

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

## SOUTH MAUI ISRA

### New Zealand & Pacific Islands Region

#### SUMMARY

South Maui is located in the Hawaiian Islands of the United States of America. The area is situated on the western coastline of Maui and overlaps the Kihei reef tract and is characterised by relatively high levels of coral cover and complex topography. Within this area there are: **threatened species** and **reproductive areas** (Reef Manta Ray *Mobula alfredi*).

#### CRITERIA

**Criterion A - Vulnerability; Sub-criterion C1 - Reproductive Areas**

—	—
<b>HAWAII</b>	—
—	—
<b>0-30 metres</b>	—
—	—
<b>15.69 km<sup>2</sup></b>	—
—	—





## DESCRIPTION OF HABITAT

South Maui is located in the Hawaiian Islands of the United States of America. The area is situated along the western coastline of Maui. Within the area is the Kihei reef tract: a linear reef extending from Mā'alaea Bay on the north to Wailea in the south (Field et al. 2019). Bands of relatively high coral coverage are found close to shore off central and north Kihei and are not continuous into deeper water. In deeper water in Mā'alaea Bay and off south Kihei, there are large areas of high coral cover on complex topography (Golden et al 2015). Mā'alaea Bay is largely a carbonate sediment-filled embayment with well-developed coral ridges in the outer part of the southern half of the bay.

This Important Shark and Ray Area is benthic and pelagic and is delineated from inshore and surface waters (0 m) to 30 m based on the bathymetry of the area.

## ISRA CRITERIA

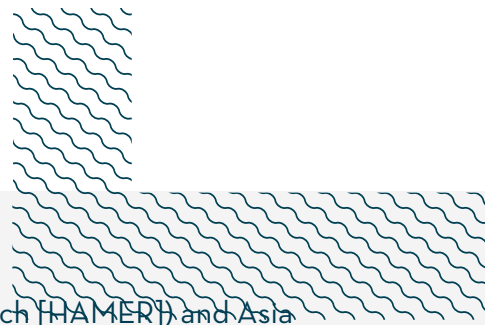
### CRITERION A - VULNERABILITY

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 C<sub>1</sub> - REPRODUCTIVE AREAS

South Maui is an important reproductive area for one ray species.

Between 2006–2023, scientific surveys recorded 226 sightings of Reef Manta Rays in the area, comprising 117 individuals identified using photographic identification (MH Deakos unpubl. data 2024). Of these, 17 individuals were measured using paired laser photogrammetry between 2015–2018, with an average disc width (DW) of 230 cm (MH Deakos unpubl. data 2024). Most (58.8%, n = 10) measured individuals were neonates/young-of-the-year (YOY), measuring 196–229 cm DW (mean = 212 cm DW). The reported size-at-birth for this species in the wild is 130–150 cm DW (Marshall et al. 2022), and a Reef Manta Ray born at 182 cm DW in aquaria measured 261 cm DW at 10 months-old (Nozu et al. 2017; Murakumo et al. 2020). Considering the size-at-birth and this rapid initial growth, we considered all individuals  $\leq 230$  cm DW to be YOY. This area has global importance given the rarity in the regular and predictable presence of early life stage Reef Manta Rays at most aggregation sites (Setyawan et al. 2022). Feeding behaviour has been recorded in the area, potentially an indicator of this being an important foraging habitat for these young animals, however, more information is needed to confirm this. Six of the size measured Reef Manta Rays were tagged with GPS satellite trackers (duration 4–19 days) and revealed site fidelity to South Maui by these young rays (MH Deakos unpubl. data 2024), supporting the importance of the area to early life stages for this species.



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Mark H Deakos (Hawaii Association for Marine Education and Research [HAMER]) 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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### **Suggested citation**

**IUCN SSC Shark Specialist Group. 2024.** South Maui ISRA Factsheet. Dubai: IUCN SSC Shark Specialist Group.

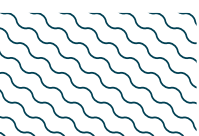
## QUALIFYING SPECIES

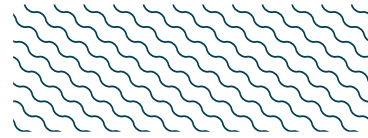
Scientific Name	Common Name	IUCN Red List Category	Global Depth Range (m)	ISRA Criteria/Sub-criteria Met							
				A	B	C1	C2	C3	C4	C5	D1
<b>RAYS</b>											
<i>Mobula alfredi</i>	Reef Manta Ray	VU	0-711	X		X					

## SUPPORTING SPECIES

Scientific Name	Common Name	IUCN Red List Category
<b>SHARKS</b>		
<i>Galeocerdo cuvier</i>	Tiger Shark	NT
<b>RAYs</b>		
<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](http://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 may be important for reproduction and undefined aggregations of one shark species.

Acoustic telemetry monitoring of 20 Tiger Sharks tagged in Maui between 2013–2015 revealed the presence of potential aggregations in the area (Meyer et al. 2018). Most tagged Tiger Sharks were mature females and were detected on >90% of monitored days in the area, year-round and across multiple locations. Further, multiple sharks were detected on a single day on 51% of monitored days. Additionally, Tiger Sharks (n = 7) tagged in O’ahu and French Frigate Shoals in 2009 and between 2013–2015 were also detected in the area (Meyer et al. 2009, Papastamatiou et al. 2013). These individuals were detected in Southwest Maui between October and March (with a peak in January) which overlaps with the mating and pupping season for the species (Whitney & Crow 2007). Further information is required to understand the regularity and function of vital life-history activities.



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