

MariFish Briefings

Working Collaboratively on the use of indicators to support an Ecosystem Approach to Fisheries Management

January 2011

What are we working on?

The effects of fishing on marine ecosystems and the need to move towards an ecosystem approach to fisheries (EAF) have been widely recognised within the context of both national and international fisheries legislation. The use of indicators, to assess multiple pressures on the marine ecosystems as well as its state, play an important role in implementing an ecosystem approach to fisheries management. Indicators are currently an important aspect of the EU Data Collection Framework (DCF), the Marine Strategy Framework Directive (MSFD), determining Good Environmental Status (GES), and will play a significant role in developing science that supports the reform of the Common Fisheries Policy (CFP).

Under Work Package 7, MariFish Partners identified common research themes or regionally focused challenges and selected five (Figure 1) to be developed into collaborative research programmes. In this context, the “use of indicators to support an ecosystem approach to fisheries” was identified as one theme that would particularly benefit from collaboration under the MariFish project.

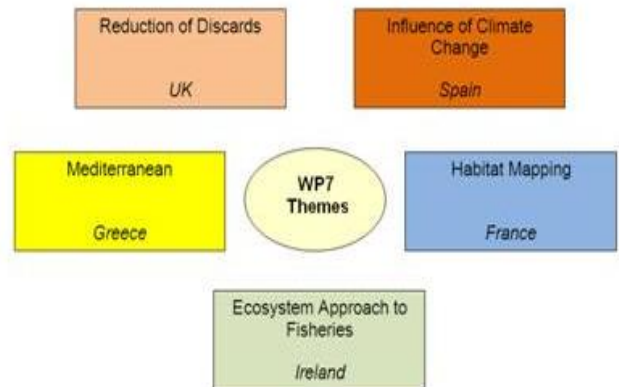


Figure 1: MariFish WP7 Collaborative Programme Themes as identified at the Athens Meeting 2008.

Developing an Ecosystem Approach to Fisheries Management

This collaborative programme is led by the MariFish Irish partner, the Marine Institute. In the early stages of developing the programme, it was recognised that there is a wide range of understanding in relation to what indicators mean and how they are used among the MariFish partners, with some countries far more advanced in their development and application than others. Indicators can be quantitative or qualitative measures that provide information about the status of, or changes in, natural, cultural and economic aspects of an ecosystem. To help promote collaboration in the area of indicator work, a first workshop was organised and held in Dublin in April 2009. The objective of the workshop was to develop proposals for collaborative work on indicators. Using a matrix model methodology (Figure 2), three priority projects, for developing the use of indicators in support of an ecosystem approach to fisheries, were identified:

1. Inshore Fisheries Indicators: operating fisheries under the Habitats Directive- Natura 2000.
2. DCF and Deep Sea Indicators from research surveys.
3. Integrating VMS and Log book Data.

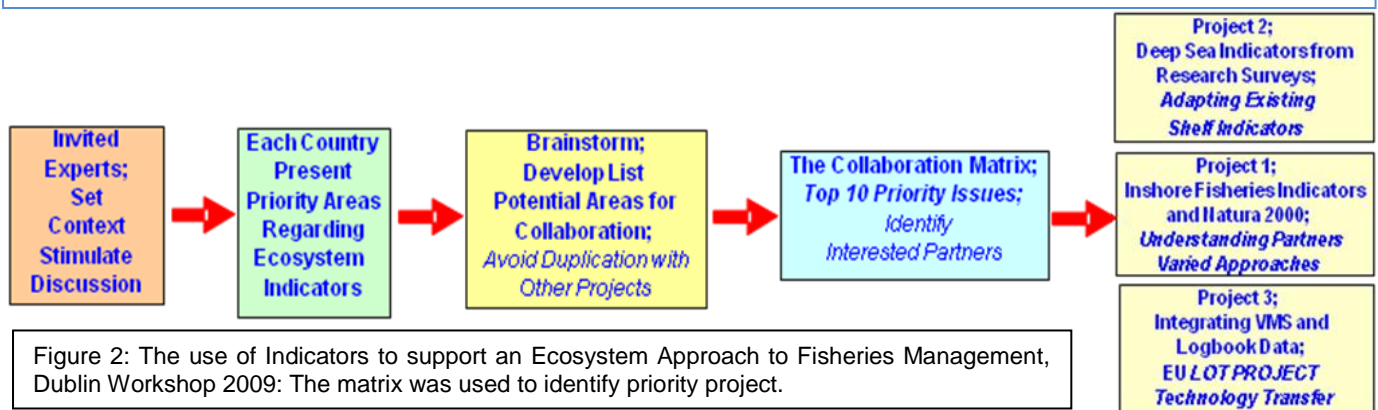


Figure 2: The use of Indicators to support an Ecosystem Approach to Fisheries Management, Dublin Workshop 2009: The matrix was used to identify priority project.



MariFish

MariFish brings together the major funders of marine fisheries research in Europe and aims to strengthen links between marine fisheries science and fisheries management across Europe. Find out more about this study and MariFish at www.MariFish.net



What have we achieved so far?

Project 1-Operating fisheries under the Habitats Directive- Natura 2000 (Dublin, 2010)

A second Dublin workshop was organised in November 2010. During the workshop, 15 presentations from seven countries discussed the success, failures and problems in effectively managing the interaction between fisheries and Natura 2000 objectives in Europe. The outcome of the workshop included the identification and ranking of current issues as well as three priorities for future international collaboration:

1. Risk Management.

Key areas highlighted include: Fishing activity profiles; spatial conflict analysis; and spatial zoning.

2. Risk Assessment Methodology.

Different assessment methods impose different standards, data requirements & lead to unbalanced implementation of Directives across Europe. There is a need to have a balanced common standard to achieve an equitable implementation of the Directives throughout Europe.

3. Data Requirements for MSFD & Habitats Directive.

Most Natura sites are within national territorial limits and more data on small scale fisheries is needed. Integrating fisher's knowledge and inclusion in DCF was also recognised as an area of growing importance. Other issues highlighted were: property rights within Natura sites; conservation priorities; best practice demonstration in implementing Natura 2000 objectives; stakeholder engagement; impact of alien species; EU coordination of international vessel activity; ecological knowledge gaps and the special case of Annex IV species of the DCF in Natura sites.

Project 2 -DCF Indicators and Deep Water Surveys (Aberdeen August, 2010)

A workshop was held in Aberdeen, August 2010 to evaluate the adequacy of the proposed DCF indicators for the deep-water ecosystems. Key questions addressed included:

- Can the DCF indicators be applied to data from deep-water surveys to demonstrate impacts of fishing on the deepwater fish community?

- If the DCF indicators are applied to deep-water surveys, do their calculations need to be adjusted/optimised for deepwater species (taking into account different life strategies compared to shallow water species)?

The key outcome of the Aberdeen workshop is that indicators set by DCF are inappropriate for deep-water species since they are unable to translate in a straightforward way the relationship between the community's state and fishing pressure.

An additional workshop in Nantes concluded that in order to evaluate the effect of fishing on deepwater fish communities, indicators need to reflect changes in the most vulnerable part of the community. Different approaches, including using ratios of known species of high vulnerability and vulnerability scoring methods for different species, are being explored and applied on deepwater survey and observer fleet data sets.

Project 3- Linking VMS and EU Logbook Data

Indicators for this project were centred on technology transfer from the EU LOT 1 project on integrating VMS and logbook data. The idea was to transfer the methodology developed to the non-LOT partners within Marifish. However, since the LOT project was delayed and given that ICES have now established an expert working group to look at this topic [WKCPEFFORT and SGVMS], no further action was required.



For more information on this collaborative programme results, please see the MariFish webpage: <http://www.marifish.net/progress/wp7.htm>.

