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FISHING SELECTIVITY AND REDUCTION OF DISCARDS IN BOTTOM TRAWL FISHERIES AT NORTH EUROPEAN ATLANTIC WATERS.

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Abstract:

In the Atlantic waters of Northwest Europe, in the 'Great Sole fishing ground' (area ICES7), a bottom trawling fishery operates targeting demersal species, mainly megrim, monkfish and European hake. Due to the multi-specific nature of this mixed fishery there is a need to develop technical solutions and more selective fishing gears to minimize discarding and bycatch as a stepping-point to phase out discards in European fisheries (Uhlmann et al., 2013). But often these European regulations are difficult to achieve within the current limitations of distribution of fishing quotas and the selectivity characteristics of some fishing gears, such as trawls.
The collaborative scientist-fishing industry project 'RAPANSEL' addresses the quantification and improvement of selectivity in the fishery through the identification, development and testing of technological improvements in fishing gears. The aim is to reduce the volume of unwanted catches in the fishery preserving the catchability of the target species without endangering the economic viability of the fishing activity.
A series of 4 experimental trials have been carried out from 2018 to 2021. Observers on board a representative fishing vessel of this fleet carried out comparative studies between a modified selective codend and the common codend used by the fleet. Scientist and fishermen chose several experimental designs (following Wileman et al., 1996), setting up fishing gears in which changes were introduced to improve selectivity parameters of the gear such as mesh size, geometry shape, twine thickness, and introduction of selectivity devices as Square Mesh Panels (SMP).
In this work, the outcomes of the different tests are shown, being the square mesh panel with a 180 mm mesh size the one with the best results. This design allows a great reduction of unwanted catches due to lack of quota, such as cod and haddock, and also the escape of small target fish.

Key words: Trawling, Selectivity, Fishing technology, Discards, Bottom-trawl

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