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**FISH STOCK CONSERVATION: A ROLE FOR STRATEGIC FISHERIES
MANAGEMENT PLANNING?**

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Introduction

The EU employs a variety of tools to manage the capture of wild fish, including technical measures, such as minimum mesh sizes for certain nets, national licensing restrictions and, in the north east Atlantic and Baltic Sea regions, limits on the total allowable catch of key commercial species. An additional set of instruments seeks to support the modernisation of the sector, and to deliver marketing, processing and trade related objectives. Although the level of coordination between these different instruments has improved since the early 1990s, there is still a tendency for policies to be developed separately, spanning different time-frames, spatial levels and scales. Perhaps more importantly, there is no framework to ensure that the various EU measures come together at the regional or local level in a way that is coherent and mutually supportive.

The potential for using strategic fisheries management plans to deliver more coherent and effective fisheries management has been widely discussed, to the extent that the 1996 UN Fish Stocks Agreement and the FAO Code of Conduct for Responsible Fisheries clearly call for their development. The Common Fisheries Policy (CFP), the main fisheries management framework in the EU, also provides an explicit legal basis for developing multi-annual management strategies. And yet, while there has been some progress in using plans within the framework of bilateral and multilateral fisheries agreements, the EU has generally not developed longer term management strategies for its own fisheries.

This CFP briefing paper is the second in a series of five papers being prepared by IEEP as part of a joint IEEP/English Nature project¹. It outlines the potential benefits for the fisheries sector of strategic management planning, as well as the role of this approach in promoting environmental integration within fisheries policy. It identifies current EU practice in this area, and presents arguments in favour of developing a more comprehensive EU policy of strategic management planning. It is thus intended to provide a constructive contribution to the debate on the future of the CFP beyond the year 2002, as well as broader discussions on integrating environmental considerations within the CFP, in line with Treaty requirements.

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The other briefing papers in this series will cover:

- Fisheries and environmental integration
- Socio economic issues – the role of taxes and charges
- Good governance – transparency and participation in decision-making;
- Mediterranean policy

What is strategic fisheries management planning?

Strategic fisheries management planning is essentially intended to identify broad long term objectives for managing fisheries, followed by more specific targets and management measures to achieve the stated objectives. Plans also provide an opportunity to spell out arrangements for implementation, such as describing the respective roles and responsibilities of different stakeholders and the necessary monitoring, research and evaluation arrangements.

Since the early 1990s there has been a significant shift towards viewing strategic planning as a means of delivering sustainable development. In particular, plans enable fishing to be conducted in a way that provides for the needs of the fisheries sector and fisheries dependent communities, while also respecting agreed environmental objectives. In other words, plans can be used to identify ways of using fisheries resources in a more efficient way while conserving both cultural and natural heritage, including wildlife.

Types of fisheries management plans

There is a variety of potential types of fisheries management plans, ranging from comprehensive, area or ecosystem based plans, through to very specific plans to address isolated fisheries or particular problems. The latter include plans to rebuild depleted stocks, known as ‘recovery plans’, to mitigate bycatch of non-target species, or to reduce impacts of fishing gear on sensitive habitats.

Area based fisheries management plans: the Limfjord in Denmark

The Limfjord is a 1,500 km² fjord complex connecting the Kattegat with the North Sea across the Jutland peninsula. The area has been an important blue mussel fishery for centuries, and is now also very popular for yachting. Up until now, management measures for the fishery have been agreed on the basis of consultation, and involve a number of instruments, including spatial and temporal closures, minimum landing sizes, restocking, and gear and vessel restrictions.

A comprehensive fisheries management plan was adopted in the year 2000, covering all aspects of the Limfjord mussel fishery. The plan is the first of its kind in Denmark and includes measures to reduce the fishing fleet and to alter the zones where fishing is permitted. Its implementation is to be supported by local stakeholders groups.

During its development, the plan was the subject of extensive public consultation, involving all interested parties, including local authorities and fisheries and environment ministries. Importantly, the issue was also referred to politicians at a higher level to ensure that management objectives were suitable and in line with the requirements of sustainable development. The politicians also issued guidelines for developing the content of the plan and to secure its subsequent implementation.

Within plans, different zones can be identified, to reflect the specific ecological, social or economic objectives being pursued in specific areas. For example, zones might be defined to confine the use of certain gear to less sensitive areas, to protect spawning or nursery areas, or to give preferential access to artisanal fishing vessels. Zones are frequently used to ensure nature conservation in terrestrial and marine protected areas; the same approach has not commonly been used from a fisheries management perspective in the EU.

Advantages of strategic fisheries management planning

Be they comprehensive or stock specific, the development and implementation of strategic plans offers a number of opportunities for the management of fish stocks and the wider marine environment, as follows.

- *Stabilising management* – by setting out an explicit set of objectives and guiding principles, a plan will provide a much more stable and long term basis for management. This will benefit the fishing industry, administrators and other stakeholders by providing a measure of certainty in an otherwise uncertain working situation.
- *Stakeholder involvement* - the process of developing a plan provides an opportunity for meaningful engagement with the full range of stakeholders, supporting better information exchange, recognition of the full range of interests, a broader range of possible solutions and, ultimately, more effective implementation of the strategy.
- *Environmental integration* – can be promoted by ensuring that environmental objectives are embedded within the objectives of the plan and considered at subsequent stages of the planning process, by undertaking environmental

appraisals of draft strategic plans, and by incorporating the results of appraisals in the final plans.

- *Precautionary and preventative approaches* – can be supported, in particular by placing management within a long term perspective, and by establishing in advance how potential issues and problems should be addressed in the future through the use of explicit risk management strategies and pre-agreed decision-making rules.

Area based plans offer additional advantages by bringing together in one framework all the relevant issues, policies and measures needed to ensure that fisheries activities are tailored to suit the needs and constraints of a given region.

EU experience in strategic fisheries management planning

There is a great deal of experience in using strategic plans to deliver social and regional development in the EU, including plans to support the structural adjustment of the fisheries sector and fisheries dependent communities. The reduction of EU fishing fleet overcapacity has also been pursued through a series of national plans – so-called ‘multi-annual guidance programmes’ (MAGPs). Thus, the fourth round of MAGPs (1997 to 2001) sets out broad objectives and detailed targets for adjusting national fishing fleets over a five year period. Revisions to the EU’s system for marketing fish and fisheries products is also leading to an increased use of planning documents as a means of improving the balance between the supply and demand of fish.

A more comprehensive approach to using strategic fisheries management plans, bringing together the range of fisheries management measures, is supported by the basic CFP Regulation 3760/92. The Regulation, which establishes the framework for managing EU capture fisheries, states that the Council (Article 8(3)):

- i. may establish management objectives, on a multiannual basis, for each fishery or group of fisheries in relation to the specific nature of the resources concerned, where appropriate on a multi-species basis. Priority objectives are to be specified, including, as appropriate, the level of resources, forms of production, activities and yields; and
- ii. where objectives have been set, management strategies are to be established to achieve the management objectives, including the specific conditions under which exploitation activities should be pursued.

Despite these clear provisions, the EU has not fully embraced the concept of strategic planning as a means of managing fisheries. A 1994 Commission proposal to that effect was never adopted by the Council. The issue has subsequently been pursued within the framework of the North East Atlantic and Baltic Sea Fisheries Commissions, and the EC’s bilateral fisheries agreements with Norway. However, as outlined below, these efforts are limited, both in terms of the number of stocks covered, as well as the actual content of plans.

Stock specific management plans: Baltic Salmon Action Plan

The poor state of Baltic salmon stocks has been the subject of discussion for many decades, with some national efforts made to regulate the fishery. Establishment of the International Baltic Sea Fisheries Commission (IBSFC) in 1974 provided scope for more effective management, subsequently resulting in the setting of a number of total allowable catch limits, as well as technical conservation measures. However, concerns over the continuing decline in Baltic salmon stocks led the IBSFC to adopt in 1997 a 'Salmon Action Plan 1997 – 2010'.

The Salmon Action Plan includes a set of long term objectives, as follows:

- a) to prevent the extinction of wild salmon by avoiding further decreases in naturally produced smolt;
- b) to gradually increase salmon production by 2010 for each salmon river to at least 50 per cent of the 'best estimate potential' and within safe genetic limits;
- c) to re-establish populations in potential salmon rivers;
- d) to maintain fishing at highest possible levels; and
- e) to closely monitor reared smolt and earlier salmon life stage releases.

In pursuit of these objectives, a number of medium and short term strategies are identified, to a) protect wild salmon; b) promote fishing activities; and c) increase scientific research on salmon. Actions in support of the latter include research programmes to monitor interactions between reared and wild salmon populations, migration patterns and underlying causes of the disease 'M74'. A surveillance group is also appointed to continually monitor the impact of the action plan and to propose amendments to it.

Apart from the surveillance group, the Plan does not specify administrative arrangements for its implementation, such as respective roles and responsibilities of different stakeholders. It nevertheless represents the most detailed of all the management plans developed at EU level or for shared stocks.

Other stock based management plans

There are a number of additional plans involving EU stocks, aimed at managing shared or high seas stocks. Those administered under international or EU agreements are set out in the Annex to this paper. Predominantly, however, these plans are short technical statements identifying a number of commitments, notably, that:

- every effort should be made to maintain Spawning Stock Biomass (SSB) above a given level;
- total allowable catch limits should be set consistent with agreed fishing mortality as defined by ICES;
- should the SSB fall below a given level, mortality rates should be adjusted to ensure a rapid recovery of the SSB to a given level;
- exploitation patterns should be improved in light of new scientific advice, in order to reduce discarding and to enhance the SSB; and
- parties are to review and revise measures on the basis of new advice.

In only two cases, relating to Baltic Sea sprat and North Sea herring, are dates provided for achievement of the strategies or for reviewing the success of the

management plans. None of the plans specify particular administrative arrangements to be followed, or who will be responsible for implementing and evaluating plans. Furthermore, apart from North Sea herring, none of the plans identify the potential or actual measures to be taken to reduce mortality rates or fishing effort.

Stock recovery plans

Despite their relatively limited use to date, strategic fisheries management plans are nevertheless recognised by administrators as providing a potentially important contribution to fish stock management. Their potential role seems ever more evident as fish stocks come under increasing pressure. The EU has developed recovery plans to address the critical state of key EU stocks of cod and herring. However, it is widely acknowledged that such plans should, wherever possible, fall within a broader strategic management framework.

Irish Sea cod stock recovery plan

Ministers meeting at the December 1999 Fisheries Council expressed an urgent need to develop and implement a plan to support the recovery of the Irish Sea cod stock. Their concern stemmed from scientific advice provided by ICES (International Council for the Exploration of the Sea), indicating that the spawning stock biomass (SSB) of the stock was far below the proposed precautionary levels. Short term predictions also indicated a serious further decline in SSB to a record low. ICES consequently recommended that 'fishing mortality on cod should be reduced to the lowest level possible in 2000', accompanied by a recovery plan to rebuild the spawning stock.

The Commission responded by arranging consultations with fisheries managers, industry representatives and scientists from all Member States that have cod quota in the area. It used powers available to it under Article 15(1) of Regulation 3760/92 to adopt emergency management measures. The cod fishery in parts of the Irish Sea was closed to allow as many cod as possible to spawn between mid-February and the end of April. The closure was designed so as to minimise negative impacts on other fisheries targeting Norway lobster, shrimps and flatfish (Regulation 304/2000). A proposal is currently before the Council which would extend the measures to protect juvenile cod.

Under new arrangements for the EU's Financial Instrument for Fisheries Guidance, funding is now also explicitly available to support the implementation of recovery plans. It is expected that this provision will be reflected in increased development and industry acceptance of recovery plans, in future.

Bycatch reduction plans

The potential for using strategic fisheries management plans to integrate wider marine environmental objectives is slowly also gathering support by environmental interests and fisheries managers in Europe. This has been given renewed emphasis by the 1999 FAO International Plans of Action concerning sharks and seabird bycatch in longline fisheries (see box).

FAO Seabird Bycatch Reduction Action Plan

A voluntary 1999 FAO International Plan of Action on Reducing Incidental Catch of Seabirds in Longline Fisheries calls on States with longline fisheries to assess these fisheries to determine if a problem exists with respect to incidental catch of seabirds. If a problem exists, States are to adopt a National Plan Of Action for reducing the incidental catch of seabirds in longline fisheries (NPOA-SEABIRDS).

The FAO instrument includes guidance on elements that could usefully be included in a NPOA-SEABIRDS, as follows:

- *Prescription of mitigation measures* – which have a proven efficiency, and are cost-effective for the fishing industry.
- *Research and technological development plans* – including those aiming: (i) to develop the most practical and effective seabird deterrent device; (ii) to improve other technologies and practices which reduce the incidental capture of seabirds; and (iii) to undertake specific research to evaluate the effectiveness of mitigation measures used in the longline fisheries.
- *Education, training and publicity* - to raise awareness of the need for action, and thus to support better implementation on the water. There is particular scope for developing outreach programmes, not least to highlight the economic opportunities presented by reduced bycatch, notably reductions in the amount of lost bait.
- *Data Collection* – to collect reliable data for determining the level of incidental catch of seabirds in longline fisheries, and the effectiveness of subsequent mitigation measures.

There are currently no EU level strategic management plans aimed at reducing bycatch although there is experience of developing such tools at national level, and in other parts of the world.

In 1998, the Danish government adopted an Action Plan for Reducing Incidental Bycatches of Harbour Porpoises, in a follow-up to recommendations made at the 1997 Conference on the Agreement on Small Cetaceans of the Baltic and North Seas. The plan was drawn up by a group including fishermen, biologists, administrators and environmental interests. The final plan includes testing of pingers and highly reflective nets and monitoring by-catches.

Further afield, the Australian Commonwealth government has implemented the *Commonwealth Policy on Fisheries Bycatch*. Through the Australian Fisheries Management Authority, stakeholders (including fishing industry and environmental interests, technical experts and fisheries managers) are to develop and implement Bycatch Action Plans for each major fishery by 31 March 2001. These action plans will be integrated into statutory management plans and will be regularly reviewed. In essence, the policy provides a consistent and transparent framework for development and implementation of meaningful bycatch management measures. The core objectives of the policy, which each action plan must pursue, are (1) to reduce bycatch; (2) to improve protection for vulnerable species; and, (3) to arrive at decisions on the acceptable extent of ecological impacts. The key steps in each plan will include:

- determining the availability and usefulness of data;

- agreeing the specific bycatch issue(s) or problem(s) which need to be addressed;
- examining all the available options, eg reduction, avoidance or utilisation;
- determining whether new methods need to be developed to address the problem;
- outlining practical and effective actions to achieve the objectives of the policy;
- reviewing progress or evaluating the effectiveness of the programme.

Towards an EU policy on strategic fisheries management planning

There is clearly some EU level experience in fisheries management planning, but plenty of scope to further develop EU policy in this area, both to support the management of fish stocks and to reduce the impacts of fishing on the wider marine environment.

An initial step in delivering such a policy could be to agree a strategic framework at EU level, identifying the specific objectives and guiding principles to be applied to EU fisheries management, as well as monitoring, reporting and institutional arrangements. The basic Regulation 3760/92 already provides the elements of such a framework, setting out broad objectives, identifying a range of management options, and setting out monitoring and review arrangements. However, the objectives are not sufficiently clear and there are no broad principles to guide their delivery. The range of mechanisms available to support sustainable and precautionary fisheries management is also limited, with an emphasis on ‘traditional’ measures such as total allowable catches and technical conservation measures.

Developing regional or local management strategies

Within the proposed framework, regional or local fisheries strategic management plans could be developed to reflect the specific challenges of each area. In so doing, the following key elements should be addressed.

a) *Appreciation of the issues* - for the area covered by the strategy, presenting an outline of relevant socio-economic issues, including ports, landing, marketing and processing arrangements. A specific report on the state of the environment, including the state of fisheries and actual or potential impacts on the wider marine environment, should also be detailed.

b) *Management objectives* - including explicit biological, social and economic objectives and targets for the region within specified timeframes over the medium term. Biological objectives should be established for all relevant stocks and dependent or related species and habitats. These would include scientific reference and target/limit levels for commercial and non-commercial species in the regions, based on a precautionary approach. Specific targets, including bycatch limits, would need to reflect commitments under the habitats and species Directives, and relevant regional agreements.

d) *Management measures* – to deliver the stated objectives, in line with the guiding principles. Measures might include the following:

- the allocation or strengthening of property rights, possibly including community based rights or individual transferable quotas;
- restrictions on fishing capacity and effort, by setting capacity limits and limited entry (restricted) licensing;
- the conditions on fishing, such as total allowable catches, specifying allowable gear, closed areas, as well as other technical conservation measures;
- minimum technology standards, eg requirements to apply Best Available Technology or to comply with ‘good fisheries practices’;
- positive financial and other incentives to support sensitive fishing practices and to provide support for diversification within and out of the sector;
- market and processing initiatives, including the establishment of local labelling schemes, to develop niche markets and add value to products; and
- education, training and publicity - to raise awareness among fishermen, fishing associations and other relevant groups about the need for better management; and to promote implementation within the industry. Information should also be provided on technical or financial assistance available for supporting management measures.

c) *Management structures* - for implementing the strategic plan, in particular specifying the respective roles and responsibilities of different stakeholders in implementation, monitoring and review of the strategy. This might include ways to support local implementation, such as appointing people to facilitate understanding of problems and solutions among practitioners, incorporating the conservation, social and economic benefits of better management. An equivalent of this is used in agriculture in outreach or extension programmes.

e) *Monitoring, control and indicators* – the plan should also identify data collection and research needs to allow evaluation of its impact and effectiveness. It should also include a set of indicators to reflect changes in the state of the environment, as well as indicators of policy responses. Monitoring and indicators should be sufficient to allow for plans to be adapted or fine tuned to suit the area. Indeed, in such a dynamic environment, it will be important for plans to have a built in flexibility to respond to changing needs. They should then be subject to regular review, to evaluate their success in meeting the management objectives.

g) *Prior environmental appraisal* - the strategic plan should be subject to integrated environmental appraisal before being finally agreed, with the final plan to reflect the findings of the appraisal.

Conclusions

The forthcoming 2002 review of the CFP presents a clear opportunity to improve the overall coherence and effectiveness of fisheries management in the EU. Indeed, in many ways the review can be seen as a test of the EU’s commitment to sustainable development of the fisheries sector, with high expectations among the fishing industry and environmental interests.

In preparation for the review there will undoubtedly be many calls to improve or extend the various fisheries management tools that are already used under the CFP, as well as to introduce new ones. As the EU faces the prospect of an increased number

of commercial fish stocks in crisis, there is a danger that the short term urgency of the situation will preclude a proper discussion of how to address the longer term challenges facing the sector.

Although stock recovery plans will be necessary for some time to come, there is clearly also a need for a more strategic and coherent approach to EU fisheries management to ensure that, in total, the CFP can respond to regional and local needs. It is vital that the opportunity presented by 2002 is used to secure a shift to longer term, active and precautionary management. The development of EU strategic fisheries management plans may be one of the most effective ways of achieving that goal.

CC/CG
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Annex Long term management plans affecting EU or shared stocks, as at 31 August 2000

Fishing Region	Legal framework	Stock specific fisheries management plans (as at 31 August 2000)
Baltic Sea	International Baltic Sea Fisheries Convention	<ul style="list-style-type: none"> • Baltic salmon • Eastern and western cod stocks • Sprat
North Sea	EC / Norway fisheries agreement	<ul style="list-style-type: none"> • North Sea herring - IV and IIIa • Cod - IV and Skagerrak including eastern Channel • Haddock – IV and Division IIIa • Saithe – IV and VI • Plaice – IV
North east Atlantic	North East Atlantic Fisheries Convention	<ul style="list-style-type: none"> • Mackerel – all components • Atlantico-Scandian herring

Note Roman numerals relate to ICES management areas and sub areas, with area IV relating to the North Sea; VI relating to west of Scotland and Rockall; and IIIa relating to Skagerrak and Kattegat.