

(SEMI-)PELAGIC FISHERIES AS AN ALTERNATIVE WITHIN THE FLEMISH FISHERIES SECTOR, WITH SPECIAL EMPHASIS ON THE ROLE OF ZOOPLANKTON IN THE NORTH SEA

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Many European commercial fish stocks are overfished and at the same time fisheries are under substantial financial pressure in several countries. Beam trawl fisheries are suffering from high exploitation costs and a negative impact on the marine ecosystem, because of discarding and the impact on benthic fauna. In order to work out a sustainable strategy for the Flemish fisheries sector it is necessary to expand the used fishing methods. This includes developing niche fisheries and a sustainable use of other natural marine resources.

Because of a worldwide phenomenon called 'fishing down the food web' there is a global evolutionary trend from an ecosystem dominated by demersal fish species towards a system with more (semi-)pelagic fish. Pelagic fisheries contribute highly to the total fish catch in different seas. Furthermore there is, partially because of actual Climate Change, an increase in jellyfish and other low-trophic planktivorous pelagic species. Investigating whether this trend is also established in the southern North Sea is highly important.

As opposed to its benthic ecosystems (benthos and demersal fish), the pelagic ecosystems of the North Sea are less studied. Nonetheless, there are many benthic organisms who possess one or more pelagic life phases. This results into a benthic-pelagic coupling.

In pelagic food webs the zooplankton plays a crucial role as main source of food for higher trophic levels. This zooplankton consists of small animals living in the water column, who mainly feed upon other planktonic fauna and flora and on detritus. A better knowledge of the spatial and temporal distribution of this zooplankton, in relation to present pelagic fish species and seabirds, is needed to estimate the importance of the pelagic ecosystem and the possibilities of a (semi-)pelagic fishery in Belgian coastal waters. This shall be studied within the framework of a PHD study.

For many years, possible alternatives for beam trawl fisheries are being investigated within ILVO fisheries. Examples are the commercial use of fishing lines, trammel nets and fishing pots. This PHD work, with the '(semi-)pelagic fishery' as subject matter, allies with that research.