

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

## CONFLICT ISLANDS ISRA

### New Zealand & Pacific Islands Region

#### SUMMARY

Conflict Islands is located within the Louisiade Archipelago southeast of mainland Papua New Guinea. The area encompasses 21 islands within the atoll and neighbouring submerged reefs with a diversity of habitats including reef flats, seagrass beds, a sandy lagoon, drop-off reefs, and submerged reef pinnacles. Within this area there are: **threatened species** (e.g., Blacktip Reef Shark *Carcharhinus melanopterus*); **range-restricted species** (Michael's Epaulette Shark *Hemiscyllium michaeli*); **reproductive areas** (e.g., Grey Reef Shark *Carcharhinus amblyrhynchos*); **feeding areas** (e.g., Blacktip Reef Shark); and **undefined aggregations** (e.g., Reef Manta Ray *Mobula alfredi*).

#### CRITERIA

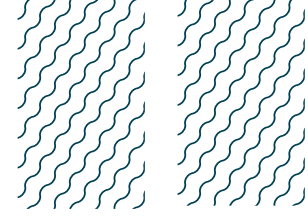
**Criterion A - Vulnerability; Criterion B - Range Restricted;**  
**Sub-criterion C1 - Reproductive Areas; Sub-criterion C2 - Feeding Areas;**  
**Sub-criterion C5 - Undefined Aggregations**

PAPUA NEW  
 GUINEA

0-50 metres

254.3 km<sup>2</sup>





## DESCRIPTION OF HABITAT

Conflict Islands is located within the Louisiade Archipelago in the Milne Bay province of Papua New Guinea. This area consists of 21 islands and is ~152 km southeast of mainland Papua New Guinea, bordered by the Solomon Sea. The atoll has a distinctive teardrop-shaped, ring-like structure with a central lagoon that is 21 km long and 14 km wide at its longest extremities. The lagoon is surrounded by a coral reef, with its crests often very shallow and sometimes exposed at low tides (H Versace & J Blakeway pers. obs. 2024). The outer reef crest slopes steeply, descending rapidly to depths of 300 m and further to >1,000 m depending on the distance from the atoll's perimeter, however, within the area the slope is up to 50 m depth. The atoll is located 40 km from the Jomard Passage, a significant transoceanic ocean passage, which influences its oceanographic characteristics (Cravatte et al. 2011). The area is characterised by diverse habitats including deep drop-off reefs, an inner lagoon area, coral reef flats, and seagrass beds. Within the lagoon, sandy slopes descend to a maximum depth of ~40 m. The lagoon also contains small areas of seagrass beds and submerged reef pinnacles scattered throughout its interior (H Versace & J Blakeway pers. obs. 2024). Channels and passages facilitate water exchange between the lagoon and the open ocean (H Versace & J Blakeway pers. obs. 2024).

This Important Shark and Ray Area is benthic and pelagic and is delineated from inshore and surface waters (0 m) to 50 m based on the bathymetry of the area.

## ISRA CRITERIA

### CRITERION A – VULNERABILITY

Four Qualifying Species considered threatened with extinction according to the IUCN Red List of Threatened Species regularly occur in the area. These are the Endangered Grey Reef Shark (Simpfendorfer et al. 2020a); and the Vulnerable Blacktip Reef Shark (Simpfendorfer et al. 2020b), Michael's Epaulette Shark (VanderWright et al. 2021), and Reef Manta Ray (Marshall et al. 2022).

### CRITERION B – RANGE RESTRICTED

Conflict Islands holds the regular and predictable presence of Michael's Epaulette Shark as a resident range-restricted species. Between 2017–2020, volunteers and Conflict Island Conservation Initiative (CICI) rangers conducted diving and snorkelling activities weekly from October–May. This species was regularly observed between 4–20 m in the area during night dives and snorkelling activities, especially at Gabugabutau (within the area) where Michael's Epaulette Shark are encountered on most dives (H Versace pers. obs. 2024). Persistent southeasterly winds from June–October limit the opportunity for in-water activities, making sightings more frequent during the October–May period (H Versace pers. obs. 2024). Since 2017, when conducting island-based turtle surveys during the months of October–March rangers often observe walking sharks in the shallows (H Versace pers. obs. 2024).

In February 2020, a pilot study conducted with dive surveys of one hour (n = 6), recorded 14 sightings in the area, with nine individuals confirmed via photo-identification (J Blakeway unpubl. data 2020). Since June 2024, a total of 83 walking sharks have been caught and subsequently photographed during dedicated surveys. Using photo-ID, 76 individuals ranging in size between 20–80.2 cm total length (TL) were recorded (J Blakeway unpubl. data 2024). Size-at-birth for the species is <20 cm TL (Ebert et al. 2021). There were four photo-ID recaptures of Michael's Epaulette Shark recorded

within the area (J Blakeway unpubl. data 2024). Michael's Epaulette Shark does not occur in any Large Marine Ecosystem and is endemic to the Milne Bay and Oro provinces of Papua New Guinea (VanderWright et al. 2022).

## SUB-CRITERION C1 – REPRODUCTIVE AREAS

Conflict Islands is an important reproductive area for two shark species.

Grey Reef Shark pups are regularly seen in the area (H Versace & J Blakeway pers. obs. 2024). Between 2018–2024, aggregations of small Grey Reef Sharks were observed each year seasonally from August–November during recreational dives in the area. Recreational dives at 12 m depth were conducted in the area monthly, with sightings of neonate or young-of-the-year (YOY) Grey Reef Sharks occurring in 85% of the dives during the season. Aggregations of up to 60 neonate/YOY individuals have been observed by divers at the drop-off on the north side of Irai, within the area. Visually estimated sizes ranged from 45–60 cm TL (H Versace & J Blakeway pers. obs. 2024). Size-at-birth for this species is 45–64 cm TL (Ebert et al. 2021), providing support for these observations as neonate/YOY. Adult individuals are also seen in the area, but neonates and YOY are observed mainly in the waters surrounding Irai Island between November–January (H Versace pers. obs. 2024). Pregnant females are observed during 30–40% of the dives between March–November within large groups of adult individuals (H Versace pers. obs. 2024). Additionally, in 2020, 45 Baited Remote Underwater Video Station (BRUVS) surveys were undertaken in the area during February and March. Preliminary analysis shows that YOY Grey Reef Sharks were recorded on at least four instances with between one to three YOY individuals in the same frame, however, measurements of individuals recorded by BRUVS are still pending (H Versace unpubl. data 2024).

Blacktip Reef Shark pups are regularly seen in this area (H Versace & J Blakeway pers. obs. 2024). Between 2017–2024, seasonal aggregations (September–March) of up to 20 neonate Blacktip Reef Sharks were recorded each year inside the lagoon at Panasesa, Irai, and Itamarina islands within the area (average of 14 individual neonates) from snorkelling, drone, and surface observations in >70% of the times. Neonates and YOY Blacktip Reef Sharks were identified based on visual estimations of size ranging between ~35–145 cm TL regularly observed (H Versace & J Blakeway pers. obs. 2024). Size-at-birth for this species is 30–52 cm TL (Ebert et al. 2021), providing support for these observations as neonate size classes. Blacktip Reef Sharks of all sizes were observed within the area, but females with mating scars were observed from November–March (H Versace pers. obs. 2024).

## SUB-CRITERION C2 – FEEDING AREAS

Conflict Islands is an important feeding area for one shark species and one ray species.

Blacktip Reef Shark are seen feeding in this area seasonally each year on bait balls (H Versace pers. obs. 2024). Every year (between 2017–2024), during the months of January–August bait fish (Clupeidae family) aggregate in the inner lagoon in the area with the peak of feeding activity in April and May. Events of Blacktip Reef Sharks preying on these bait balls have been recorded in November 2018, May 2021, and May 2023. Feeding aggregations of at least ten individuals have been recorded (H Versace pers. obs. 2024), with these aggregations occurring for one to two weeks at a time each month during this period. Both juveniles and adults are seen feeding together. Adults are observed 90% of the time on recreational dives or mobulid survey snorkels throughout the whole year in all dive sites especially in the passages of the atolls.

The area is a seasonal aggregation site for Reef Manta Rays between December–June. Snorkelling and drone surveys conducted in the area between 2023–2024 (n = 103) using photo-ID recorded a total of 132 sightings of 78 individuals, with a 35% resighting rate recorded (A Murray unpubl. data 2024). More data are needed to confirm the seasonality of feeding behaviour, since weather conditions prevent in-water and drone surveys in the area between June–October (J Blakeway pers. obs. 2024).

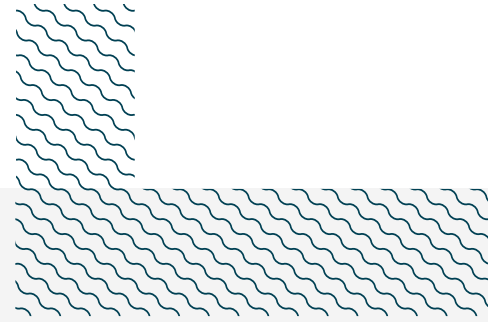
A total of 23 different feeding aggregations (up to seven individuals per observation) of Reef Manta Rays have been recorded (January 2023, February 2023, March 2023, November 2023, February 2024, April 2024 and June 2024; CICI unpubl. data 2024). Feeding individuals were also observed, specifically at Panasesa Passage (n = 61, 46.2% of sightings) (CICI unpubl. data 2024). Foraging behaviour of Reef Manta Rays showcased various strategies such as somersault, straight, surface, and chain feeding, both in aggregations and solitary individuals (A Murray unpubl. data 2024). Anecdotal reports between 2021–2023, included 29 sightings of individuals observed feeding and cleaning at Panasesa Passage (A Murray unpubl. data 2024).

## SUB-CRITERION C5 – UNDEFINED AGGREGATIONS

Conflict Islands is an important area for undefined aggregations of one shark and one ray species.

Grey Reef Shark aggregations are regularly observed in this area during all months of the year (H Versace pers. obs. 2024). Between 2017–2024, recreational dives (n = 30) were conducted monthly at Tabanagoal passage and at the deep reef off the northwest point of Panasesa Island within the area (H Versace pers. obs. 2024). Grey Reef Shark aggregations were observed in 99% of the dives with up to 15 individuals (mean = 12 individuals) per group (H Versace pers. obs. 2024). Additionally, BRUVS were deployed in the area in 2017 (n = 109) and 2020 (n = 45) (H Versace unpubl. data 2024). In October 2017, 103 Grey Reef Sharks were recorded on 49 BRUVS deployments with a MaxN (maximum number of individuals of a species observed in a single frame) of six individuals (mean =  $2 \pm 1.02$  individuals) (Farabaugh et al. 2024). In February and March 2020, 166 Grey Reef Sharks were recorded with a MaxN of four individuals (mean =  $1.2 \pm 0.53$  individuals) (H Versace unpubl. data 2024). Further information is required to confirm the nature and function of these undefined aggregations.

The area is a seasonal aggregation site for Reef Manta Rays between December–June. Snorkelling and drone surveys conducted in the area between 2023–2024 (n = 103) using photo-ID recorded a total of 132 sightings of 77 individuals, with a 38% resighting rate recorded (A Murray unpubl. data 2024). These surveys recorded 54 aggregations of 3–7 individuals (mean = 3 individuals) (A Murray unpubl. data 2024) within the area. The main behaviour displayed by Reef Manta Rays aggregating was cleaning (n = 29, 53.7% of sightings) across a network of cleaning stations within the area. (CICI unpubl. data 2024). Anecdotal reports between 2021–2023, included 29 sightings of individuals observed feeding and cleaning at Panasesa Passage. Photo-IDs were collected, with date and moon phase recorded, and included in the sightings database (A Murray unpubl. data 2024). Photo-ID data were collected across the months of March and April 2021, with drone imagery from one observation showing eight individuals at the site. On almost every survey more than three individuals were sighted 95% of the time.



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## **Suggested citation**

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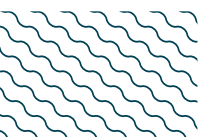
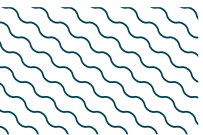
## QUALIFYING SPECIES

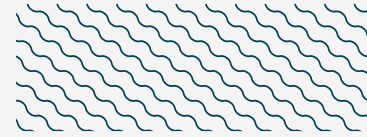
Scientific Name	Common Name	IUCN Red List Category	Global Depth Range (m)	ISRA Criteria/Sub-criteria Met									
				A	B	C1	C2	C3	C4	C5	D1	D2	
<b>SHARKS</b>													
<i>Carcharhinus amblyrhynchos</i>	Grey Reef Shark	EN	0-280	X		X				X			
<i>Carcharhinus melanopterus</i>	Blacktip Reef Shark	VU	0-100	X		X	X						
<i>Hemiscyllium michaeli</i>	Michael's Epaulette Shark	VU	0-20	X	X								
<b>RAYS</b>													
<i>Mobula alfredi</i>	Reef Manta Ray	VU	0-711	X			X			X			

## SUPPORTING SPECIES

Scientific Name	Common Name	IUCN Red List Category
<b>SHARKS</b>		
<i>Carcharhinus albimarginatus</i>	Silvertip Shark	VU
<i>Nebrius ferrugineus</i>	Tawny Nurse Shark	VU
<i>Rhina ancylostomus</i>	Bowmouth Guitarfish	CR
<i>Rhincodon typus</i>	Whale Shark	EN
<i>Stegostoma tigrinum</i>	Indo-Pacific Leopard Shark	EN
<i>Triaenodon obesus</i>	Whitetip Reef Shark	VU
<b>RAYS</b>		
<i>Aetobatus ocellatus</i>	Spotted Eagle Ray	EN
<i>Mobula birostris</i>	Oceanic Manta Ray	EN
<i>Mobula mobular</i>	Spinetail Devil Ray	EN
<i>Pateobatis fai</i>	Pink Whipray	VU
<i>Urogymnus granulatus</i>	Mangrove Whipray	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.





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