

# Using opportunistic sightings to infer differential spatio-temporal use of western mediterranean waters by the fin whale

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The fin whale (*Balaenoptera physalus*) is a cosmopolitan species with a resident population in the Mediterranean Sea. Due to its habitat, open seas often far from ports and airfields, and its long-distance migratory behaviour, studying and monitoring its distribution is costly. Currently, many opportunistic sightings (OS) reports are available, which provide a source of potentially useful, low-cost information about the spatio-temporal distribution of this species. Since 1993, the Spanish Institute of Oceanography has compiled a dataset comprising 874 records of OS of nine species of cetaceans in the western Mediterranean Sea and adjacent waters. The aim of this study was to use this dataset to investigate the differential use of these waters by the fin whale when compared with other cetaceans. We compared the presence of fin whales with the presence of any other cetacean species in the dataset. Binary logistic regression was then used to model these occurrences according to several spatio-temporal variables expected to reflect their habitat use. Several significant models reveal that fin whales are more prone than other cetaceans to use the waters over the slope of the Gulf of Lion in summer. This finding confirms that the Gulf of Lion is an area of importance for this species and suggests that the slope of the continental shelf could be particularly important. Our study shows how OS can be a source of useful information when appropriately analyzed. © Copyright 2019 Torreblanca et al.

*Balaenoptera physalus*

Balaenopteridae

Cetaceans

Gulf of lion

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