LET'S MAKE THE BROWN SHRIMP GREEN! EVALUATION OF DISCARDING PRACTICES IN THE NORTH SEA BROWN SHRIMP (*CRANGON CRANGON* L.) FISHERY

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The Brown Shrimp (*Crangon crangon* L.) fishery in the North Sea, the focus of this study, is carried out with small meshed nets in vulnerable areas like coastal zones and estuaries. The discarding practices associated with it have been regarded as a problem for many years. The discussion, however, was difficult since no sufficiently reliable discard data were available. The need for data on this issue and a solution for the discard problem was the starting point of the study. The main objectives were to quantify the biological and economic consequences of discarding in the Brown Shrimp fishery and to evaluate possible technical alterations to the shrimp beam trawl to reduce discarding in this fishery.

To fill the gap in knowledge on discarding practices in the North Sea Brown Shrimp fishery, a cooperative discard sampling programme was set up. In this study, absolute numbers of discards were produced. These were carefully examined in relation to other factors that determine the composition of a fish stock by using a newly designed biological and economic model.

A next step in the project was a detailed study of the selectivity of the shrimp trawl. This was done for the sake of having a good description of the selective properties of the shrimp beam trawl and as a preparation for the experiments with selectivity improving devices.

Three such devices were selected for study: 1) a selective sorting grid, 2) a selective sieve net and 3) electric pulses as an alternative stimulation.

Although the selective grids have some clear advantages, like catch reduction of Age 1+ fish, non-commercial fish and invertebrates and better cod-end selectivity, they were found to be too susceptible to malfunction. The sieve net on the other hand, seemed to be a more acceptable device to fishermen with better selective properties.

The basic idea in the application of electric pulses was to invoke selectively a startle response for shrimp with electric ticklers and to allow non-reacting species to escape underneath a raised groundrope. From the sea trials, it can be concluded that the electro-net gave satisfactory results. The losses of commercial shrimp were small or even non-existent. Part of the catch of undersized commercial fish species could escape and especially non-commercial fish and invertebrates were caught in lower numbers compared to the standard net.

New technical measures were established in 2002 and included, for Belgium, the enforcement of the use of sieve nets in the Brown Shrimp fishery. Without doubt, these measures will reduce the impact that shrimp fishing has on the fish stocks and on the ecosystem as a whole. Nevertheless, where fishing occurs, impact on the ecosystem is inevitable. The Sea Fisheries Department has the intention to continue to strive towards more environmental friendly fishing.