

Derweduwen Jozefien (Kris Hostens)

Institute for Agricultural, Fisheries and Food Research (ILVO)

Author(s): Jozefien Derweduwen, Jan Ranson & Kris Hostens

Affiliation(s) : Institute for Agricultural and Fisheries Research (ILVO), Aquatic Environment and Quality, Bio-environmental research group, Oostende, Belgium

Is the feeding behaviour of soft substrate demersal fish influenced by the presence of wind farms?

Wind farm constructions introduce hard substrates into the sandy environment of the Belgian North Sea. These are rapidly colonized by epifauna which may provide 'new' food for the already present demersal fish. The diet of two abundant species (dab *Limanda limanda* and lesser weever *Echiichthys vipera*) was investigated to detect any changes in feeding behaviour after the construction of the C-Power wind farm. The fullness index and prey diversity of lesser weever were not affected by the presence of the wind farm. However, the diet composition did change: lesser weever consumed less mysids *Gastrosaccus spinifer* and less crabs *Brachyura*, but significantly more of the amphipod *Jassa herdmani* - a typical hardsub species - both in the control and for sure in the impact area. Also for dab, the fullness index did not significantly change: the values were slightly higher within the wind farm, both before and after construction, and were in general lower after construction in both impact and control zones. On the other hand, prey diversity and composition of the dab diet were clearly influenced by the presence of the wind farm. After construction, the number of prey species was higher in the impact area, with the amphipods *Nototropis swammerdamei* and *J. herdmani* and the polychaete *Lanice conchilega* mainly contributing to this difference. In conclusion, the observed differences in feeding behaviour of both demersal fish species within and in the direct vicinity of the wind concession zone are clearly related to the presence of the wind farm constructions. Consequently, it can be stated that the so-called reef effects, related to the 'newly' available epifauna, do expand into the surrounding soft sediments.

Keywords: wind farm, feeding behaviour, demersal fish, Belgian Part of the North Sea