

AN APPROACH TO THE DIAGNOSIS OF ELASMOBRANCH POPULATIONS IN THE CIRCA-LITTORAL SOFT BOTTOMS OFF THE BALEARIC ISLANDS (NORTH-WESTERN MEDITERRANEAN)

Beatriz Guijarro, Enric Massutí, Antoni Quetglas, Joan Moranta, Francesc Ordines and Maria Valls

Instituto Español de Oceanografía, Centre Oceanogràfic de les Balears

beatriz@ba.ieo.es

The Balearic archipelago, together with other insular areas, shows the most diverse and abundant elasmobranch communities in the western Mediterranean. The present contribution attempts to assess the elasmobranch populations in the circa-littoral soft bottoms off the Balearic Islands, exploited by the trawl fishery. For this purpose, the temporal variations of their communities and species have been analysed, from different sources of information: (i) time series of landings since 1965 from Mallorca; (ii) daily sale bills from the trawl fleet of Mallorca between 2000 and 2008; (iii) sampling of trawling catches carried out by on board observers in Mallorca from 2001 and 2008; and (iv) data obtained annually since 2001 in the MEDITS experimental bottom trawl surveys, carried out on the continental shelf and upper slope off Mallorca and Menorca. The diagnosis of elasmobranch populations has been done separately for the shelf and the slope using different ecological indicators estimated annually: e.g. standardised abundance and biomass, species richness and diversity, percentage of elasmobranchs with respect to demersal assemblages, size and biomass spectra, catch per unit of effort and percentage of elasmobranchs discarded by the trawl fishery. The temporal trends of these indicators have been explored by applying general additive models, with the aim to identify and discuss the status of elasmobranch populations in the Balearic Islands. The use of these ecological indicators based on elasmobranchs could be very useful to assess the fishing impact on marine ecosystems, due to the special vulnerability shown by these species in front of fishing activity.