Monitoring of non-indigenous species in ports and shipping lanes

Interreg North Sea Region GEANS
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Non-indigenous invasive species (NIS) are a growing concern: ships, through fouling and ballast water, are a major vector of introductions in the marine environment.

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Need for MONITORING of NIS in ports and shipping lanes

Monitoring guidelines often include plankton samples, and settling panels or ARMS

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Detecting NIS can be tricky because

1/ it requires a high specificity for both early life stages and adults

2/ NIS are hard to recognize by taxonomists with local expertise.

Metabarcoding presents a solution, as it enables identification of an unknown organism by sequencing based on a database of reference sequences linked to securely identified species names of a molecular marker.

DNA-based species identifications perform better than traditional identifications, especially in plankton, AND it can identify eggs and larvae (early warning). Once the analyses become routine, it can also be faster and cheaper.

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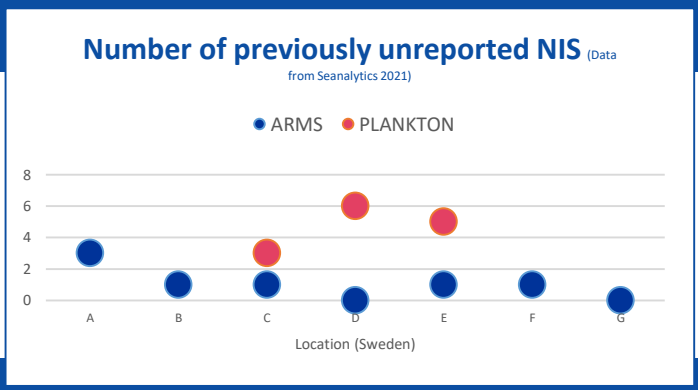

Reference libraries - developed in GEANS for North Sea habitats - and bioinformatic pipelines enable us to go from sequences to species identification.

Combining ARMS and plankton sampling with DNA-based identification is cost-effective and reliable in terms of detection.

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