

# ABSTRACT

## BIODIVERSITY MONITORING OF THE SOFT-SEDIMENT FAUNA

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In the last ten years, around 3900 Van Veen grabs and over 1000 beam trawl samples have been collected by ILVO in the Belgian part of the North Sea (BPNS), mainly for impact assessments of human activities such as aggregate dredging, dredged material disposal and offshore wind farms. The main focus of the monitoring programmes is on soft-sediment fauna i.e. macrobenthos, epibenthos and demersal fish. However, for targeted projects also zooplankton, microbial and pelagic fish samples have been collected. Spatial coverage has increased over the years, and together with increased quality checks and better identification tools, this resulted in the discovery of several species new for the BPNS e.g. for zooplankton 9 new species were recorded and published, for macrobenthos approximately 25 new species have been recorded. This certainly is an underestimation, since for monitoring purposes, it is chosen not to identify certain groups to species level e.g. Nemerita, Oligochaeta, Hydrozoa.

Furthermore, compilation and harmonisation of data from targeted research projects, long-term monitoring and environmental impact monitoring allows to have information on occurrence of alien species, on biodiversity changes over time and on habitat discrimination, and it can serve modelling (both species and habitats). For example, we have updated the occurrence and characteristics of the Belgian benthic habitats. Based on structural characteristic, five communities were identified, each with their own indicator species, sediment properties and spatial distribution. In addition, species-specific biological trait data on life history, morphological and behavioural characteristics was added, and as such we provide for the first time, insights in the functional characteristics of the benthic habitats. In the coarser permeable sands, more free living mobile species were found causing diffusive mixing, whilst the finer sand and mud communities had more sessile, tube building and burrow dwelling species.

With this pitch presentation, we want to stress that monitoring data, collected in the framework of different environmental monitoring projects, yields a wealth of information, that can be used for different research purposes such as an update of species new for the BPNS, species-habitat distribution models and biodiversity over time.