

BENTHOSCOPE2

Understanding and monitoring of MRE impacts on the benthic compartment via a measurement platform dedicated to passive acoustics

The project **BENTHOSCOPE2** aims to develop an operational observation method to quantify and assess the effects of MRE projects on the benthic compartment. This method will use the sounds produced by soniferous species (biophonie) of the benthos as indicators of population health status.

BENTHOSCOPE1 allowed the development of relevant and innovative acoustic tools in the context of MRE.

BENTHOSCOPE2 will implement these tools in a BACI approach (Before / After Control /Impact) for impact assessment studies and realize an annual monitoring of a chosen site.

BENTHOSCOPE2 offers to develop a multidisciplinary measurement platform prototype for the monitoring of environmental parameters.

Site characterization



Technology design



Environmental integration



Farm optimization



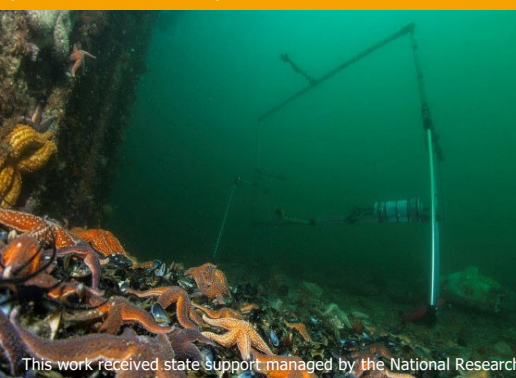
This in order to interpret sounds and describe the living conditions of the studied benthic fauna.

The project will also improve the understanding of MRE acoustic impacts, as well as cumulative ecosystem impacts from the predominant pressures existing before the introduction of MRE devices: i.e. deposition of dredged material, fisheries, climate change, etc.

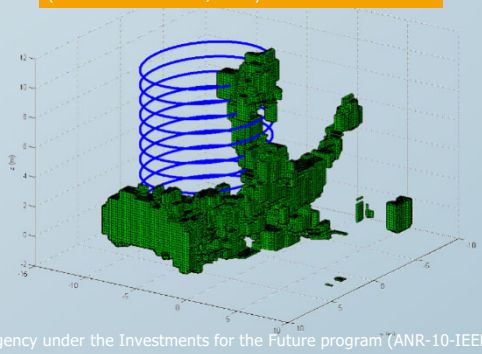
Sentinel area monitoring (Source: E. Amice, CNRS)



Passive acoustic material deployed in front of a pylon (Source: E. Amice, CNRS)



Localisation of areas on the pylon with at least 3 benthic pulses per m³ / minute (Source: J. Lossent, FEM)



Objectives:

- Better understand the MRE acoustic impact;
- Develop a method of passive acoustic monitoring to assess the potential effects of MRE projects on the benthos;
- Provide a multidisciplinary measurement platform;
- Submit a study methodology optimising impact assessment procedures.

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