

# Diving behaviour of fin whales and blue whales and influence of marine traffic

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## Introduction

An important **anthropogenic threat** to cetaceans is **noise pollution**, mostly caused by **marine traffic**, that can **modify** their **behaviour**.

The problem **continues to increase** with **little known impact** on the diving behaviour of cetaceans, and more particularly baleen whales.

## Objective of the study

Investigate potential differences in the **diving behaviour** of **blue** (*Balaenoptera musculus*) and **fin** (*Balaenoptera physalus*) **whales**, and assess the **impact of marine traffic** on their dive duration in the North-East Atlantic Ocean.

## Methods

- Boat-based surveys along the North-western coast of the Iberian Peninsula from Sep 2017 to Oct 2022

- Variables collected:
  - Dive **duration**
  - **Species**
  - Boat **density** (within 2 nm)



Fig 1: Research vessel "Tyba III" of the BDRI

- Generalised linear mixed model (**GLLM**) using R

## Literature cited

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## Results

### Dataset (2017 – 2022)

- N=8380 ventilations from N=364 samples
- N=5488 blue whales
- N=2892 fin whales

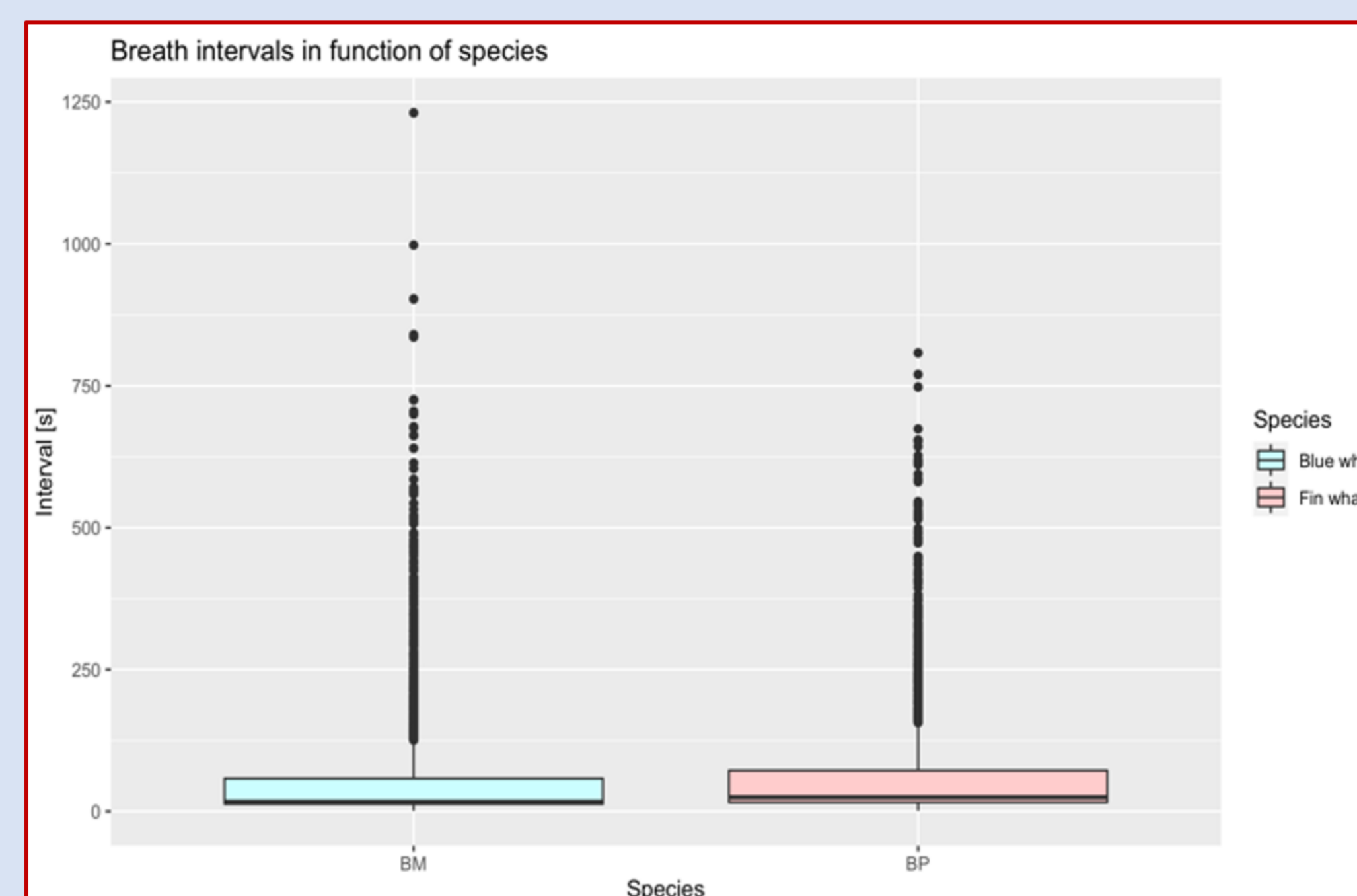


Fig 3: Dive duration in function of the whale species

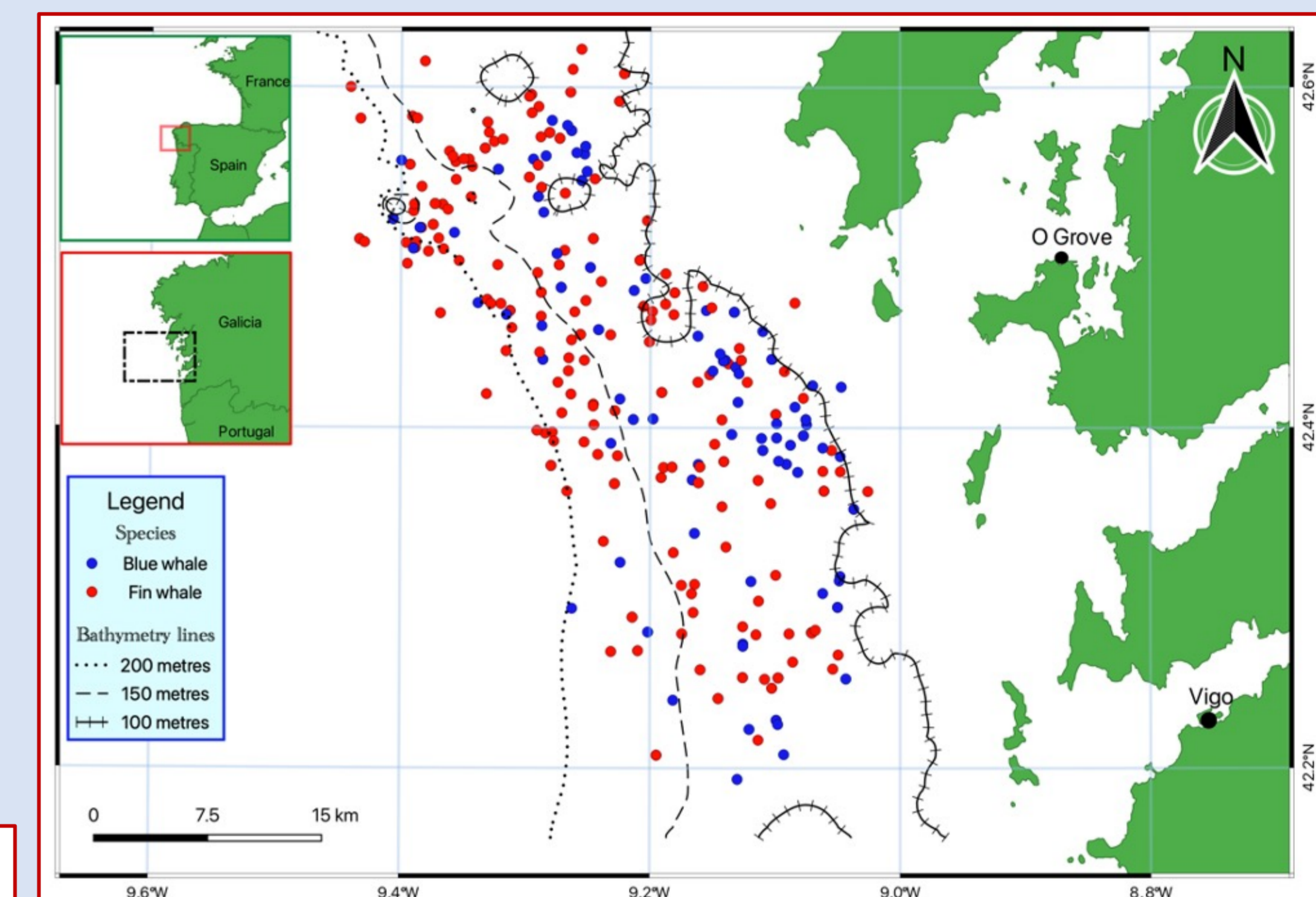


Fig 2: Map of the 364 respiratory samples collected

**No significant effect of marine traffic** on the whale diving behaviour

**Fin whales (BP) dive significantly longer than blue whales (BM)**

## Discussion

- Study area is a **feeding ground**, effect of marine traffic could be negligible in comparison
  - Effects of boats on whales negligible at > 2 km
  - Whales could have **become accustomed** to high marine traffic
- Species difference explained by prey selection and niche partitioning

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