

# Sighting Patterns and Distribution of Cetacean Species in the north west of England



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## Introduction

The distribution of cetaceans off the north-west coast of England remains poorly understood. Bottlenose dolphin (*Tursiops truncatus*) and harbour porpoise (*Phocoena phocoena*) are thought to be the most common species in the region. The aim of this study was to further our understanding of species diversity, status and distribution in the north west.



## Methods

Data were collected by using both opportunistic public sightings and effort based land watches conducted between 2006 and 2012, throughout the coastal waters of Cumbria, Lancashire, and Merseyside.

The locations of these sightings were plotted using ArcView v. 3.3 (ESRI), and analysed using Microsoft Office Excel to produce line graphs and to assess linear trends.

## Results

*P. phocoena* and *T. truncatus* were the most frequently sighted species, with only 21 sightings of other or unidentified species during the length of the study. Short beaked common dolphins, Risso's dolphins and Pilot whales were sighted once, minke whales on four occasions.

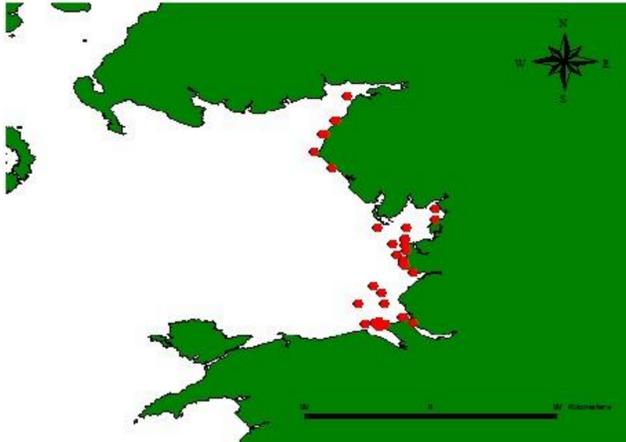


Fig.1: distribution of *T. truncatus* around North West England from 2006-2012

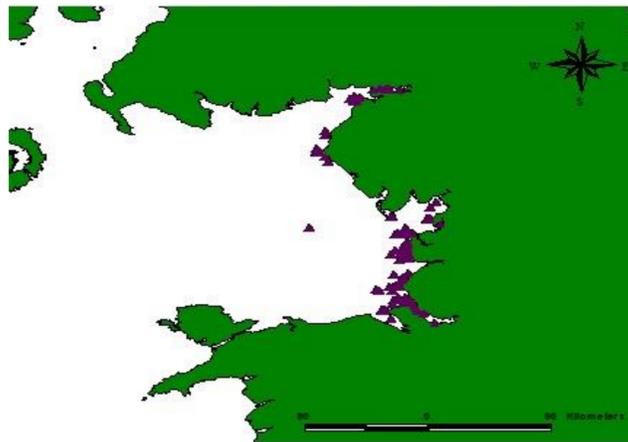


Fig.2: distribution of *P. phocoena* around North West England from 2006-2012

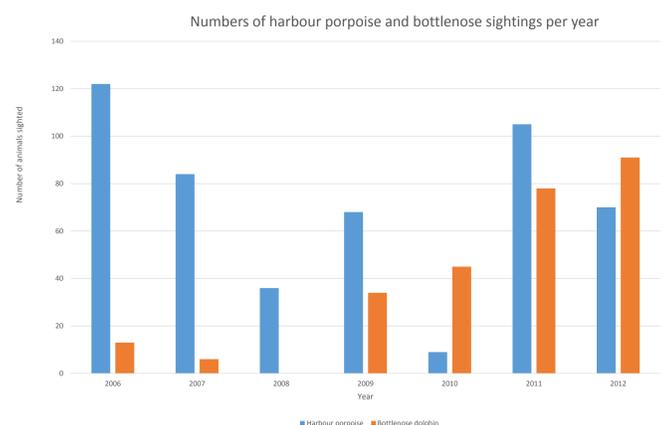


Fig.3: volume of sightings of *T. truncatus* and *P. phocoena* from 2006-2012 in North West England

The distribution of *T. truncatus* shows sightings that were primarily centred around Merseyside, with 47% of all the sightings occurring in this region. There has also been an increase in sightings from 2006 to 2012 ( $R^2 = 0.338$ ,  $F=4.065$ ).

In contrast to the rise in *T. truncatus* sightings, there has been a decline in number of sightings of *P. phocoena* over the same period ( $R^2 = 0.268$ ,  $F=3.196$ ). Porpoise sightings occur primarily in Cumbria in the north of the region and Lancashire in the south, with 80% of the sightings there. While Merseyside has been the location for 20% of *P. phocoena* sightings across all years, in 2012, it was the location of 33% of all sightings of the species.

## Discussion & Conclusions

These data highlight the potential importance of the cetacean communities within the North West. However, it is not necessarily directly representative of the actual distribution of these species, nor of the diversity of species present in the community due to the uneven survey effort and inclusion of opportunistic sightings. For this reason, further study throughout the region, specifically in the areas of low survey effort, is needed to more accurately assess populations and their distributions.

- *P. phocoena* and *T. truncatus* were the most frequently sighted species, with few sightings of other species during the entirety of the study period
- *P. phocoena* sightings in the region have declined between 2006 and 2012, while *T. truncatus* have increased over the same period. The cause of this is as yet unknown
- Increased sighting rates corresponded with increased effort, highlighting the need for further studies and a more uniform survey effort to improve our understanding of cetacean distribution in the North West.

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