



AMPHORE

THE ROLE OF MARINE CONSERVATION AREAS IN MANAGING FISH STOCKS

Marine Conservation Areas (MCA) today play a crucial role in safeguarding biodiversity. The AMPHORE project, officially recognised in November 2007, posed the question of whether they can play an effective role in managing fishing.

Research carried out as part of the project was undertaken in collaboration with research centres and MCA management bodies in the Mediterranean region and countries of Africa. Models were adapted and an MCA assessment tool created, combining multidisciplinary indicators (biology, economics and governance) automatically calculated by IPER software. The results were presented to partners in the South at symposium days which brought together all countries in the Sub-regional Fisheries Commission, from Guinea to Mauritania.

Apart from in Mauritania, where the 4 missions planned could not be carried out due to the condition of the vessel chartered, the majority of the project's objectives were attained:

- Defining new tools and adapting models to MCA issues,
- Adopting a multidisciplinary approach to establishing the effectiveness of these MCAs.

However, refinements still need to be made - without doubt using modelling - to identify which adjustments would be most effective in order to improve MCA biology, good governance and economic sustainability.

The biggest contribution made by the various observation systems used and by the modelling created was in describing and understanding the evolution of stocks in MCAs over time, following bans or restrictions on fishing, and in estimating the impact of MCAs on neighbouring zones.

Where the biomass was stable, positive developments were observed in the marine reserves: an increase in the number of species present and in the percentage of large-sized species, and changes in the structure of the stock characterised by the presence of greater numbers of small and larger fish (new, large-sized species) and by fewer average-sized fish. Thirty-eight publications appeared in international journals and 26 papers were given at conferences in France and internationally. In addition, an international symposium was organised in Dakar and a seminar to present the outcomes was held in Paris.

This project presented real challenges given the need to adapt methodologies initially developed in different environmental contexts to the targets set for fish stock protection, conservation and sustainable exploitation. The project did offer an opportunity, too, to forge contacts between laboratories which

Partners

Research centers

IRD, UR Réponses Adaptatives des poissons, Brest [\[Project Developer\]](#)
Agrocampus, Rennes
Cemagref, Cestas
Centre d'Économie et d'éthique pour l'Environnement et le Développement (UMR dont l'IRD est partenaire)
Centre de Droit et d'économie de la Mer, Brest
Centre de recherches Océano-Graphiques de Dakar Thiaroye
Centre National des Sciences Halieutiques de Boussoura, Conakry, République de Guinée
Commission Sous Régionale des Pêches, Dakar, Sénégal
Faculté des Sciences, Université de Nice-Sophia Antipolis
Ifremer, Nantes
Institut Mauritanien de Recherches Océanographiques et des Pêches, Nouadibou, Mauritanie
IRD, ACAPELLA, Brest
Université de Montpellier

Funder

- Agence Nationale de la Recherche

Labelisation

23/11/2007

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4 210 K€

had never previously worked together and to develop significant collaboration between French and African laboratories. It is also worth noting that monitoring of Marine Conservation Areas in countries of the SRFC - Tristao in Guinea and Urok in Guinea Bissau - is now up and running.

A patent will be registered once the IPER software for automatically calculating the indicators is completed at the end of 2012. Training and transfer sessions for these tools will be organised for the various stakeholders responsible for setting up and monitoring MCAs. This software can be applied to any field (MRE sites, etc.), provided the Amphore biological indicators are used.

Recognised jointly by the Pôle Mer Bretagne and Pôle Mer PACA, AMPHORE secured funding from the Agence Nationale de la Recherche (French National Research Agency) following its call for projects as part of the 2007 Biodiversity Programme.