

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

PETRIE ISRA

New Zealand & Pacific Islands Region

SUMMARY

Petrie is located on the northeastern side of New Caledonia. The area is an atoll with a barrier reef surrounding an inner lagoon that opens to oceanic waters on the northwestern side. It is characterised by live and dead coral substrates with sandy patches. The area overlaps with the Natural Park of the Coral Sea. Within this area there are: **threatened species** and **undefined aggregations** (Grey Reef Shark *Carcharhinus amblyrhynchos*).

CRITERIA

Criterion A - Vulnerability; Sub-criterion C5 - Undefined Aggregations

NEW
CALEDONIA

0-50 metres

48.55 km²



DESCRIPTION OF HABITAT

Petrie is located on the northeastern side of New Caledonia within the Coral Sea. It sits on the most northwestern part of the Loyalty Ridge, ~180 km of the northern tip of the Grande Terre Island and ~290 km northwest of Ouvéa Island (Maurizot et al. 2020). The area is an atoll with a barrier reef surrounding an inner lagoon that opens to oceanic waters on the northwestern side (Andréfouët & Torres-Pulizza 2004). It is characterised by a narrow barrier reef with a steep reef slope dominated by live and dead coral substrates along with sandy and rocky patches (Pelletier et al. 2020).

The area overlaps with the Natural Park of the Coral Sea (UNEP-WCMC & IUCN 2024).

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

ISRA CRITERIA

CRITERION A – VULNERABILITY

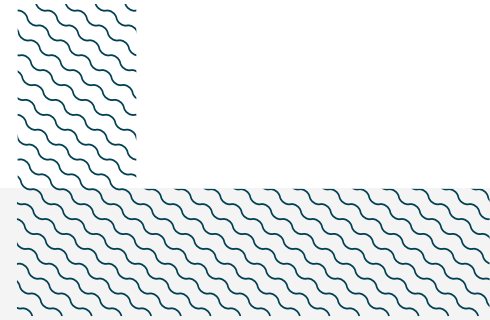
One Qualifying Species considered threatened with extinction according to the IUCN Red List of Threatened Species regularly occur in the area. This is the Endangered Grey Reef Shark (Simpfendorfer et al. 2020).

SUB-CRITERION C5 – UNDEFINED AGGREGATIONS

Petrie is an important area for undefined aggregations of one shark species.

Aggregations of Grey Reef Sharks are regularly observed in this area and have been documented by underwater surveys, visual censuses, and Baited Remote Underwater Video Station (BRUVS) surveys (Vigliola et al. 2014; Schohn et al. 2017; A Friedlander unpubl. data. 2024; Wantiez et al. unpubl data 2024).

Between 2012–2014, underwater surveys (n = 253) were conducted along New Caledonia reefs. Surveys consisted of fixed-width transects (25 m long by 4 m wide at 10 and 20 m depths), distance-sampling visual census (50 m long by 10 m wide at ~15 m depth), and BRUVS (1 hour at ~20 m depth; Vigliola et al. 2014). Of these surveys, 18 were conducted in Petrie during 2013, showing that Grey Reef Sharks aggregate in the area (Vigliola et al. 2014). Carcharhinids were observed in 89% of the dives with Grey Reef Shark recorded in 78% of the surveys, including aggregations (mean = 9, maximum = 20 individuals; Vigliola et al. 2014). In addition, surveys with BRUVS (2012–2014) and distance-sampling visual census (2012–2014) were conducted at 385 sites for BRUVS and 2,790 sites for visual census (including 15 marine protected area) along New Caledonia with Petrie holding one of the largest abundances for sharks among all sites (Juhel et al. 2017). Aggregations for Grey Reef Sharks in visual censuses (8–14 individuals) were among the largest in all New Caledonia (Juhel et al. 2017). Further, of 34 surveys with rotating video stations conducted in 2014 in the area (deployed for 12 minutes from the boat and consisting of cameras rotating 60° every 30 seconds), Grey Reef Sharks were observed in ~40% of the deployments (Schohn et al. 2017). More information is needed to confirm the nature and function of these aggregations.



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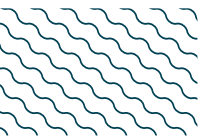
QUALIFYING SPECIES

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
SHARKS												
<i>Carcharhinus amblyrhynchos</i>	Grey Reef Shark	EN	0-280 m	X						X		

SUPPORTING SPECIES

Scientific Name	Common Name	IUCN Red List Category
SHARKS		
<i>Triaenodon obesus</i>	Whitetip Reef Shark	VU

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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