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ABSTRACT BOOK





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Distribution and responses of cetaceans to anthropogenic pressure

Oliva, Giulia (1); Tumino, Carla (1,2); Raffa, Alessandra (1); Pellegrino, Giuliana (1); Arcangeli, Antonella (3); Monaco, Clara (1)

1. *Marecamp Association, Lungomare Scardamiano 1, Aci Castello, 95021 Catania, Italy*
2. *Department of Biological, Geological and Environmental Sciences, University of Catania, 95124 Catania, Italy*
3. *ISPRA, Via Brancati 48, Roma, Italy*

The Mediterranean Sea is considered one of the major biodiversity hotspots, but at the same time, it is also highly impacted by human activities. It is a crossroads for ships, an area of high fishing pressure, and with an elevated concentration of floating waste. All these conditions represent sources of stress and danger for the species that live in its waters. This is particularly evident for cetaceans, species extremely sensitive to anthropogenic disturbances and currently protected by numerous international laws.

The studies on cetacean species distribution and anthropic disturbance sources can give an idea of the current cumulative effects of human pressure on them. Data of this research were collected by the Marecamp Association on board platforms of observation, like passenger ferries and cargo ships, in collaboration with the Fixed Line Transect Mediterranean Monitoring Network (FLT MedNet), in February 2022-March 2023 and along two fixed routes: Catania-Malta, and Porto Empedocle-Lampedusa. Records about cetacean species and anthropic presence in terms of naval traffic, fishing activities and marine litter were gathered to assess their distribution. Using the software QGIS, spatial analysis were conducted to visualize the possible existing relationship between cetacean's areals and anthropogenic pressures. Kernel density analysis were carried out on both variables, considering all anthropic elements as a whole in order to evaluate their cumulative effect.

Results demonstrate that the greatest density of anthropogenic pressures is observed near the island of Lampedusa, while they appear homogeneously distributed along the Catania-Malta route. Moreover, there is a noticeable intersection with the presence of cetaceans in those regions significantly affected by human activities, particularly near Lampedusa Island where the highest concentration of sightings was recorded.

This research demonstrates the current coexistence of cetacean species with human activities in the study area, while closely examining the threats that pose risks to their conservation status.