



The ROLE of LONG TERM MONITORING in SHORT TERM POLICIES.



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Promoting Effective Governance of the Channel Ecosystem
Promouvoir une gouvernance efficace de l'écosystème de la Manche



WHY IS LONG TERM MONITORING IMPORTANT?

- Key component in developing responsible and effective marine policy
- Allows identification and understanding of gradual change in a dynamic marine ecosystem
- Enables appropriate measures to be proposed and implemented to promote effective governance

HOW HAVE THE CLUSTER PROJECTS CONTRIBUTED TO LONG TERM MONITORING IN THE CHANNEL?



A Ferry Box system, installed onboard MV Armorique (Brittany Ferries). (© Yann Fontana / Station Biologique de Roscoff)

Biogeochemical data

FerryBox systems

observations of physicochemical and biological parameters and investigation of CO₂ system dynamics (Marinexus and CHARM projects)

- Understand factors controlling primary production and of variability in ecosystem productivity
- Highlight the dynamics of air-sea CO₂ fluxes



Dr Walne deploying a CPR from a Brittany Ferries ship in the Channel (© Sir Alister Hardy Foundation for Ocean Science)

Plankton

- Continuous Plankton Recorder survey (Marinexus project)
- Records phytoplankton and zooplankton community structure and biomass
- Helps inform national and European legislative drivers, e.g. MSFD.



HOW HAVE THE CLUSTER PROJECTS CONTRIBUTED TO LONG TERM MONITORING IN THE CHANNEL?

Non native species & sessile faunas

- Species now able to colonize new areas due to anthropogenic activity – e.g. expansion of shipping industry: harbours and marinas are key locations and ballast waters plays a key role
 - Monitoring of invasive species – Marinexus project found 1st record of a sea squirt species, previously found only in the Southern Hemisphere
- time-series allows to monitor the presence and spread of species



European herring gull by the cliffs at Etretat, Upper Normandy (© CRT Normandie)

Mega vertebrates

- Marine top predators are long lived and produce few offspring
- long term data sets to study population changes
- long term data sets to contribute to the location of MPAs for transient megafauna (PANACHE project)
 - Interactive, freely available distribution maps on habitats, fauna and flora of the Channel (CHARM 3 project)

Marine Protected Areas (MPAs)

- Combination of 2 approaches (top-down and bottom-up) to obtain data and provide the regional context to the data collected locally
- Most monitoring involves the identification of features: habitat, species composition but also social and economic features
- Long term monitoring in MPAs:
 - important tool to implement marine policies, developing marine spatial plans, designating new protected areas; e.g. In the Solent Seagrass project data was used to identify a Marine Conservation Zone
 - Essential in assessing the effectiveness of protected areas – development of an MPA indicator “dashboard”



CONCLUSIONS

Baselines – long term high frequency data series - provide the context against which to interpret changes

Fundamental in selecting appropriate indicators, setting attainable environmental targets and allocating resources most effectively

Multi-decadal data sets are the most valuable tool in informing the advancement of our understanding of changes in marine ecosystems, reducing scientific uncertainty and ultimately increasing the robustness of management decisions (McQuatters-Gollop, 2012)