

- 134 **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/m². 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 < 1 g AFDW/m². However, total mean biomass was much higher in the marine part, due to the abundance of the cockle *Cerastoderma 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.

- 135 **CONTRIBUTION TO THE STUDY OF POPULATION DYNAMICS OF THE PUMPKINSEED SUNFISH (*LEPOMIS GIBBOSUS*) IN FLANDERS, BELGIUM.** R. Ysebaert, J. Coeck*, L. Bervoets and R. Verheyen. University of Antwerp (UIA) and *Institute of Nature Conservation, Hasselt).

At the beginning of this century the pumpkinseed sunfish (*Lepomis gibbosus*) was first introduced in Belgium (1). Nowadays it is spread over various freshwater ecosystems in Flanders. This study was carried out on populations occurring in a lowland river the Grote Nete, a fish pond in Blaasveld and an acid-stressed fen in Zonhoven. Fish were captured from October 1989 to March 1990 with electrical fishing gear. Population numbers were estimated by catch-effort and mark-recapture methods. Length frequency distributions and scale analyses were combined to determine age and growth. Back-calculated fork lengths were used to compare growth with literature data. Fulton's coefficient of condition was calculated for fork length. The age distribution points out a low reproductive level in the Grote Nete. Also densities are much lower in this ecosystem compared to the fish pond and the fen. The population of the acid-stressed fen is characterized by a very high density but a significantly lower growth rate. Condition is best in standing waters especially in the eutrophied fish pond in Blaasveld.