

RESOURCE UTILIZATION BY FISHES ON A BRACKISH WATER MUDFLAT

Stevens Maarten, Joachim Maes, Bart Van Asten and Frans Ollevier

University of Leuven (KUL), Laboratory of Aquatic Ecology
Charles De Bériotstraat, 32, B-3000 Leuven, Belgium
E-mail: Maarten.stevens@bio.kuleuven.ac.be

The fish community on a brackish water mudflat was sampled with directional fike nets in August and October 2001. At three different heights on the mudflat, four fikes were placed in a way that each fike sampled an opposite direction: up- and downstream, flood and ebb. All fishes were measured, weighed and their stomach content was analysed. Diet composition was compared with prey availability on the mudflat. In this way we were able to investigate the migration patterns and feeding behaviour of the organisms on the mudflat. The three most dominant fish species on the mudflat were flounder, herring and sole. In October, also gobies occurred in large numbers. Our data showed that flounder and sole migrate perpendicular to the tide mark on the mudflat (active migration), while herring and gobies follow the tidal flow (passive migration). Prey analysis showed a biological significant niche overlap between flounder and sole, with both species preferring the amphipod *Corophium volutator* as their main food item. However, in contrast to sole, flounder also uses the upper parts of the mudflat as a feeding ground. The former may indicate that resource competition between these two species is unlikely in this part of the estuary because of spatial niche differentiation.