



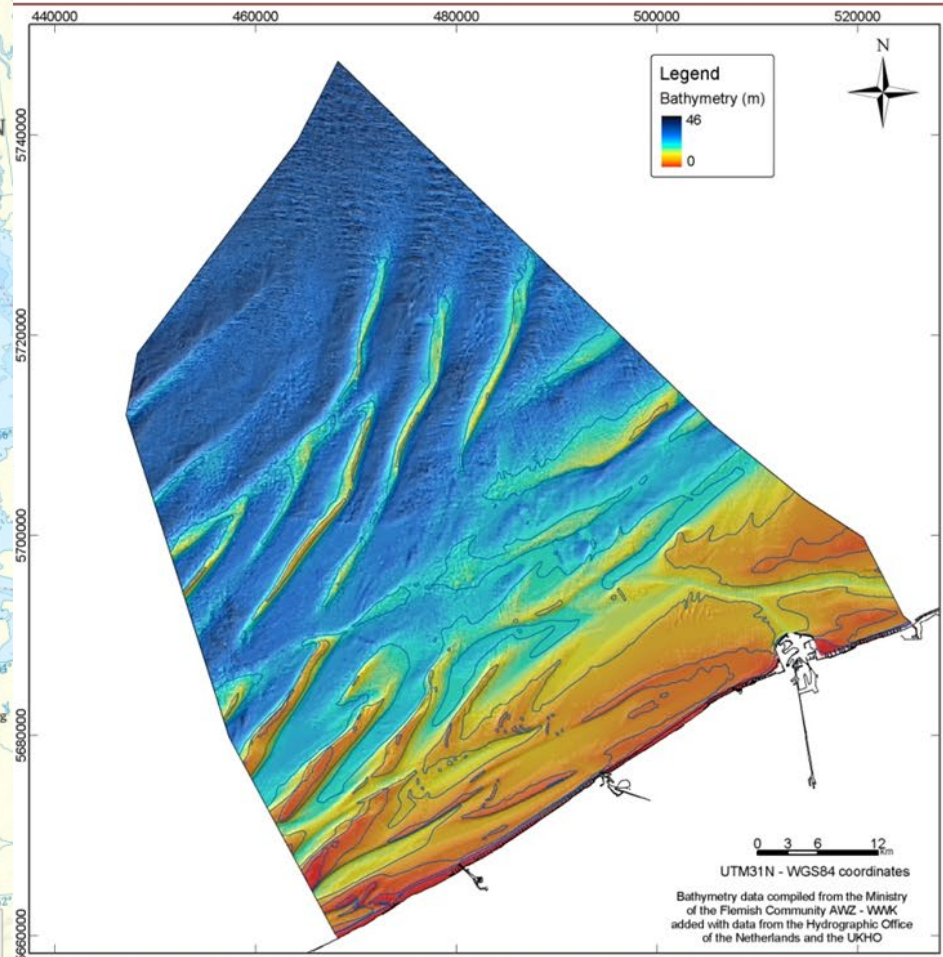
***New technological
perspectives for
ecological evaluation
of soil impacts***

SEMINAR SAND EXTRACTION:

GOLD in the North Sea

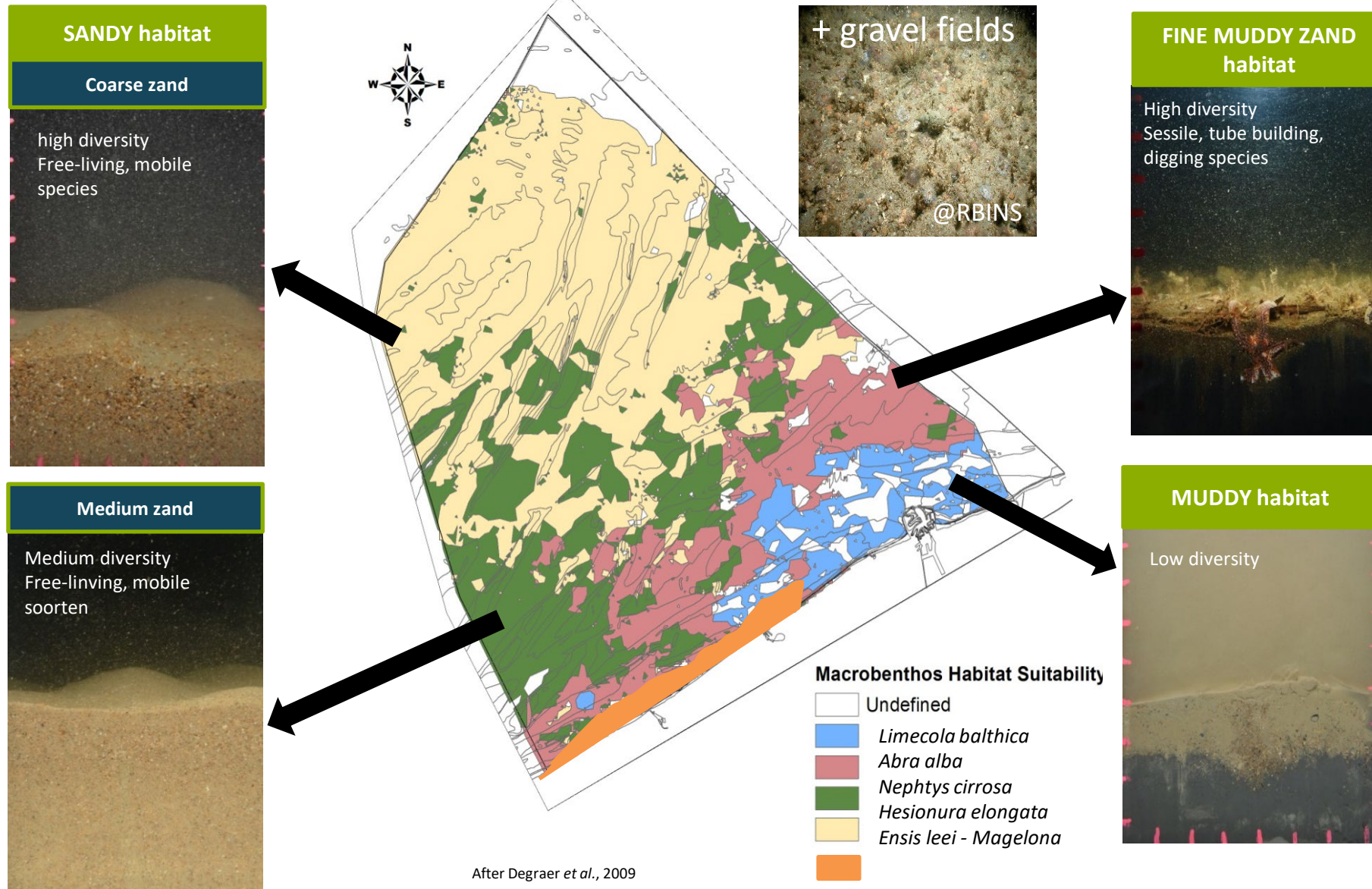
October 18, 2024

Belgian Part of the North Sea



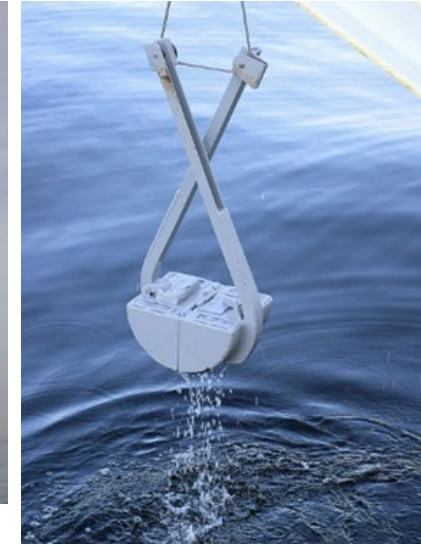
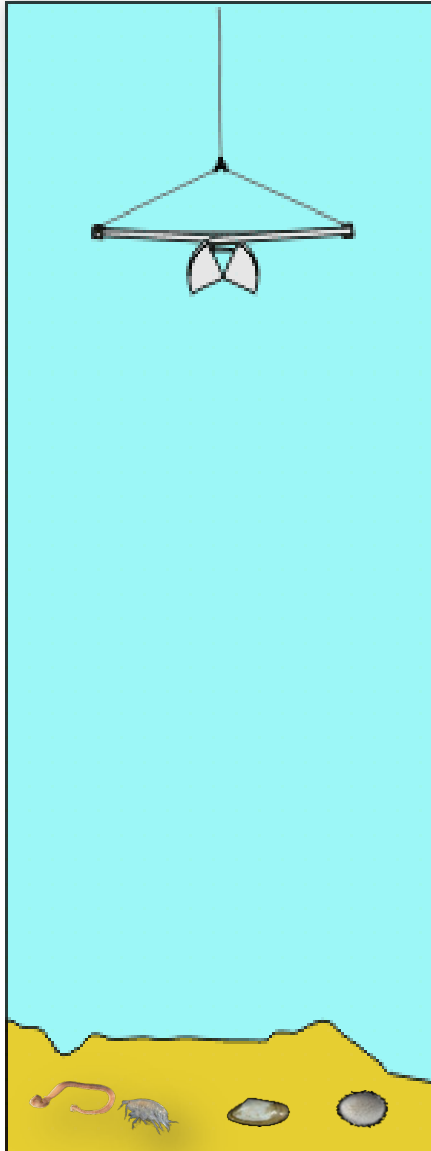
Different sediments and macrobenthic communities

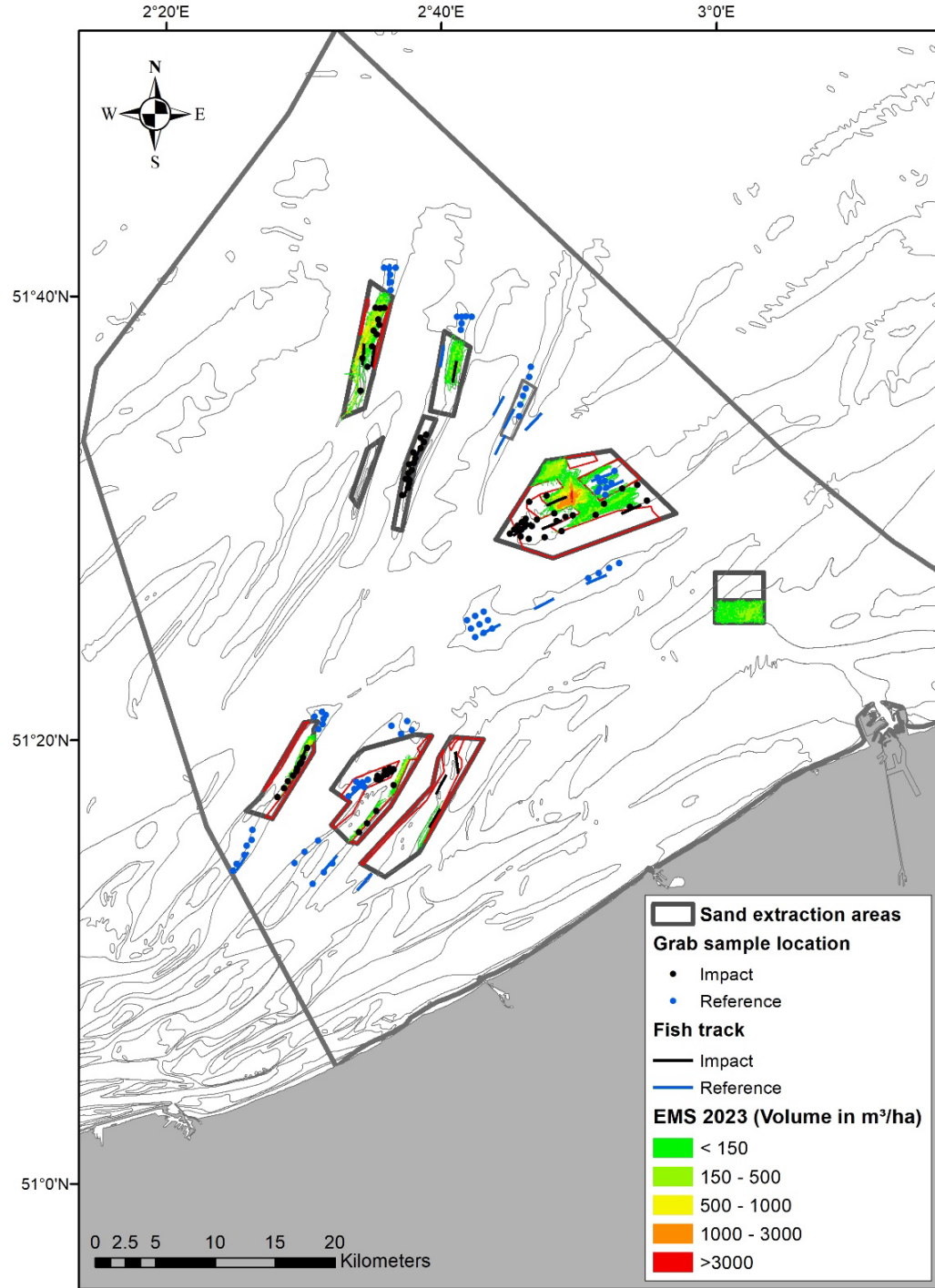
Look at the poster!



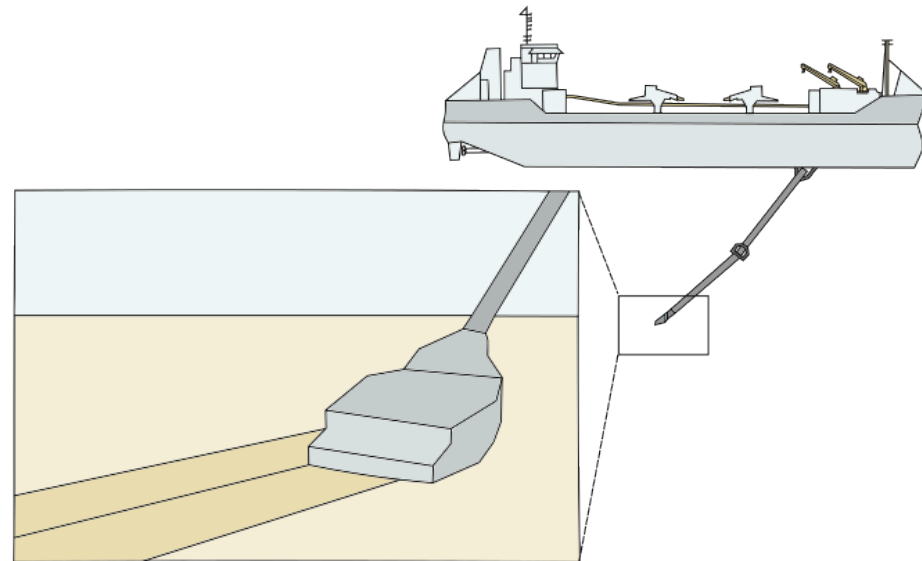
Sampling sediment

Van Veen grab ($\pm 0.1\text{m}^2$)





Sand extraction monitoring at the Belgian part of the North Sea



TO MEASURE IS TO KNOW



MORPHOLOGY

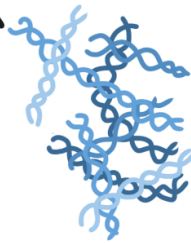


BULK DNA METABARCODING

Subsampling



DNA Extraction



PCR Amplification

Denaturation

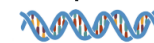


Annealing



Sequencing

Amplicons



Raw sequences

GCGTTAATTAATGAATCTT

ACTGAAAGCGACTGAAGCGT

GAAAGCGCGTTTAGGTCGT

GTTTCACTGAAGCGTCTT

GGTCGTGAAGAAAATTTAT

GAAGCGTTTACTGAAGCGT

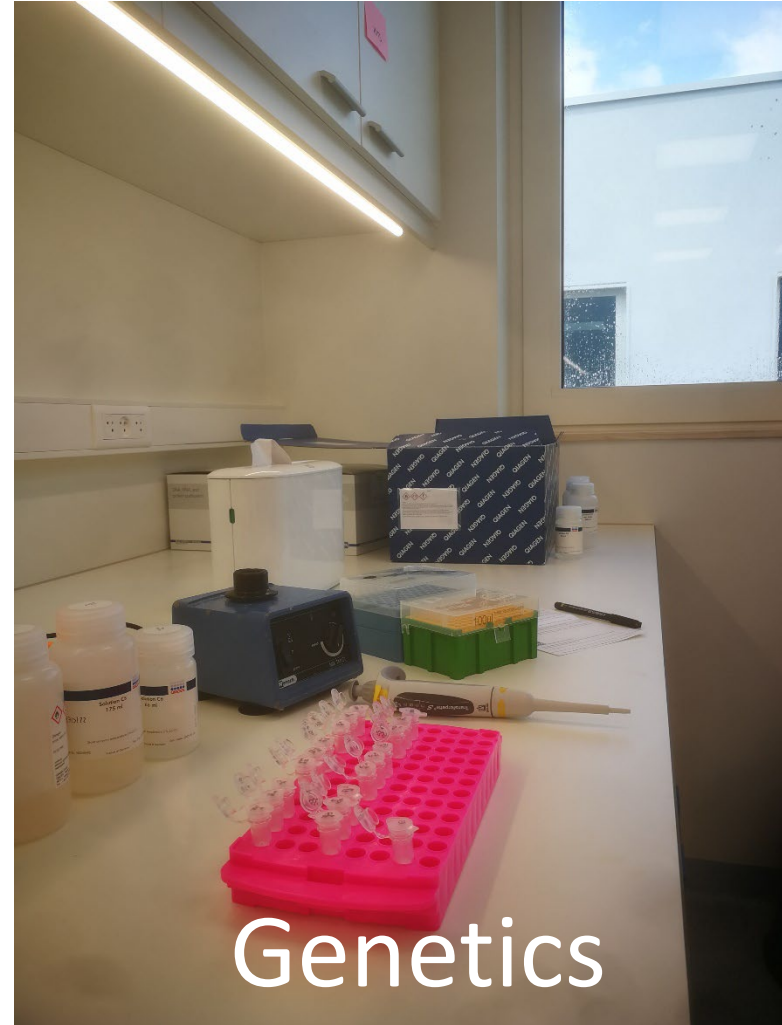
Identification



IDENTIFY !



Morphology



Genetics



Remarks ?



Abundance and biomass with morphological identification



Shorter processing time with genetic identification



Lower cost (personnel cost included) with genetic identification



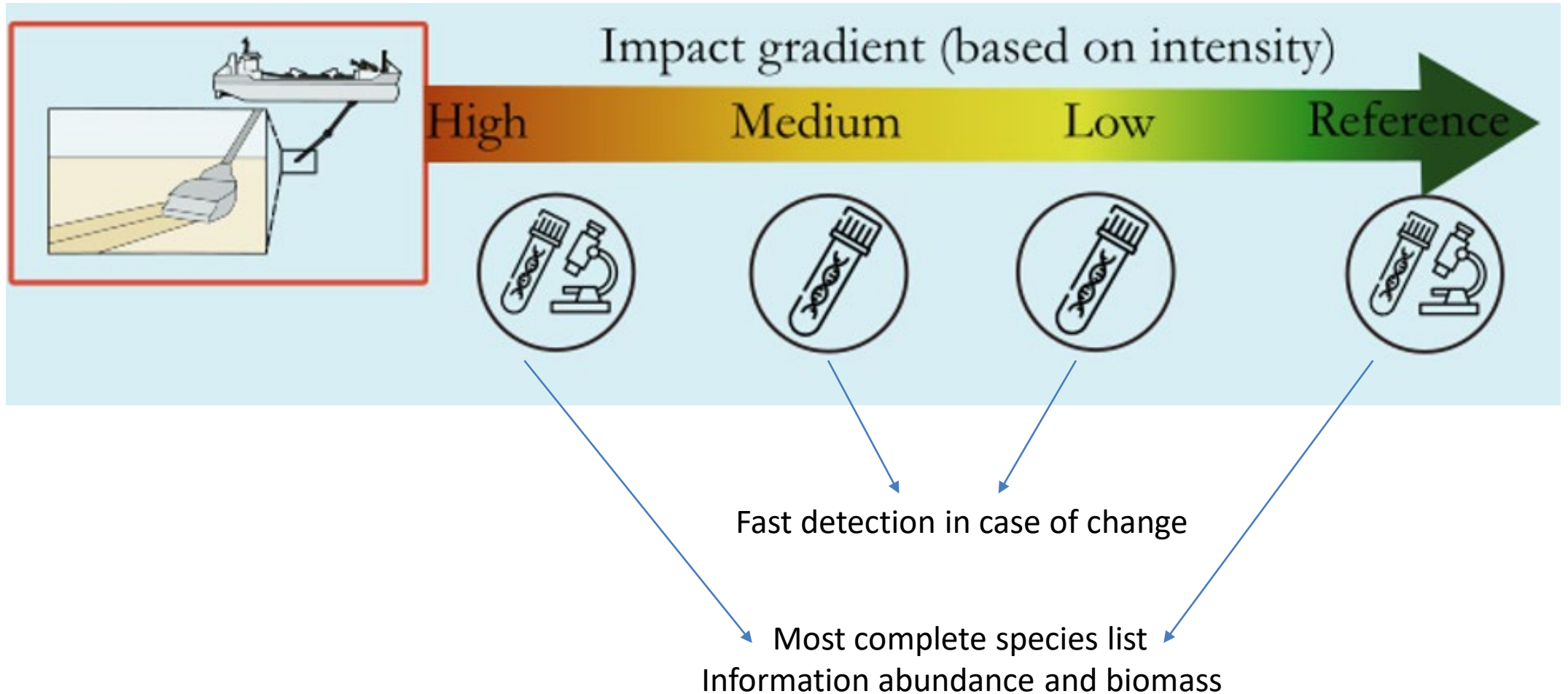
Taxonomic expert needed (morphological) vs. lab technician (DNA)



Damaged specimens and juveniles (morphological) vs. reference database (DNA)

Combined monitoring design

Morphological and genetic identifications are **COMPLEMENTAIR**



Thank you!

Follow us on:



@ILVOvlaanderen



Ilvo marien



Instituut voor Landbouw,
Visserij- en
Voedingsonderzoek (ILVO)

Instituut voor Landbouw-,
Visserij- en Voedingsonderzoek
Jacobsenstraat 1
8400 Oostende – België
T + 32 (0)59 56 98 75

dier@ilvo.vlaanderen.be
www.ilvo.vlaanderen.be