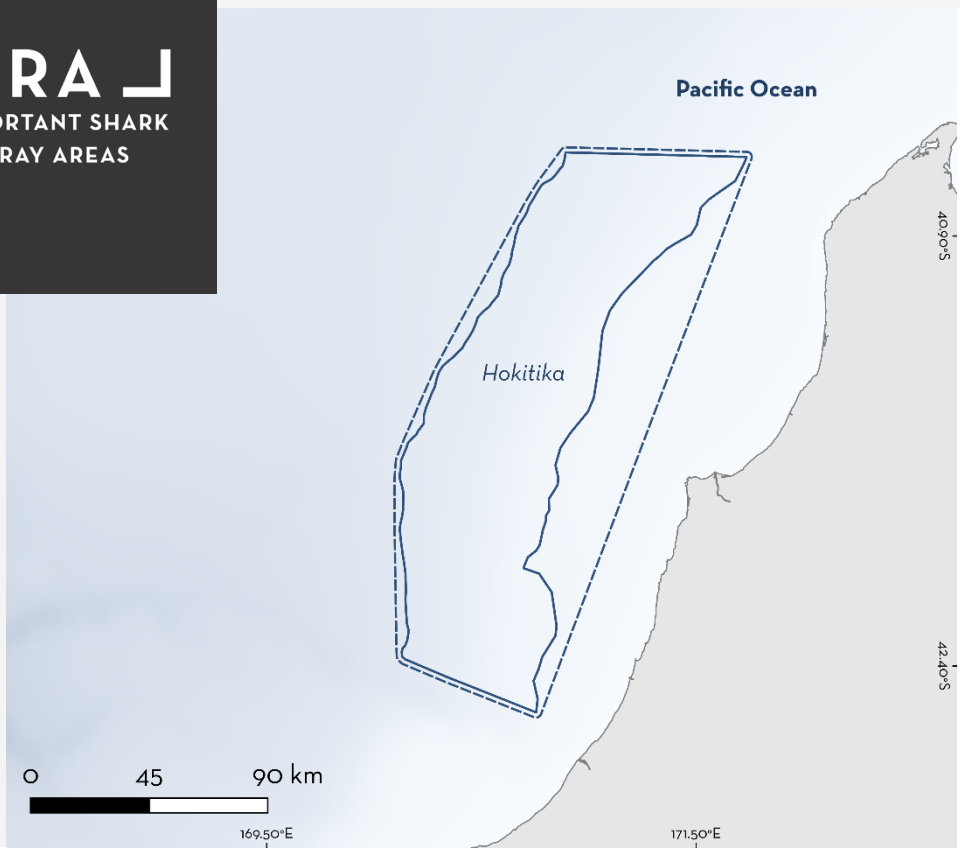
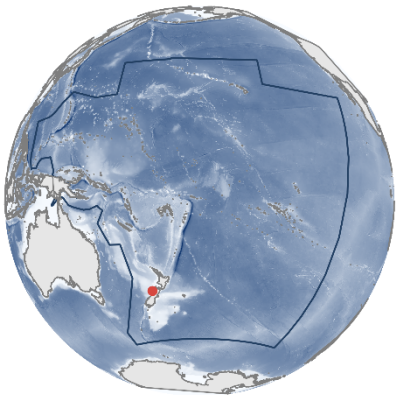
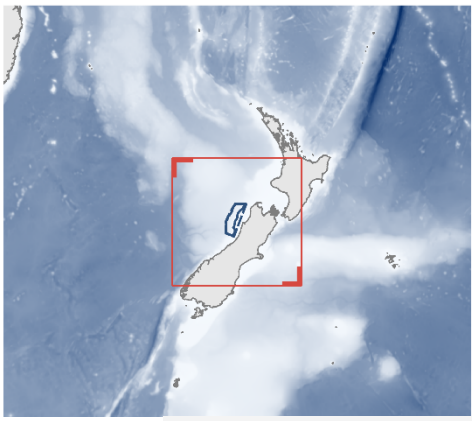
ISRA
IMPORTANT SHARK AND RAY AREAS







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

HOKITIKA ISRA

New Zealand & Pacific Islands Region

NEW ZEALAND

0–800 metres

12,008 km²

SUMMARY

Hokitika is located on the west side of New Zealand's South Island. It is characterised by a steep slope and sandy and muddy substrates. The area is influenced by the Westland Current and by southwest winds. Westerly winds produce coastal upwellings in the region and increase productivity during the austral spring and summer. Within this area there are: **threatened species** (e.g., Kitefin Shark *Dalatias licha);* **range-restricted species** (e.g., Smooth Skate *Dipturus innominatus*); and **reproductive areas** (e.g., Slender Smoothhound *Gollum attenuatus*).

CRITERIA

Criterion A – Vulnerability; Criterion B – Range Restricted;
Sub-criterion C1 – Reproductive Areas

DESCRIPTION OF HABITAT

Hokitika is located on the west side of New Zealand's South Island, ~100 km from the coast. It is characterised by a steep slope and sandy and muddy substrates. Water from the Tasman Current flows toward the west coast of New Zealand's South Island and bifurcates into the Southland and Westland currents (Stevens et al. 2021). The latter dominates the region and is driven by southwest winds. Westerly winds produce coastal upwellings in the region and increases productivity during spring and summer (Gibbs et al. 2020). In intermediate and deep waters, the area is dominated by the Subtropical Front where Tasman Sea central waters merge with subantarctic waters (Chiswell et al. 2015). Sea surface temperatures average ~14°C and bottom temperatures average ~10°C (Devine et al. 2022).

This Important Shark and Ray Area is benthic and pelagic and is delineated from surface waters (0) to 800 m based on the depth range of Qualifying Species in the area.

ISRA CRITERIA

CRITERION A – VULNERABILITY

Two Qualifying Species considered threatened with extinction according to the IUCN Red List of Threatened Species regularly occur in the area. These are the Vulnerable Kitefin Shark (Finucci et al. 2018) and Spiny Dogfish (Finucci et al. 2020).

CRITERION B – RANGE RESTRICTED

This area holds the regular presence of the Northern Spiny Dogfish, Smooth Skate, and Dark Ghostshark as resident range-restricted species. These species were regularly encountered in independent research surveys using demersal trawls conducted in spring months (July–August) in 2009, 2012, 2013, 2016, 2018, and 2021 (O'Driscoll et al. 2014, 2015; O'Driscoll & Ballara 2018, 2019; Devine et al. 2022). The three species are endemic to the New Zealand Shelf Large Marine Ecosystem and only occur in New Zealand waters.

For Northern Spiny Dogfish, 1,482 individuals were recorded in all surveys between 2009–2022. Hokitika held the largest number of individuals caught in all of New Zealand during research surveys in that period (O'Driscoll et al. 2014, 2015; O'Driscoll & Ballara 2018, 2019; Devine et al. 2022; B Finucci unpubl. data 2024). Northern Spiny Dogfish were caught at depths 200–587 m. In 2021, Northern Spiny Dogfish was caught in 35 (26.9%) of the 130 tows conducted between 200–1,000 m in the area (Devine et al. 2022).

For Smooth Skate, 348 individuals were recorded in all surveys between 2009–2022. Hokitika held the second largest number of individuals caught in all of New Zealand during research surveys in that period after Canterbury Bight (O'Driscoll et al. 2014, 2015; O'Driscoll & Ballara 2018, 2019; Devine et al. 2022; B Finucci unpubl. data 2024). Smooth Skate were caught at depths 210–786 m. In 2021, Smooth Skate was caught in 20 (15.3%) of the 130 tows conducted between 200–1,000 m in the area (Devine et al. 2022).

For Dark Ghostshark, 2,239 individuals were recorded in all surveys between 2009–2022. Hokitika held the third largest number of individuals caught in all of New Zealand during research surveys in that period (O'Driscoll et al. 2014, 2015; O'Driscoll & Ballara 2018, 2019; Devine et al. 2022; B Finucci unpubl. data 2024). Dark Ghostsharks were caught at depths 468–794 m. In 2021, Dark Ghostshark

was caught in 20 (15.3%) of the 130 tows conducted between 200–1,000 m in the area (Devine et al. 2022).

SUB-CRITERION C1 – REPRODUCTIVE AREAS

Hokitika is an important reproductive area for four shark species.

Independent research surveys using demersal trawls (200–1,050 depths) were conducted in the area during spring (July–August) in 2009, 2012, 2013, 2016, 2018, and 2021 (O'Driscoll et al. 2014, 2015; O'Driscoll & Ballara 2018, 2019; Devine et al. 2022). These surveys recorded young-of-the-year (YOY) individuals and late-stage pregnant females (with near-term embryos) of Longnose Velvet Dogfish, Kitefin Shark, Slender Smoothhound, and Spiny Dogfish that are regularly found in the area (B Finucci unpubl. data 2024).

For Longnose Velvet Dogfish, 171 of the 216 (74.4%) individuals recorded in these surveys and for which biological data were collected measured 32.9–42.8 cm total length (TL) and were caught at depths of 528–800 m (B Finucci unpubl. data 2024). These individuals were classified as YOY based on the reported size for this life stage in the region (<50 cm TL; Francis et al. 2016). Hokitika held the third largest number of YOY caught in research surveys across all New Zealand in that period and YOY were caught in all surveys (O'Driscoll et al. 2014, 2015; O'Driscoll & Ballara 2018, 2019; Devine et al. 2022; B Finucci unpubl. data 2024). In addition, three of the 69 late-stage pregnant females reported for all New Zealand and three early-stage pregnant females were recorded in Hokitika (B Finucci unpubl data 2024).

For Kitefin Shark, 67 of the 80 (83.75%) individuals recorded in these surveys and for which biological data were collected measured 38.5–48.7 cm TL and were caught at depths of 464–800 m (B Finucci unpubl. data 2024). These individuals were classified as YOY based on the reported size for this life stage in the region (<50 cm TL; Francis et al. 2016). Hokitika held the third largest number of YOY caught in research surveys along all New Zealand in that period and YOY were caught in all surveys (O'Driscoll et al. 2014, 2015; O'Driscoll & Ballara 2018, 2019; Devine et al. 2022; B Finucci unpubl. data 2024). No pregnant females were recorded in the area (B Finucci unpubl. data 2024).

For Slender Smoothhound, 43 of the 313 (13.7%) individuals recorded in these surveys and for which biological data were collected were late-stage pregnant females (85.0–105.5 cm TL) and were caught at depths of 344–475 m in all the surveys (O'Driscoll et al. 2014, 2015; O'Driscoll & Ballara 2018, 2019; Devine et al. 2022; B Finucci unpubl. data 2024). In addition, six YOY were recorded in the area. Hokitika was the only location in all New Zealand where these life stages were recorded (B Finucci unpubl. data 2024).

For Spiny Dogfish, 722 of the 2,214 (32.6%) individuals recorded in these surveys and for which biological data were collected were late-stage pregnant females (63.1–95.6 cm TL) and were caught at depths of 205–520 m in all the surveys (O'Driscoll et al. 2014, 2015; O'Driscoll & Ballara 2018, 2019; Devine et al. 2022; B Finucci unpubl. data 2024). In addition, 45 individuals (2%) measured <30 cm TL and were classified as YOY based on the reported size for this life stage in the region (<30 cm TL; Hanchett 1988). Also, 205 early-stage pregnant females were recorded in the area (B Finucci unpubl data 2024).

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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												
Centroselachus crepidater	Longnose Velvet Dogfish	NT	200–2,080			X						
Dalatias licha	Kitefin Shark	VU	37–1,800	X		X						
Gollum attenuatus	Slender Smoothhound	LC	129–975			X						
Squalus acanthias	Spiny Dogfish	VU	0–1,978	X		X						
Squalus griffini	Northern Spiny Dogfish	LC	5–700		X							
RAYS												
Dipturus innominatus	Smooth Skate	LC	0–1,450		X							
CHIMAERAS												
Hydrolagus novaezealandiae	Dark Ghostshark	LC	32–800		X							

SUPPORTING SPECIES

Scientific Name	Common Name	IUCN Red List Category
SHARKS		
Alopias vulpinus	Common Thresher	VU
Centrophorus squamosus	Leafscale Gulper Shark	EN
Centroscymnus coelolepis	Portuguese Dogfish	NT
Centroscymnus owstonii	Roughskin Dogfish	VU
Cephaloscyllium isabellum	Carpet Shark	LC
Cetorhinus maximus	Basking Shark	EN
Deania calcea	Shovelnose Dogfish	NT
Etmopterus granulosus	Southern Lanternshark	LC
Etmopterus lucifer	Lucifer Dogfish	LC
Galeorhinus galeus	Tope	CR
Heptranchias perlo	Sharpnose Sevengill Shark	NT
Hexanchus griseus	Bluntnose Sixgill Shark	NT
Isurus oxyrinchus	Shortfin Mako	EN
Lamna nasus	Porbeagle	VU
Mustelus lenticulatus	Rig	LC
Prionace glauca	Blue Shark	NT
Scymnodon macracanthus	Largespine Velvet Dogfish	VU
RAYS		
Bathyraja pacifica	Pacific Blonde Skate	LC
Brochiraja asperula	Smooth Deepsea Skate	DD
Brochiraja spinifera	Prickly Deepsea Skate	DD
Tetronarce nobiliana	Great Torpedo Ray	LC
Zearaja nasuta	Rough Skate	LC
CHIMAERAS		
Harriotta avia	Australiasian Narrow-nose Spookfish	LC
Hydrolagus bemisi	Pale Ghostshark	LC
Rhinochimaaera pacifica	Pacific Spookfish	LC

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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