



SPATIAL AND TEMPORAL DISTRIBUTION OF THE SHORT-BEAKED COMMON DOLPHIN (*DELPHINUS DELPHIS*) IN NW SPAIN

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Tyba III. The BDRi research vessel.

INTRODUCTION

Waters above the continental shelf off NW Spain are an important area for short-beaked common dolphins (Pierce et al., 2010). However, information on the distribution of the species is scarce (Murphy et al., 2013). This study aims to provide baseline information on the distribution of the species in the area.

METHODS

Data collection year-round in Ria of Arousa, Galicia, NW Spain in 2017.

Data Environmental and anthropogenic variables every 20 min.

Sightings Depth, group size and composition.

Grids were used to assess the observational effort and for spatial analysis in QGIS.

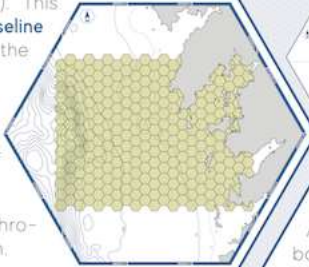


Figure 1: Grid used to assess the distribution of short-beaked common dolphins taking into account the effort.



Grids with hexagonal cells (size: $r = 1$ nautical mile) were used to better represent the visual area from the research vessel (Birch et al., 2007).

RESULTS

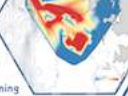
Kruskal-Wallis tests showed that neither circadian nor seasonal variations were significant.

Short-beaked common dolphins showed a preference for waters with depth ranging between 100 and 200 metres.

Although they might occasionally visit the Ria of Arousa, short-beaked common dolphins are mostly seen in open ocean waters.



All day



Morning Afternoon Evening

Short-beaked common dolphins photographed in the area of study



"Someone said we are our dreams, that if we don't dream we are no longer alive. Our steps follow our instinct and take us into the unknown. We no longer see the obstacles behind us, but look forward to the ones ahead."

Xilvan Jonat
A fine Line - Summits of my Life

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Pierce, G.J., Caldas, M., Cedeno, J., Santos M.A., Lavrans, A., Cordero, R., Martinez, G., Jones, J., Garcia, M., Lopez, A. 2010. Trends in cetacean sightings along the Galician coast north-west Spain, 2003 - 2009, and inferences about cetacean habitat preferences. *Journal of the Marine Biological Association of the United Kingdom* 90(8): 1547-1560.

STUDY



AREA



Short-beaked common dolphins photographed in the area of study



RESULTS

A total of 75 sightings were recorded in 65 boat based surveys.

	Total	Ria	Ocean
Days at sea	85	46 (71%)	19 (29%)
Days with sightings	20	4 (20%)	16 (80%)
Sightings	75	6 (8%)	62 (92%)

Mean group size: 43.72 ±8.43 (1 - 400) - Figure 2.

Mean depth: 141m ±15.23 (7.8 - 950)

Calves were present in 22 groups (29% of the total)

Short-beaked common dolphins were seen in 16 (84%) of the 19 trips conducted in open sea.



Figure 2: Sightings and group size.

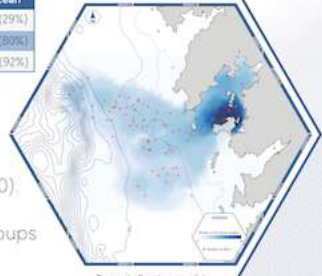


Figure 3: Distribution of the effort and presence of short-beaked common dolphins.

DISCUSSION

Hexagonal tessellation was found to be a better representation of the visual area from the research vessel than square tessellation, hence it will be used in further studies.

The present study provides good baseline information showing that, although they can also enter in the Ria of Arousa, short-beaked common dolphins were predominantly found in waters above the continental shelf, mainly around the 200 metres bathymetric line and deeper, as found in other areas of the NE Atlantic Ocean (Murphy et al., 2013).

In contrast to other regions, there is a lack of seasonality in the distribution of the species, which could be explained by year-round prey availability.

However, further research is needed to assess the drivers of the distribution of the species in the area.



A short-beaked common dolphin photographed in the area of study



A short-beaked common dolphin photographed in the area of study

Acknowledgements: We would like to thank all BDRi interns and volunteers that participated in the data collection.