



# The BICREF-RMSR cetacean monitoring in the Central Mediterranean



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## Introduction:

The **Biological Conservation Research Foundation (BICREF)** is a non-profit organisation set-up in 1998 to promote and assist conservation research in and around the Maltese Islands. To date, the NGO is actively assisting and involved in field research of cetaceans in this region of the Mediterranean. The Maltese cetacean field research project was organised and started in 1997 through Prof Adriana Vella's **Conservation Biology Research Group, University of Malta (CBRG\_UM)**. The long-term scientific fieldwork involve boat, plane, land, and bioacoustic surveys (in a research area indicated in Fig.2). It has also increased the involvement of the Armed Forces of Malta, Transport Malta (Government authority responsible for maritime affairs), Maltese sea-users, and fishermen to contribute complementary information on cetacean sightings when at sea.

The scientific surveys of the research project mentioned earlier have exceptionally assessed cetacean status in the Maltese waters and the central Mediterranean (Vella, 1998; Mannocci et al., 2018). Complementary sighting records of sea users, undertaken in a structured method, further contribute to understanding the distribution, species diversity, abundance and conservation needs of cetaceans around the Maltese Islands.

The **Royal Malta Yacht Club (RMYC)** is an established entity for sailing activities and organisers of various sailing regattas. A premier event includes the **Rolex Middle Sea Race (RMSR)**. The RMSR attracts sailing boats from across the world. BICREF has been organising cetacean sightings record collection for the participating crews to fill-up during the race since 2000 with the collaboration of the RMYC.

## Methods:

The race occurs every year in October. The length of the RMSR course is an 1125 km loop spread over the central Mediterranean (Fig.1 below). Depth range covered during the race is 25m to 2500m; the deeper waters are present in the east and north of Sicily.

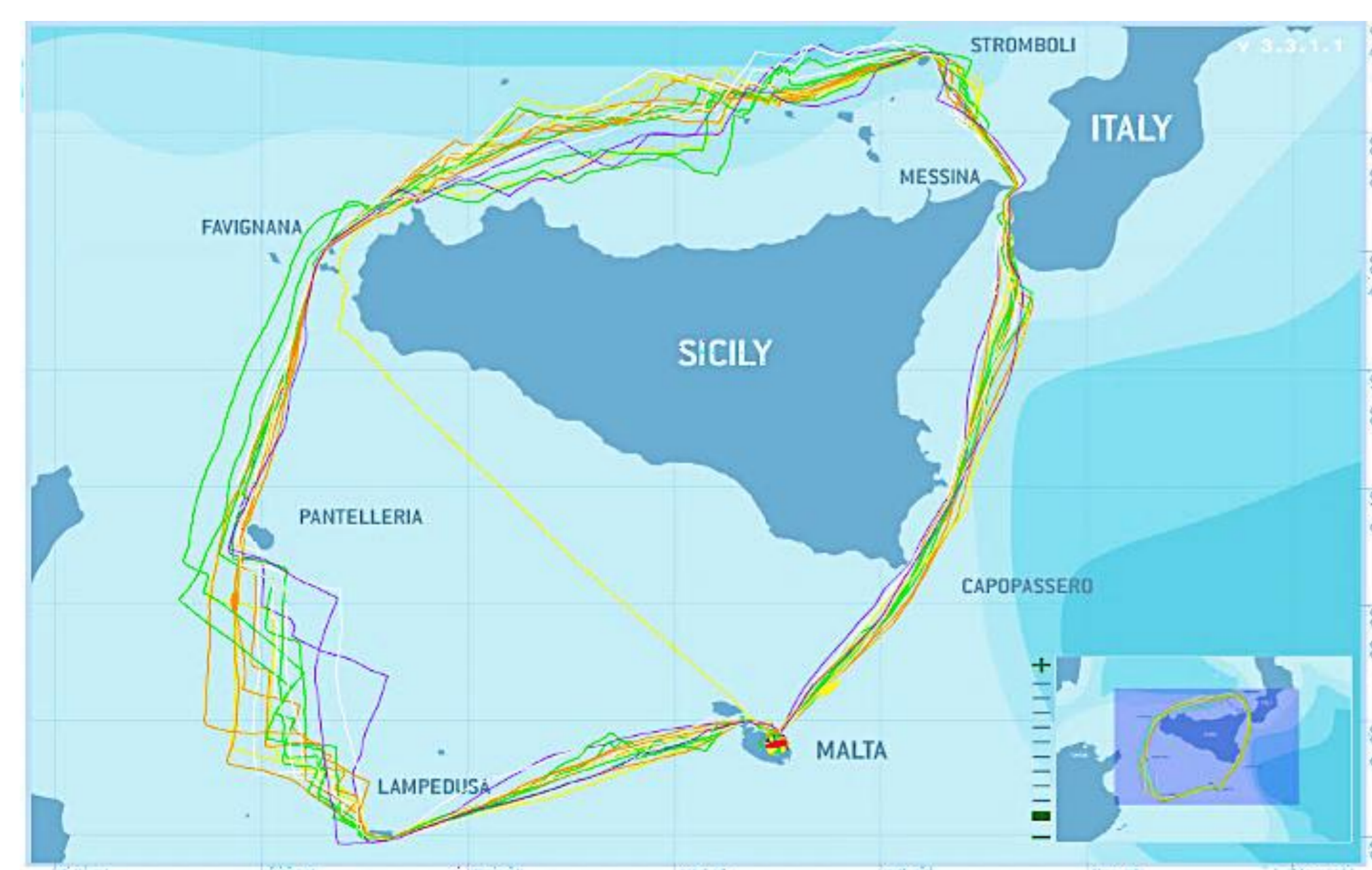


Figure 1: RMSR tracks starting from Malta & returning to Malta

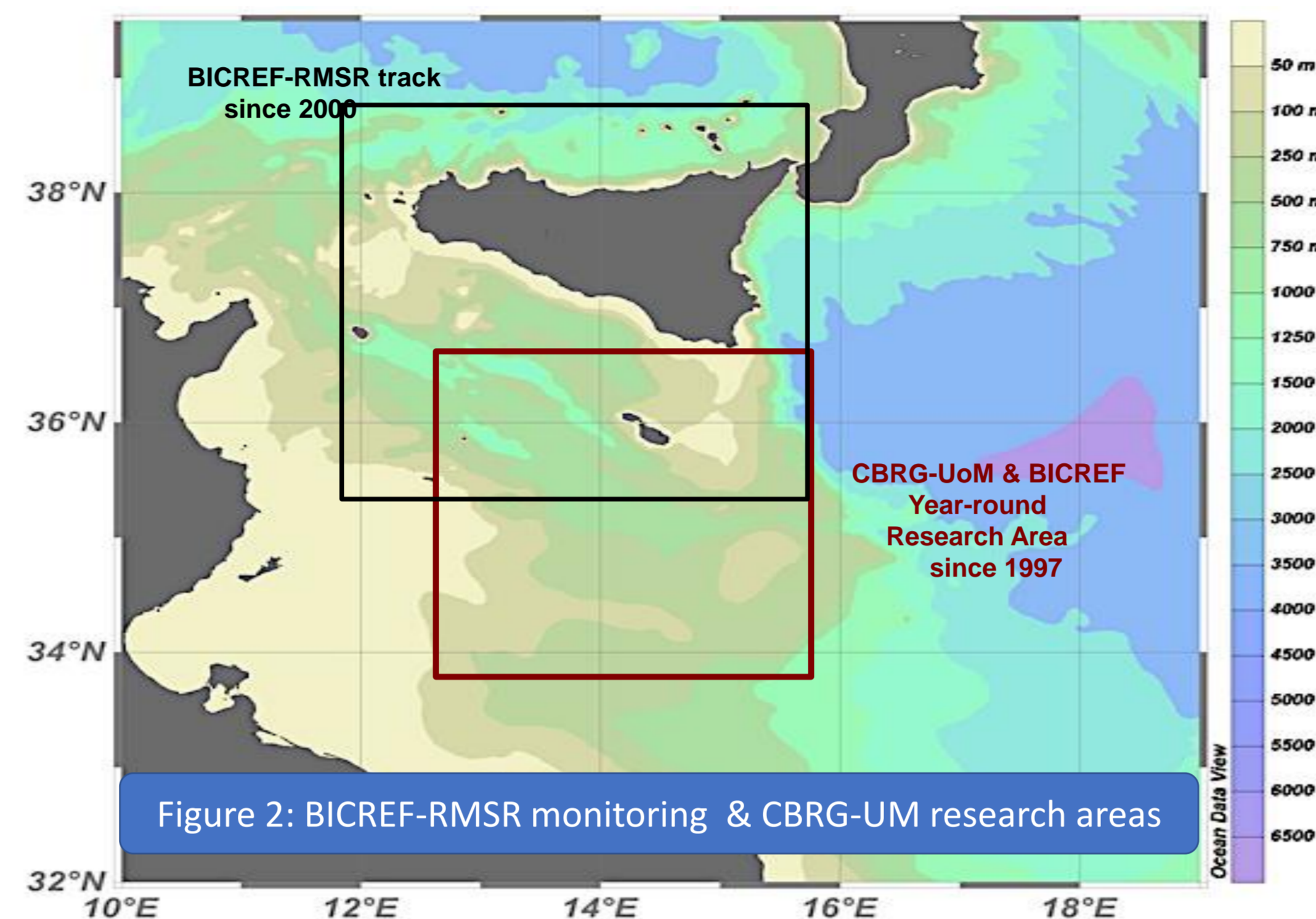


Figure 2: BICREF-RMSR monitoring & CBRG-UM research areas

## Results:

The RMSR 2022 edition saw over 100 boats participate and sail through this extended track through relatively calm weather conditions facilitating sighting records. After the race, filled in forms with details of each cetacean sighting and referenced photo and or video were received by BICREF together with visual media.

The cetacean sightings included: Bottlenose, Striped, Common dolphins and Sperm whales. Owing to the sailing-mode of travelling, the participating yachts have a marked lesser chance to disturb the cetaceans through vessel noise allowing for closer encounters. Furthermore, due to the number of participating yachts, the detailed data reported, and media provided, offer more accurate confirmation and composition of the sightings along the whole track during a short temporal interval of a few days. The reported sightings are then analysed after integrating this data with data relating to tracks of shipping and anthropogenic activities available through the AIS data repository.

The following pie charts (Figs. 3 & 4) show the relative cetacean sighting frequency and abundance for each species for the many years of data collection.

Relative Cetacean Sighting Frequency

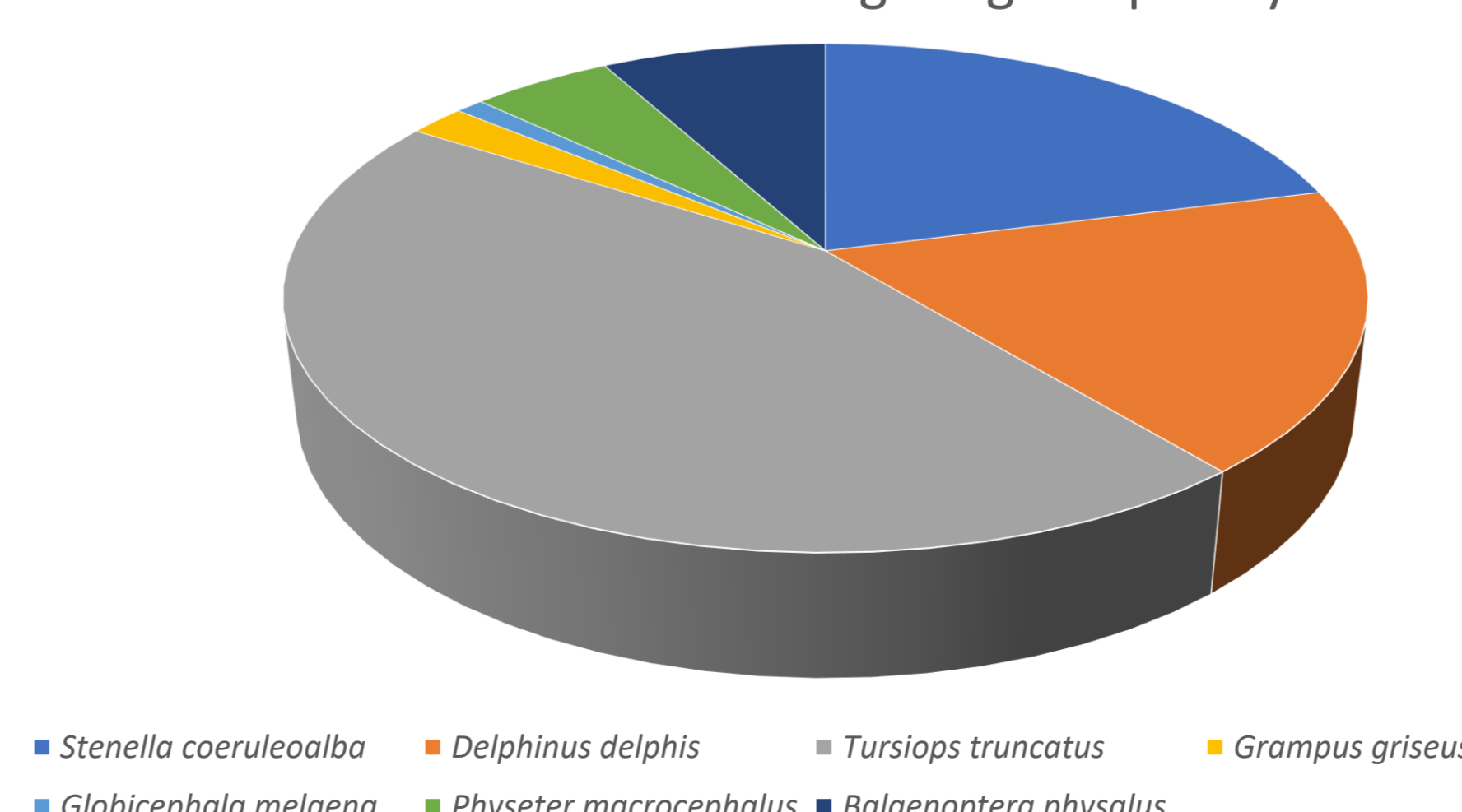


Figure 3: 2000-2022 Relative Cetacean Sighting Frequency during RMSR

Relative Abundance per Species

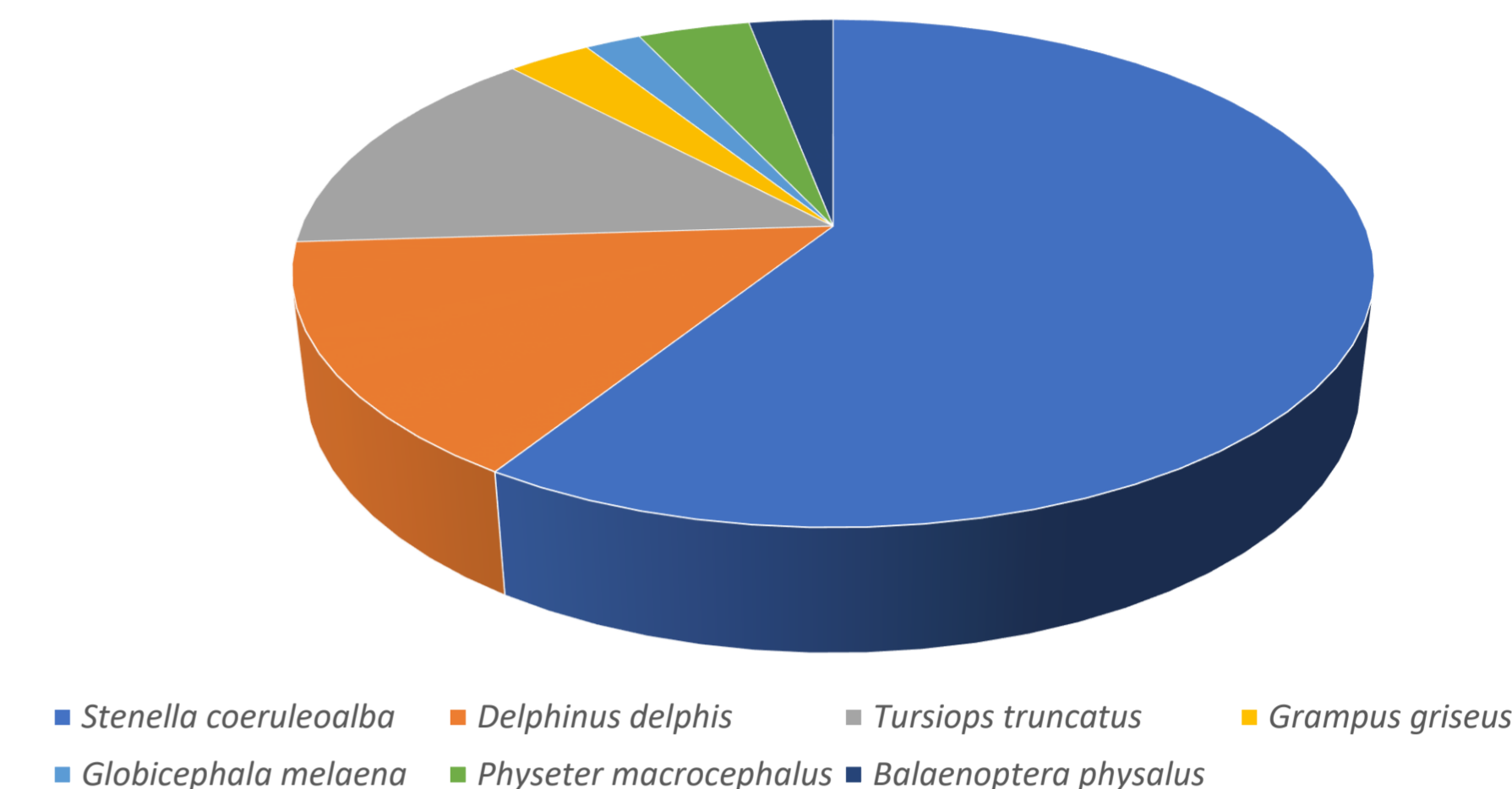


Figure 4: 2000-2023 Relative Cetacean Abundance during RMSR



Figure 5: BICREF's efforts have also promoted the endangered Mediterranean Common dolphin, *Delphinus delphis*

## Conclusion:

The detailed analyses of long-term data from numerous sailing boats' observers traversing a similar track during a short annual period each October, regardless of weather condition stimulates advances in cetacean research methods, presence, distribution and abundance in the central Mediterranean.

Additionally, the BICREF-RMSR project continues to provide a unique international awareness effort with mariners of this critically essential Mediterranean region for cetaceans (Fig. 5).

## References:

- Vella, Adriana, 1998. Cetacean Research Surveys around the Maltese Islands and Maltese Sea-User Cetacean questionnaire study. First World Marine Mammal Conference in Monaco proceedings: *European Research on Cetaceans – No. 12*. Eds. Evans, and Parsons.
- Mannocci, L., ..., Adriana Vella, Joseph Vella, 2018. Assessing Cetacean Surveys throughout the Mediterranean Sea: a Gap Analysis in Environmental Space. *Scientific Reports, Nature.com*.

## Acknowledgements:

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