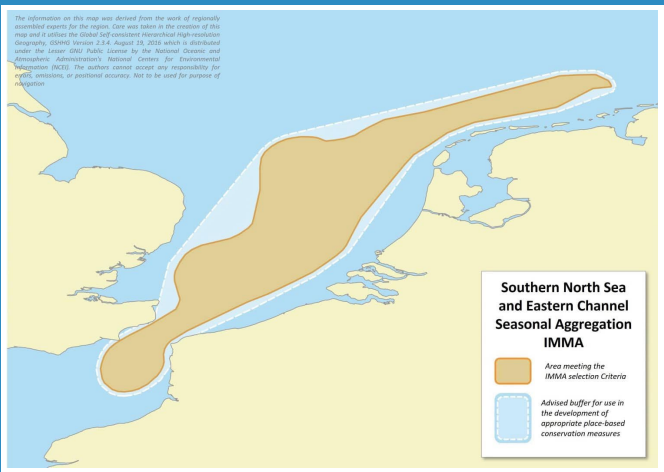

Area Size

33,849 km²

Qualifying Species and Criteria

Harbour porpoise – *Phocoena phocoena*

Criterion B (2); C (2)

Other Marine Mammal Species Documented

Halichoerus grypus, Lagenorhynchus albirostris, Phoca vitulina, Tursiops truncatus

Summary

The Southern North Sea and Eastern Channel Seasonal Aggregation Area IMMA holds an important aggregation of harbour porpoises (*Phocoena phocoena*) in spring. The very diverse habitat, including a series of sandbanks and reefs and a front system supports an abundance of harbour porpoise prey species such as sole, goby, herring and sandeel.

Southern North Sea and Eastern Channel Seasonal Aggregation IMMA

Description:

This area contains important marine mammal habitat due to high substrate and habitat diversity. There are submerged sandbanks (such as on the Natura 2000 area Borkum Reef Ground) with interspersed stone fields and reefs. The whole area has soft sediment, mainly consisting of sand. In the western part around the Brown Ridge, huge sand dunes are present. Sand habitats are important to prey fish species like sandeel. The currents in the area are predominantly south-north with Channel water entering the North Sea. The coastal zone is very dynamic with erosion and deposition of sand. An important habitat feature is a front, also known as the 'cold belt' (Krause et al. 1986), parallel to the coast, formed as a convergence zone between the North Sea water and river outflow in the southern part and Wadden Sea water in the northern part. The northern part of the area is bordered by the Frisian Front. There are several Natura 2000 areas and partially an MPA also in the French southern part within the IMMA that are either designated for harbour porpoises (*Phocoena phocoena*) or with the harbour porpoise on the list of species present.

Criterion B: Distribution and Abundance
Sub-criterion B2: Aggregations

Following a historical decline and near extirpation in the southern North Sea and English Channel, harbour porpoise (*Phocoena phocoena*) occurrence in the southern North Sea, including the area of the IMMA, has been increasing since the mid-1990s (Camphuysen, 2004; Hammond et al., 2002). Harbour porpoises were almost absent in the English Channel two decades ago but are now regularly seen in this region (Hammond et al., 2013, 2021; Bouveroux et al., 2020; Blanchard et al., 2023). A comparison of harbour porpoise distribution between the SCANS and SCANS-II surveys showed a marked difference in summer distribution of harbour porpoises within the Greater North Sea, with a shift towards the south in the main concentrations of animals between 1994 and 2005 and decreasing numbers in the northern North Sea (Hammond et al., 2013). This southward shift in distribution is supported by data from smaller scale surveys in the southern North Sea which show increasing numbers of porpoises and aggregations in French, Belgian, Dutch and German waters (e.g., Gilles et al., 2009, 2011; Haelters et al., 2011; Scheidat et al., 2012; Peschko et al., 2016; Laran et al., 2017; Nachtsheim et al., 2021). This shift in harbour porpoise distribution is probably related to changes in prey distribution and abundance (Hammond et al., 2013). Data from SCANS-III in 2016 and the recent SCANS-IV survey in 2022 confirm that the shift to the south has been maintained (Hammond et al., 2021; Gilles et al., 2023).

A recent aerial survey conducted in mid-May 2023 recorded a high encounter rate of the species in the southern limit of the IMMA, with encounter rates up to 0.1 sightings/km of aerial effort (Blanchard et al., 2023). Aggregations of porpoises in spring in the southern part of the IMMA were also previously reported by ship surveys in 2012-2014 (Bouveroux et al., 2020) and aerial surveys in 2017-2018 (Virgili et al., 2024). In the Belgian part of the IMMA the density is highest in spring with a mean estimated density of 2.78 ind/km² over aerial surveys in the years 2009 to 2022 (Haelters et al., 2023 in press). In the Dutch part of the IMMA, aerial surveys in 2010-2011 showed that spring densities of porpoises were threefold higher than in summer (Geelhoed et al., 2013). The occurrence in summer has also increased over time and densities reach the same order of magnitude as in spring (0.70-1.44 animals/km², Geelhoed & Scheidat, 2018).

Analysis of harbour porpoise stranding records from 1990 to 2017 supports the evidence of increasing abundance in the southern North Sea with a steep increase in strandings reported since 2005 (Ijsseldijk et al., 2020; Blanchard et al., 2023).

Criterion C: Key Life Cycle Activities
Sub-criterion C2: Feeding Areas

The high porpoise densities and aggregations that occur in this IMMA in spring and summer are likely due to the abundance of prey fish species. Indeed, the diverse and abundant benthic community forms a rich food base for the fish fauna. A variety of flatfish, goby species and other bottom-dwelling fish can be found there, but also pelagic fish species. Prey species such as sole, goby (multiple species), herring (*Clupea harengus*) and sandeel (Family *Ammodytidae*) that are a regular part of the porpoise diet are known to be abundant in the area.

Figure 1: Harbour porpoises (*Phocoena phocoena*) from aerial view. Photo credit: G. Gautier

Supporting Information

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