

NPWS

**Porcupine Bank Canyon SAC
(site code: 003001)**

**Conservation objectives supporting document -
Bottlenose Dolphin**

**Version 1
November 2024**

Contents

Introduction	1
Section 1	2
Annex II Marine mammals.....	2
Section 2	4
Appropriate Assessment Notes	4
Annex II Species	4
Bibliography.....	6
Figure 1. <i>Tursiops truncatus</i> - Habitat within Porcupine Bank Canyon SAC.....	7

Citation: NPWS (2024) Porcupine Bank Canyon SAC (site code 003001). Conservation objectives supporting document - Bottlenose Dolphin V1. Conservation objectives supporting document series. National Parks and Wildlife Service, Department of Housing, Local Government and Heritage, Dublin.

Introduction

Porcupine Bank Canyon SAC (**Figure 1**) is designated for the Annex II species *Tursiops truncatus* (Common Bottlenose Dolphin, also known as Bottlenose Dolphin or Bottle-nosed Dolphin), a comparatively large dolphin species that occurs extensively in Irish and European waters, both coastally and offshore. Porcupine Bank Canyon SAC is adjacent to South-west Porcupine Bank SAC (site code 002329). Records of Bottlenose Dolphin have been gathered within this offshore site and in surrounding waters (Hammond *et al.*, 2009; Berrow *et al.*, 2018; Rogan *et al.*, 2018; Giralte Paradell *et al.*, 2024).

Aspects of the biology and ecology of the Annex II species are provided in **Section 1**. The corresponding site-specific conservation objective will facilitate Ireland delivering on its surveillance and reporting obligations under the EU Habitats Directive (92/43/EC), and the preservation or restoration of the integrity of the Natura 2000 site.

Ireland also has an obligation to ensure that consent decisions concerning operations/activities planned for Natura 2000 sites (also known as European sites) are informed by an appropriate assessment of the likelihood that such operations or activities are having a significant effect on the site, or adversely affecting site integrity. Further ancillary information concerning the practical application of the site-specific conservation objective and its associated targets in the completion of such assessments is provided in **Section 2**.

Section 1

Annex II Marine mammals

Tursiops truncatus (Bottlenose Dolphin)

This toothed cetacean species (from the mammal Order Cetacea - whales, dolphins and porpoises) occurs in estuarine, coastal and offshore waters where it carries out breeding, foraging, resting, social activity and other life history functions. As air-breathing mammals, Bottlenose Dolphin must return to the water surface to breathe but they are otherwise wholly aquatic. Individual dolphins of all ages use sound as their primary sensory tool in order to navigate, communicate, avoid predators, or locate and facilitate the capture of prey under water. As a comparatively large dolphin species, it is conspicuous due to its regular occurrence in shallower coastal areas and its willingness to approach vessels and persons at sea. Its distribution extends throughout continental shelf and slope waters, and groups have also occasionally been recorded in waters >2,000m deep. Bottlenose Dolphin is a highly mobile species that demonstrates a complex population structure in European Atlantic waters, including both pelagic and coastal populations (Louis *et al.*, 2015, 2023). Several resident coastal populations are described in western European waters. In Irish waters three distinct populations occur (Atlantic pelagic, west coast of Ireland and Shannon Estuary). However, individuals and/or groups of the species may also range over many hundreds or even thousands of kilometres. Recently there have been records of a few individual dolphins ranging extensively through Irish coastal waters and into Northern Irish, Scottish and southern English waters.

The occurrence of dolphins within a prescribed marine area can be estimated using visual observation, photo-identification (for certain species including *Tursiops truncatus*) and passive acoustic methods in order to deliver an assessment of community or population size (*i.e.* relative abundance or absolute abundance), density and distribution. The size, community structure, distribution and habitat use of Bottlenose Dolphin inhabiting the Porcupine Bank Canyon SAC are not fully understood. In acknowledging limitations in the understanding of aquatic habitat use by the species within the site, it should be noted that all suitable aquatic habitat (**Figure 1**) is considered relevant to the species range and ecological requirements at the site and is therefore of potential use by Bottlenose Dolphin.

Recent studies of cetacean distribution and abundance in the Irish exclusive economic zone (EEZ) reported Bottlenose Dolphin offshore across all seasons. Predicted distribution maps show Bottlenose Dolphin abundance in offshore, continental shelf waters, with high abundance in the Celtic Sea and across the Porcupine Bank (Giralt Paradell *et al.*, 2024). Broad scale aerial surveys targeting the 2022 summer across an offshore area including Porcupine Bank Canyon SAC and surrounding waters delivered a corrected design-based approach for Bottlenose Dolphin abundance estimate of 7,733 (95%

Confidence Intervals: 5,704-10,484, Coefficient of Variation=42.99) (Giralt Paradell *et al.*, 2024). However, it must be noted that these estimations are from a low number of records.

Bottlenose Dolphin is a successful aquatic predator that feeds on a wide variety of fish (*e.g.* Horse Mackerel, Mackerel, Salmon, eels, gadoids, *Trisopterus* spp., flatfish, dogfish), cephalopods (*e.g.* squid) and occasionally crustacean species occurring in the water column or close to/within the seabed. Foraging areas for Bottlenose Dolphin are often associated with areas of strong tidal current and associated eddies.

Section 2

Appropriate Assessment Notes

Many plans and projects of a particular nature and/or size require the preparation of an environmental impact assessment (EIA) of the likely effects of their planned development. While smaller operations/activities (*i.e.* sub-EIA-threshold developments) may not require an EIA, an appropriate assessment is required of any project that may significantly affect the integrity of a Natura 2000 site. The appropriate assessment is to be used as part of the decision-making process, as to whether the project proceeds or not. The assessment should be recorded in a transparent manner, and should assess, in a reasoned manner, the likely effects on a Natura 2000 site of a proposed plan or project. General guidance on the completion of such assessments has been prepared and is available at www.npws.ie and at https://ec.europa.eu/environment/nature/natura2000/management/guidance_en.htm.

Annex II Species

The following technical clarification is provided in relation to the specific conservation objective and targets for the Annex II species identified below in order to facilitate the analysis required for the appropriate assessment process and overall site planning and management:

Objective To maintain the Favourable conservation condition of Bottlenose Dolphin in Porcupine Bank Canyon SAC, which is defined by the following list of attributes and targets

Target 1	Species range within the site should not be restricted by artificial barriers to site use
-----------------	---

- This target may be considered relevant to proposed activities or operations that will result in the permanent exclusion of Bottlenose Dolphin from part of its range within the site, or will permanently prevent access for the species to suitable habitat therein.
- It does not refer to short-term or temporary restriction of access or range.
- Early consultation or scoping with the Department in advance of formal application is advisable for proposals that are likely to result in permanent exclusion.

Target 2	Human activities should occur at levels that do not adversely affect the Bottlenose Dolphin population at the site
-----------------	--

- Proposed activities or operations should not introduce man-made energy (*e.g.* aerial or underwater noise, light or thermal energy) at levels that could result in a significant negative impact on individuals and/or the population of Bottlenose Dolphin within the site.

This refers to the aquatic habitats used by the species in addition to important natural behaviours during the species annual cycle.

- This target also relates to proposed activities or operations that may result in the deterioration of key resources (*e.g.* water quality, feeding, *etc.*) upon which Bottlenose Dolphin depend. In the absence of complete knowledge on the species ecological requirements in this site, such considerations should be assessed where appropriate on a case-by-case basis.
- Proposed activities or operations should not cause death or injury to individuals to an extent that may ultimately affect the Bottlenose Dolphin population at the site.

Bibliography

- Berrow, S.D., O'Brien, J., Meade, R., Delarue, J., Kowarski, K., Martin, B., Moloney, J., Wall, D., Gillespie, D., Leaper, R., Gordon, J., Lee, A. and Porter, L. (2018). Acoustic Surveys of Cetaceans in the Irish Atlantic Margin in 2015-2016: Occurrence, distribution and abundance. Department of Communications, Climate Action & Environment and the National Parks and Wildlife Service (NPWS), Department of Culture, Heritage and the Gaeltacht, Dublin, Ireland, 348pp.
- Giralt Paradell, O., Canadas, A., Bennison, A., Todd, N., Jessopp, M. and Rogan, E. (2024). Aerial surveys of cetaceans and seabirds in Irish waters: Occurrence, distribution and abundance in 2021-2023. Department of the Environment, Climate & Communications and Department of Housing, Local Government & Heritage, Ireland. 260pp.
- Hammond, P.S., Macleod, K., Burt, L. Canadas, A., Lens, S., Mikkelsen, B., Rogan, E., Santos, B., Uriate, A., Van Canneyt, O. and Vazquez, J.A. 2009. Cetacean Offshore Distribution and Abundance in the European Atlantic (CODA). Final Report. University of Saint Andrews, Scotland.
- Louis, M., Gally, F., Barbraud, C., Béreau, J., Tixier, P., Simon-Bouhet, B., Le Rest, K. and Guinet, C. (2015). Social structure and abundance of coastal Bottlenose Dolphins, *Tursiops truncatus*, in the Normano-Breton Gulf, English Channel. *Journal of Mammalogy*. 96(3):481–493.
- Louis, M., Korlević, P., Nykänen, M., Archer, F., Berrow, S., Brownlow, A., Lorenzen, E.D., O'Brien, J., Post, K., Racimo, F., Rogan, E., Rosel, P.E., Sinding, M.H.S., van der Es, H., Wales, N., Fontaine, M.C., Gaggiotti, O.E. and Foote, A.D. (2023). Ancient dolphin genomes reveal rapid repeated adaptation to coastal waters. *Nature Communications*. 14(1):4020.
- Rogan, E., Breen, P., Mackay, M., Canadas, A., Geelhoed, S. and Jessopp, M. (2018). Aerial surveys of cetaceans and seabirds in Irish waters: Occurrence, distribution and abundance in 2015-2017. Department of Communications, Climate Action & Environment and National Parks and Wildlife Service (NPWS), Department of Culture, Heritage and the Gaeltacht, Dublin, Ireland. 297pp.

Figure 1. *Tursiops truncatus* - Habitat within Porcupine Bank Canyon SAC

