

Reducing the risk of ship strikes and improving the knowledge on cetaceans in the PELAGOS Sanctuary: the REPCET system.

Abstract:

In the Mediterranean Sea, ship strikes are one of the main threats to fin whale (*Balaenoptera physalus*) and sperm whale (*Physeter macrocephalus*) populations, especially in the PELAGOS Sanctuary where cetacean densities and traffic intensity are highest in summer. To reduce the risk of ship strikes in the Sanctuary, the REPCET (REal-time Plotting of CETaceans) system was created in 2009. It is a collaborative client-server system through which equipped ships can transmit the positions of the whales they encounter to one another via satellite or internet connection. When a whale position is received, a risk zone appears on the screen and grows with time to a certain radius and at a certain speed according to our knowledge of whales' swimming speed in the area. When a ship enters a risk zone a visual or acoustic alarm is triggered and crews are recommended to increase their watch and reduce speed. From January to November 2013, 165 cetaceans observations were made (41% fin whales, 35% striped dolphins, 10% sperm whales, 9% bottlenose dolphins, 3% Risso's dolphins and 2% pilot whales). These data could potentially be a source of valuable information on these species in the Sanctuary. Eleven ships are currently equipped with REPCET in the north-western Mediterranean Sea. More ships are needed to improve the efficiency of the system and expand it in the whole Mediterranean Sea and beyond. Other developments such as a REPCET smartphone application, the possibility of including cetacean presence prediction models and fitting the system with other detection tools (night vision, acoustic) are currently on-going.

Reference:

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