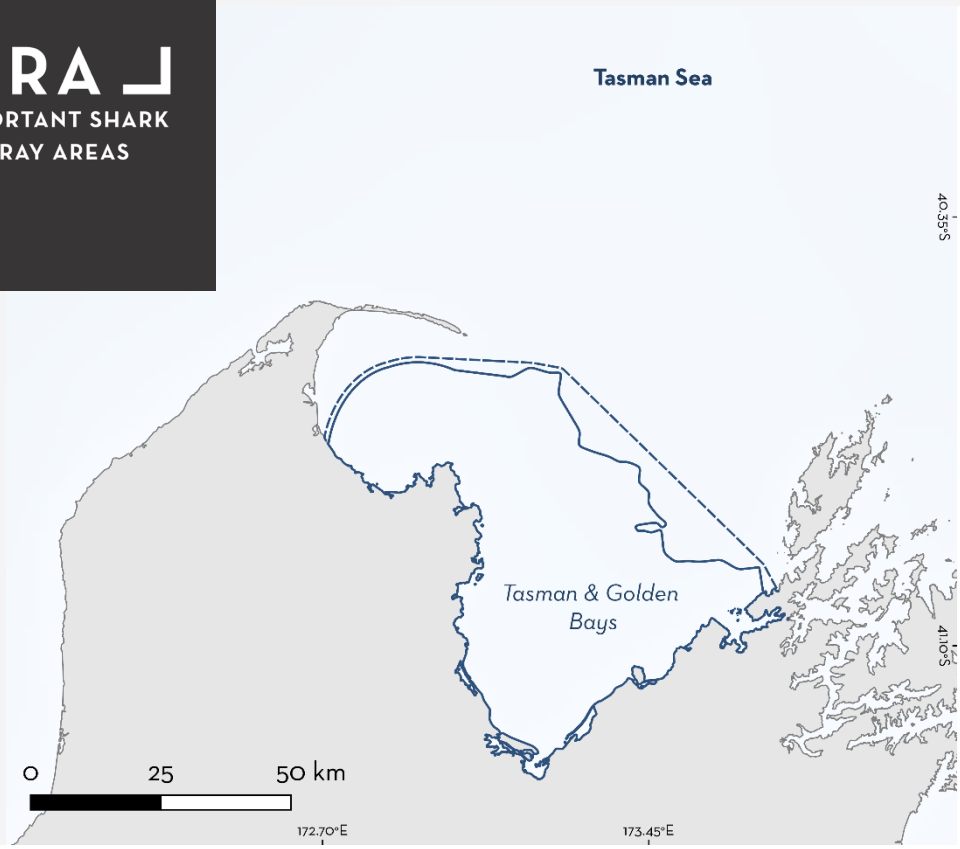
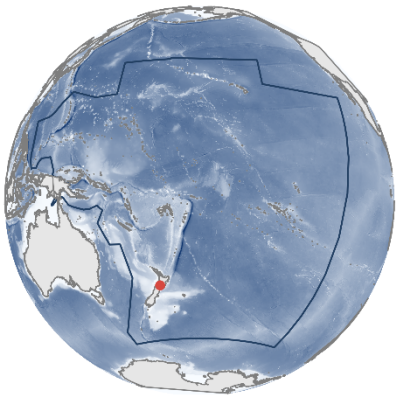
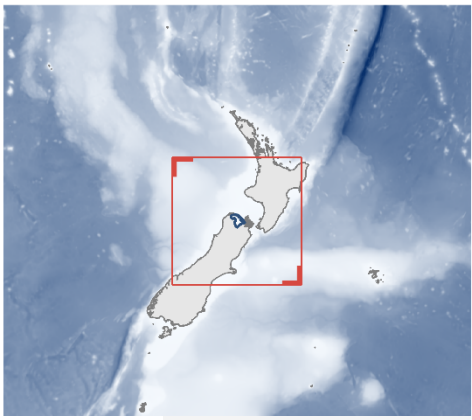
ISRA
IMPORTANT SHARK AND RAY AREAS







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

TASMAN & GOLDEN BAYS ISRA

New Zealand & Pacific Islands Region

NEW ZEALAND

0–66 metres

3,010.1 km²

SUMMARY

Tasman & Golden Bays is located in the north of New Zealand's South Island. The area is shallow and is characterised by a flat shelf with sandy and muddy substrates. Its circulation is dominated by wind and tidal flows with anticyclonic flows in the south and cyclonic flow in the north. The area includes several islands and receives freshwater input from multiple rivers. The area overlaps with the Cook Strait Key Biodiversity Area and two marine protected areas. Within this area there are: **threatened species** (e.g., Tope *Galeorhinus galeus*); **range-restricted species** (e.g., New Zealand Carpet Shark *Cephaloscyllium isabellum*); and **reproductive areas** (e.g., Rough Skate *Zearaja nasuta*).

CRITERIA

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

DESCRIPTION OF HABITAT

Tasman & Golden Bays is a shallow area located in the north end of New Zealand's South Island and sits in the Cook Strait. Tasman Bay extends ~120 km along the coast from d'Urville Island to Separation Point and includes multiple islands (e.g., Bell, Moturoa/Rabbit Island). Golden Bay extends from Separation Point to Farewell Spit, a sandspit ~ 26 km long. The area is characterised by a flat shelf with sandy and muddy substrates. Circulation in the Cook Strait is influenced by the d'Urville Current that flows along the northwest coast of the South Island and enters the strait where it mixes with east waters from the Canterbury Current (Chiswell et al. 2015, 2021). Within the bays, the circulation is dominated by wind and tidal flows with anticyclonic flows in the south and cyclonic flow in the north (Chiswell et al 2021). Tasman Bay has the highest tidal range in all New Zealand (up to 5 m). Tasman & Golden Bays receives input from multiple rivers, including Motukea, Waimea, Rikawa, and Maitai rivers.

The area overlaps with the Cook Strait Key Biodiversity Area (KBA 2024). In addition, it overlaps with the Tonga Island Marine Reserve and the Horoirangi Marine Reserve (UNEP-WCMC & IUCN 2024).

This Important Shark and Ray Area is benthic and pelagic and is delineated from inshore and surface waters (0 m) to 66 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 occurs in the area. This is the Critically Endangered Tope (Walker et al. 2020).

CRITERION B – RANGE RESTRICTED

This area holds the regular presence of the New Zealand Carpet Shark and Rig as resident range-restricted species. These species were regularly encountered in independent research surveys using demersal trawls (10–70 m depths) conducted in austral summer and autumn months (March–April) in 2009, 2011, 2013, 2015, 2017, 2019, 2021, and 2023 (Stevenson & Hanchet 2010; Stevenson 2012; MacGibbon & Stevenson 2013; Stevenson & MacGibbon 2015, 2018; MacGibbon 2019; MacGibbon et al. 2022, 2024). The two species are endemic to the New Zealand Shelf Large Marine Ecosystem and only occur in New Zealand waters.

For New Zealand Carpet Shark, 611 individuals were recorded in 2009, 2015, and 2017. The largest number of New Zealand Carpet Shark caught during research surveys around all of New Zealand conducted between 2009–2024 were recorded in Tasman & Golden Bays (Stevenson & Hanchet 2010; Stevenson 2012; MacGibbon & Stevenson 2013; Stevenson & MacGibbon 2015, 2018; MacGibbon 2019, MacGibbon et al. 2022, 2024; B Finucci unpubl. data 2024). New Zealand Carpet Shark were caught at depths of 21–65 m. In 2017, New Zealand Carpet Shark was caught in 41 of the 64 stations (64.1%) sampled in the area (Stevenson & MacGibbon 2018).

For Rig, 916 individuals were recorded in all surveys between 2009–2023 except for 2021. The second largest number of Rig caught during research surveys around all of New Zealand in that period were recorded in Tasman & Golden Bays (Stevenson & Hanchet 2010; Stevenson 2012; MacGibbon &

Stevenson 2013; Stevenson & MacGibbon 2015, 2018; MacGibbon 2019; MacGibbon et al. 2022, 2024; B Finucci unpubl. data 2024). Rig were caught at depths of 13–65 m. In 2023, Rig was caught in 42 of the 64 stations (65.6%) sampled in the area (MacGibbon et al. 2022).

SUB-CRITERION C1 – REPRODUCTIVE AREAS

Tasman & Golden Bays is an important reproductive area for two shark and one ray species.

Independent research surveys using demersal trawls (10–70 m depths) were conducted in the area during summer and autumn months (March–April) in 2009, 2011, 2013, 2015, 2017, 2019, 2021, and 2023 (Stevenson & Hanchet 2010; Stevenson 2012; MacGibbon & Stevenson 2013; Stevenson & MacGibbon 2015, 2018; MacGibbon 2019; MacGibbon et al. 2022, 2024). Young-of-the-year (YOY) individuals, and late-stage pregnant females (with near-term embryos) of Tope, Rig, and Rough Skate were regularly recorded in the area (B Finucci unpubl. data 2024).

For Tope, biological data were collected for 1,274 individuals caught in these surveys. Of these individuals, 575 (45.1%) measured 32.3–49.8 cm total length (TL) and were caught at depths of 14–66 m (B Finucci unpubl. data 2024). Animals were classified as YOY based on the reported size for this life stage in New Zealand (<50 cm TL; Francis & Mulligan 1998). Research surveys conducted throughout New Zealand revealed that the second largest number of YOY Tope were caught in Tasman & Golden Bays where YOY were present in all surveys conducted in the area (Stevenson & Hanchet 2010; Stevenson 2012; MacGibbon & Stevenson 2013; Stevenson & MacGibbon 2015, 2018; MacGibbon 2019; MacGibbon et al. 2022, 2024; B Finucci unpubl. data 2024).

For Rig, biological data were collected for 916 individuals caught in these surveys. Of these, 152 (16.5%) measured 33.6–45.0 cm TL and were caught at depths of 14–62 m (B Finucci unpubl. data 2024). These individuals were classified as YOY based on the reported size for this life stage in New Zealand (<45 cm TL; Francis & Francis 1992). Research surveys conducted throughout New Zealand revealed that the second largest number of YOY Rig were caught in Tasman & Golden Bays where YOY were present in all surveys conducted in the area (Stevenson & Hanchet 2010; Stevenson 2012; MacGibbon & Stevenson 2013; Stevenson & MacGibbon 2015, 2018; MacGibbon 2019; MacGibbon et al. 2022, 2024; B Finucci unpubl. data 2024). Of the 58 late-stage pregnant females collected during surveys throughout New Zealand, 62 were caught in Tasman & Golden Bays, as well as six early-stage pregnant females (B Finucci unpubl. data 2024). Rig has been reported to use very shallow estuaries and harbours (<10 m) along New Zealand as nursery areas (Francis et al. 2012) and Tasman & Golden Bays has discharges from multiple rivers that make it a suitable habitat for these early life stages.

For Rough Skate, biological data were collected for 223 individuals caught in these surveys. Of these individuals, 105 (47.1%) measured 17–30 cm TL and were caught at depths of 14–62 m (B Finucci unpubl. data 2024). These individuals were classified as YOY based on the reported size for this life stage in New Zealand (<30 cm TL; Francis et al. 2001). Research surveys conducted throughout New Zealand revealed that the third largest number of YOY Rough Skates were caught in Tasman & Golden Bays where YOY were present in surveys conducted in 2011, 2013, 2015, and 2017 (Stevenson & Hanchet 2010; Stevenson 2012; MacGibbon & Stevenson 2013; Stevenson & MacGibbon 2015; 2018; MacGibbon 2019, MacGibbon et al. 2022, 2024; B Finucci unpubl. data 2024). From the 58 late-stage pregnant females collected during surveys throughout New Zealand, three were caught in Tasman & Golden Bays (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												
Cephaloscyllium isabellum	New Zealand Carpet Shark	LC	0–700		X							
Galeorhinus galeus	Tope	CR	0–826	X		X						
Mustelus lenticulatus	Rig	LC	0–1,000		X	X						
RAYS												
Zearaja nasuta	Rough Skate	LC	17–1,500			X						

SUPPORTING SPECIES

Scientific Name	Common Name	IUCN Red List Category
SHARKS		
Alopias vulpinus	Common Thresher	VU
Carcharhinus brachyurus	Copper Shark	VU
Notorynchus cepedianus	Broadnose Sevengill Shark	VU
Squalus acanthias	Spiny Dogfish	VU
RAYS		
Bathytoshia brevicaudata	Smooth Stingray	LC
Bathytoshia lata	Brown Stingray	VU
Dipturus innominatus	Smooth Skate	LC
Myliobatis tenuicaudatus	Southern Eagle Ray	LC
Tetronarce nobiliana	Great Torpedo Ray	LC
CHIMAERAS		
Callorhinchus milii	Elephant Fish	LC
Hydrolagus novaezealandiae	Dark Ghostshark	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.

SUPPORTING INFORMATION

There are additional indications that this area is important for the reproductive purposes of two shark species.

Trawl surveys conducted in the area between 2009–2023 recorded 89 YOY and two late-stage pregnant females of Spiny Dogfish (B Finucci unpubl. data 2024). In addition, during these surveys, four YOY New Zealand Carpet Shark were also recorded (B Finucci unpubl. data 2024). Additional information is needed to confirm the regular use of this area and to confirm its reproductive importance for these species.

REFERENCES

Chiswell SM, Bostock HC, Sutton PJH, Williams MJM. 2015 Physical oceanography of the deep seas around New Zealand: a review. *New Zealand Journal of Marine and Freshwater Research* 49: 286–317. https://doi.org/10.1080/00288330.2014.992918

Chiswell SM, Stevens CL, Macdonald HS, Grant BS, Price O. 2021. Circulation in Tasman-Golden bays and Greater Cook Strait, New Zealand. *New Zealand Journal of Marine and Freshwater Research* 55: 223–248. https://doi.org/10.1080/00288330.2019.1698622

Francis MP, Francis I. 1992. Growth rate estimates for New Zealand Rig (*Mustelus lenticulatus*). *Australian Journal of Marine and Freshwater Research* 43: 1157–1176. https://doi.org/10.1071/MF9921157

Francis M, Lyon W, Jones E, Notman P, Parkinson D, Getzlaff C. 2012. Rig nursery grounds in New Zealand: a review and survey. New Zealand Aquatic Environment and Biodiversity Report No. 95. Wellington: Ministry for Primary Industries.

Francis MP, Maolagáin CÓ, Stevens D. 2001. Age, growth, and sexual maturity of two New Zealand endemic skates, *Dipturus nasutus* and *D. innominatus*. *New Zealand Journal of Marine and Freshwater Research* 35: 831–842. https://doi.org/10.1080/00288330.2001.9517045

Francis MP, Mulligan KP. 1998. Age and growth of New Zealand school shark, Galeorhinus galeus. *New Zealand Journal of Marine and Freshwater Research* 32: 427–440. https://doi.org/10.1080/00288330.1998.9516835

Key Biodiversity Areas (KBA). 2024. Key Biodiversity Areas factsheet: Cook Strait. Available at: https://www.keybiodiversityareas.org/site/factsheet/44638 Accessed September 2024.

MacGibbon DJ. 2019. Inshore trawl survey of the west coast South Island and Tasman and Golden Bays, March–April 2019 (KAH1902) New Zealand Fisheries Assessment Report 2019/64. Wellington: Ministry of Primary Industries.

MacGibbon DJ, Stevenson ML. 2013. Inshore trawl survey of the west coast South Island and Tasman and Golden Bays, March–April 2013 (KAH1305). New Zealand Fisheries Assessment Report 2013/66. Wellington: Ministry of Primary Industries.

MacGibbon DJ, Walsh C, Buckthought D, Bian R. 2022. Inshore trawl survey off the west coast South Island and in Tasman Bay and Golden Bay, March-April 2021 (KAH2103). New Zealand Fisheries Assessment Report 2022/11. Wellington: Ministry of Primary Industries.

MacGibbon DJ, Walsh C, Buckthought D, Bian R. 2024. Inshore trawl survey off the west coast South Island and in Tasman Bay and Golden Bay, March–April 2023 (KAH2302). New Zealand Fisheries Assessment Report 2024/06. Wellington: Ministry of Primary Industries.

Stevenson ML. 2012. Inshore trawl survey of the west coast South Island and Tasman and Golden Bays, March–April 2011 (KAH1104). New Zealand Fisheries Assessment Report 2012/50. Wellington: Ministry of Primary Industries.

Stevenson ML, Hanchet SM. 2010. Inshore trawl survey of the west coast of the South Island and Tasman and Golden Bays, March–April 2009 (KAH0904). New Zealand Fisheries Assessment Report 2010/11. Wellington: Ministry of Fisheries.

Stevenson ML, MacGibbon DJ. 2015. Inshore trawl survey of the west coast South Island and Tasman and Golden Bays, March–April 2015 (KAH1503). New Zealand Fisheries Assessment Report 2015/67. Wellington: Ministry of Primary Industries.

Stevenson ML, MacGibbon DJ. 2018. Inshore trawl survey of the west coast South Island and Tasman and Golden Bays, March–April 2017 (KAH1702). New Zealand Fisheries Assessment Report 2018/18. Wellington: Ministry of Primary Industries.

UNEP-WCMC & IUCN. 2024. Protected Planet: The World Database on Protected Areas (WDPA) and World Database on Other Effective Area-based Conservation Measures (WD-OECM) [Online], February 2024, Cambridge, UK: UNEP-WCMC and IUCN. Available at: www.protectedplanet.net. Accessed February 2024.

Walker TI, Rigby CL, Pacoureau N, Ellis J, Kulka DW, Chiaramonte GE, Herman K. 2020. *Galeorhinus galeus. The IUCN Red List of Threatened Species 2020*: e.T39352A2907336. https://dx.doi.org/10.2305/IUCN.UK.2020-2.RLTS.T39352A2907336.en