

Investigation of density and distribution patterns of harbour porpoises (*Phocoena phocoena*) in the German North and Baltic Seas

Project data

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Sponsorship:	Federal Environmental Ministry (FKZ 0329946B)

Project description

The general objective of MINOS plus is to gain basic knowledge with regard to possible impacts that the construction of offshore windmill-parks could have on the marine environment. In order to better evaluate possible impacts on harbour porpoises in German waters it is necessary to investigate the distribution and density of these animals in more detail. Aerial surveys are especially useful in this respect, as they allow to cover large distances in a rather short time frame.

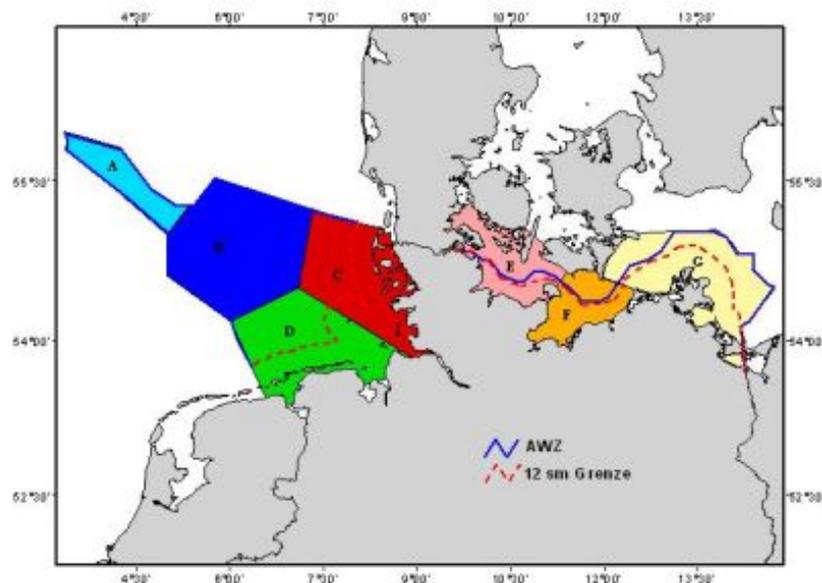


Determining declination angle



Harbour porpoise: mother-calf-pair

To estimate density of harbour porpoises line-transect distance sampling is used in this project. Hereby a high-winged twin engine aircraft covers transect lines, which correspond to a representative sample of the study area. The altitude flown is 600 feet (= 183 m). Animal densities can be calculated from the data collected during the survey, which includes the angle of declination to calculate perpendicular distance to the transect line, group size and composition, as well as behaviour (see BUCKLAND et al. 2001 for details on methodology). The figure below shows all study areas in different coloration. In the North Sea these areas correspond to the German exclusive economic zone (EEZ), while in the Baltic they also extend beyond the German EEZ.



These surveys are supposed to further our understanding of the temporal and spatial distribution and density of harbour porpoises in German waters. Furthermore it shall be investigated, if and how these distribution patterns vary within and between years. The comparison of survey data and miscellaneous abiotic and biotic parameters shall help to characterize preferred habitat types of harbour porpoises in these areas.

The final report (in German) is available for [download](#) (3.2 MB).

Dieses PDF-Dokument wurde dynamisch auf www.tiho-hannover.de erstellt.

Letzte Aktualisierung dieses Dokumentes: 17. November 2016

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