

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

## RANGITAHUA/KERMADEC ISLANDS ISRA

### New Zealand & Pacific Islands Region

#### SUMMARY

Rangitahua/Kermadec Islands is located ~800 km northeast from North Island of New Zealand. The area is a chain of subtropical and volcanic islands (Raoul, Meyer, Macauley, Curtis, Cheeseman, Herald Islets, L'Esperance Rock, and L'Havre Rock) situated in the Kermadec Ridge. The area is characterised by the presence of multiple seamounts with sandy, rocky, and muddy substrates. The area overlaps with the Kermadec (offshore) Key Biodiversity Area and with the Kermadec Islands Marine Reserve. Within the area there are: **range-restricted species** (Kermadec Spiny Dogfish *Squalus raoulensis*) and **reproductive areas** (Galapagos Shark *Carcharhinus galapagensis*).

#### CRITERIA

**Criterion B - Range Restricted; Sub-criterion C1 - Reproductive Areas**

NEW ZEALAND

0-500 metres

1,005.9 km<sup>2</sup>





## DESCRIPTION OF HABITAT

Rangitahua/Kermadec Islands is located ~800 km northeast of the North Island of New Zealand. The area includes a chain of subtropical volcanic islands situated in the Kermadec Ridge. From north to south, it includes Raoul Island (the largest island), Meyer Island, Herald Islets, Macauley Island, Curtis and Cheeseman Islands, L'Esperance Rock, and L'Havre Rock (Francis et al. 1987). The area is characterised by the presence of multiple seamounts around the ridge with sandy, rocky, and muddy substrates along coral patches and a high diversity of crinoids (Duffy & Ah Yong 2015). Shallow subtidal habitats include a mixture of sandy and rocky substrates, and slope habitats include active hydrothermal vent systems, deep reefs, talus fields, as well as sandy and muddy substrates (Duffy & Ah Yong 2015). Surface oceanography is dominated by the South Pacific Subtropical Gyre (Sutton et al. 2012). Sea surface temperatures range from ~17°C (August) to ~25°C (February) with mean temperatures dropping to ~15°C at 200 m and to ~10°C at 400 m depths (Sutton et al. 2012).

The area overlaps with the Kermadec (offshore) Key Biodiversity Area (KBA 2024). It also overlaps with the Kermadec Islands Marine Reserve (UNEP-WCMC & IUCN 2024).

This Important Shark and Ray Area is benthic and pelagic and is delineated from surface waters (0 m) to 500 m based on the depth range of the Qualifying Species of the area.

## ISRA CRITERIA

### CRITERION B - RANGE RESTRICTED

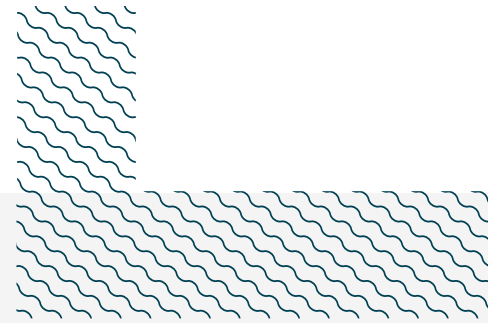
This area holds the regular presence of the Kermadec Spiny Dogfish as a resident range-restricted species. The Kermadec Spiny Dogfish is endemic to the Kermadec Islands and was described from three individuals collected in the Kermadec Islands before 2007 (Duffy & Last 2007). Since its description, multiple individuals have been recorded in different islands within Rangitahua/Kermadec Islands. Five individuals were recorded in Raoul, Cheeseman, and Curtis Islands in 2011 (Trnski et al. 2015), and three were recorded in Macauley Island in 2016 between 125–288 m depths (Clark et al. 2017). Additional individuals have been collected in all the area with southern records found at L'Havre Rocks (CAJ Duffy unpubl. data 2024). The species has not been observed in any other site globally, and not even on Star of Bengal Bank, ~100 km south of the area during sampling in 2016. The Kermadec Spiny Dogfish does not occur in any Large Marine Ecosystem but has a very small area of occurrence.

### SUB-CRITERION C1 - REPRODUCTIVE AREAS

Rangitahua/Kermadec Islands is an important reproductive area for one shark species.

Galapagos Sharks are abundant throughout the archipelago, but observations of adults are infrequent (Duffy 2016). In 2011, 76 Galapagos Sharks were observed at 10 locations between Raoul Island and L'Esperance Rock with estimated sizes between 80–180 cm total length (TL; mean = 125 cm TL; CAD Duffy unpubl. data 2024). In addition, 18 Galapagos Sharks were caught and measured during the same expedition ranged from 84.5–149 cm TL (mean = 116 cm TL; CAD Duffy unpubl. data 2024). Size-at-birth for the species is 57–81 cm TL (Wetherbee et al. 1996; Ebert et al. 2021) confirming that some of these individuals were young-of-the-year. Additionally, historical records since 1908 include observations of juveniles Galapagos Sharks around Raoul Island during summer in nearshore habitats (Waite 1909). In 1974, two specimens were recorded, a 79.2 cm TL male caught at 38 m depth off Macauley Island and a 113.5 cm TL female caught in 18–23 m depth off Curtis Island (Garrick 1982).

This species lives around the island and does not inhabit oceanic waters (Ebert et al. 2021) making Rangitahua/Kermadec Islands the only suitable habitat for reproduction.



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Clinton AJ Duffy (Auckland War Memorial Museum), Brittany Finucci (National Institute of Water and Atmospheric Research), Malcolm P Francis (National Institute of Water and Atmospheric Research), and Emiliano García-Rodríguez (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**

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## QUALIFYING SPECIES

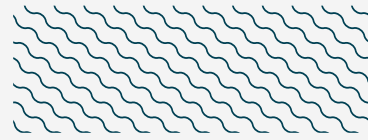
Scientific Name	Common Name	IUCN Red List Category	Global Depth Range (m)	ISRA Criteria/Sub-criteria Met								
				A	B	C1	C2	C3	C4	C5	D1	D2
<b>SHARKS</b>												
<i>Carcharhinus galapagensis</i>	Galapagos Shark	LC	0-528			X						
<i>Squalus raoulensis</i>	Kermadec Spiny Dogfish	LC	125-500		X							

## SUPPORTING SPECIES

Scientific Name	Common Name	IUCN Red List Category
<b>SHARKS</b>		
<i>Alopias superciliosus</i>	Bigeye Thresher	VU
<i>Alopias vulpinus</i>	Common Thresher	VU
<i>Carcharhinus longimanus</i>	Oceanic Whitetip Shark	CR
<i>Carcharhinus plumbeus</i>	Sandbar Shark	EN
<i>Carcharodon carcharias</i>	White Shark	VU
<i>Centrophorus harrissoni</i>	Harrisson's Dogfish	EN
<i>Cirrhigaleus australis</i>	Southern Mandarin Dogfish	DD
<i>Galeocerdo cuvier</i>	Tiger Shark	NT
<i>Gollum attenuatus</i>	Slender Smoothhound	LC
<i>Hexanchus griseus</i>	Bluntnose Sixgill Shark	NT
<i>Isistius brasiliensis</i>	Cookie-cutter Shark	LC
<i>Isurus oxyrinchus</i>	Shortfin Mako	EN
<i>Odontaspis ferox</i>	Smalltooth Sand Tiger	VU
<i>Prionace glauca</i>	Blue Shark	NT
<i>Sphyrna zygaena</i>	Smooth Hammerhead	VU
<i>Squalus griffini</i>	Northern Spiny Dogfish	LC
<i>Triaenodon obesus</i>	Whitetip Reef Shark	VU
<b>RAYS</b>		
<i>Bathytoshia brevicaudata</i>	Smooth Stingray	LC
<i>Bathytoshia lata</i>	Brown Stingray	VU
<i>Myliobatis tenuicaudatus</i>	Southern Eagle Ray	LC
<i>Pteroplatytrygon violacea</i>	Pelagic Stingray	LC

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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