# Use of DNA-based methods for ecological impact assessment in the marine environment





GEANS stakeholder event – 26 October 2022





#### **Biological monitoring...**



Drawings by Hans Hillewaert & Aline Joustra

DNA-based identification is on average 75% faster and 45% cheaper



Thortonbank: epicenter of aggregate extraction since 2015 (150 000 m<sup>3</sup>/month)









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Anthozoa Nemertea Oligochaeta







Oostdyck: continuous but low extraction intensity (30 000 m<sup>3</sup>/month)





#### Conclusion

#### bulkDNA-based monitoring vs morphological monitoring













Epibenthos as key indicator



Environmental DNA (eDNA) => non-invasive!





Environmental DNA (eDNA): automated sample collection





**Biological monitoring...** 



















# Conclusion

#### eDNA-based monitoring vs morphological monitoring



High resolution biodiversity monitoring

Autonomous sample collection







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