

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

TRÉGOR ISRA

European Atlantic Region

SUMMARY

Trégor is located on the northern coast of Brittany in France. This area comprises coastal bays, rocky islands, and pelagic waters of the western English Channel. The habitat is characterised by rocky substrates, sand, coarse sediments, kelp, algae, and some patches of seagrass. The area is influenced by strong currents and a large tidal variation. Within this area there are: **threatened species**; **reproductive areas**; and **undefined aggregations** (Porbeagle *Lamna nasus*).

CRITERIA

Criterion A - Vulnerability; Sub-criterion C1 - Reproductive Areas; Sub-criterion C5 - Undefined Aggregations

FRANCE

0-45 metres

5.95 km²





DESCRIPTION OF HABITAT

Trégor is located on the northern coast of Brittany in France. This area comprises coastal bays, rocky islands, and pelagic waters of the western English Channel. There is a steep rocky slope close to the coast (Jung et al. 2024). The granitic rocks here have an unusual magnetic anomaly (Jung et al. 2024). The habitat is characterised by rocky reefs, sand, coarse sediments, kelp forests (*Laminaria* spp.), seagrass beds (*Zostera marina*), and red algae. It is influenced by strong tidal currents and large tidal variations.

This Important Shark and Ray Area is pelagic and is delineated from inshore and surface waters (0 m) to 45 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 Vulnerable Porbeagle (Rigby et al. 2019).

SUB-CRITERION C1 – REPRODUCTIVE AREAS

Trégor is an important reproductive area for one shark species.

Pregnant Porbeagle are regularly and predictably observed in this area each year (Jung et al. 2024; A Jung et al. unpubl. data 2025). In-water snorkelling surveys were conducted in this area between April–September from 2021–2025, with surveys in April (n = 2), May (n = 3), June (n = 15), July (n = 14), August (n = 8), and September (n = 10) (Jung et al. 2024; A Jung et al. unpubl. data 2025). Surveys used an olfactory attraction bait attached to a 15 m long rope and were limited to 90 minutes. Porbeagles were filmed, identified using the lateral line pattern and any other distinctive marks, and their size was either estimated visually or with the help of parallel lasers (from 2022 onwards). Records from other divers using the area were also recorded.

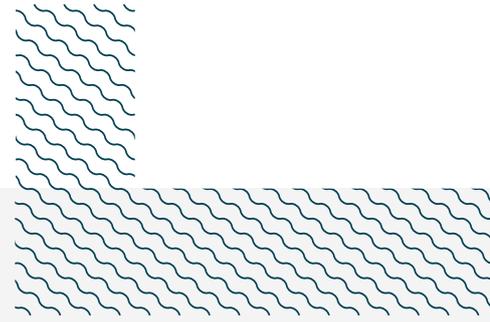
A total of 226 encounters of 158 individual Porbeagles were recorded during this period. Across the encounters, six sharks were estimated to be between 120–160 cm fork length (FL), 81 sharks were between 170–190 cm FL, 97 sharks were between 200–220 cm FL, and 42 sharks were between 230–250 cm FL (noting that individuals were measured each time they were encountered). Almost all sharks were females, except two immature males measuring 140 and 180 cm FL and one mature male (200 cm FL). There were 181 immature and subadult females (81%) with a size of <218 cm FL and 42 mature females (19%) of >218 cm FL. The size at which 50% of females are mature is 218 cm FL for this species (Jensen et al. 2002). Among the 42 mature females, fifteen were pregnant (35% of mature females) with visibly extended abdomens recorded in April (n = 2), June (n = 10), July (n = 2), and August (n = 1). The wide extension of the abdomen suggests that these individuals were in the late stages of pregnancy and potentially using this area to gestate. Additionally, one female was pregnant in July 2023 and was then seen again post-partum in August 2023, suggesting that they pup either in this area or nearby. One potential mating attempt was also observed in October 2024. It is possible that mating occurs later in the year, outside the surveys, but observations are too limited to draw a definitive conclusion. Trégor is the only known location in the region where pregnant Porbeagles are regularly observed.

SUB-CRITERION C5 - UNDEFINED AGGREGATIONS

Trégor is an important area for undefined aggregations of one shark species.

During the surveys outlined above, a total of 226 encounters of 158 different individuals were recorded. Porbeagles show a degree of site fidelity to this area, with 24 individuals re-sighted in separate years (15%) and three individuals sighted in six consecutive years. The number of different sharks observed on a dive ranges from 0-9 with a mean of 2-4 individuals, depending on the month. Groups of 2-3 Porbeagles are common during the scientific dive surveys. Additionally, up to nine animals have been observed during a single dive (Jung et al. 2024). Over the 2015-2024 surveys, in April there were only two dives with observations, and as a result, the average number of sharks observed per dive was the same as both the minimum and maximum, which was four sharks per dive. In May, with four dives with observations, there were 1-4 individuals, with a mean of 2.5 individuals. June had 23 dives with observations and had 1-9 individuals with a mean of 3.0 individuals. July saw 18 dives with observations, with a range from 1-9 sharks and a mean of 3.6 sharks. August had 12 dives with observations, with 1-4 individuals and a mean of 1.8 sharks. Finally, in September, there were 16 dives with observation, ranging from 1-9 sharks with a mean of 2.6 sharks. Importantly, Porbeagles consistently did not show any interest in the deployed bait and generally are seen within 30 minutes of the start of the dive (A Ory pers. obs. 2025), suggesting that they are naturally aggregating in this area. This area was also the hotspot along the northern coast of Brittany where most public sightings of Porbeagles were reported between 2008-2023 (APECS unpubl. data 2025). Porbeagles tracked with passive acoustic telemetry showed high residency in Trégor and were detected throughout the year (Couturier et al. 2024), further highlighting their regular use of the area.

It is possible that these aggregations are related to feeding, with Porbeagles observed breaching within this area at Squéouel Cape, sometimes pursuing prey such as European Sea Bass (*Dicentrarchus labrax*) or pollacks (*Pollachius* spp.). Further information is needed to understand the nature and function of these aggregations.



Acknowledgments

Armelle Jung (Des Requins et Des Hommes), Arthur Ory (Des Requins et Des Hommes), Paul Abaut (Des Requins et Des Hommes), Gael Le Croizier (Des Requins et Des Hommes; Institut de Recherche pour le Développement), Lucas Zaccagnini (Des Requins et Des Hommes), Eric Stéphan (Association Pour l'Etude et la Conservation des Sélaciens - APECS), Lydie Couturier (France Energies Marine), and Christoph A Rohner (IUCN SSC Shark Specialist Group - ISRA Project) contributed and consolidated information included in this factsheet. We thank all participants of the 2025 ISRA Region 02 - European Atlantic workshop for their contributions to this process.

This factsheet has undergone review by the ISRA Independent Review Panel prior to its publication.

This project was funded by the Shark Conservation Fund, a philanthropic collaborative pooling expertise and resources to meet the threats facing the world's sharks and rays. The Shark Conservation Fund is a project of Rockefeller Philanthropy Advisors.

Suggested citation

IUCN SSC Shark Specialist Group. 2025. Trégor ISRA Factsheet. Dubai: IUCN SSC Shark Specialist Group.

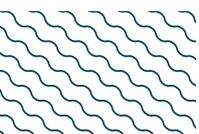
QUALIFYING SPECIES

| 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>Lamna nasus</i> | Porbeagle | VU | 0-1,809 | X | | X | | | | | X | | |

SUPPORTING SPECIES

| Scientific Name | Common Name | IUCN Red List Category |
|-------------------------------|-----------------------|------------------------|
| SHARKS | | |
| <i>Cetorhinus maximus</i> | Basking Shark | EN |
| <i>Galeorhinus galeus</i> | Tope | CR |
| <i>Mustelus asterias</i> | Starry Smoothhound | NT |
| <i>Scyliorhinus canicula</i> | Smallspotted Catshark | LC |
| <i>Scyliorhinus stellaris</i> | Nursehound | VU |
| RAYS | | |
| <i>Dasyatis pastinaca</i> | Common Stingray | VU |
| <i>Raja brachyura</i> | Blonde Skate | NT |
| <i>Raja clavata</i> | Thornback Skate | NT |
| <i>Raja montagui</i> | Spotted Skate | LC |
| <i>Raja undulata</i> | Undulate Skate | NT |
| <i>Torpedo marmorata</i> | Marbled Torpedo Ray | VU |

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.





REFERENCES

Couturier LIE, Hervé H, Woillez M, Bourjea J, Stephan E, Reubens J, Lenfant P. 2024. FISHOWF Deliverable n°4.2, Final scientific report on fish large scale movement and OWF habitat connectivity. FEM project. Plouzané: France Energies Marine.

Jensen CF, Natanson LJ, Pratt Jr HL, Kohler NE, Campana SE. 2002. The reproductive biology of the porbeagle shark (*Lamna nasus*) in the western North Atlantic Ocean. *Fishery Bulletin* 100: 727-738.

Jung A, Ory A, Abaut P, Zaccagnini L. 2024. First use of free-diving photo-identification of Porbeagle Shark (*Lamna nasus*) off the Brittany coast, France. *Diversity* 16: 155. <https://doi.org/10.3390/d16030155>

Rigby CL, Barreto R, Carlson J, Fernando D, Fordham S, Francis MP, Herman K, Jabado RW, Liu KM, Marshall A, et al. 2019. *Lamna nasus*. *The IUCN Red List of Threatened Species* 2019: e.T11200A500969. <https://dx.doi.org/10.2305/IUCN.UK.2019-3.RLTS.T11200A500969.en>