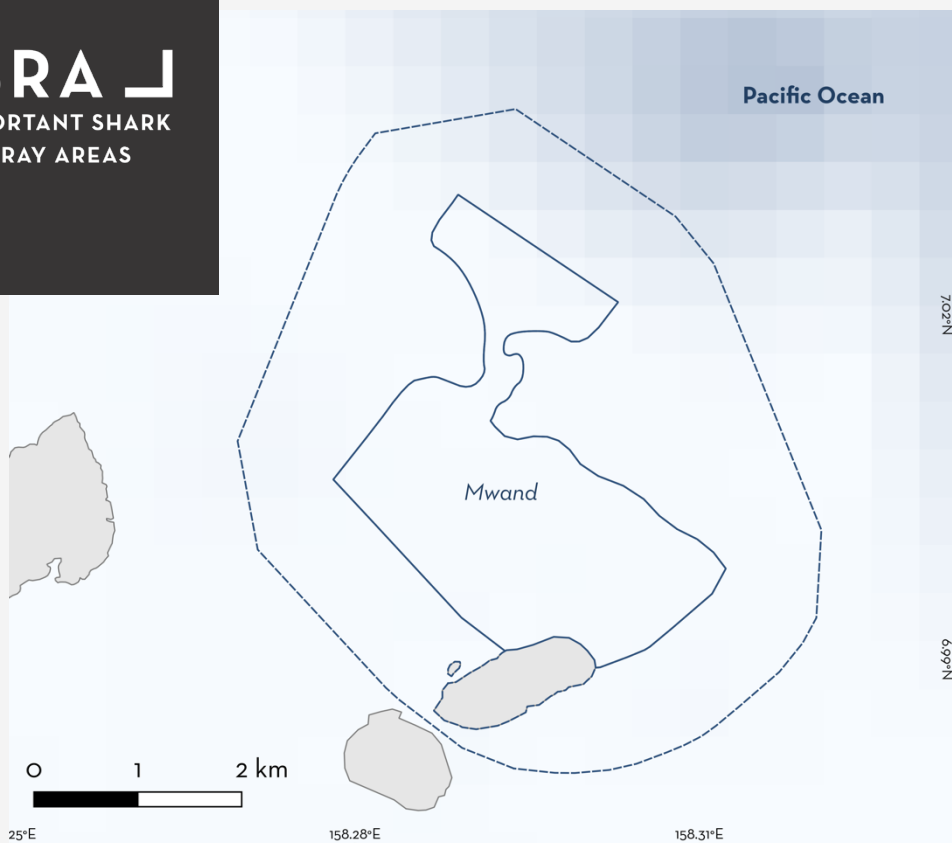




Blue lines indicate the area meeting the ISRA Criteria; dashed lines indicate the suggested buffer for use in the development of appropriate place-based conservation measures

MWAND ISRA

New Zealand & Pacific Islands Region

SUMMARY

Mwand is located off the island of Pohnpei in the Federated States of Micronesia. The area includes a channel from the outer reef to the lagoon, with habitat features consisting of coral reef. During certain tidal regimes zooplankton is concentrated at the northern end of the area. This area is within the Mwand Marine Protected Area. Within this area there are: **threatened species, reproductive areas, feeding areas, and undefined aggregations** (Reef Manta Ray *Mobula alfredi*).

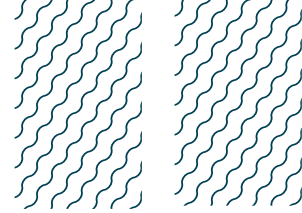
CRITERIA

Criterion A - Vulnerability; Sub-criterion C1 - Reproductive Areas;
Sub-criterion C2 - Feeding Areas; Sub-criterion C5 - Undefined Aggregations

FEDERATED
STATES OF
MICRONESIA

0-42 metres

7.12 km²



DESCRIPTION OF HABITAT

Mwand is located in the north of Pohnpei in the Federated States of Micronesia. Pohnpei is surrounded by a discontinuous barrier reef surrounding a lagoon (Rowley et al. 2019). The area includes a channel from the outer reef to the lagoon, with habitat features consisting of coral reef. Pohnpei is a volcanic island with high elevation and dense vegetation, resulting in high annual precipitation levels (Rowley et al. 2019), with runoff influencing the surrounding reefs and lagoon. During certain tidal phases, zooplankton-rich water gets trapped in the channel, creating a high concentration of planktonic food at the northern end of the channel where it intersects with an opening into the lagoon area (J Hartup pers. obs. 2024).

Mwand is located within the Mwand Marine Protected Area (Weeks 2015).

This Important Shark and Ray Area is benthopelagic and is delineated from inshore and surface waters (0 m) to 42 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 Vulnerable Reef Manta Ray (Marshall et al. 2022).

SUB-CRITERION C₁ – REPRODUCTIVE AREAS

Mwand is an important reproductive area for one ray species.

Between 2013–2024, 188 scientific surveys were conducted around Pohnpei and 263 observations of Reef Manta Rays were recorded (Micronesian Conservation Coalition [MCC] unpubl. data 2024). Of these surveys, 100 were undertaken in the area, with 210 observations of Reef Manta Rays recorded (76.8% total observations; MCC unpubl. data 2024). Survey effort was highest between March–June when the winds are gentler, but it is suspected the aggregation in this area is year-round. Photo identification identified 75 individual Reef Manta Rays (31 males, 44 females) around Pohnpei, with over 75% (n = 57) of individuals resighted at least once, and half of those individuals resighted 4–11 times (MCC unpubl. data 2024). Based on clasper development, four young-of-the-year (YOY) or juvenile Reef Manta Rays were also recorded from the area, (Marshall & Bennett 2010). However, several of the adult rays were previously recorded as YOY or juvenile in the area and have since matured (J Hartup pers. obs. 2024). Four females (9.1%) have been documented pregnant at the site based on visually distended abdomens and four additional females (9.1%) were documented with mating scars. Early courtship behaviour has been observed approximately 10 times in the area, where a male nudges the female or follows closely (Stevens 2016). Only two other pregnancies have been recorded around Pohnpei, highlighting the importance of the area for reproduction.

SUB-CRITERION C₂ – FEEDING AREAS

Mwand is an important feeding area for one ray species.

Between 2010–2024, Reef Manta Rays in the area were observed 73 times engaged in somersault,

line, and vertical feeding behaviours, depending on how the food was stratified through the water column (MCC unpubl. data 2024). This represents 30.2% of all sightings (n = 242). Aggregations range between 2-12 rays, with an average of 4-5 individuals. Blue and Gold Fusilier *Caesio caerulaurea* are often seen feeding alongside the Reef Manta Rays in dense concentrations of zooplankton (J Hartup pers. obs. 2024). Reef Manta Rays were observed in the area year-round, with survey effort highest between March-June after the windy season.

SUB-CRITERION C5 – UNDEFINED AGGREGATIONS

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

Scientific surveys of the area commenced in 2013 and identified two cleaning areas for Reef Manta Rays (MCC unpubl. data 2024). A total of 167 observations of Reef Manta Rays have been documented attending cleaning stations in the area, lasting several minutes to over an hour, with numbers ranging between 1-13 individuals per observation (average = 4-5 individuals). Sometimes Reef Manta Rays were observed travelling between the cleaning stations and surface feeding in the reef channels of the area. The frequency of encounters increased after the windy season (March-June) when Reef Manta Rays are more coastal (J Hartup pers. obs. 2024).

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Julie Hartup (Micronesian Conservation Coalition; Manta Trust), Eugene Joseph (Conservation Society of Pohnpei), Selino Maxin (Conservation Society of Pohnpei), Eugene Eperiam (Pohnpei Resource and Development), 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.

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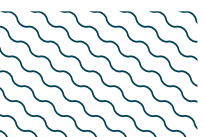
QUALIFYING SPECIES

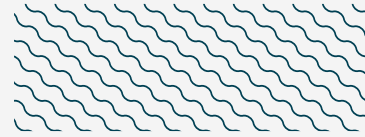
Scientific Name	Common Name	IUCN Red List Category	Global Depth Range (m)	ISRA Criteria/Sub-criteria Met								
				A	B	C1	C2	C3	C4	C5	D1	D2
RAYS												
Mobula alfredi	Reef Manta Ray	VU	0-711	X		X	X			X		

SUPPORTING SPECIES

Scientific Name	Common Name	IUCN Red List Category
SHARKS		
<i>Carcharhinus amblyrhynchos</i>	Grey Reef Shark	EN
<i>Sphyrna lewini</i>	Scalloped Hammerhead	CR
<i>Triaenodon obesus</i>	Whitetip Reef Shark	VU
RAYs		
<i>Aetobatus ocellatus</i>	Spotted Eagle 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.





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