

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

## BETIKEL ISRA

### New Zealand & Pacific Islands Region

#### SUMMARY

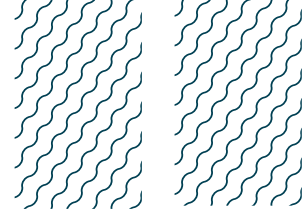
Betikel is located in Ulebsechel Island, Koror in Palau. The area is a shallow basin that allows nutrient exchange during tidal changes between the semi marine Risong Lake and the Ngel Channel. Betikel is characterised by a shallow shelf with a sandy substrate, a seagrass bed, and is surrounded by mangroves. Within this area there are: **threatened species** and **reproductive areas** (Blacktip Reef Shark *Carcharhinus melanopterus*).

#### CRITERIA

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

—	—
<b>PALAU</b>	—
—	—
<b>0-10 metres</b>	—
—	—
<b>0.79 km<sup>2</sup></b>	—
—	—





## DESCRIPTION OF HABITAT

Betikel is located in Ulebsechel Island, Koror in Palau. The area is a shallow basin with an entrance that allows nutrient exchange during tide changes between the semi-marine Risong Lake and the Ngel Channel (Colin 2009). Ngel Channel has strong currents and is one of two channels draining Malakal Harbour on its eastern side (Colin 2009). Betikel is characterised by a shallow shelf with a sandy substrate, a seagrass bed, and is surrounded by mangroves (T Harel-Bornovski pers. obs. 2024). The area is also connected by shallow sill areas to the more general lagoon area the open ocean by a narrow channel (Colin 2009). Depth in the area is driven by the tide entering ocean water in the area mainly through the channel on the flood tide and exiting mixed water from the lagoon on the ebb tide (Colin 2009).

This Important Shark and Ray Area is benthic and pelagic and is delineated from inshore and surface waters (0 m) to 10 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 Blacktip Reef Shark (Simpfendorfer et al 2020).

### SUB-CRITERION C<sub>1</sub> – REPRODUCTIVE AREAS

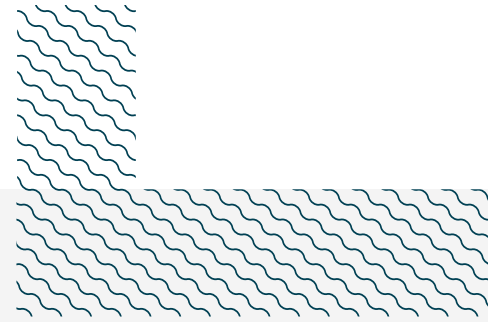
Betikel is an important reproductive area for one shark species.

Observations of up to seven Blacktip Reef Sharks at a time have regularly and predictably been observed in the area (T Harel-Bornovski pers. obs. 2009-2024). The area has a narrow entrance fed by ocean water, and at low tide the Blacktip Reef Sharks use the mangroves to enter the area. Neonates are almost always seen during the incoming tide, especially during new moon and full moon in <1 m depth (T Harel-Bornovski pers. obs. 2024). The area is known locally as ‘Black Tip Lake’. The seasonality of these sightings has yet to be determined. However, Blacktip Reef Sharks within this area are the smallest size classes observed across Palau (visually estimated ~25 cm total length [TL]; T Harel-Bornovski pers. obs. 2024). Blacktip Reef Shark size-at-birth is 30-52 cm TL (Ebert et al. 2021), confirming that the individuals observed were neonates or young-of-the-year (YOY).

Between 2021-2024, ~12-15 Baited Remote Underwater Video Station surveys were deployed between 2-10 m depth (duration 30-60 minutes). Up to three neonates and YOY Blacktip Reef Sharks (visually estimated at 25-60 cm total length [TL]) were recorded on ~80% of recordings (T Harel-Bornovski unpubl. data 2024).

Local ecological knowledge confirms the importance of this area for reproduction over several decades. Gravid female Blacktip Reef Sharks are reported to venture into the area to give birth (Boundless Journeys 2021).





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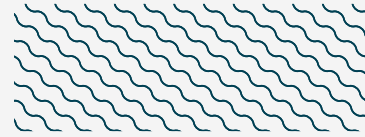
### **Suggested citation**

**IUCN SSC Shark Specialist Group. 2024.** Betikel 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	
<b>SHARKS</b>													
<i>Carcharhinus melanopterus</i>	Blacktip Reef Shark	VU	0-100	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

**Boundless Journeys. 2021.** Palau | Snorkeling & Kayaking Odyssey. Available at: [https://www.boundlessjourneys.com/wp-content/uploads/2015/10/Boundless-Journeys\\_Palau\\_Snorkeling-Kayaking-Odyssey\\_Trip-Itinerary\\_2022](https://www.boundlessjourneys.com/wp-content/uploads/2015/10/Boundless-Journeys_Palau_Snorkeling-Kayaking-Odyssey_Trip-Itinerary_2022) Accessed September 2024.

**Colin PL. 2009.** *Marine Environments of Palau, First Edition.* San Diego: Indo-Pacific Press.

**Ebert DA, Dando M, Fowler S. 2021.** *Sharks of the world: A complete guide.* Princeton: Princeton University Press.

**Simpfendorfer C, Yuneni RR, Tanay D, Seyha L, Haque AB, Fahmi, Bin Ali A, Dharmadi, Bineesh KK, Gautama DA, et al. 2020.** *Carcharhinus melanopterus.* *The IUCN Red List of Threatened Species 2020:* e.T39375A58303674. <https://dx.doi.org/10.2305/IUCN.UK.2020-3.RLTS.T39375A58303674.en>