

Monitoring and Conservation of Pelagic Sea Turtles in the Mediterranean Sea: Insights from the Life CONCEPTU MARIS project.

M. Farina¹, F. Maffucci¹, E. Pasanisi², M. Azzolin^{3,4}, I. Campana⁶, M. Costantino^{3,4}, L. David⁸, L. Favaro³, M. Gamba³, C. Giacomini³, M. Gregoriotti⁵, 11, É. Moura¹, E. Santini², G. Sara^{5,11}, A. Servidio⁷, P. Tepsich^{9,11}, F. Grossi^{9,12}, R. Teti¹, E. Valsecchi¹⁰, A. Arcangeli²

1. Zoological Station Anton Dohrn, Villa Comunale, 80121, Napoli, Italy;
2. ISPRA- Italian National Institute for Environmental Protection and Research, Vitaliano Brancati, 48, 00144, Roma, Italy;
3. Department of Life Sciences and Systems Biology, University of Turin, Via A. Albertina 13, 10123, Italy;
4. Gaia Research Institute, Corso Moncalieri, 68 B, 10133, Torino, Italy;
5. University of Palermo, Piazza Marina, 61, 90133, Italy;
6. Accademia del Leviatano APS Via dell'Ospedaletto 53/55, 00054, Fiumicino, Italy;
7. Triton Research, Via Alessandro Scarlatti, 8, 80129, Napoli, Italy;
8. EOI - Eco Ocean Institut, Rue des Hospices, 18, 34090, France;
9. CIMA Research Foundation, Via A. Magliotto, 2, 17100, Savona, Italy;
10. University of Milan Bicocca, Piazza dell'Ateneo Nuovo, 1, 20126, Milano, Italy;
11. NBFC, National Biodiversity Future Center, Palermo, Italy;
12. DIBRIS, Università di Genova, Via Balbi 5, 16126 Genova GE, Italy.

Presenting author: Marianna Farina

E-mail address: marianna.farina@szn.it

The LIFE CONCEPTU MARIS project (2022-2026) unites 11 international partners in a collaborative effort to safeguard the biodiversity of the CEtaceans species and Pelagic sea Turtles (CEPTU) inhabiting the Mediterranean Sea. The project aims to fill critical gaps in our understanding of these species distribution, abundance and threats they face, such as marine traffic and floating litter, while developing targeted conservation strategies to mitigate these impacts. Conceptu Maris further develops the visual census activities started in 2008 within the FLT med Network, coupling visual monitoring to eDNA and stable isotopes analysis, as well as in-situ environmental data acquisition. Data have been collected using ferries and large vessels as research platforms along 17 fixed routes. 582,110 km have been surveyed between 2008 and 2023, with more than 3911 sightings of sea turtles giving us the opportunity to identify key habitats for marine turtles, primarily *Caretta caretta*. The highest number of sightings per unit effort (SPUE) were recorded in the southern Tyrrhenian Sea, between Sardinia and Sicily Islands, and the Adriatic Sea. Preliminary analyses indicate a latitudinal shift of the loggerhead turtle distribution over the years and among seasons, with the highest values observed in 2022, which may be related to climate warming. CONCEPTU MARIS Life project has fine-tuned a cost-effectiveness, standardized and widely employed protocol for the continuous monitoring of Pelagic sea Turtles species that will improve our understanding of climate change impact on species distribution and will support decision makers to identify effective conservation measures.