

The effect of artificial oyster reefs on the community composition of native and exotic species in the Eastern Scheldt

Hutting Samara

HZ University of Applied Sciences, Edisonweg 5, 4382 NW, Vlissingen, the Netherlands

The Oosterschelde has a high number of exotic species, most of which arrived via the shellfish aquaculture industry. The introduction of new hard substrates in the form of artificial oyster reefs at the Oesterdam for coastal defence is also intended to help the developing ecosystem by providing new habitats to colonise. As these new habitats begin completely empty, they also provide an equal starting line for both exotic and native species. It is likely that the exotic and native species will compete for the new habitat and for food. Who will win?

In my project I am monitoring the artificial oyster reefs around the Oesterdam as well as the natural oyster reefs to determine the ratio of exotic and native species of similar ecological niches, thereby creating an indication of how the ecosystem is developing and of what species are likely to benefit from the further addition of artificial oyster reefs to the Oosterschelde.

Furthermore by gathering, measuring and comparing the ratios of the crab community from both artificial and natural oyster reefs and using the native crab *Carcinus maenas* and the exotic *Hemigrapsus takanoi* as indicator species including lab-based behaviour experiments, we can make conclusions about the competition between native and exotic species.