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Orientation: Sustainable Use of Marine Resources

Specialization Area: Analysis and Environmental assessment

Research Area: 3.5. Biodiversity and littoral zone ecology



PhD project: *Diet analysis of the main cetacean's species in waters of the North-West Iberian Peninsula and analysis of macro and microplastics in their stomachs*

Supervisors: Dr. Graham Pierce (Spanish National Research Council - CSIC)

Dr. Camilo Saavedra Penas (Spanish Institute of Oceanography - IEO)

Summary: Cetaceans, as top predators, play an important role in the functioning of marine ecosystems regulating the abundance of species at lower trophic levels in the marine food chain. In addition, the cetacean populations are subjected to several anthropogenic threats (e.g., incidental capture in fishing gears, overexploitation of resources by fisheries, pollution, marine debris) which can affect their survival and conservation status. In the Atlantic region of the Iberian Peninsula the most abundant marine mammal species are: the common dolphin (*Delphinus delphis*), the bottlenose dolphin (*Tursiops truncatus*), the striped dolphin (*Stenella coeruleoalba*), and the harbour porpoise (*Phocoena phocoena*). In this thesis, the stomach contents of 1,007 individuals were analysed to characterize, both qualitatively and quantitatively, the diet composition of these 4 cetacean species. In addition, the identification of the prey remains allowed us to estimate the amount of food consumed annually, to infer the variation of the diet at different scales (inter-annual, seasonal, and geographical), as well as in relation to the sex and the size and the cause of death of cetaceans (bycaught vs non-bycaught individuals), and also to determine the overlap between the diet of these cetaceans and the catches of the fisheries operating in the study area. Regarding the pollution, the presence of macro and microplastics in the stomachs of cetaceans was analysed throughout the studied years, and the plastic items found were classified and quantified.

