

P12.

Hard substrate monitoring in the Scheldt estuary: Changes in species distribution from 1989 till 1998.

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In the scope of BIOMON (initiated by RIKZ) Bureau Waardenburg bv executed hard substrate monitoring in the Scheldt estuary during the years 1989 till 1998. Sessile species can be indicator species for environmental changes and insight in their habitat can be of value during impact studies.

The monitoring took place at two locations: Ritthem and Kruiningen. The biodiversity of the Ritthem over the years has been relatively high. This is probably due to strong marine influences at this location. Several species of seaweed occur here. In 1998 seaweed's were responsible for more than 50 % of the total amount of species. Since 1991 an immigrant, the Japanese oyster (*Crassostrea gigas*), has become more and more abundant, causing changes in species distribution and abundance at this location.

Kruiningen has a relative low biodiversity compared to Ritthem. This is probably due to strong fluctuations of the salinity at this location, also indicated by the appearance of brackish water species. Only one seaweed lives here (*Porphyra umbilicalis*). Several other species come and go over the years causing clear changes in species distribution and abundance at this location. In comparison to the results at Ritthem, the abundance of the Japanese oyster also made a big increase at this location.

The strong up come of the Japanese oyster can have a dramatic influence on the receiving ecosystem. With the rise of the oyster population original substrate disappears and there are indications the oysters compete with other filter feeders for food. What will come of this in the future remains to be seen.