NPWS

Lough Swilly SAC

(site code: 002287)

Conservation objectives supporting document -

Harbour Porpoise

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Introduction

Lough Swilly SAC (**Figure 1**) is designated for the Annex II species *Phocoena phocoena* (Harbour Porpoise). The waters of Lough Swilly SAC lie to the north of Gweedore Bay and Islands SAC (site code 001141) off the north coast of Ireland. A considerable number of records of Harbour Porpoise have been gathered within this site and adjacent Atlantic waters, particularly over the past two decades (Oudejans *et al*., 2008; Berrow *et al.,* 2008; Berrow *et al*., 2010; Ryan *et al*., 2010; Anderwald *et al*., 2012; Rogan *et al*., 2018; Giralt 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

Phocoena phocoena (Harbour Porpoise)

This small toothed cetacean species (from the mammal Order Cetacea - whales, dolphins and porpoises) occurs in estuarine, coastal and offshore waters in which it carries out breeding, foraging, resting, social activity and other life history functions. Its distribution extends predominantly throughout continental shelf waters and the species may range over many hundreds or thousands of kilometres. The Harbour Porpoise is widely distributed across the north-east Atlantic, forming a continuous population from the northern Bay of Biscay to northern Norway, although some genetic structuring has been reported in the form of isolation by distance (Lah *et al.,* 2016; Fontaine *et al.,* 2007, 2014; Ben Chehida *et al.,* 2021). The population structure of Harbour Porpoise is currently under investigation, as some evidence of genetic differentiation from the North Atlantic population has been observed in western Greenland (Ben Chehida *et al.,* 2021) and the Baltic Sea (Autenrieth *et al.,* 2023). As air-breathing mammals, Harbour Porpoise must return to the water surface to breathe but they are otherwise wholly aquatic. Individual porpoise 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, for example. Group sizes tend to be small (*i.e*. in single figures, more commonly 2-3 individuals) although larger aggregations may occasionally be recorded, particularly in the summer months.

Harbour Porpoise breeds annually in Ireland, predominantly during the months of May to September. The principal calving period in Irish waters is thought to occur in the months of May and June, although it may extend throughout the summer months and early autumn. Newborn calves are weaned before they are one year old. Mating commonly occurs several weeks after the calving season.

The occurrence of Harbour Porpoise within a prescribed marine area can be estimated using visual observation 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 and distribution or habitat use of Harbour Porpoise inhabiting Lough Swilly 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 Harbour Porpoise.

Large scale surveys have frequently recorded Harbour Porpoise in coastal shelf waters of less than 200m with a small number reported in very deep waters, highlighting its widespread nature. Recent studies

of cetacean distribution and abundance in the Irish exclusive economic zone (EEZ) reported Harbour Porpoise primarily observed in coastal waters across all seasons (Rogan *et al*., 2018; Giralt Paradell *et al*., 2024). Broad scale aerial surveys targeting the 2022 summer delivered a corrected design-based approach Harbour Porpoise abundance estimate of 2,350 Harbour Porpoise (95% Confidence Intervals: 1732-3188, Coefficient of Variation=43.08) in a survey area extending north from Achill Island to northern Co. Donegal (Giralt Paradell *et al*., 2024). While the numbers of Harbour Porpoise encountered during any survey within and adjacent to the site are variable, additional acoustic data plus casual and effort-related sighting rates from coastal observation stations are significant for the Atlantic coast of Ireland and comparatively high group sizes (>5 individuals) have been recorded from surveys on land and at sea. The species is present at the site in all seasons, while important cohorts within the Harbour Porpoise community such as adults, juveniles and newborn calves have been recorded in the surrounding water including during the calving/breeding season.

Harbour Porpoise is a successful aquatic predator that feeds on a wide variety of fish, cephalopod and crustacean species occurring in the water column or close to the seabed. Dive depths in excess of 200m have been recorded for the species. Foraging areas for Harbour Porpoise are often associated with areas of strong tidal current and associated eddies; therefore, the occurrence of porpoise close to shore or adjacent to islands and prominent headlands is commonly reported. However, gaps remain in the knowledge of the species foraging ecology within Lough Swilly SAC and the data available may be biased toward particular locations due to the nature of survey effort and opportunistic reports from a range of sources. There is currently no detailed information available on individual or group movements by Harbour Porpoise within or into/out of the site, nor is it known whether individuals/groups of the species demonstrate any faithfulness to the site (*i.e*. site fidelity or residency). Nevertheless, the consistent annual and seasonal occurrence of the species at the site, its occurrence during the calving/breeding period and density/population estimates available to date all indicate the importance of this coastal site for the species.

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 Harbour Porpoise in Lough Swilly 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 Harbour Porpoise 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 Harbour Porpoise community 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 community of Harbour Porpoise 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 Harbour Porpoise 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 Harbour Porpoise community at the site.

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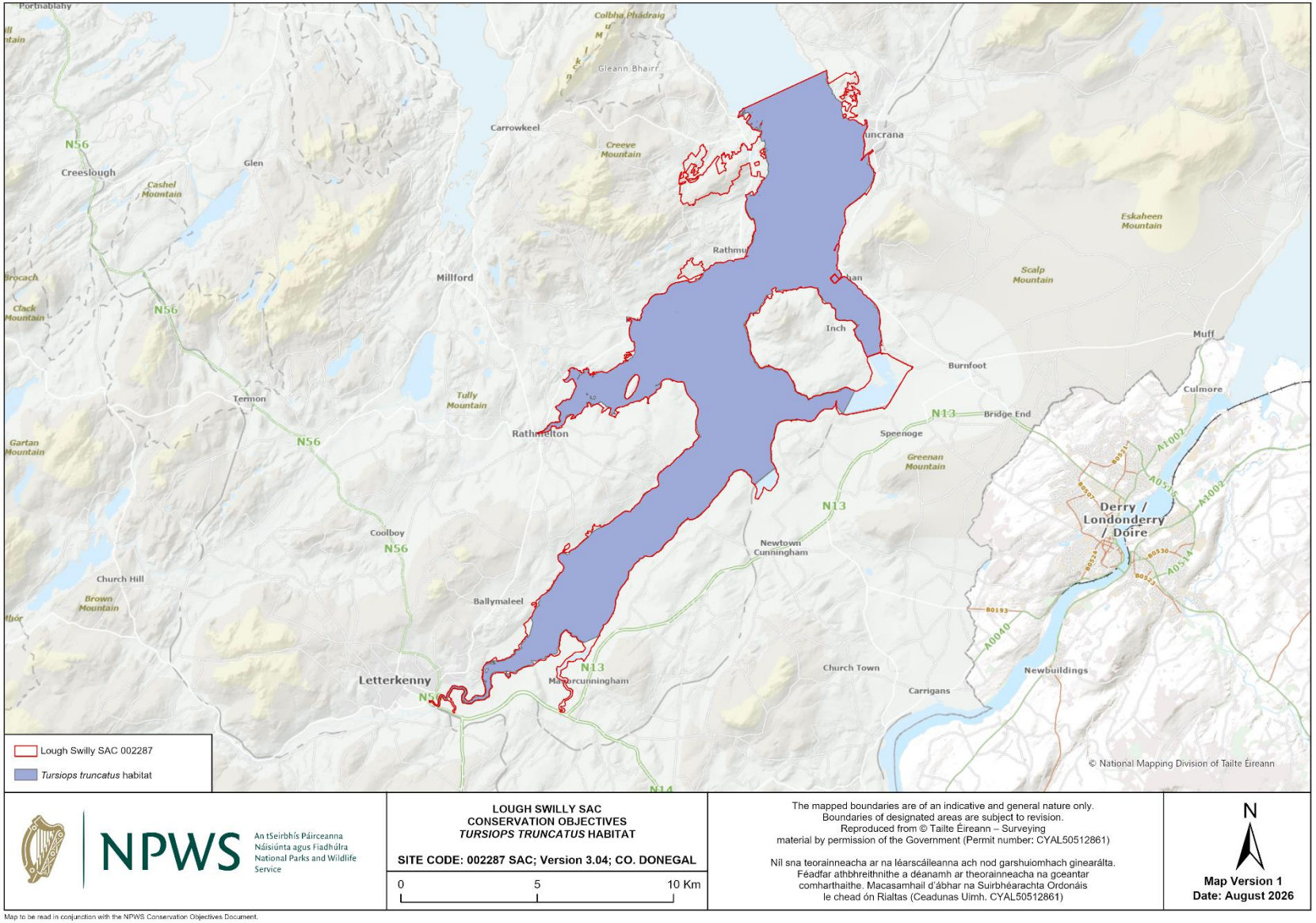
Figure 1. Suitable habitat for *Phocoena phocoena* within Lough Swilly SAC