

# **TIDAL FLAT MACROBENTHOS RESISTANCE TO MEDIUM-TERM EMERSION: THE CASE OF THE TRICOLOR OIL POLLUTION PREVENTION IN THE ZWIN NATURE RESERVE (BELGIUM)**

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As a result of the impending Tricolor oil pollution in the Southern Bight of the North Sea at the end of January 2003, the Zwin nature reserve was blocked from the North Sea by use of a sandbarrier. This method of protection has an important consequence for tidal flat ecosystems: the absence of the tide. To estimate the effects of the tideless situation on the ecological very important bottom-life of tidal flats, macrobenthic samples were collected starting just before, two times during (after 12 and 21 days of emersion), and frequently, after the removal of the sandbarrier, during one year. This study shows a high resistance of all macrobenthic species to a medium-term emersion during winter. Two ecological patterns could be distinguished during the emersion: (1) immigration into the emersed intertidal zone of *Talitrus saltator* and *Orchestia gammarellus*, (2) decreasing densities of polychaete species, which were very abundant before the construction of the sandbarrier. However both patterns were not significant. In view of the high survival of the macrobenthos to a medium-term emersion and the fact that a pollution in the nature reserve was inhibited, the choice to protect the reserve from the impending oil pollution by use of a sandbarrier, may be positively evaluated.