

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

CANTERBURY BIGHT ISRA

New Zealand & Pacific Islands Region

SUMMARY

Canterbury Bight is located off the east coast of New Zealand's South Island. The area is characterised by coarse sands and gravel substrates with multiple rivers discharging into it (e.g., Rangitata, Ashburton, and Rakaia). The area overlaps with the Canterbury (offshore) Key Biodiversity Area. Within this area there are: **range-restricted species** (e.g., Rough Skate *Zearaja nasuta*) and **reproductive areas** (e.g., Rigi *Mustelus lenticulatus*).

CRITERIA

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

NEW ZEALAND

14-50 metres

4,644.2 km²





DESCRIPTION OF HABITAT

Canterbury Bight is located off the east coast of New Zealand's South Island. It extends from the Banks Peninsula to ~70 km south of Timaru. The area is characterised by coarse sands and gravel substrates (Nokes et al. 2021). Multiple rivers discharge into it, with the three main rivers being Rangitata, Ashburton, and Rakaia. The area is influenced by the Southland Current and is considered a downwelling location although northerly winds can induce upwellings (Beentjes et al. 2002; Stevens et al. 2021). Average sea surface temperature is ~15°C (Shears & Bowen 2017).

The area overlaps with the Canterbury (offshore) Key Biodiversity Area (KBA 2024).

This Important Shark and Ray Area is benthic and subsurface and is delineated from 14-50 m based on the depth range of Qualifying Species in the area.

ISRA CRITERIA

CRITERION B – RANGE RESTRICTED

This area holds the regular presence of Rig and Rough Skate as range-restricted species. These species were regularly encountered in independent research surveys using demersal trawls conducted in austral winter months (April–June) in 2009, 2012, 2014, 2016, 2018, 2021, and 2022 (Beentjes et al. 2010, 2013, 2015, 2016, 2022, 2023; MacGibbon et al. 2019). In addition, these species were recorded in the same surveys during non-contemporary years (1991–1994, 1996, 2007, 2008; B Finucci unpubl. data 2024). The two species are endemic to the New Zealand Shelf Large Marine Ecosystem and only occur in New Zealand waters.

For Rig, 1,454 individuals were recorded in all surveys between 2009–2022, except for 2021. Canterbury Bight held the largest number of individuals caught in all of New Zealand during research surveys in that period (Beentjes et al. 2010, 2013, 2015, 2016, 2022, 2023; MacGibbon et al. 2019; B Finucci unpubl. data 2024). Rig were caught at depths 12–48 m. In 2022, Rig was caught in 10 of the 12 stations (83.3%) sampled in the area (Beentjes et al. 2023).

For Rough Skate, 2,170 individuals were recorded in all surveys between 2009–2022. Canterbury Bight held the largest number of individuals caught in all of New Zealand during research surveys in that period (Beentjes et al. 2010, 2013, 2015, 2016, 2022, 2023; MacGibbon et al. 2019; B Finucci unpubl. data 2024). Rough Skate were caught at depths 13–49 m. In 2022, Rough Skate was caught in 11 of the 12 stations (91.7%) sampled in the area (Beentjes et al. 2023).

SUB-CRITERION C1 – REPRODUCTIVE AREAS

Canterbury Bight is an important reproductive area for one shark, one ray, and one chimaera species.

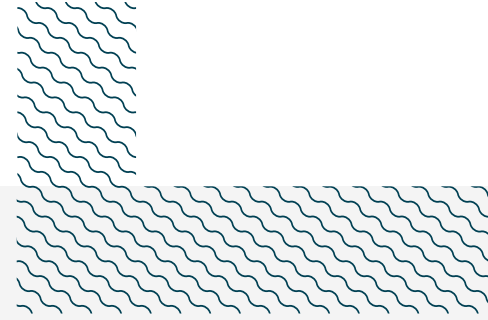
Independent research surveys using demersal trawls (10–400 m depths) were conducted in the area during winter months (April–June) in 2009, 2012, 2014, 2016, 2018, 2021, and 2022 (Beentjes et al. 2010, 2013, 2015, 2016, 2022, 2023; MacGibbon et al. 2019). These recorded young-of-the-year (YOY) individuals and late-stage pregnant females (with egg cases ready to be deposited or with near-term embryos) of Rig, Rough Skate, and Elephant Fish that are regularly found in the area (B Finucci unpubl. data 2024).

For Rig, 221 of the 698 individuals (31.7%) recorded in these surveys and for which biological data were collected measured 32–45 cm total length (TL) and were caught at depths of 14–50 m (B Finucci

unpubl. data 2024). These individuals were classified as YOY based on the reported size for this life stage in the region (<45 cm TL; Francis & Francis 1992). Canterbury Bight held the largest number of YOY caught in research surveys along all New Zealand in surveyed years and YOY were caught in all surveys (Beentjes et al. 2010, 2013, 2015, 2016, 2022, 2023; MacGibbon et al. 2019; B Finucci unpubl. data 2024). Rig commonly uses very shallow estuaries and harbours (<10 m) along New Zealand as nursery areas (Francis et al. 2012) and Canterbury Bight has discharges from multiple rivers that make it a suitable habitat for these early life-stages.

For Rough Skate, 60 of the 967 individuals (6.2%) recorded in these surveys and for which biological data were collected, measured <30 cm TL and were caught at depths of 14–48 m (B Finucci unpubl. data 2024). These individuals were considered YOY based on the reported size for this life stage in the region (<45 cm TL; Francis et al. 2001). In addition, eight of the 58 late-stage pregnant females (13.7%) recorded in New Zealand during trawl surveys were recorded in the area. Canterbury Bight held the largest number of this life-stage caught in research surveys along New Zealand in that period and YOY were caught in all surveys (Beentjes et al. 2010, 2013, 2015, 2016, 2022, 2023; MacGibbon et al. 2019; B Finucci unpubl. data 2024).

For Elephant Fish, 46 of the 1,043 individuals (4.4%) recorded in these surveys and for which biological data were collected, measured 12.5–18.6 cm TL and were caught at depths of 16–24 m (B Finucci unpubl. data 2024). These individuals were considered YOY based on the reported size for this life stage (<24.4 cm TL; Francis 1997). Historically, 2,585 YOY were recorded in 2000 during the same trawl surveys (B Finucci unpubl. data 2024). These were conducted in summer because this season may be more effective to monitor some species, including Elephant Fish (Beentjes et al. 2023). The relatively large number of YOY recorded in 2000 may indicate that larger numbers of YOY may occur in the area outside of the months when contemporary surveys are conducted. Even if the proportion of YOY was not high, Canterbury Bight was the only place where YOY Elephant Fish were caught in research surveys along New Zealand between 2009–2022 and YOY were caught in all surveys (Beentjes et al. 2010, 2013, 2015, 2016, 2022, 2023; MacGibbon et al. 2019; B Finucci unpubl. data 2024).



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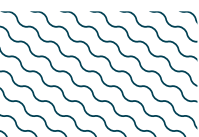
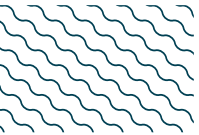
QUALIFYING SPECIES

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													
<i>Mustelus lenticulatus</i>	Rig	LC	0-1,000		X	X							
RAYS													
<i>Zearaja nasuta</i>	Rough Skate	LC	17-1,500		X	X							
CHIMAERAS													
<i>Callorhinchus milii</i>	Elephant Fish	LC	0-200			X							

SUPPORTING SPECIES

Scientific Name	Common Name	IUCN Red List Category
SHARKS		
<i>Galeorhinus galeus</i>	Tope	CR
<i>Squalus acanthias</i>	Spiny Dogfish	VU
RAYS		
<i>Tetronarce nobiliana</i>	Great Torpedo Ray	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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