Comparing selectivity of a standard and turned mesh T90 codend during towing and haul-back - DTU Orbit (23/04/2019)

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In this study, we compared the size selectivity of a T90 codend (netting turned by 90 degrees) with that of a standard codend made of similar netting. Sea trials were conducted in a Norway lobster directed fishery in the Kattegat-Skagerrak area, where there is a need for improved selectivity because of a severe discard problem. The codends were tested by fishing simultaneously with them in a twin trawl rig. Codend covers mounted with Minisamplers were used, which made it possible to catch individuals escaping during towing and haul-back separately. Herein we proposed a model to assess the sequential selection during towing and haul back. This model takes into account the parameter Ctow, which can be interpreted as the proportion of fish that comes into contact with the codend meshes during towing and, thereby, has a chance of escape. Compared to the standard codend, the T90 codend retained fewer Norway lobster both below and above the legal minimum landing size (40 mm, cephalothorax length), thereby causing a reduction of commercial catch. The difference was mainly due to a significantly higher escape rate during towing for the T90 codend. For plaice below minimum landing size (27 cm), the retention was slightly but significantly higher for the T90 codend compared to the standard codend. A model developed for both codends showed that not all plaice are able to attempt escapement during the towing process. For cod, the results indicated an increased L50 (the length at which 50% of this species is caught) for the T90 codend, but the effect was not statistically significant, probably due to the limited number of cod retained during the sea trials. The results demonstrated that, for all three species, a significant proportion did escape during haul-back in both codends.

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