



Institute for  
European  
Environmental  
Policy



**CONFERENCE PAPER 5**

**GOVERNANCE**

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## CONFERENCE

SUSTAINABLE FISHERIES: FACING THE ENVIRONMENTAL CHALLENGES

European Parliament Brussels 8-9 November 2004

Conference Briefing Paper on Governance

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## **INTRODUCTION**

This chapter explores governance issues in EU Fisheries Management. Governance, as opposed to government, is the process by which economic and social matters are managed and the capacity of the institutions to manage them fairly, rationally and predictably. Governance is about institutional performance and the relationship between state, market and society. It should not be equated with or confined to state activities. The governance perspective examines the broad range of institutions that influence how public policy goals are met or fail to be met.

The White Paper on European Governance (CEC, 2001) states five principles underpinning good governance. These are participation, openness, accountability, coherence and effectiveness. The White Paper does not define these principles, rather it sets out to illustrate what they ought to mean in the EU context. These same principles are restated, albeit in a different wording, in the CFP framework regulation (2371/2002) (Article 1 para 2).

In addition to these principles there are also two focal images in the current European vision of marine governance: the precautionary approach and ecosystem based management (Degnbol et al, 2003).

This chapter provides a brief overview of the legal and policy context before examining the actual status of implementation of the five principles of good governance as identified in the White Paper on European Governance. Following this review it examines the governance implications of the two focal images. In conclusion a number of key issues and recommendations are listed.

## **LEGAL AND POLICY CONTEXT**

### **International**

The most important body of international law specifically governing international fisheries is the 1982 UN Convention on the law of the Sea (UNCLOS)<sup>1</sup>. The 1995 Agreement Relating to the Conservation and Management of Straddling and Highly Migratory Fish Stocks builds upon the UNCLOS. It provides for the establishment of Regional Fisheries Management Organizations. These organizations issue recommendations on management and conservation of fish stocks with which their parties have to abide. The EU is currently a member of 11 such organizations and is due to join two more.

There is clearly a growing international political commitment to responsible fisheries. At the WSSD in Johannesburg in 2002, for example, Heads of State and Governments agreed to the time-bound objective namely the maintenance or restoration of fish stocks by 2015 (30 (a)) and a significantly reduced rate of biodiversity rate loss by 2010 (42), as discussed in Conference Briefing Paper 1: State of Europe's Regional Seas.

Despite this, the system fails in a number of situations. Firstly, coastal states are not compelled to manage responsibly their fisheries resources within their Exclusive Economic Zone. Secondly on an international level, it merely provides a framework for management and has actually never been intended to do more. Problems arise when some parties do not wish to collaborate or cannot reach agreement, as there are no binding mechanisms on how to resolve disputes. There are no effective means to exclude vessels not abiding by the rules of a regional fisheries management organization if its flag country is not a party to that organization. In addition, open access remains for high seas stocks that are neither migratory nor straddling such as for seamounts and ocean ridges.

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<sup>1</sup> The United States of America and Peru have not yet acceded to the UNCLOS.

### **Example of an International Fisheries Governance Failure**

In the case of blue whiting in the North-East Atlantic, agreement has not been reached in the North-East Atlantic Fisheries Commission (NEAFC) for the past 5 years on how to share the TAC. This has resulted in the EU and others increasing their self-proclaimed 'shares'. Since 1997 the total international catches have trebled and are now over 2 million tons whereas the last TAC set by NEAFC is 650,000 tons.

There are few formal rules that deal with governance issues in international environmental or fisheries agreements. The most notable convention in this respect is the 1998 Århus Convention on Access to Information, Public participation in Decision-making and Access to Justice in Environmental Matters. The EC and all Members States have signed this convention, which entered into force on 30 October 2001. It provides for:

- ?? the right of everyone to receive environmental information that is held by public authorities (access to environmental information);
- ?? the right to participate from an early stage in environmental decision-making; and
- ?? the right to challenge, in a court of law, public decisions that have been made without respecting the two aforementioned rights or environmental law in general (access to justice).

The convention thus establishes relatively far-reaching provisions directly relevant to fisheries governance issues, particularly in terms of transparency and accountability. The EU has since moved to align its legislation with the Århus convention. The European Parliament and the Council have adopted two Directives concerning access to environmental information and public participation in environmental decision-making (CEC, 2003a; CEC, 2003b). They have to be transposed into national law by 2005.

The 1995 FAO Code of Conduct is a non-binding instrument. But in 1999, the 126 Members of the FAO Ministerial Meeting adopted the Rome declaration on the Implementation of the FAO Code of Conduct for Responsible Fisheries unanimously. The code refers explicitly to the need for transparency in decision-making processes not only at the level of states but also at regional and sub-regional level. Other provisions refer indirectly to the need for efficiency and effectiveness to achieve timely solutions to urgent matters. For clarity the basis and purposes of measures should be explained to resource users and accountability should be achieved through greater participation of stakeholders in decision-making.

Other international instruments relating to biodiversity conservation<sup>2</sup> and fisheries management<sup>3</sup> also refer to issues of governance, but on a more limited scale.

### **EU Decision-Making Framework**

The EU policy process is characterised by a very clear separation in three stages in which different actors play very different roles. In the first stage, the Commission uses its monopoly of initiative to try and forge compromises around a proposal. In a second stage decisions are actually taken by bodies that are directly (the European Parliament) or indirectly (the Council) accountable to an

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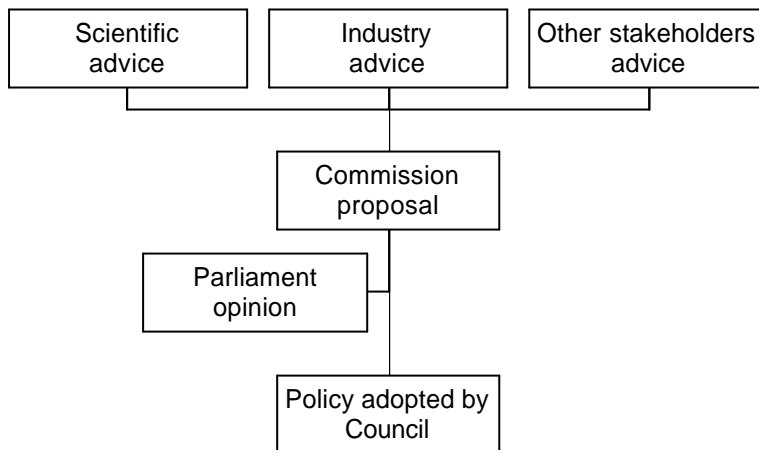
<sup>2</sup> 1992 UN Convention on Biological Diversity (Article 14) – public participation in environmental impact assessment of projects likely to have significant impacts of biological diversity;

<sup>3</sup> 1995 UN Agreement on Straddling Fish Stocks and Highly Migratory Fish Stocks (Article 12) – transparency and participation of non-governmental organizations in decision-making processes.

electorate. At this stage negotiations may be required to reach a political agreement on a given measure. The Commission then monitors the implementation by individual Member States.

Fisheries are an exclusive Community competence. Member States can only act as far as they are delegated powers by the Community, which it has done for the coastal zone. This coastal zone may be up to 12 miles wide though many Member States have kept it narrower. In addition even within this coastal zone, measures taken by Member States may not be in conflict with the overall CFP. The opinion of the EU Parliament is usually sought before the Council takes a decision.

**Figure 1. Outline of EU Fisheries decision-making procedure**



For environmental matters the picture is slightly more complex. Environment is a shared competence between the EU and its Members States. Not only can Member States act on their own initiatives, in some cases they have to. Both the Parliament and the Council have to agree on Regulations and Directives (a procedure referred to as co-decision). The proposed Constitutional Treaty would extend the co-decision procedure to fisheries matters, with the exception of Total Allowable Catch decisions. This would give the Parliament a far greater role in setting legislation.

## **PARTICIPATION**

*Participation* is a set of activities aimed at engaging or influencing public institutions. There are a number of forms of participation in fisheries management. These approaches differ in terms of who is making decisions and at what level they are making them. Different stakeholders define participation in different ways. The most basic understandings of participation among fisheries stakeholders are perhaps participation as working together to achieve common goals, participation as mobilizing one's own stakeholder group to achieve narrow goals, and participation to facilitate broad accountability.

Participation is one of the key concepts in the White Paper on Governance. It is supposed to enhance both the legitimacy and effectiveness of European governance (CEC, 2001). The key questions are who should participate, at what level and when in the policy development and implementation process. The CFP framework Regulation calls for the 'broad involvement of stakeholders at all stages of the policy from conception to implementation' (CEC, 2002a).

### **The Advisory Committee on Fisheries and Aquaculture**

At EU level, the only formal forum for participation has until recently been the Advisory Committee on Fisheries and Aquaculture (ACFA). ACFA is composed of 20 representatives of professional organisations representing the production sector, the processing industry and trade in fishery and aquaculture products as well as organisations representing the interests of consumers,

the environment and development. The Commission appoints the Members, following proposals from Community level organisations that it considers the most representative of the interests concerned. ACFA is consulted in the process of elaboration of measures but has no role in monitoring their implementation and effectiveness. In the EU the representation of fishermen's interests is still largely confined to the framework of the Member States. This reflects deep-seated and powerful corporatist mediational structures (Lequesne, 2004).

The different sectoral groups and interested parties are not treated equally within ACFA. Council Regulation 2000/657/EC stipulates that 'the cost of ... meetings arranged by the European trade organisations which are aimed at preparing meetings of the Advisory Committee on Fisheries and Aquaculture' shall be born by the Commission (CEC, 2000). No such assistance, except for travel costs, is given to the three representatives of consumers, environment and development thus limiting their actual ability to contribute meaningfully to the debate. Non (fisheries) professional organisations contribute three members out of 20. Other end-users of the marine environment are not represented at all.

### **Regional Advisory Councils**

In May 2004, the Council reached an agreement on the establishment of Regional Advisory Councils (RACs) (CEC, 2004a). They are currently being established with the process being most advanced for the North Sea and the North Western waters RACs. A broader range of interests will be represented in the RACs than on ACFA. However, the RACs will be focussed on fisheries management and they will still be industry dominated. The idea arose out of calls for a more participatory, transparent, ecosystem-based and/or devolved approach to EU fisheries management. While RACs respond to these calls, they do so only in so far as regionalising stakeholder advice to the Commission; they are not designed by the EU to become regional decision-making fora. Other stakeholders, however, including politicians at both the EU and national levels, have articulated a clear intention to try to move these RACs in the direction of regional decision making bodies. In practice, the Treaties make no provision for stakeholder participation in decision-making, however.

In summary, participation in EU decision-making on fisheries is very restricted though the RACs are a positive step. It is characterized by a limitation to non-decision making and to sectoral groups and interested parties ignoring general actors, such as political representatives and democratic institutions, and leaving the initiative to the Commission and decision-making to the Council (and the Parliament). This is partly due to the specific challenges created by the European dimension, starting with the communication problems related to language barriers. Involving stakeholders formally in decision-making would pose a significant challenge. Arguably this may require a Treaty change, which is unlikely to be done to suit the aspirations of fishermen. In addition, any government needs to retain decision-making powers, the EU also. Yet participation is only meaningful if there is a potential for compromise and resolution of conflicts. This is recognised by the Commission, and it has indicated the possibility to implement measures elaborated and adopted by consensus within RACs. However there will be no easy consensus when managing fisheries. One additional complicating factor is that there is currently no shared understanding of the resource situation.

### **OPENNESS AND ACCOUNTABILITY**

Internationally, different formal approaches to openness and accountability exist and these forms of openness have different and complex influences on policy outcomes. According to the White Paper on Governance (CEC, 2001), openness refers to the active communication with stakeholders and society at large about what is being done and decided by the use of language that is accessible and understandable to the wider public. Accountability is the need to answer for the results of one's actions or the institutionalised responsiveness to those affected by one's action.

These definitions make sense in the context of the EU. Policymaking and implementation involve different actors at the stage of proposal making, decision taking and implementation. They also illustrate the Commission's quest for legitimacy among national administrations. These will often seek to make the Commission pay the political price for regulations they have endorsed in the Council of Ministers (Lequesne, 2004).

CFP proposals are elaborated by DG Fisheries and formally adopted by the College of Commissioners before they can be forwarded to the Council and Parliament for decision-making. The Commission will normally try to reach a consensus before it makes its initiative public. In particular it will seek scientific and technical advice from mandated research institutions and the opinion of sectoral actors and interested parties. A certain number of preparatory acts and documents of public interest can be found on the Commission's website. As 'guardian of the Treaties' and of the common good the Commission sees itself also as occupying a special place of 'expert rationality' in relation to Member States' governments much more subject to pressures from the industry (Lequesne, 2004).

Decision-making by the Council is much less open. The time span between the submission of a proposal by the Commission and a Council decision can be considerable. A short survey of key fisheries and environment legislation gave a range from 14 days to over three years with the average being around one year. Reaching a Council decision often requires negotiations led by the Presidency, which may imply compromises before an agreement is reached (which in most cases must be acceptable to the Commission). In the past this stage has been associated with several pitfalls such as procrastination and unbalanced weighting of short term and long term considerations, the absence of a clear hierarchy of long-term and mid-term objectives combining environmental and economic dimensions and the abusive use of the so-called social dimensions. In particular Member States have often awarded themselves larger quotas than had been declared to be sustainable.

This is also one of the most controversial and pressing arenas where openness and accountability come into conflict with other values. A participatory mode approach to fisheries governance should begin with a shared understanding of what is going on in the sea. Sharing such an understanding implies that an approach to developing the scientific basis of management decisions that has itself, in some sense, been participatory. Our common sense understanding of science, for good reasons, does not include the idea of 'participation'. Science is supposed to yield objective knowledge, not participatory compromises. While originally fisheries research aimed at explaining phenomena observed by fishermen, it is now geared towards answering the needs of fisheries administration. A number of institutions are being developed in fisheries management to address these critical tensions. Within EU decision-making this is being raised most directly with an attempt to change the unit of scientific advice from the biological unit of the fish stock to the social unit of the fishery so that advice can be more directly integrated into how management decision-making is actually structured.

## **COHERENCE**

According to the White Paper on Governance (CEC, 2001), 'coherence requires political leadership and a strong responsibility on the part of the Institutions to ensure a consistent approach within a complex system'. The April 2001 Council invited the Commission to present concrete proposals on environmental integration within the framework of the reform of the CFP in 2002. The Commission forwarded an action plan to integrate environmental protection requirements into the CFP (CEC, 2002b). This lists a number of guiding principles and measures to secure environmental integration in the sector, including the setting up of long-term management plans for the most important and the most vulnerable fish stocks, the setting up of 'no take zones', the development of guidelines for Best Fishing Practice, incentives for stimulating practices adding value to environmental

integration, and the integration of environmental concerns into the aquaculture sector. It also committed to the development of an experimental monitoring system based on indicators, which was to become operational by 2003. A report on the environmental performance of the CFP is promised for 2005. The Council adopted conclusions on the Action Plan in January 2003, welcoming it as an important step towards implementing the integration strategy and inviting the Commission to present appropriate proposals for its implementation.

The Strategic Environmental Assessment Directive does apply to EU plans and programmes (CEC, 2001b), but these are rarely developed for the fisheries sector. The Commission made a commitment to conduct impact assessment on all its major proposals, be they regulatory or any other proposal having an economic, social or environmental impact (CEC, 2002c). This applies in the fisheries sector as elsewhere. The procedure foresees a two-stage process to assess social, economic and environmental impacts: a first filtering stage leads to a decision on whether or not to do an extended impact assessment. Extended IAs are to include stakeholder consultation. To date the procedure was applied only three times in relation to fisheries, in relation to proposals for recovery plans for Southern hake and the Norway lobster stocks in the Cantabrian Sea and Western Iberian waters and the Cetacean Regulation (CEC, 2004b). The manner in which these Impact Assessments were conducted fell short of the Commission's own guidelines, but improvements are expected as part of what is a 'learning by doing' process (Wilkinson et al, 2004). This being said while Impact Assessments are a tool for improved coherence, fisheries are and will remain a matter of management under uncertainty.

The EU's fisheries structural policy aims to help the sector adjust to the challenges facing it, in particular by requiring reductions in fishing fleet capacity. The fisheries 'Structural Fund', FIFG (Financial Instrument for Fisheries Guidance) has contributed to fisheries conservation projects, but it has also been used to support investment in new and more intensive fishing practices and to expand aquaculture production. This clearly goes against the principle of coherence. However, a phase-out of those subsidies most directly contributing to overcapacity, notably subsidies to boat building, has been agreed (CEC, 2002d). As part of the implementation of the Sustainable Development Strategy, the structural assistance Regulation in the fisheries sector was amended in July 2004. The new Regulation states among others that 'Aquaculture enterprises should be encouraged to improve their environmental performance and to develop voluntarily initiatives that go beyond the minimum legal requirements in terms of environmental protection' (CEC, 2004c). In July 2004, the Commission made a proposal for a Council Regulation on a European Fisheries Fund (CEC, 2004e). The purpose of the EFF is to help facilitate the implementation of measures adopted under the reform of the CFP among these the policy for the sustainable development of coastal fishing areas.

Environment and development NGOs have long voiced concerns over EU fisheries policy in third countries, pointing to the 'footprint' that agreements leave on local communities as well as the environment. There has also been considerable pressure from environment and development interests within the Commission and some Member State administrations to at least make agreements coherent with other EU policies. In February 2002, the Commission set out external aspects of an EU Sustainable Development Strategy – Towards a Global Partnership for Sustainable Development (CEC, 2002e). This suggests the EU will develop a 'strategy for distant water fisheries to contribute to sustainable fishing outside Community waters through global and bilateral partnership at national and/or regional level.' A Commission Communication 'on an integrated framework for fisheries partnership agreements with third countries' followed the proposal in December 2002 (CEC, 2002f). In July 2004, the Council has adopted conclusions on the Communication reiterating several general principles such as only fishing the surplus and the need for coherence with other Community policies (such as Development and Trade). More importantly the conclusions define the minimum content of a Fisheries Partnership Agreement and state that impact assessments must be made in preparation for their negotiation.

Cross-compliance is the linking of different policies. It is a tool to achieve coherence. In practical terms it entails a requirement for a recipient to prove that provisions of other policy instruments have been met in order to be eligible for government support. The concept of cross-compliance in agriculture has been gaining ground since the 1970s, and was first applied in the United States. In Europe, the discussion about the relevance of cross compliance to European agriculture policy began only in the 1990s, along with the growing commitment within the EU to integrating environmental considerations into agricultural policy. This instrument became one of the most important tools of integrating environmental concerns into farming practice in the EU though the implementation inevitably differs between the Member States.

There has hardly been any debate on the use of cross-compliance in fisheries. The only example is currently the requirement for the promoters of intensive fish-farming projects to submit the results of an impact assessment study together with their application for support under the FIGG. Various items of EU environmental legislation are relevant to the fisheries sector, notably the birds and habitats Directives and these could be subject to cross-compliance

## **EFFECTIVENESS**

According to the White Paper on European Governance (CEC, 2001) 'policies must be effective and timely, delivering what is needed on the basis of clear objectives, an evaluation of future impact and, where available, of past experience'. The EU fisheries management objectives are not explicitly stated. However, the long-term sustainability of the resource basis is clearly one overarching EU-wide objective. It is reflected in the mission statement of DG Fisheries. This internal EU commitment is also reflected in international fora and most notably in the international targets contained in the WSSD Plan of Implementation.

### **DG FISH mission statement**

'...the major challenge facing the CFP today is to strike a sustainable balance between available marine resources and their exploitation. The capacity of the European fishing fleet is too large and the sector must be restructured if that balance is to be attained...'

### **WSSD Plan of Implementation**

...

?? by 2015 at the latest to have maintained or restored stocks to levels that can produce the maximum sustainable yield;

?? ...

The Conference Briefing paper 1 on the State of Europe's Regional Seas reviews the available evidence. The number of stocks inside safe biological limits has been declining. It is this realization that has prodded the reform process, which culminated in December 2002. While it could be argued that it is still too early to objectively judge the effectiveness of the reformed Common Fisheries Policies, the omens are not good.

?? The annual negotiations on the allocation of TACs in 2002 and 2003 largely occurred on the same basis as before belying the long-term management perspective that all actors have agreed to be necessary. Scientific advice in setting the level of TACs has not been followed.

?? The recovery and management plans have been hailed as a cornerstone of the new CFP. Yet two years on, only two recovery plans (for cod and for Northern hake) are being implemented and these have been significantly weakened as compared to the original Commission proposals.

Two more plans (for sole and for Southern hake and Norwegian lobster) are still being discussed nine months after being proposed by the Commission (Brown, 2004).

?? There are as yet no management plans in place.

?? There is no evidence as yet that the declining trend of the resource base has been reversed.

Judged against the criterion of long-term sustainability of the resource base, the Common Fisheries Policy has not been effective.

## AREAS WHICH PRESENT PARTICULAR GOVERNANCE CHALLENGES

### The Precautionary Approach

The precautionary approach in fisheries management is often articulated following the FAO Code of Conduct for Responsible Fisheries (1995).

#### FAO Code of Conduct for Responsible Fisheries (1995)

‘6.5 States and subregional and regional fisheries management organizations should apply a precautionary approach widely to conservation, management and exploitation of living aquatic resources in order to protect them and preserve the aquatic environment, taking account of the best scientific evidence available. The absence of adequate scientific information should not be used as a reason for postponing or failing to take measures to conserve target species, associated or dependent species and non-target species and their environment.’

In practical terms a precautionary approach requires the identification of some optimum situation and adopting a lower fishing effort in order to accommodate uncertainty in the identification of that optimum. This is really about who bears the costs and benefits associated with the uncertainty attached to management decisions. What the precautionary approach is saying is that the costs associated with uncertainty about appropriate fishing levels should be borne more heavily by the existing fishing industry and less by the future fishing industry and fisheries managers, environmentalists and scientists who also stand to benefit from more successful conservation (Degenbol et al, 2003). As such it can be seen as an uncertainty-based version of the ‘polluter pays’ principle, which is a pillar of good environmental policy. The downside is that the present and future fishing industries can often be different people. This leads to:

?? the precautionary principle further undermining the present industry’s support for management; and

?? because it is usually the larger, more flexible and better financed fishing companies that can survive longer under the greater risk, the structure of many or most fishing fleets will shift towards larger-scale operations.

This second consideration may often actually be a good thing, but there are also both social and conservation values in small-scale fishing.

The precautionary approach also leads to a blurring of the distinction between scientific advice and management decisions. Because the underlying question is about the distribution of the costs associated with uncertainty, the identification of this optimum situation is inherently a political process. But this inherently political decision is closely bound up with scientific decision-making

and too often presented as a ‘scientific’ result. “Precautionary models” are created and, because of a desire for quantification, the precaution is articulated in terms of assessment model error. Precautionary assumptions are often built into the judgements involved in the model building process (Wilson and Degnbol, 2002). The precision of the models used is in itself the result of management decisions for instance in terms of budget allocation to research. In addition different scientific advisory bodies use different concepts and terminologies in formulating their advice (Stokke & Coffey, 2003). Excessive technical language may further obscure the picture for laypersons.

The reduction of the precautionary approach to management based on precautionary models also means that the uncertainty in decisions about management measures, which has multiple sources ranging from unrecorded discards, black landings, unknown levels of natural mortality to unknown effectiveness of management measures and beyond, is reduced to the leftovers of what any stock assessment scientist will tell you is a very shaky “certainty”. This cannot be our long-term mechanism for institutionalising the precautionary principle in fisheries, let alone in integrating fisheries and environmental policy. Management institutions must be developed that are able to be truly

**1997 Intermediate Ministerial Meeting on the Integration of Fisheries and Environmental Issues in the North Sea - Official text of Statement of Conclusion**

‘2.6 Further integration of fisheries and environmental protection, conservation and management measures, drawing upon the development and application of an ecosystem approach which, as far as the best available scientific understanding and information permit, is based on in particular:

- i) the identification of processes in, and influences on, the ecosystems which are critical for maintaining their characteristic structure and functioning, productivity and biological diversity;
- ii) taking into account the interaction among the different components in the food-webs of the ecosystems (multi-species approach) and other important ecosystem interactions; and
- iii) providing for a chemical, physical and biological environment in these ecosystems consistent with a high level of protection of those critical ecosystem processes.’

precautionary, i.e. to distinguish between various sources of uncertainty and formulate adaptive responses.

**The Ecosystem Approach to Fisheries**

A definition of the Ecosystem Approach to fisheries in the European context was attempted in 1997 when the Intermediate Ministerial Meeting on the Integration of Fisheries and Environmental Issues in the North Sea called for the development and implementation of an ecosystem approach in the management of marine ecosystems (North Sea Secretariat, 1997). Both the CFP basic Regulation 2371/2002 and the WSSD refer to the adoption of the ecosystem approach to fisheries management.

The international fisheries management community, and FAO in particular, is developing approaches to fisheries management that take more of an ‘ecosystem’ perspective. This is a critical step forward as it is unrealistic to treat fish stocks as if they were isolated systems. But it presents

extensive governance challenges; the issues that have arisen to date in just making decisions about fisheries and fish stocks will be magnified, both in terms of information needed and the number of organized and concerned stakeholder groups, as we move more to making decisions about ecosystems. This will be true even if we think of 'ecosystem' in the narrowest possible sense.

The implications of ecosystem management for the scientific basis of governance are substantial. 'Ecosystem' is an ambiguous concept (O'Neill et al, 1986). In European seas, any baseline definition of an ecosystem would be speculative. Many scientific approaches to ecosystem management essentially treat it as multi-species management, which is something we should be striving for but which places extreme data demands on a management system that is already a squeezed between demands for more precision on the one hand and the costs of delivering that precision on the other (Degnbol, 2002). Even this much simpler problem of considering predatory-prey interactions involves many more players in governance. This has been demonstrated by the issues around sandeel and sea birds in the North Sea where management based on predator-prey relationships was successfully implemented after considerable effort - against a fishery operating at a long distance with little or no local political clout.

Ecosystem approaches do not sit well with the realities of bureaucratic environmental management. Bureaucracies depend on calculable rules to trigger responses (Porter, 1995), while ecosystem approaches present complex interactions of parameters that are difficult to quantify and interpret in real decision-making time. More fundamentally, the concepts needed to make ecosystem management work do not translate into firm, legal definitions (Schlager and Friedmund, 1996), even ones as simple as boundaries (Haeuber, 1996). Some discussions of ecosystem management from a precautionary perspective have pointed to ecosystem traits that are hard to define (Bailey, 2000), such as 'structure' and 'biodiversity' in the definition cited above. Adding such definitional problems to the uncertainty that precaution is meant to address would lead to trying to justify greater and greater precaution to the point where marine ecosystem management could be perceived as an attack on the very idea of the economic exploitation of the marine environment. This is not something that can be solved by research and even through definitions 'agreed upon' within the scientific community. We have learned from hard experience that scientific consensus that can stand up in court is hard to achieve even about relatively simple things.

An often suggested response to these problems is the creation of large Marine Protected Areas (MPAs). MPAs should certainly be part of the management toolkit. But, from a governance perspective, large MPAs bring with them a very grave difficulty in that their impacts on some fishing communities, regions and nations are bound to be substantially greater than on others. How can MPAs be made both politically and environmentally feasible in the shared waters of Europe?

Ecosystem management is an important and worthy goal. We need to consider, however, if there is anything in the idea of "ecosystem management" that goes beyond conserving single species, protecting habitats and protecting genetic diversity, or would good management of these more specific concerns take care of the emergent and international problems that ecosystem management focuses on? Does practical marine ecosystem management really mean managing to a small set of individual indicators that are extracted from the larger ecosystem?

## CONCLUSIONS

Contemporary EU fisheries management is based on a model in which mandated research produces knowledge, which is used to inform management decisions at EU level. Member State bureaucracies then implement these decisions. Interaction with representative democratic institutions and with stakeholders is limited. This model is facing a severe crisis. It is clearly failing to meet its objective of long-term sustainability of the resource basis as more and more fish stocks are considered to be outside safe biological limits and in need of recovery plans. At the same time,

it is facing a lack of legitimacy as end-users and other stakeholders question the very knowledge basis as not valid.

The Conference working group discussed these issues at length. There is concern about the excessively top down approach to fisheries regulation in EU waters. The State's emerging role in governance is to develop the policy and regulatory frameworks, fix the overriding objectives, legitimate and balance stakeholders' interactions, and carry out enforcement. Some consideration should be given to devolving more responsibility, with the Commission responsible for setting principles and objectives and elaborating the legislative framework for fisheries and environmental management, making regional institutions progressively more responsible for adapting and 'fine tuning' management to the local realities. Member States, in addition to their sovereign responsibilities in the EU, would be responsible (and accountable) for the enforcement of these regulations. Moves in this direction are already occurring but more substantial changes are needed.

Accountability and the transparency that makes it possible, is perhaps the key to effective governance. The current system of governance for sustainable management of the marine environment in Europe fails in this regard in three key ways.

1. **Downward accountability:** The ability of stakeholders to hold the management system accountable is informal, hence not transparent and often weak. Current reforms, such as the creation of the RACs begin to move in the right direction and efforts that empower, formalize and increase the transparency of stakeholder decision-making need to be strengthened.
2. **User group behaviour:** User group behaviour in the marine environment is not transparent in many ways, leading to problems with compliance with management as well as in gathering the information needed for management. A system to make these activities transparent is needed that is both based on and requires the cooperation of user groups and related industries. This could include such actions as observer programmes, the wider use of Vessel Monitoring Systems VMS and a dealer and fish transaction database that allows the tracing of fish. As well as compliance monitoring observer programs can support the gathering of effort and catch data.
3. **The creation of a knowledge base for management.** Transparency is what makes science, and hence an agreed-upon body of knowledge possible. Full participation by stakeholders in the processes that create biological, social and economic knowledge go be used for environmental management is needed throughout Europe. ICES has taken a lead in this effort by opening up its scientific deliberations to observers from conservation NGOs and the fishing industry. Other activities, such as collaborative research involving both scientists and user groups, has proved very important in other areas and is beginning to be widely used in Europe. These and other activities that make the creation of a knowledge base more transparent need to be strengthened.

While the EU has accepted the coherence principle, actions are often not coherent. The addition of "maritime affairs" to the Fisheries Commissioners title is welcome. Hopefully it will reflect in a more coherent working relationship between DG Fisheries and DG Environment, whereby the capacity of both DGs is increased to take into account environmental responsibilities. Also, social issues are dealt with in many institutions but this needs to be a specific element within DG Fisheries and Environment work program.

RACs are welcomed as an appropriate scale for inclusive stakeholder participation, as well as a means of endowing the policy process with a much stronger, regionally specific and stakeholder led sources of professional advice. Their present function or expectation is that they are advisory.

However if they are shown to be a successful model for providing well informed, relevant and consensual advice, they should be given a management role in the future. There is therefore a need to discuss alternatives to Treaty renegotiations to provide them with the ability to make management decisions.

An important issue for the effective functioning of RACs is to guarantee effective, two way communications between RACs and the European institutions, on the one hand, and the Member States, on the other, so as to ensure full transparency in the ways in which advice from RACs is received and acted upon by the Commission and Council of Ministers. At the same time, it will be important to ensure effective communication between the stakeholder representatives and the constituents and communities, and to ensure unrestricted access of the stakeholders to their representatives. The Commission / Member State organisations have a joint responsibility to ensure that the RACS will dispose of resources adequate to their present and future purpose.

Within the overall governance structure, it will be vital to guarantee effective working relations between RACs and the existing Advisory Committee on Fisheries and Aquaculture. It is important to ensure a reasonable balance and consistency of representation within RACs as for example between representatives from different Member States. At the same time there is a need to recognise the value of RACs to develop their own regionally specific internal structures, reflecting the particular structure of the regions' fisheries.

The ecosystem approach specifies that our concerns and management objectives should coherently encompass the entire ecosystem. Ecosystems are defined on different scales. The appropriate geographical scale varies among problems that can be local, regional or global issues. While it would be natural for RACs to address regional fisheries issues, local fisheries problems should be addressed on a smaller scale. Decisions within the ecosystem approach should be taken within the precautionary principle. The background to decisions on restricting human impacts ought to be overall ecosystem status quality assessments. These decisions should be taken by analysing the human impacts on the ecosystem taking into account natural variability, i.e. the environment influence on the resource development.

Strict application of the precautionary principle would prevent any human activity as every human activity will to some degree impact the ecosystem. It should be expected that every impact would be the concern of some interest group. Therefore, there is a need for a process that defines which is a legitimate concern and which is not. This process is political and it is more common within the environmental organisations than within fisheries commissions. This is because of the wider scope associated with the environmental organisations, e.g. OSPAR and HELCOM whereas the remit of fisheries commissions is defined more narrowly. The process is iterative. Once an issue is on the table there is an information collection phase followed by a political evaluation of whether the issue should remain on the political agenda or not. The process is part of societies general political process and to bring marine ecosystem concerns on the agenda is no different from bringing other issues on the political agenda.

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