

THE MACROZOOBENTHOS OF THE SUBTIDAL MARINE AND BRACKISH PART OF THE WESTERN SCHELDT. T. Ysebaert, P. Meire, K. Devos and J. Seys. State University of Ghent.

The Western Scheldt, one of the few remaining estuaries in The Netherlands, shows the normal estuarine gradient from a brackish to a marine tidal system (mean chlorinity 9 g Cl/l and 16 g Cl/l resp.). Its subtidal macrozoobenthos was surveyed in 1988 (marine part) and 1989 (brackish part), by means of 80 and 57 Van Veen grab samples (0-15 m depth). Species diversity was much higher in the marine part, due to a higher and less fluctuating salinity, as compared to the brackish part (58 against 20 species). In both parts, most of the samples (> 50%) had a very low average density with < 100 ind/m<sup>2</sup>. Total mean density was dominated by annelids (*Heteromastus filiformis*, *Tharyx marioni*, and *Oligochaeta*) in the marine part, and by arthropods (*Bathyporeia spec.* and *Haustorius arenarius*) in the brackish part. Also, 78% (marine) and 96% (brackish) of the samples had an average biomass < 1g AFDW/m<sup>2</sup>. However, total mean biomass was much higher in the marine part, due to the abundance of the cockle *Cerastodenna edule* in three samplings. In the brackish part, total mean biomass was dominated by arthropods (*Bathyporeia spec.* and *Haustorius arenarius*). Diversity, density and biomass appeared to be highest near the intertidal sand and mudflats and were lowest in the gullies. Multivariate statistical analyses (TWINSPAN and DECORANA) indicated a distinct overlap between samples of both parts, characterized by a macrozoobenthic community of mainly arthropods (*Bathyporeia spec.*, *Haustorius arenarius*, *Eurydice pulchra*, etc.). These species are well adapted to live in highly exposed and disturbed sediments. It is concluded that the macrozoobenthic species composition along the marine and brackish parts of the Western Scheldt is mainly determined by salinity, but that on the other hand the highly dynamic character of the Western Scheldt results in a typical macrozoobenthic community of mobile arthropods in both parts.