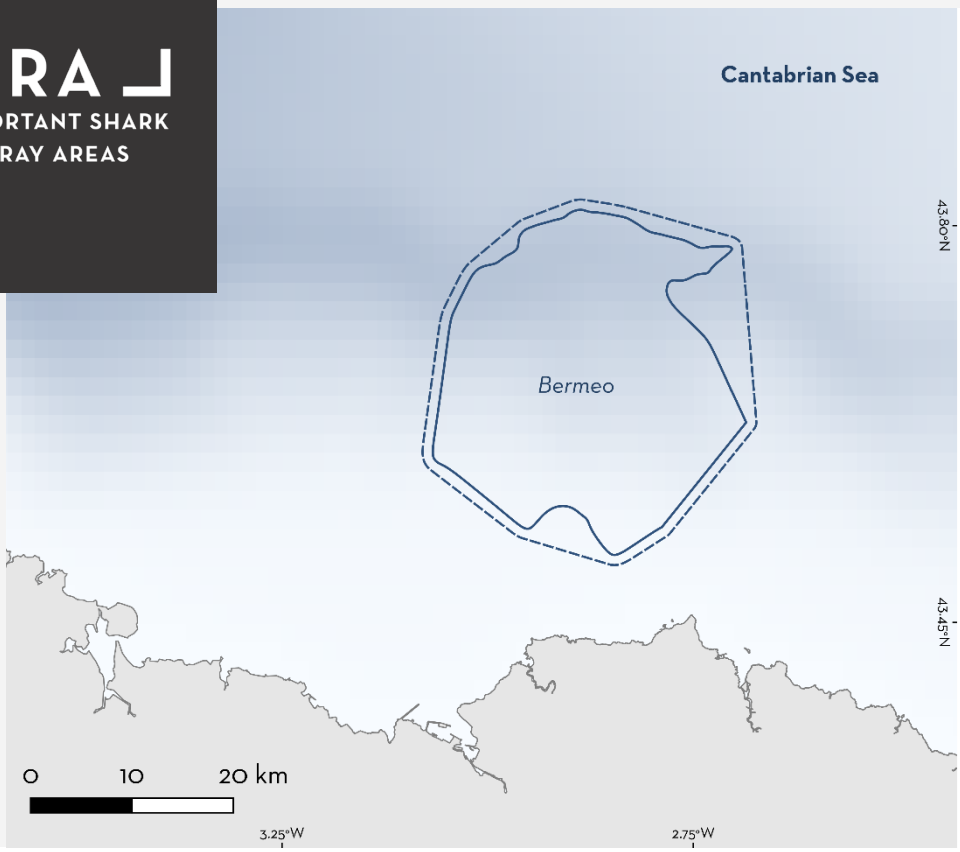
ISRA
IMPORTANT SHARK AND RAY AREAS



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

BERMEO ISRA

European Atlantic Region

SPAIN

0–1,800 metres

708.1 km²

SUMMARY

Bermeo is located offshore of Vizcaya and Guipúzcoa provinces, Basque Country, Spain. This area encompasses part of the continental shelf and the slope towards the Capbreton canyon system. The habitat is characterised by rocky, sandy-muddy, and sandy substrates with pockmarks. The area is influenced by a marked seasonal stratification and mixing, with moderate wind-driven upwelling, eddies, and freshwater input from local rivers, contributing to nutrient enrichment and enhanced primary productivity. The area overlaps with the Cantabrian Sea (Southern Bay of Biscay) Ecologically or Biologically Significant Marine Area. Within this area there are: **reproductive areas** (Blue Shark *Prionace glauca*).

CRITERIA

Sub-criterion C1 – Reproductive Areas

DESCRIPTION OF HABITAT

Bermeo is located offshore of Vizcaya and Guipúzcoa provinces, Basque Country, Spain. This area encompasses part of the continental shelf and part of the slope towards the Capbreton canyon system. Bermeo is characterised by shallower areas on the continental shelf which are predominantly rocky and occasionally covered by sandy-muddy and sandy substrates, to the slope in which muddy-sandy or muddy sedimentation predominates with the presence of contourite channels with pockmarks (cone-shaped, circular, or elliptical depressions) (Jané et al. 2010; Galparsoro et al. 2020).

The area is influenced by a marked seasonal stratification and mixing, typical of temperate seas. During the boreal winter, the water column is fully mixed, whereas in spring and summer, surface warming leads to strong thermal stratification (Mason et al. 2006). The region also experiences moderate wind-driven upwelling and freshwater input from local rivers, contributing to nutrient enrichment and enhanced primary productivity (ICES 2022). In addition, the area is influenced by dynamic mesoscale features, including shelf-break fronts and eddies (Fernández et al. 2004; Borja et al. 2019). Submarine canyons along the continental slope off the Basque coast carry organic material downward, linking surface and deepwater ecosystems, and boosting local productivity and habitat diversity (van den Beld et al. 2017). Within the area, the anchovy *Engraulis encrasicolus* spawns seasonally from March to August, a process triggered by the warming of surface waters and the onset of water column stratification (Motos et al. 1996).

The area overlaps with the Cantabrian Sea (Southern Bay of Biscay) Ecologically or Biologically Significant Marine Area (EBSA; CBD 2025).

This Important Shark and Ray Area is pelagic and is delineated from inshore and surface waters (0 m) to 1,800 m based on the bathymetry of the area and the depth range of the Qualifying Species.

ISRA CRITERIA

SUB-CRITERION C1 – REPRODUCTIVE AREAS

Bermeo is an important reproductive area for one shark species.

Between 2003–2018, information was gathered from fisheries data from longline and purse seine observer programs in the Bay of Biscay (Druon et al. 2022). High capture rates of small-sized Blue Sharks (30–125 cm fork length [FL]) during July–December were reported from this area and surrounding waters. Size-at-birth for the species in the region is 39–41 cm FL (Skomal & Natanson 2003), with an estimated size of 95–100 cm FL for young-of-year (YOY) (Carlson et al. 2023), indicating that some of these individuals were neonates and YOY. Additionally, between 2020–2024, recreational snorkelling with Blue Sharks was conducted annually in the area and surrounding waters from June–October, averaging 15 trips per month. Chumming was used to attract the sharks to the surface. Between 2020–2024, Blue Sharks were observed during 194 shark snorkelling trips. From 2021–2024, a total of 17 individuals exhibited fresh mating scars, nine of which were confirmed to be females (C Barría et al. unpubl. data 2025). These individuals were sighted between July–October (C Barría et al. unpubl. data 2025). In 2023, one mating attempt was recorded in the area (L Vossgaetter pers. comm. 2025). Although Blue Sharks are widely distributed throughout the region, the regular and predictable presence of neonates, YOY, and mating behaviour highlights the importance of Bermeo as a reproductive area.

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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												
Prionace glauca	Blue Shark	NT	0–1,792			X						

SUPPORTING SPECIES

Scientific Name	Common Name	IUCN Red List Category
SHARKS		
Alopias vulpinus	Common Thresher	VU
Centrophorus granulosus	Gulper Shark	EN
Centrophorus squamosus	Leafscale Gulper Shark	EN
Centroscymnus coelolepis	Portuguese Dogfish	NT
Centroscymnus crepidater	Longnose Velvet Dogfish	NT
Cetorhinus maximus	Basking Shark	EN
Deania calceus	Birdbeak Dogfish	NT
Etmopterus princeps	Great Lanternshark	LC
Etmopterus pusillus	Smooth Lanternshark	LC
Isurus oxyrinchus	Shortfin Mako	EN
Lamna nasus	Porbeagle	VU
Scyliorhinus canicula	Smallspotted Catshark	LC
Scymnodon ringens	Knifetooth Dogfish	VU
Sphyrna zygaena	Smooth Hammerhead	VU
RAYS		
Leucoraja naevus	Cuckoo Skate	NT
Pteroplatytrygon violacea	Pelagic Stingray	LC
Raja clavata	Thornback Skate	NT
Raja montagui	Spotted Skate	LC
Raja undulata	Undulate Skate	NT
CHIMAERAS		
Hydrolagus affinis	Small-eyed Rabbitfish	LC
Hydrolagus pallidus	Pale 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.

SUPPORTING INFORMATION

There are additional indications that Bermeo is a potential reproductive area for one shark and one ray species and a potential feeding area for one shark species.

Between 2017–2024, news reports and social media posts were collected about Porbeagle in the area and surrounding waters (which recorded 22 sharks) (Diario Vasco 2017; El Correo 2018; Verballenas 2019; C Barría et al. unpubl. data 2025). Additionally, between 2020–2024, a citizen science project was carried out in the area collaborating with sport fishers around Bermeo (which recorded 11 sharks). Fishers voluntarily reported their catches, accompanied by photos, location, size, and maturity stage (described based on size and presence of open umbilical scars) (C Barría et al. unpubl. data 2025). Between 2020–2024, a total of 11 Porbeagle neonate and YOY (two individuals from social media and nine from fisher's reports) were captured in the area and surrounding waters ranging in size from 50–130 cm TL, all showing umbilical scars (C Barría et al. unpubl. data 2025). Size-at-birth for the species is 60–80 cm TL (Ebert et al. 2021), with an estimated growth during the first year of 25 cm/year (Natanson et al. 2002). Captures occurred between November–April in 2020 (n = 1), 2021 (n = 1), 2023 (n = 7), and 2024 (n = 2) (C Barría et al. unpubl. data 2025). This represents one of the only areas where Porbeagles at early life stages are regularly and predictably observed in this region. Porbeagles generally segregate by temperature and latitude, with neonates and YOY being observed in warmer waters than adults and juveniles (Semba et al. 2013). Further information is required to determine the importance of the area for the reproduction of the species.

Between 2023–2024, three late-stage pregnant female Pelagic Stingrays, inferred from observations of distended abdomens were observed in the area during previously mentioned recreational snorkelling trips. Pregnant females were observed in August of 2023 and 2024 (I Cruz pers. obs. 2024). Further information is required to determine the importance of the area for the reproduction of the species.

Between 2020–2024, recreational snorkelling with Blue Sharks was conducted annually in the area and surrounding waters from June–October, averaging 15 trips per month, with a total of 194 trips with Blue Shark sightings. Chumming was used to attract the sharks to the surface, but sharks were never fed. Blue Sharks have been observed actively feeding on schools of fish in this area each year (with at least one documented event per year) (I Cruz pers. obs. 2025). Aggregations of the species were regularly observed in this area from June–September (C Barría et al. unpubl. data 2025; Observadores del Mar unpubl. data 2025). During this period Blue Shark aggregations with >3 individuals (68% of the observations, n = 132) and up to 15 individuals (mean = 4 individuals) were observed in 2020 (n = 32 aggregations), 2021 (n = 34), 2022 (n = 29), 2023 (n = 20), and 2024 (n = 17) (C Barría et al. unpubl. data 2025). Additionally, between 2021–2024, during July–September, two aggregations of >4 individuals actively feeding on anchovy schools were recorded (I Cruz unpubl. data 2025). The size of Blue Sharks within these aggregations was visually estimated as juveniles (<130 cm FL) and sub-adults (<179 cm FL) (I Cruz unpubl. data 2025). These observations have been corroborated through informal interviews with local fishers, who also report consistent annual sightings of Blue Sharks feeding on pelagic fish aggregations during summer and early autumn (I Cruz pers. obs. 2025). Feeding events on small pelagic fish from the family Clupeidae occurs seasonally from July–September (I Cruz unpubl. data 2025). The area experiences stable and predictable environmental conditions (Motos et al. 1996), creating suitable habitat for aggregations of Blue Shark prey (such as anchovies) from March–October (Borja et al. 2019). Furthermore, this area and surrounding waters have been identified as highly suitable foraging habitat for neonates, YOY, and small juveniles (30–125 cm FL), based on surface water temperature, mixed layer depth (up to 100 m), sea surface height, and Blue Shark capture data collected between 2003–2018 (Druon et al.

2022). Further information is required to determine the importance of the area for the feeding of the species.

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