

Technical measures for a better scientific knowledge: gear selectivity in the north Spanish bottom trawl fishery.

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The fishing selectivity, which describes the relationship between the age/size composition in a species stock and the one found in the fisheries or a survey, could be determined by a combination of underlying processes such as gear design or spatial-temporal distribution of the fishery and of the species under consideration. The knowledge of factors affecting the relationship between fishing mortality (F) and effort (f) may be useful to improve the scientific advice in mixed fisheries. This relationship is assumed to be constant in time, however some factors such as fish and fleet behaviour, dense-dependency, can affect its variability.

In order to achieve this aim, it is necessary to define the technical characteristics of the fishing gears, to test and to compare mesh configurations and selectivity devices that are more suitable. Losses of a fraction of the commercial catch must be considered and quantified to assess their influence on the economic viability of fishing.

North Spanish bottom trawl fishery is reported to have discards of megrim, hake and blue whiting. Main reasons for discarding target species are the undersized individuals and quota restrictions. A selectivity trial program designed by the collaboration of scientists and fishers, was carried out on board bottom trawlers in the area with the aim of assess the selectivity of the regulatory trawl codends used by the commercial fleet for main commercial species. Selectivity trials have been conducted focused on mesh netting geometry and mesh size (55mm vs 70mm codend mesh size) to balance the roundfish by-catch avoidance. Species studied were European hake, megrims, monkfish, blue whiting and horse mackerel as well as other valuable accessory species captured in the north and northwestern Iberian waters by bottom trawlers.

The results obtained in the trials have made possible to obtain new and updated scientific-technical information on selectivity in the bottom trawl fishery. The selectivity parameters of landings and discards of the 55 mm and 70 mm meshes have been obtained and it could be incorporated as required inputs in mixed fisheries modelling.

Keywords:

Discards, fisheries management, landing obligation, selectivity, technical measures.