



Insight into habitat use of harbour porpoises (*Phocoena phocoena*) for conservation and good North Sea management

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Motivation

Harbour porpoises are the main cetacean species in the busy southern North Sea where countless anthropogenic activities take place. Due to their shy nature much is still unknown about their habitat use, drivers of their distribution and health. In order to facilitate more specific species and site protection than the current generic protection more insight into these factors is needed. This PhD research focuses on filling in some of these knowledge gaps about harbour porpoise habitat use and population health. We aim to point out some of the critical elements that are needed for this species to sustainably thrive in the busy southern North Sea. Based on these critical elements we hope to make some fitting recommendations to feed into harbour porpoise conservation efforts and marine spatial planning.

Aims and Objectives

The aim of this project is to find the optimal combination in space and time of human activities and harbour porpoise conservation. This will be done by answering the following research questions and sections:

- What are the current status and trends of the North Sea harbour porpoise population?
- Development and testing of a body condition index for harbour porpoise in the wild
- What is the spatio-temporal distribution of harbour porpoises in the Dutch North Sea?
- Which critical elements for improved harbour porpoise conservation can we identify?

Methods

In order to answer the research questions both existing and new data will be used. Since 1984 the MWTL monitoring program has been counting harbour porpoises on the Dutch Continental Shelf, so far this dataset has not been analysed as a whole to determine spatial and temporal distribution trends. A habitat model with different environmental variables will be built to determine correlations between environmental factors and harbour porpoise habitat use and assess the developments herein over time.

As a proxy to assess health, body measurements from stranded and captive animals will be used to establish a baseline body condition index. This index will be used to assess body measurements taken with UAV (Unmanned Aerial Vehicle/drone) images from wild harbour porpoises. Critical elements will be drawn from the previous research efforts and other national and international sources.

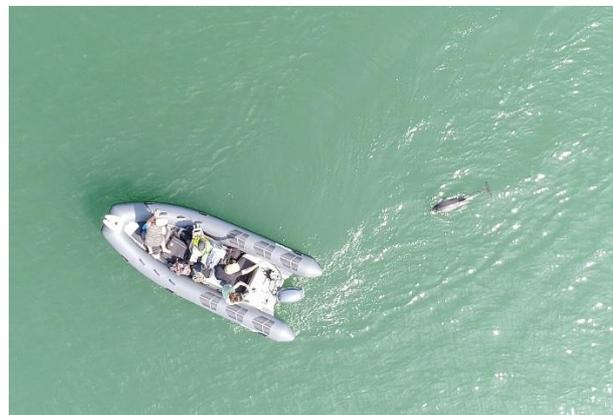


Figure 1 and 2. Drone footage from a harbor porpoise in the Eastern Scheldt during our pilot study in august 2017.
Source: Rijkswaterstaat – Olaf van Hese (CIV)



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