

POST-EXTRACTION STUDY OF THE MACROBENTHOS ON THE KWINTEBANK

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After 30 years of exploitation, a depression was formed in the central part of the Kwintebank. The ministry of Economic Affairs decided to cease extraction in this part of the exploitation zone for a period of three years starting from 15 February 2003. This study is part of the project SPEEK (Study of Post-Extraction Ecological effects in the Kwintebank sand dredging area) which is a cooperation between three Belgian and one Spanish institute. The aim of the project is to join the expertise present in these groups to gain insight in the possible restoration of benthic life in the central area of the Kwintebank. SPEEK focuses on diverse benthic groups: the meiobenthos (UGent/Marine Biology, Nematoda and AZTI, Harpacticoida) and the macrobenthos (ILVO-fisheries). All biological data is backed up by geological data, collected by RCMG. To have an idea of the recovery of the macrobenthos in the central area of the Kwintebank, six locations were sampled seven times between 2003 and 2005.

Density and diversity of the macrobenthos were lowest in spring 2003, only one month after the cessation of dredging activities. Density was higher in the most central part of the depression compared to the other locations, mainly because of the presence of the amphipod *Urothoe brevicornis* and the bristle worm *Nephtys cirrosa* in high numbers, shortly after the cessation of the dredging activities. Compared to other areas with a similar environment, density and diversity indices were lower. Density and diversity did obviously increase from 2003 to 2004, although in spring 2005 lower values were recorded. Species such as the amphipod *Urothoe brevicornis* and the polychaetes *Hesionura elongata*, *Polygordius appendiculatus*, *Spiophanes bombyx*, *Scoloplos armiger* and *Nephtys cirrosa* (both juvenile and adult species) were from autumn 2003 on the most important species in the central depression area of the Kwintebank.

The interpretation of the data is hampered by the lack of base line data. The positive evolution of the density and diversity values may be a consequence of the cessation of extraction but can also be a result of natural variability. No definite answer can be given to the question of comparability of the current community composition to the original community. Generally it can be concluded that the poor macrobenthic community that was first found in the central depression of the Kwintebank, directly after the cessation of extraction, did evolve to a community more characteristic for a sandbank area on the Belgian Continental Shelf.