## DNA-based impact monitoring: the case of sand extraction in Belgium





**GEANS STORIES** 

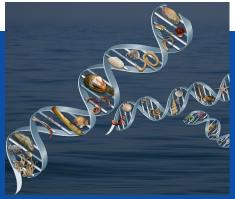


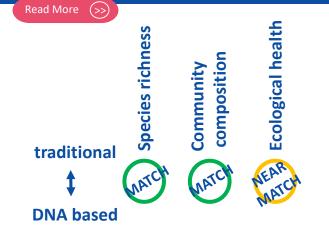
Sand extraction, like most other human activities at sea, needs to be managed and regulated, because it induces changes in the marine environment. In most countries, an environmental impact assessment (EIA) is required.

Within most EIA's, macrobenthos - fauna living within the sediment - is an important indicator. Traditionally, macrobenthic analyses require experts for species identification based on morphological characteristics. DNA metabarcoding is potentially faster, more reliable and cheaper.

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<u>Bulk DNA</u>, extracted from the organisms in the samples, is amplified and sequenced. The obtained sequences are then linked to species names, by comparing them to DNA sequences of morphologically identified specimens in <u>reference libraries</u>.





**DNA-based** and traditional species identification provided similar detection of comparable abundant species and Translation of community composition. results into ecosystem health these assessments was only partly similar, indicating that development of a genetic index might be advisable View video

## DNA-based impact monitoring is 45% FASTER and 27% CHEAPER

(GEANS data based on 24 samples, soft sediment pilot, 2021)





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