

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

**SOUTHERN CHATHAM RISE ISRA**  
**New Zealand & Pacific Islands Region**

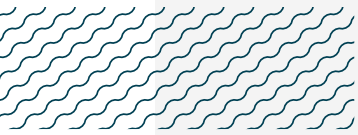
**SUMMARY**

Southern Chatham Rise is located in the southern part of a ridge on the eastern side of New Zealand. It is characterised by muddy and sandy substrates. The area is dominated by the Subtropical Front where subtropical waters and subantarctic waters mix. The area overlaps with the Chatham (offshore) Key Biodiversity Area. Within this area there are: **range-restricted species** (e.g., Pale Ghostshark *Hydrolagus bemisi*) and **reproductive areas** (Southern Lanternshark *Etmopterus granulosus*).

**CRITERIA**

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

—	—
<b>NEW ZEALAND</b>	—
—	—
<b>220–1,200 metres</b>	—
—	—
<b>22,127 km<sup>2</sup></b>	—
—	—





## DESCRIPTION OF HABITAT

Southern Chatham Rise is located in the southern part of a ridge on the eastern side of New Zealand. It rises from deep areas to 50 m in the western side and to sea level near the Chatham Islands (McGregor et al. 2019). The area is characterised by abyssal hills with muddy and sandy substrates (Nodder et al. 2003). Phosphorite nodules are spread around the crest of the rise along with exposed basement rock substrates (Bowden et al. 2017; Leduc et al. 2024). These habitats sustain large densities of deep-water corals (Leduc et al. 2024). The area has a stable and permanent oceanography dominated by the Subtropical Front where there is a mix of subtropical waters and subantarctic waters (Sutton 2001; Chiswell et al. 2015). North subtropical waters are warmer, more saline and nutrient poor compared to the cold and nutrient rich subantarctic waters from the south (McGregor et al. 2019). This front is divided by a frontal zone in the north and south (Sutton 2001). Sea surface temperatures are warmer during austral autumn with a shallow mixed layer in subtropical waters while in spring, temperatures are cooler and there is a deeper mixed layer (Sutton 2001). Due to the oceanographic and habitat features in the rise, this area has the highest species richness for demersal fishes (Leathwick et al. 2006).

The area overlaps with the Chatham (offshore) Key Biodiversity Areas (KBA 2024a; 2024b).

This Important Shark and Ray Area is benthic and subsurface and is delineated from 220 m to 1,200 m based on the bathymetry of the area.

## ISRA CRITERIA

### CRITERION B - RANGE RESTRICTED

This area holds the regular presence of the New Zealand Catshark, Brown Chimaera, Giant Chimaera, Australasia Narrow-nosed Spookfish, and Pale Ghostshark. These species were regularly encountered in independent research surveys using demersal trawls (200–1,300 m) conducted in January–February annually from 2009–20124 and bi-annually since 2014 (O’Driscoll et al. 2011; Stevens et al. 2012, 2013, 2014, 2015, 2017, 2018, 2021, 2023; B. Finucci unpubl. data 2024). Due to the fishing gear selectivity, the abundance recorded for some of the species is underestimated and does not represent their true abundances in the area.

For New Zealand Catshark, 58 individuals were recorded between 2020–2024. Species-specific catch records prior to 2020 are not available, as both species were recorded as ‘catsharks’. This area had the largest number of New Zealand Catshark caught during research surveys around all of New Zealand (B Finucci unpubl. data 2024). This species is endemic to the New Zealand Shelf Large Marine Ecosystem (LME).

For Brown Chimaera, 48 individuals were recorded in the area between 2009–2024 (except 2013, 2015, 2019 and 2023) with Southern Chatham Rise having the second largest number of individuals recorded during research surveys for this species in all New Zealand. This species occurs in the New Zealand Shelf LME and in the Southeast Australian Shelf LME.

For Giant Chimaera, 11 individuals were recorded in the area in 2009, 200, 2012, and 2020. Despite the low numbers, Chatham Rise represents the largest number of individuals recorded during research surveys for this species in all New Zealand. This species is endemic to the New Zealand Shelf LME.

For Australasia Narrow-nosed Spookfish, 880 individuals were recorded in the area between 2009–2024 with Southern Chatham Rise having the third largest number of individuals recorded during

research surveys for this species in all New Zealand. This species is endemic to the New Zealand Shelf LME.

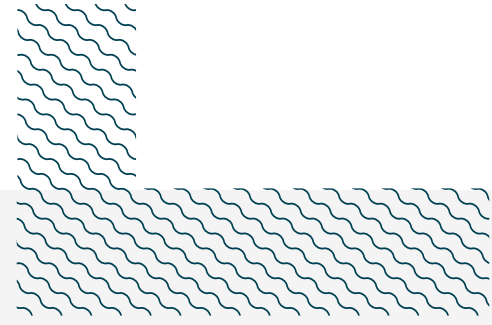
For Pale Ghostshark, 1,073 individuals were recorded in the area between 2009–2024 with Central Chatham Rise having the third largest number of individuals recorded during research surveys for this species in all New Zealand. This species is endemic to the New Zealand Shelf LME.

## SUB-CRITERION C1 – REPRODUCTIVE AREAS

Southern Chatham Rise is an important reproductive area for one shark species.

Based on records from research demersal trawl surveys conducted in yearly between January–February from 2009–2014 and bi-annually since 2014 (O’Driscoll et al. 2011; Stevens et al. 2012, 2013, 2014, 2015, 2017, 2018, 2021, 2023) young-of-the-year (YOY) individuals and late-stage pregnant females (with near-term embryos) of Southern Lanternshark are regularly found in the area (B Finucci unpubl. data 2024). Species maturity was assessed at sea using the National Institute of Water and Atmospheric Research’s standard shark macroscopic maturity staging key. YOY were determined either through physical assessment at sea or estimated from published growth curves based on their size (Irvine 2004).

For Southern Lanternshark, 5,386 individuals were caught. Of these, 251 (4.6% of catches) YOY and 78 late-stage pregnant females were caught at depths of 500–1,135 m. YOY were defined as individuals measuring <25 cm TL (Irvine 2004). Southern Chatham Rise was the area with the largest number of YOY sampled in all New Zealand.



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### **Acknowledgments**

Brittany Finucci (National Institute of Water and Atmospheric Research), Clinton AJ Duffy (Auckland War Memorial Museum), 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.

This factsheet has undergone review by the ISRA Independent Review Panel prior to its publication.

This project was funded by the Shark Conservation Fund, a philanthropic collaborative pooling expertise and resources to meet the threats facing the world's sharks and rays. The Shark Conservation Fund is a project of Rockefeller Philanthropy Advisors.

### **Suggested citation**

**IUCN SSC Shark Specialist Group. 2024.** Southern Chatham Rise ISRA Factsheet. Dubai: IUCN SSC Shark Specialist Group.

## QUALIFYING SPECIES

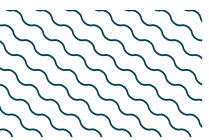
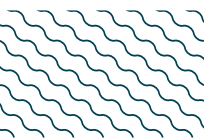
Scientific Name	Common Name	IUCN Red List Category	Global Depth Range (m)	ISRA Criteria/Sub-criteria Met								
				A	B	C1	C2	C3	C4	C5	D1	D2
<b>SHARKS</b>												
<i>Apristurus exsanguis</i>	New Zealand Catshark	LC	415-1,200		X							
<i>Etmopterus granulosus</i>	Southern Lanternshark	LC	220-1,500			X						
<b>CHIMAERAS</b>												
<i>Chimaera carophila</i>	Brown Chimaera	LC	846-1,350		X							
<i>Chimaera lignaria</i>	Giant Chimaera	LC	400-1,800		X							
<i>Harriotta avia</i>	Australasia Narrow-nosed Spookfish	LC	260-1278		X							
<i>Hydrolagus bemisi</i>	Pale Ghostshark	LC	400-1,100		X							

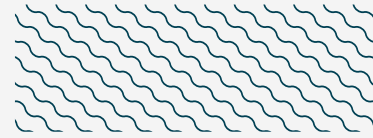
## SUPPORTING SPECIES

Scientific Name	Common Name	IUCN Red List Category
<b>SHARKS</b>		
<i>Apristurus ampliceps</i>	Roughskin Catshark	LC
<i>Apristurus garricki</i>	Garrick's Catshark	LC
<i>Apristurus melanoasper</i>	Fleshynose Catshark	LC
<i>Bythaelurus dawsoni</i>	Dawson's Catshark	LC
<i>Centrophorus squamosus</i>	Leafscale Gulper Shark	EN
<i>Centroscymnus owstonii</i>	Roughskin Dogfish	VU
<i>Centroselachus crepidater</i>	Longnose Velvet Dogfish	NT
<i>Cephaloscyllium isabellum</i>	Carpet Shark	LC
<i>Chlamydoselachus anguineus</i>	Frilled Shark	LC
<i>Dalatias licha</i>	Kitefin Shark	VU
<i>Deania calcea</i>	Birdbeak Dogfish	NT
<i>Etmopterus lucifer</i>	Blackbelly Lanternshark	LC
<i>Galeorhinus galeus</i>	Tope	CR
<i>Hexanchus griseus</i>	Bluntnose Sixgill Shark	NT
<i>Oxynotus bruniensis</i>	Prickly Dogfish	NT
<i>Scymnodon macracanthus</i>	Largespine Velvet Dogfish	VU
<i>Squalus acanthias</i>	Spiny Dogfish	VU
<i>Squalus griffini</i>	Northern Spiny Dogfish	LC
<b>RAYS</b>		
<i>Amblyraja hyperborea</i>	Arctic Skate	LC
<i>Bathyraja shuntovi</i>	Longnose Deepsea Skate	DD
<i>Brochiraja asperula</i>	Smooth Deepsea Skate	DD
<i>Brochiraja spinifera</i>	Prickly Deepsea Skate	DD
<i>Dipturus innominatus</i>	Smooth Skate	LC
<i>Dipturus nasutus</i>	Rough Skate	LC
<i>Tetronarce nobiliana</i>	Great Torpedo Ray	LC
<b>CHIMAERAS</b>		
<i>Hydrolagus homonycteris</i>	Black Ghostshark	LC
<i>Hydrolagus novaezealandiae</i>	Dark Ghostshark	LC
<i>Hydrolagus trolli</i>	Abyssal Ghostshark	LC

<i>Rhinochimaera pacifica</i>	Pacific Spookfish	LC
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*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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