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MariFish

Coordination of European Marine Fisheries Research Programmes

Instrument: CA (concerted action)

Thematic Priority: ERA-NET

D8.3 List of short listed strategic priorities for a jointly funded strategic research programme

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Revision 1

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Dissemination Level		
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)	

Work Package 8
Identification of strategic requirements for fisheries research and jointly funded research programmes

Call for research project proposals
on
Fisheries management indicators

Fisheries management is closely associated with the concept of long term sustainable use of fisheries resources and it is generally agreed that the management shall ensure exploitation of the resources that provides sustainable economic, environmental and social conditions.

The World Summit on Sustainable Development (Johannesburg 2002) resolution “to maintain or restore stocks to levels that can produce the Maximum Sustainable Yield (MSY)” has been adopted by most states and forms together with FAO’s Code of Conduct for Responsible Fisheries the international framework for fisheries management.

Rebuilding of depleted stocks and reduction of the exploitation rates to sustainable levels has been the main objectives in fisheries management for the last 25 years. To support fisheries managers in achieving the objectives precautionary biomass and fishing mortality reference points consistent with biological sustainability have been developed by for example ICES.

We have however seen signs of a positive development for some of the overfished stocks in recent years. Many stocks are now fished within precautionary limits and the key question in fisheries management is changing from how to avoid stock collapse to how to develop management regimes consistent with long term sustainability MSY and ecosystem health.

There is a general need for improvement of the scientific basis for developing operational management targets consistent with these criteria. The MSY concept is in itself not operational. It does not take account of the dynamics of the stock and the ecosystem and it does not address socio-economic issues. Therefore there is a need for developing the MSY concept into an operational tool that can assist fisheries managers in developing long term management plans.

Researchers are invited to submit research proposals addressing the following topic

The development of the concept of operational fisheries management indicators that can assist fisheries managers in development long term fisheries management plans; and exploring ways these indicators could be formulated by applying the concept on selected fisheries, addressing issues such as:

- *Stock – recruitment relationships with process understanding*
Critical factors when determining stock/fisheries reference points are the assumptions on the relationship between stock size and recruitment. Most stock- recruitment relationships used in estimating reference points are based on regression analyses of historical data of stock size and recruitment without understanding the underlying causality.

Possible topics:

- Link between environment, ecosystem dynamics and recruitment.
- Stock composition and recruitment.

- *By-catches and discards*

Most stocks are exploited sub optimally, with high mortality rates on small individuals and in some fisheries discard rates of target and/or by-catch species.

Possible topics:

- Incorporation of exploitation pattern, discard and by-catch issues in management targets.

- *Biological interaction between species*

Setting management targets on the basis of single stock criteria may result in sub-optimal utilisation of the resources and unintended impacts on associated stocks. The present form of advice on fisheries management does in general not take account of biological interactions and may fail to meet management objectives.

Possible topics:

- Multi-species indicators and targets.
- Fishing mortality and prey – predator relationships.

- *Environmental impact of fisheries*

There is for most fisheries no agreed level for acceptable impact of fisheries on the environment. Is fishing at levels consistent with long term sustainable utilisation of the resources a sufficient guarantee for an environmentally friendly fishing or is it necessary to take other actions to ensure acceptable impacts levels?

Possible topics:

- Definition of acceptable impact of fisheries on the environment.
- Need for specific measures to limit impact on the environment.

- *Economic indicators*

Traditional bio-economical evaluations of fisheries yields are based on profits of direct harvest investments in a changing market. Other stakeholders' interests in the resources require definition of societal goals and acceptable methods for valuation of the resources.

Possible topics:

- Formulation of objectives for the resources addressing major societal needs.
- Indicators of resource value compatible with an operational MSY concept.