COMMISSION OF THE EUROPEAN COMMUNITIES

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COMMUNICATION FROM THE COMMISSION TO THE COUNCIL AND THE EUROPEAN PARLIAMENT

The role of the CFP in implementing an ecosystem approach to marine management

[SEC(2008) 449]

Introduction and scope

The Treaty includes in its Article 6 the obligation to integrate environmental protection requirements into the Community policies such as the Common Fisheries Policy (CFP)[1]. The Council Regulation on the conservation and sustainable exploitation of fisheries resources under the CFP[2] states that one of the operational objectives of the CFP is the progressive implementation of an ecosystem approach to fisheries management.

An ecosystem approach is also included as an overarching objective in various international agreements that Member States have signed, such as the Convention on Biological Diversity (CBD) and the declaration of the World Summit on Sustainable Development (WSSD) held in Johannesburg in 2002.

A Commission staff paper on the possibilities and priorities for international cooperation regarding an ecosystem approach to fisheries management was published in 2002[3], based on the Reykjavik Declaration adopted by the Food and Agriculture Organization of the United Nations (FAO)[4] some months earlier.

Implementing an ecosystem approach through the CFP concerns not only Community waters, but all oceans worldwide. Community action will therefore unfold through the current CFP instruments for Community waters and via Community action in Regional Fisheries Management Organisations (RFMOs), through the UN and FAO process or, where appropriate, via bilateral agreements.

An ecosystem approach to managing the seas cannot and should not be implemented in a specific sector alone, but must be cross-sectoral. The Integrated Maritime Policy[5] constitutes the overall framework for integrated action in the maritime field, and its environmental pillar, the Marine Strategy Framework Directive[6], constitutes the general basis for implementing an ecosystem approach to the marine environment. The Habitats Directive[7], with its requirement to establish networks of protected areas in the marine domain, provides some important tools for an ecosystem approach.

The general policy objective of an ecosystem approach to marine management cannot be achieved by sector policies such as the CFP alone. Actions within different sector policies must link to this integrative framework by developing and implementing those measures that can be taken within the sector policy to support the overall objectives.

Various initiatives that contribute to that objective have already been taken under the CFP, but have not been seen as part of an overall strategy for implementation.

The objective of this Communication is to:

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1 Consolidated version of the Treaty establishing the European Community (OJ C325, 24.12.2002, p. 42)
2 Regulation (EC) No 2371/2002 (OJ L 358, 31.12.2002, p. 59).
3 SEC (2001) 1696.
4 http://www.fao.org/docrep/meeting/004/Y2211e.htm.
5 COM (2007) 575 final and SEC (2007) 1278.
6 Directive of the European Parliament and of the Council establishing a Framework for Community Action in the field of Marine Environmental Policy (Marine Strategy Framework Directive) - *not yet published*
7 Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora (OJ L 206, 22.7.1992, p. 7)

– report on those aspects of the CFP which have contributed to the implementation of an ecosystem approach so far,

– present how the CFP links to the integrative, cross-sector implementation of an ecosystem approach to marine management, and

– show how measures taken under the CFP in the future will be guided by an ecosystem approach as the overarching principle.

1. WHAT IS AN ECOSYSTEM APPROACH?

Specifically for fisheries, the FAO[8] states that the purpose is "to plan, develop and manage fisheries in a manner that addresses the multiple needs and desires of societies, without jeopardizing the options of future generations to benefit from the full range of goods and services provided by marine ecosystems". The approach is here defined as one that "strives to balance diverse social objectives, by taking into account knowledge and uncertainty about biotic, abiotic, and human components of ecosystems and their interactions and applying an integrated approach to fisheries within ecologically meaningful boundaries". Based on more general definitions of the CBD[9] and of the International Council for the Exploration of the Sea (ICES) these definitions make it clear that an ecosystem approach is an instrument to pursue sustainable development in its three dimensions, which also form part of the objectives of the EU Sustainable Development Strategy, namely environmental protection, social equity and cohesion and economic prosperity, and which are enshrined in the CFP Basic Regulation[10].

On this basis the Commission's understanding is that an ecosystem approach to fisheries management is about ensuring goods and services from living aquatic resources for present and future generations within meaningful ecological boundaries. Such fisheries management will strive to ensure that benefits from living marine resources are high while the direct and indirect impacts of fishing operations on marine ecosystems are low and not detrimental to the future functioning, diversity and integrity of these ecosystems.

An ecosystem approach therefore continues from the earlier "paradigm of limits" of traditional fisheries management focusing on the target resource. However, the concept of "limits" no longer considers only the impacts on a target population, but rather the fact that all ecosystems have limits which, when exceeded, can result in major ecosystem change. Boundaries for impacts from fishing are ecologically meaningful if harvested populations are kept within ecologically viable levels, if biological diversity is maintained and if impacts on the structure, processes and functions of the ecosystem are kept at acceptable levels[11]. In addition, since fishing interacts with other human activities and their consequences relating to the seas, these interactions must also be considered.

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8 FAO 2003. The Ecosystem Approach to Fisheries. FAO Technical Guidelines for Responsible Fisheries. No 4, Suppl. 2. Rome, FAO. 112 pp.

9 CBD – COP 5, Decision V/6 (http://www.cbd.int/convention/cop-5-dec.shtml?m=COP-05&id=7148&lg=0).

10 Regulation 2371/2002

11 FAO 2003

2. INTEGRATING FISHERIES MANAGEMENT INTO AN ECOSYSTEM APPROACH TO MARINE MANAGEMENT

Fisheries management can contribute to an ecosystem approach, but an ecosystem approach to marine management must integrate all economic sectors which impact the marine ecosystem.

Some countries, such as Australia, have adopted an approach where fisheries management takes on the role of integrating the diverse human interests in the marine ecosystem and provides for overall integrated risk management of human interaction with the marine environment. Such an approach doesn't seem a feasible option in the EU context, with its multitude of regional seas, each subject to the interests of several Member States, and where the marine ecosystems in most cases also include waters under the jurisdiction of third countries. In this more complex set-up specific integrative policies such as the Marine Strategy[12] are required to provide a cross-sectoral framework for marine management. The CFP will contribute to that framework by taking measures in relation to benefits from and impacts of fisheries. The conditions of fish stocks and fish habitats will be important elements in the assessment of good environmental status which is envisaged in the Marine Strategy. Fisheries management measures that will contribute to achieving good environmental status will be developed and implemented.

Protected areas are an important tool for protecting sensitive habitats and species within an ecosystem approach. The Habitats Directive[13] provides for the establishment of a network of representative protected areas also in the marine domain. The CFP provides the instruments required to regulate fisheries so that the objectives of such protected areas are achieved.

The task of fisheries management within an ecosystem approach in a EU context is thus to:

(1) keep direct and indirect impacts of fisheries on marine ecosystems within bounds in relation to healthy marine ecosystems and ecologically viable fish populations by including all the knowledge we have about the interactions between fisheries and marine ecosystems in decisions under the CFP, and

(2) ensure that actions taken in fisheries are consistent with and supportive of actions taken under the cross-sectoral Marine Strategy and Habitats Directive.

The integrated approach through the Maritime Policy and its environmental pillar, the Marine Strategy, will fully benefit sustainable fisheries by ensuring integrative management of all human, environmental and economic interactions in the maritime field.

The benefits to fisheries of an ecosystem approach to marine management are extensive. Fishing is probably the one maritime sector which is most directly dependent on healthy marine ecosystems, and is thus also the sector which gains most from integrated protection of these ecosystems. An ecosystem approach to marine management will address the concerns, often voiced by the fishing industry, that many human activities impact the marine ecosystems and the fish stocks in them negatively and that all these impacts - not just fisheries - need to be managed in order to protect the marine ecosystems and fish stocks. An integrated ecosystem approach will do what fisheries management cannot do alone: ensure that marine

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12 Marine Strategy Framework Directive - *not yet published*

13 Council Directive 92/43/EEC

ecosystems recover to and are maintained in a healthy state whereby the basis for the future productivity of fish stocks is secured.

3. CORE ISSUES TO BE ADDRESSED

Within the overall objective of an ecosystem approach, specific objectives need to be defined regarding ecosystem services (i.e. the social and economic benefits from fisheries) and meaningful ecological boundaries for fisheries impacts (i.e. keeping populations within viable levels, maintaining biological diversity and keeping impacts on the structure, processes and functions of the ecosystem at acceptable levels[14]).

A starting point for action is the description of ecosystems and their structure, processes and functions using all available knowledge. An important part will also be continuing and expanding the current assessment of the status and trends of fish stocks and of the impact of fishing on ecosystems. These assessments need to be updated all the time as more information becomes available. The scientific bodies consulted for advice in the preparation of fisheries management measures build on long time series of relevant knowledge about stock development and effects of management measures and they are already considering ecosystem-relevant information in their assessments.

The main impact of fisheries on the marine ecosystem is the killing of marine animals. Fish, crustaceans and other marine organisms are extracted from the marine ecosystem and landed, but they are also killed incidentally if they are taken as unwanted by-catch and discarded at sea or if they are damaged by fishing gear without being taken on board.

Fisheries may also impact habitats when fishing gear is in contact with the bottom and thus affecting the bottom substrate and organisms living in or on the bottom. Both the direct impact of killing marine animals and the impact on habitats are first and foremost linked to the amount of fishing activity that takes place.

The fishing pressure on four fifths of European fish stocks is currently above sustainable targets. This means that most European fishing fleets have a fishing activity which exceeds the activity required for fisheries to be sustainable even if sustainability is only considered from the limited perspective of the single stocks of fish which are targeted by the fleets.

The main and first task of fisheries management is therefore to *reduce the overall fishing pressure* to sustainable levels. By reducing fishing activity fewer animals are killed by fisheries and the impact on marine ecosystem structure and functioning is therefore lower; fewer fish, crustaceans, seabirds and sea mammals will be killed incidentally by fishing operations, and populations of these species are therefore less impacted, fewer individuals of sensitive species will be taken as by-catch and there will be less impact on habitats.

The main instruments to act on the overall fishing pressure are long-term management plans building on the WSSD requirement to rebuild fish stocks to 'maximum sustainable yield' (MSY) levels. Since 2002 several recovery and long-term management plans have been adopted under the CFP, and communications on implementing MSY and on a new policy to reduce unwanted by-catch have been published (see chapter 6).

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[14] FAO 2003

Beyond such a general reduction of fisheries impacts on the ecosystem the following specific issues need to be addressed:

There is a need to *protect sensitive marine habitats*. All habitats which are in physical contact with fishing gear are affected. While some bottom types and the organisms dependent on them may be robust to such impacts, there are also habitats where the impacts of contact with fishing gear may be very significant and long-lasting. Cold coral reefs such as *Lophelia pertusa* for example may take many decades to recover from the impacts of a single bottom trawl contact. The Natura 2000 network of marine protected areas will provide protection for representative habitats. The coordinated use of CFP instruments such as closures for specific fisheries or no-take zones will be implemented as required to achieve the objectives of the specific Natura 2000 site". Beyond that, specific measures are taken to reduce the mechanical impacts of fishing gear also outside such protected areas, and further measures will be taken to protect sensitive habitats when awareness of such habitats and threats to them emerge. Several initiatives have been taken already in this field (see chapter 6).

There is also a need to *protect sensitive species* killed incidentally in fishing operations and species targeted by fisheries that have been reduced to below safe biological limits. The recovery plans are the main instrument for rebuilding stocks that are below safe limits and the new discards policy will contribute to protecting sensitive species from incidental by-catch. Other instruments for the protection of sensitive species are regulations on the shape and use of fishing gear which diminishes incidental by-catches of such species and closures of areas where such by-catches are likely.

Lower fishing pressure and specific protection of sensitive species and habitats will diminish the impact of fisheries on ecosystem structure, diversity and functioning. There are however cases where specific measures may need to be taken to *prevent distortions in the food web and ensure that natural ecosystem processes are not disrupted*. An example is the dependence on sandeel for breeding success of some seabird colonies on the west coast of Britain (see chapter 6).

Environmental drivers impact marine ecosystems and the fish stocks. Fishing may in some cases exacerbate the negative impacts of such drivers. The Intergovernmental Panel on Climate Change states that this may be the case regarding some impacts of climate on fish stocks. It is an integral aspect of a precautionary approach that fisheries should be conducted in a way which is robust to environmental change and thus that fish stocks should never be exploited to a point where they are not resilient to environmental change. The Commission has specifically requested Scientific, Technical and Economic Committee for Fisheries (STECF) and ICES to incorporate any existing knowledge about environmental drivers in the assessments of the ecosystems and fisheries and in the advice.

4. OPERATIONALISATION AND GOVERNANCE

An ecosystem approach to marine management implies that multiple and often conflicting interests need to be reconciled in the process. While there may be short-term contradictions between social objectives and the requirement to conduct fisheries within meaningful ecological boundaries, such contradictions largely disappear in the long term because healthy ecosystems are a prerequisite for the continued existence of a fishing industry.

The broad objectives listed above apply generally, but there is also a need to spell them out and make them operational for specific ecosystems and fisheries. This must take place in

interaction between the European institutions, governments and stakeholders. The main mechanism for interaction with stakeholders within the CFP is the Regional Advisory Councils (RACs).

The general boundaries of an overall ecosystem approach will be defined by identifying good environmental status through the implementation of the Marine Strategy Directive. Specific objectives for fisheries will be developed through long-term management plans based on the MSY concept, but will in the future also integrate considerations of ecosystem impacts of the specific fisheries concerned.

Objectives must be operationalised in specific actions. It has been argued that an ecosystem approach needs a holistic and integrated management system based on predictions of the diverse ecosystem effects of fisheries and of management measures. But knowledge of the dynamics of ecosystems and fisheries is always incomplete, and many effects of fishing and of management measures can as a result not be predicted precisely. It also happens that knowledge exists but is applied insufficiently or too slowly. Therefore, incomplete knowledge and insufficient instruments for integration should not prevent action. Progress on the basis of existing knowledge and with present instruments can and must be achieved.

Current knowledge allows us to take management measures pointing in the right direction. Mechanisms must then be put in place to monitor outcomes and take corrective measures. Both the CBD[15] and ICES[16] guidance documents state that the ecosystem approach requires adaptive management to deal with the complex and dynamic nature of ecosystems and the absence of complete knowledge or understanding of their functioning. Management must therefore be able to respond to such uncertainties and contain elements of learning-by-doing or research feedback. Measures may need to be taken even when some cause-and-effect relationships are not yet fully established scientifically.

The outcomes of management need then to be monitored in order to adapt future management. Analysis of outcomes and advice on options for management adaptation is requested from the institutions providing research-based advice to the Commission primarily the STECF, often building on advice from the ICES.

The Community's financial instruments should be used as much as possible to achieve progress and support implementation of the ecosystem approach. In the area of fisheries, the funds available for research and data collection are already contributing to this. The European Fisheries Fund (EFF) should be used to its fullest extent at the level of the Member States to promote the implementation of an ecosystem approach through - for example - support for the development of fishing practices and technologies with low ecosystem impact and awareness building.

5. WHAT HAS BEEN DONE SO FAR?

Until now, various initiatives have been taken under the CFP that will contribute to the objectives of integrated management of the seas based on an ecosystem approach:

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15 CBD Decision V/6, paragraph 10.

16 ICES cooperative research report No 273, chapter 6.1.

- Since in the present situation in Europe the first and most important step in an ecosystem approach is a significant *reduction of the overall fishing pressure* on marine ecosystems, a policy has been developed to reduce the exploitation of marine fish populations to MSY levels, as laid down in the Communication on MSY[17].

- The reduction of fishing pressure to MSY levels is supplemented by a policy to *reduce and eventually eliminate unwanted by-catch* (the discards policy). This will be implemented gradually on a fisheries-by-fisheries basis through the new discards policy[18].

- Initiatives have been taken under the CFP to protect *sensitive habitats* from harmful effects of fishing, such as the closure of cold water coral reefs west of Ireland[19]. These actions aim at achieving the conservation objectives of Natura 2000 sites belonging to the ecological network set up by the Habitats Directive. In the Mediterranean area, the use of dredges and towed nets beyond 1000 metres has been prohibited to protect deep sensitive habitats including coral reefs, and three areas in international waters have been closed for fishing under decisions taken by the General Fisheries Commission for the Mediterranean (GFCM) and implemented in Community law. Moreover, the Mediterranean Regulation aims to ensure a high standard of protection of sensitive habitats such as *Posidonia and mäerl beds*, (which are also listed in the Habitats Directive) and requires Member States to establish a network of fisheries protected areas to protect nursery areas, spawning grounds or marine ecosystems in general.

- Measures have also been taken to *avoid incidental by-catches of sea mammals* by legislation making the use of pingers compulsory on gill nets, and action plans on the reduction of by-catch of seabirds and elasmobranches are in preparation.

- Fisheries can impact the functioning of ecosystems by excessively removing the food for predators (or, in the case of discards, by increasing food availability for scavengers) and thereby adversely affecting the populations of for instance sea birds. To address this issue areas have been closed for fishing of sandeel within flying range of seabird colonies which depend on such prey.

- Several actions have been taken recently to limit the negative impacts of fishing, such as banning the use of nets below depths of 200 metres in certain areas, banning destructive fishing practices or actions to combat illegal, unreported and unregulated (IUU) fishing in European and international waters[20].

- An *adaptive approach* is increasingly being applied within the CFP to address situations of uncertainty and - within the MSY policy - situations where several species with different dynamics and interactions are caught simultaneously and where the overall effects of policy measures therefore cannot be known.

- In order to ensure progress to make fisheries management contribute to an ecosystem approach a transition must be made *from ad hoc decisions to recovery and long-term management plans* based on principles of ecological sustainability. In recent years such

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17 COM(2006) 360 final.
18 COM(2007) 136 final.
19 COM(2007) 570 final.
20 COM(2007) 604 and 605 final.

plans have been developed for several stocks in EU waters and stocks shared with other partners, including recovery or management plans for North Sea herring, northern hake, all cod stocks in Community waters and bluefin tuna in the ICCAT area.

- An ecosystem approach must be underpinned by *research-based information*. Several research projects to understand marine ecosystems and develop frameworks to include such knowledge in an ecosystem approach have been initiated and funded by the Commission through the research framework programmes.

- The review of the Data Collection Regulation to support the move towards an ecosystem approach in order to include new information that is required to monitor the wider ecological impacts of fisheries is completed. The new regulation is expected to be in force from 2009 and will cover the collection of data which can underpin indicators relating to ecological impacts of fisheries and thus be supportive of an ecosystem approach to management[21].

- A first set of indicators to monitor the fisheries impact on the ecosystem has been selected and is published together with this Communication as a Commission staff working paper.

The Commission will continue to develop such measures to reduce or eliminate the ecological impact of fisheries whenever new knowledge of such impacts becomes available. The Commission has to this end requested the ICES and the STECF to provide advice on any new knowledge on the interaction between fisheries and the ecosystem. Collection of data to derive indicators on the ecosystem effects of fisheries will be included in Member 'States' data collection programmes as from 2009.

6. NEXT STEPS

The CFP will support policies aimed at an ecosystem approach to marine management:

- In the short and medium term steps to reduce overall fishing pressure on marine ecosystems will continue, including implementation of the MSY approach through long-term management plans and in annual or multiannual proposals on catch limitations.

- Legislation will be developed to reduce unwanted by-catches through the discard policy and technical measures will be revised to include considerations of habitats damage and by-catch.

- For specific groups of sensitive species plans of action are being developed where a toolbox of instruments is used to provide specific protection. A plan of action to protect sharks and elasmobranchs will be published in 2008 and a plan of action to protect seabirds will be published in 2009.

- Simplified technical measures through the new regulation proposed in 2008 will trigger improvements in the selectivity of fishing gear.

[21] Regulation 199/2008.

- The condition of fish populations will be an element in determining good environmental status under the Marine Strategy, and CFP instruments will be implemented to achieve the goals relating to fish populations and impacts of fisheries on habitats and sensitive species.

- A first set of selected indicators will serve as a practical basis for fisheries managers in the implementation of an ecosystem approach. This will be further developed and completed and the supporting data will be collected under the revised Data Collection Regulation to come into force from 2009.

- CFP instruments will be used to ensure appropriate management of fishing activities within areas protected by Community legislation (e.g. Natura 2000 sites, or other protected areas including under the Marine Strategy Framework Directive).

- The Community will support initiatives to promote an ecosystem approach in RFMOs, in the UN framework and other international fora and, where appropriate, in bilateral agreements.

- An ecosystem approach will furthermore be seen as the guiding principle for decisions under the CFP where an incremental approach will be taken to address issues of excessive fishing pressure on populations and ecosystems, minimising impacts on sensitive habitats and species and preventing distortions of ecosystem structure and functioning.

- Research on the ecosystem approach will remain a priority in the FP 7 programme and research activities on all its aspects will continue to be promoted in order to improve knowledge and fill gaps in the description of marine ecosystems, thus feeding into the adaptive process of its implementation. Furthermore, scientists and managers need to intensify their dialogue so that the management tools can be improved continuously.

- Member States are invited to use the funding possibilities of the EFF in order to achieve progress in the implementation of an ecosystem approach by promoting measures such as the improvement of knowledge and fisheries management, training of fishers in low-impact fishing practices, and development of practices and technologies with low impact on the environment.