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MariFish

Coordination of European Marine Fisheries Research Programmes

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D8.2 Workshop report of identified strategic requirements for fisheries research and joint funding

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Revision 1

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PU	Public	PU
PP	Restricted to other programme participants (including the Commission Services)	
RE	Restricted to a group specified by the consortium (including the Commission Services)	
CO	Confidential, only for members of the consortium (including the Commission Services)	

3rd Meeting of the MariFish Work Package Management Group Athens, 6-7th February 2008

Work Package 8

Identification of strategic requirements for fisheries research and jointly funded research programmes

Background

Work package 8 objectives are to undertake a ten year forward-look exercise to identify strategic and innovative requirements for fisheries research to support the likely development of fisheries management and to develop jointly funded programmes to address these. The procedures of a jointly funded transnational fisheries research program will be made in accordance with the guidelines from WP 2 and experiences from the ERA-NET Core Organic.

To answer the question: “What research will prove to be the most useful to fisheries managers in ten years time?” an international symposium on Fisheries Demands for Future Fisheries Research was held in June 2007 as part of work package 8. The key areas for fisheries management addresses at the symposium were ecosystem based management, implementing sustainable fisheries through maximum sustainable yield, stakeholder involvement and future basis for fisheries management.

The symposium listed a wide range of research areas of importance for future fisheries management and identified three strategic research areas:

Bycatch and discard:

The unnecessary bycatch and subsequent discarding associated with fisheries is a key issue for fisheries management, affecting the image, productivity and efficiency of the sector. It was concluded that in this area there is particular scope to work with the catching sector to develop and implement a sectoral plan of action to significantly reduce the environmental and resource impacts associated with fishing.

Governance:

Development of new management systems that take stakeholder issues and viewpoints into account while keeping within the environmental constraints given by the scientific advice.

Ecological footprint:

Impact assessments to define impact levels of fisheries and other activities on the ecosystems and compare them with “footprints” (allowing trade-off).

Possible topics for a jointly funded programme

It is suggested that the problems and consequences in relation to the implementation of sustainable fisheries through maximum sustainable yield (MSY) is chosen as the overall topic.

Most states have at the World Summit on Sustainable Development at Johannesburg (2002) subscribed to maintain or restore stocks to levels that can produce the MSY with the aim of achieving these goals for depleted stocks on an urgent basis and where possible not later than 2015.

Many of the commercial important fish stocks were in 2002 overfished and there was a general acceptance of the need to reduction exploitation to avoid stock collapse. Since then we have seen a positive development in some of the overfished stock. Fishing effort has been reduced in many areas resulting in decreasing fishing mortalities and sign of recovery in some of the overfished

stocks. The development of long term management plans and structural changes to the sector have been important instrument to achieve this positive development.

The key question ten years ago for many of the overfished stocks were how to avoid stock collapse. As these stocks are recovering the question will be how to develop a management regime consistent with MSY.

For most stocks or group of stocks the levels and conditions, under which MSY is achieved, are poorly understood. The precautionary biomass and fishing mortality reference points that forms the basis for the fisheries management advice provided by for example ICES are defined to ensure long term stock sustainability but do not addresses the MSY problematics.

There is a general need for improvement of the scientific basis for developing management systems that within the framework of the current international fisheries policy and environmental constraints will allow for an optimal and sustainable utilisation of the fish stocks while gradually making an implementation of the ecosystem based approach possible to management.

The proposal is to set up a joint call for project on case studies addressing the MSY concept for specific stocks or group of stocks with the objective of presenting concrete contributions to the development of fisheries management regimes that allow for maximum sustainable yields.

Pending on the stock dynamics, the environmental conditions and the current management set up the projects could focus on issues like optimisation of fishing pattern(selectivity, by-catches, discards), environmental impact (defining acceptable impact levels – footprints), interaction between species (competition and predator prey relationships), climatic changes (stock – recruitment processes, growth), gear conflicts (mixed species), interaction with other sectors (multi use) and international fisheries management arrangements..

A draft proposal for possible research topic is given in annex 1.

It is recommended that funding is based on a joint international call but with national funding (Virtual common pot) This involves the identification of an overall research topic to be launched in the joint call and the acceptance of each funding organisation to make the funding decision for their own national research on the basis of an evaluation of the incoming research proposal. The scientific evaluation should be conducted by a independent joint expert panel. The final selection of projects for support within the joint call will be made by the Marifish Steering Committee picking the most relevant projects from the list of projects which have been scientifically approved by the experts.

It is crucial that process of evaluation secures that the selected projects has a high scientific quality and a high degree of relevance for fisheries management.

Under this funding model it is important that the research topic can be supported by all funding organisations, is within the areas identified as important for future fisheries management and is not already fully covered by other international research programmes.

Annex 1

Implementation of sustainable fisheries through maximum sustainable yield (MSY)

Objective

The objective is to provide concrete input to the development of fisheries management regimes that ensure sustainable fisheries through maximum sustainable yield.

The projects shall include case studies on stocks, group of stocks or fisheries addressing issues of importance for developing management regimes that will ensure sustainable fisheries and at the same time allow for the maximal yields.

Research areas

The projects funded shall evaluate possible management regime consistent with MSY taking into account one or more of the following issues:

Fishing pattern

In raw terms MSY is the maximum yield that can be taken from a stock or group of stocks without compromising the future fishing possibilities. The yields taken by fisheries are very dependent on the fishing pattern. Most stocks are exploited suboptimal, with too high mortality on small individuals and some fisheries are characterised with high discard rates of target or/and by-catch species.

Possible sub-topics:

- How to manage fisheries consistent with MSY by enhancing exploitation pattern to minimise discards and catches of juveniles.
- Trade off between yields of different species and exploitation pattern in mixed fisheries.
- Minimising by-catches and maximising yield in mixed fisheries changing fishing pattern

Stock – recruitment relationships with process understanding

A critical factor in determining stock/fisheries reference points are the assumptions on relationship between stock size and recruitment. Most stock- recruitment relationships used in estimating reference points are based on regression analyses of historical data on stock size and recruitment without understanding the underlying causality.

Possible sub-topics:

- link between environment, ecosystem dynamics and recruitment
- stock composition and recruitment

Interaction between species

Managing fisheries on the basis of single stock criteria may result in sub-optimal utilisation of the resources and may result in stock levels that do not provide for MSY. Within a stock - fisheries complex it may not be possible to manage the fisheries to obtain MSY for a group of stocks. The present management systems do in general not address this issue and the balance between stocks is more a result of single fisheries and stock decisions than a consequence of deliberate decisions to achieve MSY.

Possible sub-topics:

- multi-species MSY reference points
- fishing mortality and prey – predator relationship

Environmental impact of fisheries

There is for most fisheries no agreed level for acceptable impact of fisheries on the environment. Fishing at levels that allow for MSY will for most fisheries mean a reduction in fishing effort. Is the MSY concept sufficient guaranty for an environmentally friendly fishing or is it necessary to take other actions to ensure acceptable impacts levels?

Possible sub-topics:

- definition of acceptable impact of fisheries on the environment
- need for specific measures to limit impact on the environment

Management arrangements

Fisheries management in Europe is, for most of the fisheries and stocks, based on international agreements setting TACs and their allocation between parties, rules on access and technical measures. Some of these measures and the way they are implemented by the parties may be counterproductive in terms of optimising the yield and securing long term sustainability.

Possible sub-topics:

- evaluation of current international management arrangements in relation to allow for MSY

MSY reference points

MSY reference points are defined only for very few stocks or fisheries and the scientific advice on fisheries management does in general not include advice on exploitation levels consistent with MSY. Reference points like $F_{0.1}$ and F_{max} have been used as proxies for F_{msy} . However, recent analyses indicate that they may be very poor proxies. A first step in improving the scientific advice on MSY may be, on basis of available information, to develop more robust proxies for F_{msy} .

Possible sub-topics:

- development of MSY reference points.