

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

## YAUKUVE LAILAI ISRA

### New Zealand & Pacific Islands Region

#### SUMMARY

Yaukuve Lailai is located in the northern region of Kadavu Province in Fiji. The area lies near a small island surrounded by a shallow sloping fringing reef. It is in the lee of the predominant east to southeasterly winds, which seasonally increase in strength from April-October. Within this area there are: **threatened species** and **feeding areas** (Reef Manta Ray *Mobula alfredi*).

#### CRITERIA

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

—	—
<b>FIJI</b>	—
—	—
<b>0-25 metres</b>	—
—	—
<b>1.19 km<sup>2</sup></b>	—
—	—





## DESCRIPTION OF HABITAT

Yaukuve Lailai is located near a small island in the north Kadavu region of Fiji. The area lies within a large lagoon (~10 by 30 km) created by the Great Astrolabe Reef. Yaukuve Lailai Island is surrounded by a shallow fringing reef that slopes to ~20 m before turning into a sloping soft sediment habitat (L Gordon pers. obs. 2024). Winds in Fiji are seasonally stronger during April–October and blow from the east and southeast (Kumar & Prasad 2010). The area lies on the western leeward side of the island which is sheltered from the wind for much of the year. Its location is a likely driver of the seasonally high zooplankton abundance in the area during April–October (L Gordon pers. obs. 2024).

This area overlaps with the Kadavu and the Southern Lau Region Ecologically or Biologically Significant Marine Area (EBSA; CBD 2024).

This Important Shark and Ray Area is benthopelagic and is delineated from surface waters (0 m) to a depth of 25 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).

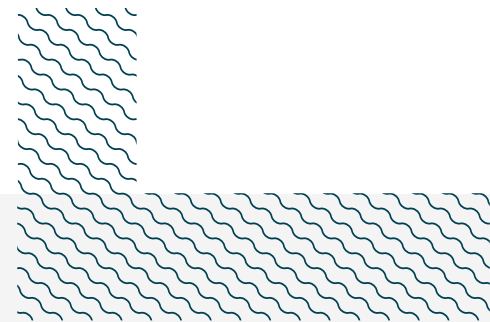
### SUB-CRITERION C2 – FEEDING AREAS

Yaukuve Lailai is an important feeding area for one ray species.

Reef Manta Rays regularly feed in this area in large groups. Between 2019–2024, a total of 194 snorkel surveys were conducted, recording 1,720 Reef Manta Ray sightings of 142 different individuals identified using photographic records (Gordon et al. 2023; Manta Project Fiji unpubl. data 2024). Surveys were concentrated between April–October when environmental conditions favour feeding events (Gordon et al. 2023). Strong southeasterly winds during this time are likely to bring cooler, nutrient dense water into the shallow lagoonal areas in the north Kadavu region, resulting in increased zooplankton abundance in the area (Gordon et al. 2023). Reef Manta Rays are sighted on 92% (n = 178) of snorkel surveys in this area (Gordon et al. 2023; Manta Project Fiji unpubl. data 2024). Most sightings are recorded between April–October with a peak between June–August. Reef Manta Rays aggregate in the area to feed in dense zooplankton patches that form on the leeward side of the island. Group size ranges from 2–68 individuals (mean = 10.5) (Manta Project Fiji unpubl. data 2024). Most sightings (~83%) recorded feeding as their behaviour, and in 2023, that proportion was 96% (Gordon et al. 2023; Manta Project Fiji unpubl. data 2024). Reef Manta Rays engage in various feeding strategies (surface feeding, somersault feeding, chain feeding, piggyback feeding, sideways feeding, and cyclone feeding), often switching from one strategy to another during the same feeding event (L Gordon pers. obs. 2023). Reef Manta Rays display high site fidelity, with 85% of individuals resighted in more than one year and 73% seen in more than two years (Manta Project Fiji unpubl. data 2024).

In addition to snorkel surveys, 36 acoustic tags were deployed on Reef Manta Rays in the wider region, with a receiver station placed in Yaukuve Lailai between August 2019 and November 2021. Acoustic detections confirmed the seasonality in the use of this area, with detections concentrated

during April–October and only sporadic detections at other times. The receiver at Yaukuve Lailai recorded the second-most detections of the 15 receivers in the region, with ~77,000 detections of 32 tagged individuals (Manta Project Fiji unpubl. data 2024), highlighting the frequent use of the area by Reef Manta Rays.



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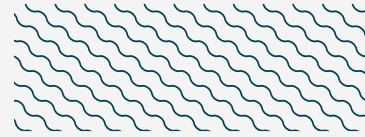
### **Suggested citation**

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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
<b>RAYS</b>												
<i>Mobula alfredi</i>	Reef Manta Ray	VU	0-711	X			X					

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

**Convention on Biological Diversity (CBD). 2024.** Kadavu and the Southern Lau Region. Ecologically or Biologically Significant Areas (EBSAs). Available at: <https://chm.cbd.int/database/record?documentID=200038> Accessed July 2024.

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**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* (amended version of 2019 assessment). *The IUCN Red List of Threatened Species* 2022: e.T195459A214395983. <https://dx.doi.org/10.2305/IUCN.UK.2022-1.RLTS.T195459A214395983.en>