

The North Sea Regional Advisory Council



NSRAC

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CRITERIA FOR THE INTRODUCTION OF MANAGED OR PROTECTED AREAS : A NOTE

North Sea RAC WS Objective

2) to define criteria to be applied to all managed or protected areas

Purpose

This note, prepared by Joe Horwood of Cefas, provides some suggestions for good governance of the introduction of managed or protected areas.

General Context of Governance in Fisheries Management

The North Sea RAC is not starting from scratch in seeking models for a proper governance in fisheries management. Various high level documents have proposed approaches to fisheries management and the ecosystem approach to fisheries management^{1,2}.

FAO advise that the Ecosystem Approach to Fisheries Management (EAF) will require that current fisheries management processes include a broader range of users of marine ecosystems (including both extractive and non-extractive users) in deliberations and decision-making and, through improved participatory processes, broader assessment and consensus among users, whose objectives frequently compete. The process will need to take into account more effectively the interactions between fisheries and ecosystems, and the fact that both are affected by natural long-term variability as well as by other, non-fishery uses. Most importantly, the approach aims to ensure that future generations will benefit from the full range of goods and services that ecosystems can provide by dealing with issues in a much more holistic way, rather than by focusing on only certain target species or species groups, as has often been the case until now.

The more inclusive approach is mirrored in the EU Green Paper³ and subsequent implementation, and in the formation of the RACs themselves.

The fishery management processes were reviewed by FAO¹, under a sequence of :

- Ø Formulating Management Plans for Selected Objectives
- Ø Identifying and Agreeing on Objectives for the Fishery
- Ø The need for consultation with recognized interest groups
- Ø Determining the appropriate management measures
- Ø Reviewing the management plan
- Ø Implementation
- Ø Effective legal and institutional framework
- Ø Effective administrative structure
- Ø Effective monitoring control and surveillance

Because of the growing interest in the use of MPAs, through for example the Convention for Biological Diversity and the World Summit on Sustainable Development (WSSD), FAO's COFI reviewed MPAs in fisheries⁴. It advised that MPAs had a number of potentially useful properties for fisheries, but a number of drawbacks if not properly designed. Experience on the impacts of MPAs in fisheries is still scarce but slowly building up. Their performance in relation to fisheries resources and livelihoods depends greatly on the type of resources requiring protection and the situation of the fisheries exploiting them. More experimentation is needed before definitive statements can be made about the potential role of MPAs in fisheries management under different circumstances. Experimental MPAs need to be established through a strongly participatory process involving the main stakeholders.

A major review was conducted by the US National Academy of Science, Ocean Science Board, on how to use MPAs as a tool in fisheries and biodiversity management⁵, following government regulation to develop networks of MPAs. Although their scope was far wider than the ToR for the RAC Working Group they had to address many of the same issues. Conclusions include *inter alia*

- Ø The task of designing MPAs should follow four sequential steps: (1) evaluate conservation needs at both local and regional levels, (2) define the objectives and goals for establishing MPAs, (3) describe the key biological and oceanic features of the region, and (4) identify and choose site(s) that have the highest potential for implementation.
- Ø The performance of MPAs should be evaluated through regular monitoring and periodic assessments to measure progress toward management goals and to facilitate refinements in the design and implementation of reserves.
- Ø Full costs and benefits, including those to fisheries and biodiversity, should be evaluated including for example the "cost" of displacing effort from one area to another.

Recent local experiences of MPAs in fisheries management

Closed, or restricted areas, which can be classed as MPAs, have been a feature of North Sea fisheries management for a considerable time, and large areas are under at least some fisheries management control. Other areas are closed to fishing, due to navigation restraints or unsuitable grounds. There has been little experience of fisheries closures for the protection of biodiversity to date.

The North Sea Plaice box has been the subject of extensive review^{6,7}. It has revealed significant biological and fishery changes over time. Significant cuts in

effort have reduced potential discarding, but other factors have led to the plaice being in far from robust state.

Large areas were closed to trawling in 2001 to protect spawning cod. A STECF working group reviewed the effectiveness of the closures⁸ and concluded "From the information presented here it appears that the closure had an insignificant effect upon the spawning potential for cod in 2001. There are several reasons for the lack of impact. The redistribution of the fishery, especially along the edges of the box coupled to the increases in proportional landings from January and February appear to have been able to negate the potential benefits of the box." The Box was introduced relatively late for spawning in southern waters.

In addition to the lack of fishery benefit, the 2001 closure diverted fishing effort onto more environmentally sensitive areas⁹.

STECF over the past decade has looked at various means of protecting cod through closed areas. Because of the potential impact of displaced effort STECF has found it difficult to identify areas which would give significant conservation advantage to cod.

The Commission advanced proposals, late in 2004, for closures to help North Sea cod. There was no accompanying evaluation of the impact on cod or on the fisheries of the specific area proposed. The lack of specific argument itself posed significant problems for managers.

These issues were reviewed by the RAC in May and some suggestions offered for better governance¹⁰.

The Working Group on "criteria" is thus well positioned to make some positive proposals based on local knowledge and international protocols.

Criteria for the introduction of Managed or Protected Areas (MoPA)

Criteria for the criteria – simple and workable, and deliverable within sensible management time frames and funds. Where some criteria are deemed more important than others they should be identified. The criteria themselves should have the support of stakeholders. The criteria should be subject to review to see if they are working properly.

1. Objective

The key criterion is that the objective for the MoPA should be clearly stated. This may be for stock conservation or biodiversity or both. Objectives may be multiple, for example a stock conservation objective could also include a need for management of an area to reflect recreational angler interests. The objective should be the ultimate goal(s) sought from the measure and not some intermediate measure.

For example, proposers might say the objective is to reduce fishing mortality in the restricted area. Whilst that sounds good, the point of such a measure is to reduce mortality and increase SSB in the population. Reducing mortality in one location may not result in reducing mortality and increasing SSB in total.

The objective(s) should be sufficiently explicit that it is measurable.

2. Prior Evaluation

2a. Conservation analyses.

Before a specific proposal is made for an MoPA there should be a prior evaluation of the expected conservation benefits of the proposal by appropriate experts against the stated objective. Direct and indirect effects should be considered. Where possible, such evaluations should be subject to independent peer review. Evaluations and reviews should be made available to stakeholders.

2b Costs and Benefits and Comparison with Other Measures

As part of the prior evaluation there needs to be an economic appraisal of the costs and benefits of the measure, and the impacts on different sectors.

In parallel there needs to be an evaluation of the costs and benefits in relation to other measures which might meet the same objective.

2c Environmental Impacts Assessment

There should be an environmental impact assessment of any proposed MoPA and its likely consequences. Any closed or restricted area is likely to have direct impacts in the area, but also impacts elsewhere due to e.g. displaced effort on other fisheries and biodiversity. Even within an area, it is possible that reduced effort may increase local top predators and impact upon food supply for other vulnerable species.

3. Consultation

A key issue arising from all studies is the need to engage fully with all affected stakeholders. Any proposed MoPA should be accompanied with a plan of consultation. Success will depend on full stakeholder participation in all stages of the process of the design, implementation and review of MoPAs.

4. Implementation

FAO cites examples of poor implementation which may compromise delivery of the expected benefits. Implementation plans, or detailed rules should be drafted for consultation before implementation.

5. Monitoring and Review

Most analyses point to this as the weakest part of MoPA proposals and implementation. To a degree it goes back to point (1) that if the objective is not explicit then it is difficult to monitor. Monitoring should ideally be wide ranging enough to assess both direct and indirect effects, particularly at the experimental MoPA stage.

References

- 1) Fisheries Management. *FAO Technical Guidelines for Responsible Fisheries*. No. 4. Rome, FAO. 1997. 82p. FAO Fishery Resources Division and Fishery Policy and Planning Division.
- 2) The Ecosystem Approach to Fisheries. *FAO Technical Guidelines for Responsible Fisheries*. No. 4, Suppl. 2. Rome, FAO. 2003. 112 p.
- 3) Green Paper on the future of the Common Fisheries Policy. Brussels, 20.3.2001, com(2001) 135 final
- 4) Marine Protected Areas and Fisheries. FAO Committee on Fisheries (COFI), twenty-sixth session, Rome, Italy, 7-11 March 2005.
- 5) Marine Protected Areas: Tools for Sustaining Ocean Ecosystem. Committee on the Evaluation, Design, and Monitoring of Marine Reserves and Protected Areas in the United States, Ocean Studies Board, National Research Council. National Academy Press, pp. 272.

- 6) Grift, R.E., et. al. 2004. Assessment of the ecological effects of the Plaice Box. Report of the European Commission Expert Working Group to evaluate the Shetland and Plaice boxes. Brussels. 121 p.
- 7) The North Sea RAC, Flatfish Working Group. Advice to the Commission, July 12th 2005. Future of the Plaice Box.
- 8). STECF, Working Group on Cod Assessment and Technical Measures, 28 April-7 May 2003
- 9) Dinmore, T. A., et. al. 2003. Impact of a large-scale area closure on patterns of fishing disturbance and the consequences for benthic communities. – ICES Journal of Marine Science, 60: 371–380. Seasonal area closures of fisheries are primarily used to reduce fishing mortality on target
- 10) North Sea Regional Advisory Council - Demersal Working Group, Glasgow 17/18 May 2005. Discussion paper - closed areas