

## **THE EFFECTS OF RECRUITMENT ON THE COMMUNITY PARAMETERS WITHIN THE ABRA ALBA – MYSELLA BIDENTATA COMMUNITY ON THE BELGIAN CONTINENTAL SHELF**

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The *Abra alba* – *Mysella bidentata* community is of high ecological importance, because of (1) its high macrobenthic abundance (6432 ind/m<sup>2</sup>) and diversity (30 spp./0.1m<sup>2</sup>), (2) its high number of bivalves possibly serving as an important food resource for sea ducks or demersal fishes, (3) its numerous unique species for the Belgian Continental Shelf (BCS), and (4) the occurrence of habitat structuring species, such as *Lanice conchilega*.

To evaluate the temporal variability within the *Abra alba* – *Mysella bidentata* community, one station, was sampled every month or seasonally, between 1994 to 2003. This station is characterised by muddy fine sand (D<sub>50</sub>: 170-200 µm).

In August 1995 a very successful recruitment of *Spisula subtruncata* occurred, which caused a decrease in densities and diversity of other macrobenthic species. For the next two years the densities and diversity remain lower than before august 1995. The abundance of *Spisula subtruncata* decreased slowly, and from 1999 onwards almost replaced by the bivalve, *Donax vittatus*. Also a strong recruitment event of *Lanice conchilega*, occurred in 1999, which caused an increase of the densities and diversity of the other macrobenthic species towards the summer-autumn, with a decline again in the winter. The same pattern is observed in 2002. It is clear that the recruitment of these two species had a strong effect on the occurrence of other macrobenthic species. The presence of the bivalve *Spisula subtruncata* in high densities creates a competition for space. This in contrast with the recruitment of the tube-building polychaete *Lanice conchilega*, having a positive effect on the benthic community.

Strong year-to-year variability in species-specific recruitment is a major factor affecting community structure.