

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

## MARLBOROUGH SOUNDS ISRA

### New Zealand & Pacific Islands Region

#### SUMMARY

Marlborough Sounds is located at the top of the South Island of New Zealand. This drowned river valley system includes two main sounds with multiple bays and islands: Pelorus Sound in the north and Queen Charlotte Sound in the southeast. The sides of the bays and main body of the sounds generally consist of rocky reefs, cobbles and boulders, with silty sands and muds dominating deeper areas. Muddy and sandy substrates are common in the area along with biogenic substrates. The area overlaps with the Marlborough Sounds Key Biodiversity Area. Within this area there are: **reproductive areas** (Elephant Fish *Callorhinchus milii*).

#### CRITERIA

##### Sub-criterion C1 - Reproductive Areas

—	—
<b>NEW ZEALAND</b>	—
—	—
<b>0-50 metres</b>	—
—	—
<b>98.89 km<sup>2</sup></b>	—
—	—





## DESCRIPTION OF HABITAT

Marlborough Sounds is located at the top of the South Island of New Zealand. This drowned river valley system includes two main sounds with multiple bays and islands: Pelorus Sound in the north and Queen Charlotte Sound in the southeast (Davidson et al. 2011). The area has a high input of terrigenous sediments mostly in subtidal areas (Urlich & Handley 2020). Soft sediments, coarse sands, and gravel are common in high current areas while rocky reefs are abundant in outer sounds (Urlich & Handley 2020). Shallow bays (<18 m depths) are also characterised by sandy, shelly, and silt substrates (Davidson et al. 2018). Pelorus Sound includes three main bays (Fitzroy Bay, Penzance Bay, and Matai Bay), multiple smaller bays (e.g., Garne and Savill Bays) and one main arm: Tennyson Inlet. This sound is characterised by soft sediments and rocky areas with patches of tubeworms, bryozoans, sponges, and ascidians (Davidson et al. 2018). Queen Charlotte Sound includes two large inlets (Endeavour inlet and East Bay, Arapawa Island), one main arm (Grove Arm) ~20 large bays (e.g., Kumutoto Bay), and multiple small coves (Davidson et al. 2018). Mud is the most common substrate in the sound although coarse, silty, shelly, and sandy substrates are common in the lower slopes and marginal bays (Davidson et al. 2018).

The area overlaps with the Marlborough Sounds Key Biodiversity Area (KBA 2024).

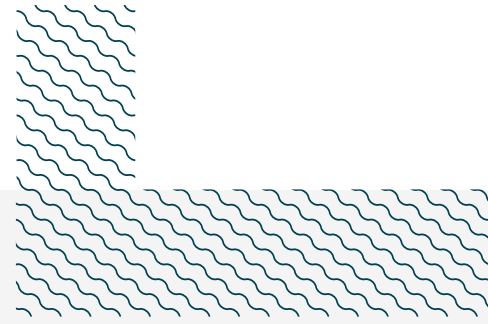
This Important Shark and Ray Area is benthic and is delineated from surface waters (0 m) to 50 m based on the bathymetry of the area.

## ISRA CRITERIA

### SUB-CRITERION C1 – REPRODUCTIVE AREAS

Marlborough Sounds is an important reproductive area for one chimaera species.

Elephant Fish egg cases have been regularly recorded in two areas in Marlborough Sounds: Pelorus Sound and Queen Charlotte Sound. Between 2016–2017, surveys with camera stations and underwater video recorded by divers, were conducted at 14 sites across Pelorus Sound, including Fitzroy Bay and Tennyson Inlet (Davidson et al. 2018). A high number of live and hatched egg cases were found in Tennyson Inlet in sandy and silt substrates. This site was qualitatively assessed as supporting the highest abundance of egg cases in all Marlborough Sounds (Davidson et al. 2018). In addition, four egg cases were collected from 13 replicate quadrants (10 m<sup>2</sup>) deployed in Garne and Savill Bays (Fitzroy Bay; Davidson et al. 2018). Between 2018–2019, 106 live and hatched egg cases were recorded in four surveys conducted at Garne Bay, Penzance Bay, and Savil Bay (all in Pelorus Sound) with densities of 0.4–3.25 egg cases/10 m<sup>2</sup> for live eggs and 2.5–9.25 egg cases/10m<sup>2</sup> for hatched eggs (Davidson et al. 2019). Marlborough Sounds has been previously recognised as a significant habitat for Elephant Fish spawning. In 2011, it was reported that multiple sites within this area serve as spawning grounds for Elephant Fish, with higher densities of egg cases found at depths 4–12 m in Game Bay (Pelorus Sound) and in Kumutoto Bay and Grove Arm (Queen Charlotte Sound; Davidson et al. 2011). Previously, between April–May 2004, 115 egg cases were collected in Pelorus Sound and Queen Charlotte Sound at depths <10 m by snorkelers (Lyon et al. 2011). There are also historical observations of Elephant Fish egg cases in this area. Between 1989–1990, egg cases were recorded at 21 locations in the Queen Charlotte and Pelorus Sounds in mud and sandy substrates at depths between 6–20 m (Hurst et al. 2000). For this area, it has been reported that Elephant Fish lay their eggs between November–January and are estimated to hatch in May and June (Francis 1997).



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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>CHIMAERAS</b>												
<i>Callorhinchus milii</i>	Elephant Fish	LC	0-200			X						

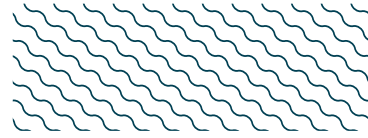
## SUPPORTING SPECIES

Scientific Name	Common Name	IUCN Red List Category
<b>SHARKS</b>		
<i>Carcharhinus brachyurus</i>	Copper Shark	VU
<i>Cephaloscyllium isabellum</i>	Carpet Shark	LC
<i>Mustelus lenticulatus</i>	Rig	LC
<i>Squalus acanthias</i>	Spiny Dogfish	VU
<b>RAYS</b>		
<i>Bathytoshia brevicaudata</i>	Smooth Stingray	LC
<i>Myliobatis tenuicaudatus</i>	Southern Eagle Ray	LC
<i>Zearaja nasuta</i>	Rough Skate	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.*



## SUPPORTING INFORMATION



There are additional indications that this area is important for one range-restricted ray species and for reproductive purposes of one shark and one ray species.

There are some observations of New Zealand Carpet Shark eggs around Marlborough Sound, including off Trio Islands and D'Urville Island at ~20-25 m depth. More information is needed to confirm their regularity and the reproductive importance of the area.

It has been reported that Rough Skates lay their eggs at different sites along the Marlborough Sounds, like the Grove Arm between Ngakuta and Governor's Bays. More information is needed to confirm their regularity and the reproductive importance of the area.



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