Development and test of selective sorting grids used in the Norway lobster (Nephrops norvegicus) fishery

Due to generally high discard rates in Norway lobster (Nephrops norvegicus) fisheries, a discard ban coming up and to the cod recovery plan in several areas, selective sorting grids have been tested in many areas and are specified by legislation for use in the Kattegat and Skagerrak area bordering Norway, Denmark and Sweden. Grids are very selective, but they can lead to loss of landable Norway lobster and valuable fish species. To improve retention of these species, we developed three new grids using made by polyurethane to make them flexible: One grid had horizontal bars, one had vertical bars, and one had vertical bars and a guiding funnel in front of the grid. Four unselective net bags were used to collect the catch escaping through different parts of the grid or escaping without passing through the grid. Water flow around the grid bars was measured in a flume tank. The three grids were tested from a commercial trawler in the Kattegat and Skagerrak area. Underwater filming was conducted to assess grid performance and fish behavior. Results showed that a bottom hole in the lower part of the grid allowed species in the lower part of the gear to pass and retained in the bag behind the hole. More flatfish passed the grid with horizontal bars compared to that with vertical bars, but the retention rate was still low. Use of the guiding funnel increased the contact with the grid considerably for both target and unwanted species. In all three grid designs, there were losses of Norway lobster above minimum landing size.

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