

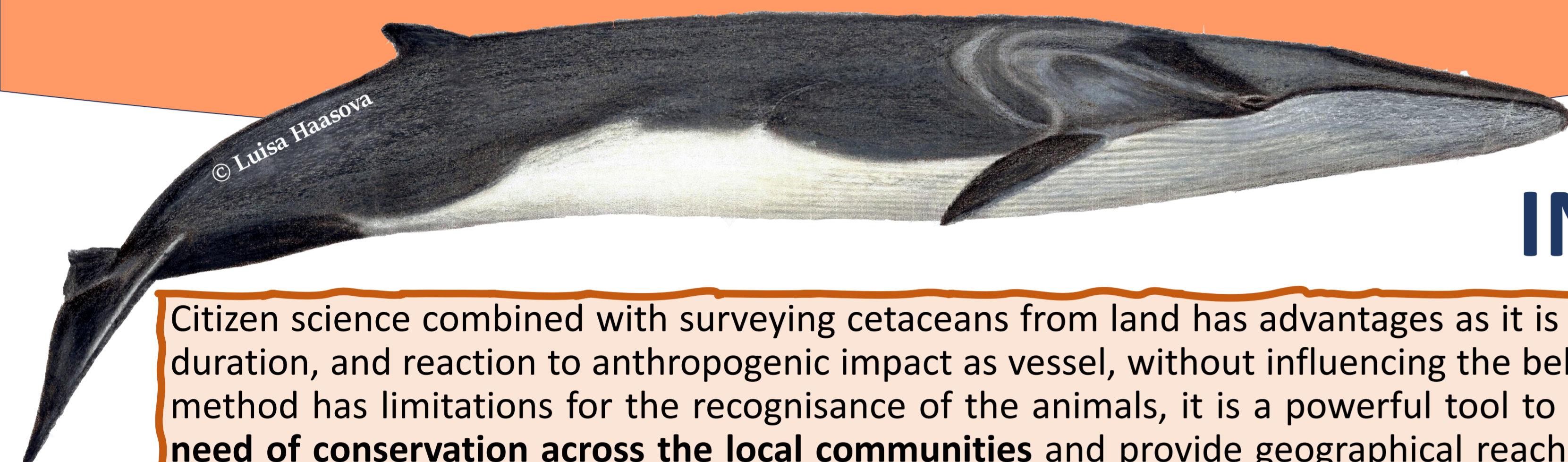
COMBINING CITIZEN SCIENCE AND LAND-BASED SURVEYS AS A TOOL FOR RESEARCH CETACEANS AND SUSTAINABLE USE OF THE MARINE RESOURCES IN A SPECIAL AREA OF CONSERVATION

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INTRODUCTION

Citizen science combined with surveying cetaceans from land has advantages as it is cheap and allows to record sightings, duration, and reaction to anthropogenic impact as vessel, without influencing the behaviour of the animals. Although, this method has limitations for the recognisance of the animals, it is a powerful tool to spread the knowledge in view of the **need of conservation across the local communities** and provide geographical reach needed to address spatial ecological questions at relevant scales to species migration patterns (Dickinson et al., 2010)¹. The **project PRCEO** has been carried out since 2021 with the aim of studying the migration of fin whales and other species of cetaceans.

RESULTS

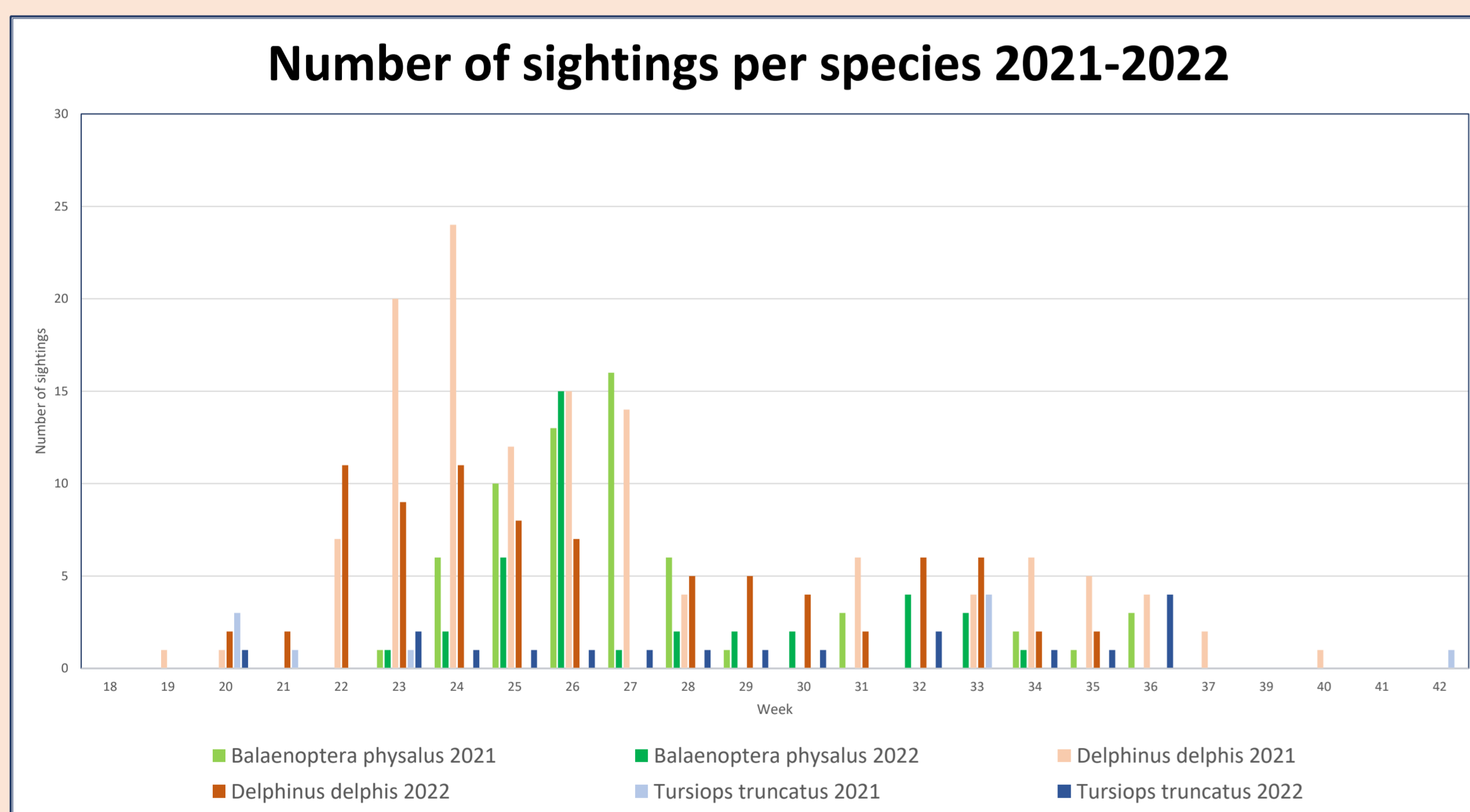


Figure 2. Sightings of the detected species during the study period.



Figure 3. Photos taken from land.

Hours of effort per year (May-November)	
2021	591:08:13
2022	522:13:44

Table 1. Efforts in hours.

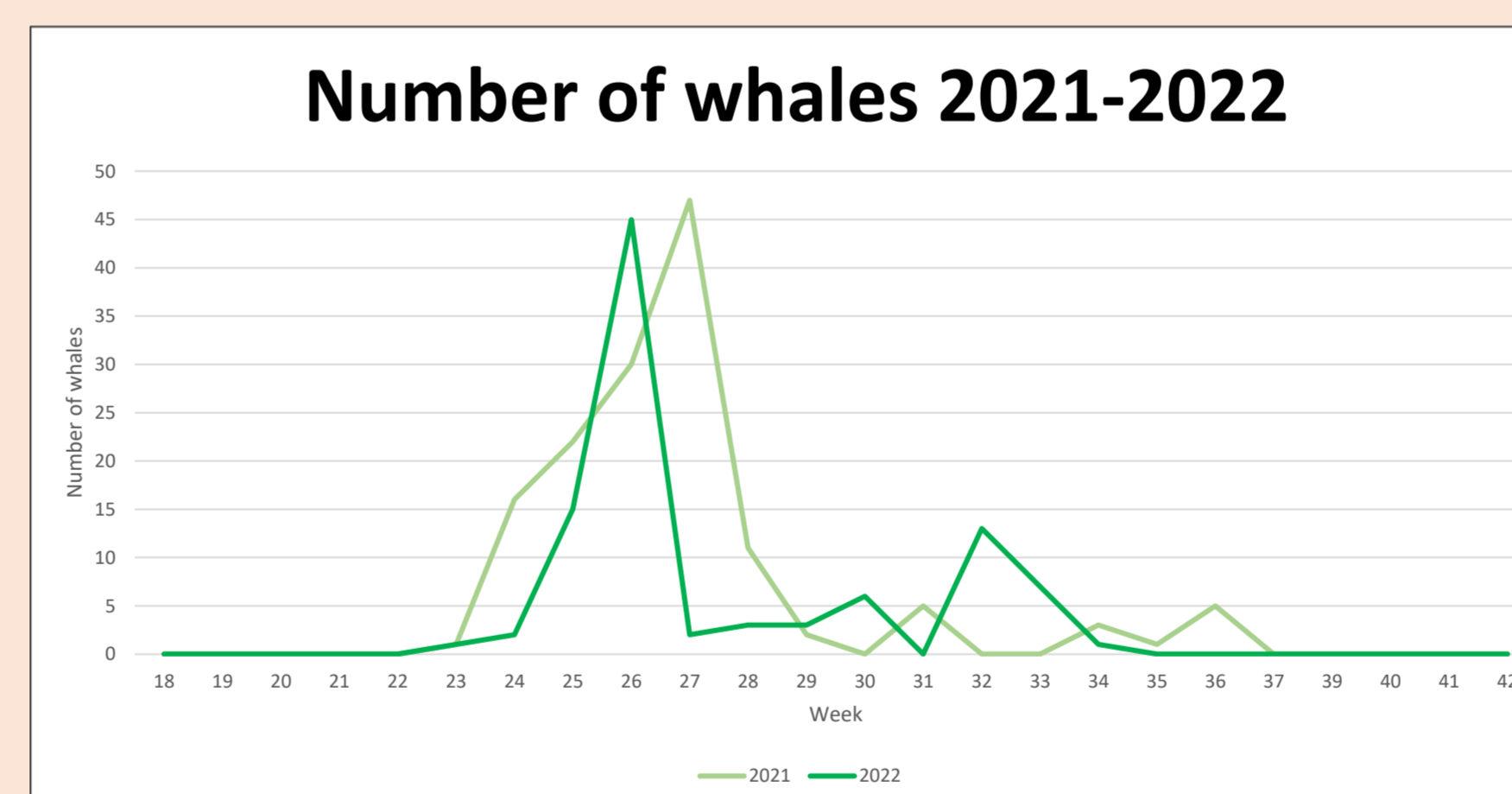


Figure 4. Number of fin whales individuals per week.

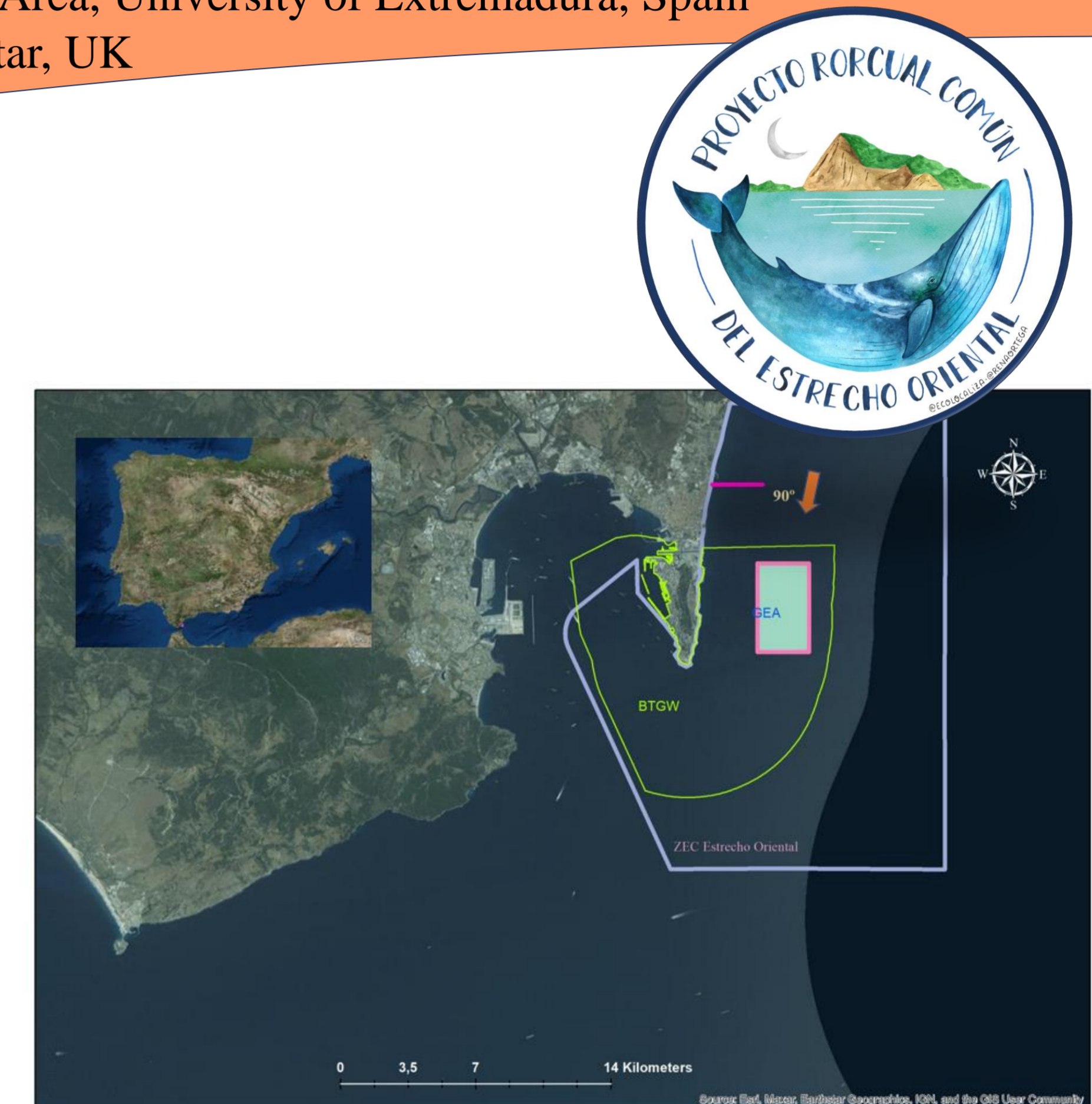


Figure 1. Study area. ZEC Estrecho Oriental.

METHODS

A land-based fix station was located in **La Línea de la Concepción (Cádiz)** to monitor a Special area of Conservation (**ZEC Estrecho Oriental**). Fig 1. Morning and afternoons shifts were covered by teams formed by a minimum of 1 scientist observer and 1 volunteer citizen trained previously and supervised by the scientist. Fin whales crossing an imaginary line of 90° between land and the Gibraltar eastern anchorage were counted.

CONCLUSIONS

Citizen science combined with land-based monitoring are powerful tools to study cetacean populations, not only for the great scientific information or for expanding knowledge and creating awareness but also for the sustainable use of the marine resources. The project PRCEO highlights the value of the natural biodiversity detected in ZEC Estrecho Oriental and the threats that marine mammals face in the area.

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