

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

PORCUPINE BANK ISRA

European Atlantic Region

SUMMARY

Porcupine Bank is located on the Irish continental shelf, ~200 kilometres west of Ireland. The area is characterised by seamounts and two large canyons and a diverse benthos. It is influenced by current circulation patterns, causing the accumulation of nutrient rich waters. The north of the area is dominated by hard ground, with small areas of soft sediment, while the southern part has soft sediment with occasional boulders and pebbles. Within this area there are: **threatened species** (e.g., Rabbitfish *Chimaera monstrosa*), **reproductive areas** (Bluntnose Sixgill Shark *Hexanchus griseus*), and the area sustains a **high diversity of sharks** (13 species).

CRITERIA

Criterion A - Vulnerability; Sub-criterion C1 - Reproductive Areas; Sub-criterion D2 - Diversity

IRELAND

200-1,500 metres

38,427.4 km²





DESCRIPTION OF HABITAT

Porcupine Bank is a raised area on the Irish continental shelf, ~200 km west of Ireland. It lies at the continental margin of the Northeast Atlantic and it slopes into the Rockall Trough to the north and west and Porcupine Seabight to the east. The area borders the southern part of the Rockall Trough, an area of deeper water reaching >2,500 m deep, running in a northeast-southwest direction. A second canyon occurs in the south of the area with depths >2,000 m. The area is characterised by seamounts midway along the main channel (NPWS 2024a).

Current circulation patterns around the Irish margin cause the accumulation of nutrient rich waters on the tops of banks, providing enriched food sources to the canyons and carbonate mounds occurring at the bank. The benthos is characterised by black, soft, and gorgonian corals, as well as sponges (including encrusting forms), desmospongia, and glass sponges (NPWS 2024b). The substrate in the north of the Porcupine Bank is dominated by hard ground, with small areas of soft sediment. The southern part of the area has soft sediment with occasional boulders and pebbles. Throughout the bank there are terraces, cliffs, overhangs, and boulders (NPWS 2024a).

This Important Shark and Ray Area is benthic, pelagic, and subsurface and is delineated from 200-1,500 m based on the bathymetry of the area.

ISRA CRITERIA

CRITERION A - VULNERABILITY

Eight Qualifying Species considered threatened with extinction according to the IUCN Red List of Threatened Species regularly occur in the area. An additional three Qualifying Species considered threatened with extinction according to the Ireland Red List No. 11: Cartilaginous Fish regularly occur in the area. Threatened sharks comprise one Critically Endangered species and four Vulnerable species; threatened rays comprise two Critically Endangered species, two Endangered species, and one Vulnerable species; threatened chimaeras comprise one Vulnerable species (IUCN 2025).

SUB-CRITERION C₁ - REPRODUCTIVE AREAS

Porcupine Bank is an important reproductive area for two shark species.

Data were obtained from the Database of Trawl Surveys (DATRAS; ICES 2025). These surveys are conducted annually as part of an internationally coordinated bottom trawl survey programme.

Between 2010-2024, 583 neonate Blackmouth Catsharks (<17 cm) were recorded from trawl surveys (ICES 2025). Near-term embryos are estimated at 7.5 cm total length (TL) (Capapé et al. 2008), and the smallest free-swimming specimens reported in the literature have been in the range of 9 cm TL (Costa et al. 2005), 7-9 cm TL (Ragonese et al. 2009), 10 cm TL (Rey et al. 2005), and 12.5 cm TL (Capapé et al. 2008). As such, size-at-birth is likely to be 8 - 10 cm TL. These neonates were found in the area every year from 2010-2024 (2010: n = 23; 2011: n = 27; 2012: n = 30; 2013: n = 56; 2014: n = 87; 2015: n = 91; 2016: n = 72; 2017: n = 32; 2018: n = 48; 2019: n = 23; 2020: n = 7; 2021: n = 30; 2022: n = 21; 2023: n = 20; and 2024: n = 16). These data were collected from standardised surveys which are conducted annually in September and October. Additional temporal data are required to confirm seasonality of the reproductive use of this area by this species. Further, in July 2021, the Marine Institute of Ireland's SeaRover survey deployed a remotely operated vehicle (ROV) and captured footage of thousands of live Blackmouth Catshark egg cases within the area (Marine Institute 2022)

highlighting the use of this area by pregnant females.

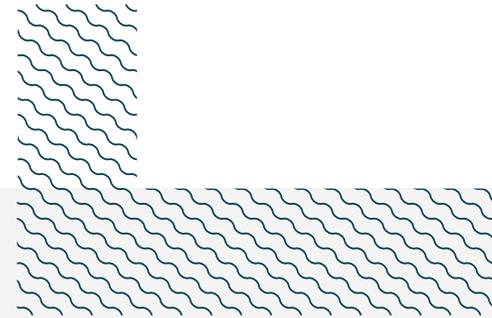
Overall, 151 Bluntnose Sixgill Sharks were recorded within the area. The vast majority (87.4%; n = 132) of them were estimated to be neonate/young-of-the-year (YOY) measuring <130 cm TL (size-at-birth of this species is estimated 61-74 cm TL; size-at-maturity is estimated at 310-330 cm TL for males and 400 cm TL for females; Ebert et al. 2021). Of these, 32 (21.2%) could be classed as neonates measuring <74 cm TL. Neonate/YOY Bluntnose Sixgill Sharks were recorded within this area every year from 2010-2024 (ICES 2025). In 7 of the 15 years in which Bluntnose Sixgill Sharks were captured in this area, all individuals were YOY/neonate (2010: n = 7; 2012: n = 13; 2013: n = 21; 2015: n = 6; 2018: n = 5; 2019: n = 13; and 2021: n = 1). In the remaining 8 years in which Bluntnose Sixgill Sharks were captured in this area, the large majority of individuals captured were either YOY or neonate (2011: n = 9 out of 10; 2014: n = 8 out of 11; 2016 n = 14 out of 15; 2017 n = 6 out of 7; 2020 n = 8 out of 9; 2022 n = 4 out of 6; 2023 n = 8 out of 12; and 2024 n = 9 out of 15).

SUB-CRITERION D2 – DIVERSITY

Porcupine Bank sustains a high diversity of Qualifying Species (13 species). This meets the regional diversity threshold (13 species) for the European Atlantic region.

Data between 2010-2025 from the Database of Trawl Surveys (DATRAS; ICES 2025) confirm the regular and predictable presence of these species in the area. These surveys are conducted annually as part of an internationally coordinated bottom trawl survey programme. Further data from Irish commercial fisheries collected between 2003-2021 also support the regular occurrence of these species.

Two threatened species are very common (i.e., averaging more than 100 occurrences per year in the 15 years analysed) in this area: Velvet Belly Lanternshark (n = 2,603 in 15 of 15 years) and Rabbitfish (n = 3,334 in 12 of 15 years). Two other threatened species were found every year but in lower numbers due to lower population sizes: Sandy Skate (n = 170) and Cuckoo Skate (n = 366). An additional two threatened species occurred in nearly all of the years analysed: Kitefin Shark (n = 181 in 11 of 15 years) and Norwegian Skate (n = 79 in 12 of 15 years). The remaining six threatened species occur regularly and predictably but over fewer years or in lower numbers: Portuguese Dogfish (n = 74 in 6 of 15 years), Longnose Velvet Dogfish (n = 29 in 7 of 15 years), Common Blue Skate (n = 101 in 7 of 15 years), Flapper Skate (n = 68 in 8 of 15 years), and Spiny Dogfish (n = 93 in 8 of 15 years). Two non-threatened species are regularly and predictably found in the area: the Bluntnose Sixgill Shark (n = 175 in 15 of 15 years) and the Blackmouth Catshark (n = 28,680 in 15 of 15 years).



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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>Centroscymnus coelolepis</i>	Portuguese Dogfish	CR*	128-3,675	X									X
<i>Centroselachus crepidater</i>	Longnose Velvet Dogfish	VU*	200-2,080	X									
<i>Dalatias licha</i>	Kitefin Shark	VU	37-1,800	X									
<i>Etmopterus spinax</i>	Velvet Belly Lanternshark	VU	70-2,000	X									
<i>Galeus melastomus</i>	Blackmouth Catshark	LC	55-2,000			X							
<i>Hexanchus griseus</i>	Bluntnose Sixgill Shark	NT	0-2,490			X							
<i>Squalus acanthias</i>	Spiny Dogfish	VU	0-1,978	X									
RAYS													
<i>Dipturus batis</i>	Common Blue Skate	CR	10-600	X									X
<i>Dipturus intermedius</i>	Flapper Skate	CR	20-1,500	X									
<i>Dipturus nidarosiensis</i>	Norwegian Skate	EN	125-1,573	X									

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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	
RAYS													
<i>Leucoraja circularis</i>	Sandy Skate	EN	50-800	X									X
<i>Leucoraja naevus</i>	Cuckoo Skate	VU*	10-900	X									
CHIMAERAS													
<i>Chimaera monstrosa</i>	Rabbitfish	VU	120-1,663	X									X

*Species threatened according to the Irish Red List of Threatened Species (Clarke et al. 2016)

SUPPORTING SPECIES

Scientific Name	Common Name	IUCN Red List Category
SHARKS		
<i>Deania calceus</i>	Birdbeak Dogfish	NT
<i>Deania profundorum</i>	Arrowhead Dogfish	NT
RAYS		
<i>Dipturus oxyrinchus</i>	Longnosed Skate	VU
<i>Raja clavata</i>	Thornback Skate	NT
<i>Raja montagui</i>	Spotted Skate	LC
CHIMAERAS		
<i>Chimaera opalescens</i>	Opal Chimaera	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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