

Long-Term Management Plans

**an inter-RAC Seminar held at the
Hotel de Région Pays de la Loire, Nantes, France
on September 10th & 11th 2008**

Organised by

**Baltic Sea Regional Advisory Council
North Sea Regional Advisory Council
North Western Waters Regional Advisory Council
Pelagic Regional Advisory Council
South Western Waters Regional Advisory Council**

Hosted by

**Région Pays de la Loire
&
Association Grand Littoral Atlantique**

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NOTE: Copies of the presentations delivered are available online at:

http://www.nwwrac.org/Meetings/Meetings_ENG/Navigation.php?id=309

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Summary

- 1) A Seminar was held at the Hotel de Région Pays de la Loire, Nantes, France on the 10th and 11th of September 2008 to discuss long-term management plans for fisheries in European waters. The Seminar was organised by the Baltic Sea, North Sea, North Western Waters, Pelagic, and South Western Waters Regional Advisory Councils (RACs). It was attended by representatives of these RACs, the European Commission, ICES, and a number of other organisations.
- 2) Long-term management plans could help achieve the political objective of moving depleted fish stocks towards Maximum Sustainable Yield (MSY), in line with the EU commitment at the Johannesburg Summit in 2002.
- 3) Long-term management plans would provide a management framework for each fishery over a longer period than at present. This would reduce the need for annual decision making on management measures (such as quotas), and provide greater stability for the fishing industry and for society in general, with consequent economic and social benefits. It would also enable the industry and society to take a longer-term view of fisheries management than is possible at present, with benefits for both.
- 4) The RACs bring together the principal stakeholders in fisheries on a regional basis and thus have an important role to play in developing and implementing long-term management plans. At present the RACs' main role is to provide feedback on proposals for long-term management plans drafted as non-papers by the European Commission's DG-MARE (for which a period of several months is allowed). Following this input, DG-MARE will draft a proposed Regulation for consideration by the Council of Fisheries Ministers, which has the authority to approve it.
- 5) Long-term management plans will have many common principles between different fisheries and areas. Hence it was appropriate to hold a joint inter-RAC seminar on the topic which it was hoped would help the RACs take a big step forward in their development.

- 6) Representatives of the European Commission, ICES and all five RACs provided the Seminar with their perspectives on, and experiences of, the development of long-term management plans to date, and on the role of RACs in this process. Other speakers discussed long-term management plans and RACs from social, economic, institutional, governance and environmental perspectives.
- 7) There was a general consensus that long-term management plans were 'a good thing'. However, these were still early days and a considerable amount of work remained, both to develop specific plans, and to develop the processes through which they are developed, implemented and evaluated.
- 8) All of the RACs represented at the Seminar have been involved to some extent at least in developing long-term management plans, although there is considerable variation in the numbers of plans and their stages of development. This reflects to some extent the differing ages of the RACs and the differing circumstances or conditions in their particular areas. In general, the RACs had found the work that they had carried out in connection with these plans a positive experience, although neither easy nor straightforward, and all recognised that a considerable amount of work remains to be done, both on the plans themselves and on the systems and processes around them.
- 9) A number of speakers stressed the importance of stakeholder involvement in developing long-term management plans, and of building their trust and confidence in the process. This requires time and, together with other considerations, means that developing long-term management plans should not be seen as a quick process. Some criticism was directed at the European Commission for imposing short deadlines for the development of long-term management plans, such as that for Baltic Sea cod, although the counter-argument was also expressed that in urgent situations action has to be taken quickly.
- 10) Science has an important role to play in evaluating the success of long-term management plans, both to provide the necessary background information on which to base plans, and to help stakeholders make informed management choices. New approaches will be required to provide the information required for long-term planning, including the greater use of models and greater

stakeholder-scientist collaboration. Providing the necessary scientific input is placing increased pressure on scientific organisations, and on the RACs' resources.

- 11) A key theme was that the development of long-term management plans should not be seen as a single step, but as a process of repeated modification and improvement (which again implies a long-term process). Rather than attempting to achieve a final goal in a single step, it is better to make gradual progress in the right direction. This arises from a number of factors, including: the need to build stakeholder involvement and trust; the need to develop, evaluate and modify management approaches; the need to respond to changing circumstances; and the need to accommodate uncertainty and lack of information. Some speakers expressed the view that it was better to move in roughly the right direction than to worry about exactly where one was trying to get to.
- 12) While there was unanimous agreement that the RACs have an important role to play in developing long-term management plans, concerns were expressed about the workload that this could place on them. Representatives of several RACs commented that so much of the RACs' time is taken up dealing with short-term issues, particularly communications and consultations from the European Commission, that they have little time to devote to long-term issues. The Commission acknowledged that it perhaps needed to look at what it was asking the RACs to do, and there was general agreement that the RACs perhaps needed (and needed to be allowed) to focus more on longer-term issues. A related concern that was repeatedly expressed was that the RACs lacked the necessary resources to fully engage in long-term management planning. Although their administration costs are currently covered, they generally have little if any funding for things like independent scientific input and facilitating stakeholder involvement, both of which are seen as important elements of long-term management plan development.
- 13) **In summing up the Seminar, key points identified included:**
 - ◆ There seems to be no alternative to long-term management plans, these representing the best management option for fisheries;

- ◆ There is a lot of scope for improvement in the management processes;
- ◆ There are a lot of ideas for how concepts such as 'results-based management' and 'interactive governance' could contribute to the long-term management planning process, although this will require further development;
- ◆ There is perhaps a need for some sort of standard general framework for the development and implementation of long-term management plans, although it was recognised that individual plans would have to vary to take account for the specifics of the fish stocks and fisheries concerned; and
- ◆ The RACs have a major role to play in developing long-term management plans, but to do this effectively and successfully they need time and resources.

Day 1

Chaired by Thierry Guigue (AGLIA^{*})

Welcoming Addresses

Joël Batteux (Vice-President of the Région Pays de la Loire)

On behalf of the President of the Région Pays de la Loire, and of the Région, M. Batteux welcomed delegates to the seminar.

This part of France was a highly maritime region with important fisheries and other maritime industries. The stakes for the fishing industry in particular were very high at present, with declines in fish stocks and rising fuel costs having significant impacts. Planning for the future of the industry was a struggle, with lack of information a major problem. Meetings such as this were very important, therefore, to assist with the development of long-term plans for the industry.

It was pleasing that this meeting was being held in Nantes, which was due to the enthusiasm and efforts of AGLIA.

The establishment of the RACs had been (and was) a lengthy process, but they were becoming very important organisations.

Long-term management plans should contribute to the political objectives of achieving long-term sustainable yields, and providing socioeconomic benefits. These plans should remove many of the problems experienced with the current short-term management system, including annual arguments about setting TACs, and provide a long-term vision for fisheries management.

^{*} AGLIA (Association du Grand Littoral Atlantique) is an association of French coastal regions on the Bay of Biscay (Brittany, Pays de la Loire, Poitou-Charentes & Aquitaine) whose objective is to promote fishing and aquaculture-related activities. AGLIA hosts the secretariat of the South Western Waters RAC.

RACs have a very important role to play in developing long-term management plans, but it will require a lot of coordination between all the parties involved – the different RACs, the European Commission, scientists and stakeholders.

This seminar should provide an overview, and a basis for the development of long-term management plans. The participation of all the delegates gathered here was evidence of their commitment to long-term management.

The Région Pays de la Loire supported the renewal of fish resources and of the fishing fleet, so as to make the most of this maritime region's potential. In conclusion, M. Batteux offered the support and collaboration of the Région Pays de la Loire to the work of the RACs.

Hugo Andersson (Chair – North Sea RAC)

On behalf of the RACs, Mr Andersson thanked M. Batteux and the Région Pays de la Loire for their assistance and hospitality in hosting this seminar.

He welcomed delegates from the five RACs that had organised this seminar:

Baltic Sea Regional Advisory Council	(BSRAC)
North Sea Regional Advisory Council	(NSRAC)
North Western Waters Regional Advisory Council	(NWWRAC)
Pelagic Regional Advisory Council	(PRAC)
South Western Waters Regional Advisory Council	(SWWRAC)

Although long-term management plans would have to be developed on a regional basis, the same general principles would be common to all. Hence there were many benefits from having a joint seminar on the topic.

Long-term management was a very important issue as there was an obligation to deliver fisheries to Maximum Sustainable Yield (MSY) by 2015. Everyone had to realise that long-term management plans were worth fighting for, and that there was all to gain from their implementation. As always, however, many factors would have to be considered, discussed and decided to bring this about.

RACs have an important role to play in developing long-term management plans, the European Commission should be aware that the RACs were able and willing to help in this process. Although some RACs had already started work on developing long-term management plans a lot of work would remain to be done after this seminar.

In conclusion, Mr Andersson suggested that this seminar should help the RACs take a big step forward in the development of long-term management plans and he hoped that they would be successful in this.

Implementation of Long-Term Management Plans in European Fisheries

Kenneth Patterson (European Commission)

[Link to Presentation](#)

Life Without Plans

Long-term management plans are a subject of the utmost importance to fisheries management. To highlight this importance, and as a reminder of what life would be like without such plans, it was instructive to consider how fisheries management had developed under the Common Fisheries Policy:

In 1982 the European Commission's policy was to propose the closure of fisheries that had suffered, or were in danger of suffering, recruitment failure. Otherwise the aim was to achieve the exploitation of fish stocks at the maximum sustainable rate. TACs (Total Allowable Catches - quotas) were introduced to stabilise fisheries at the existing level of fishing mortality rate, and as a means of reducing the fishing mortality rate where necessary.

From 1991 to 1999 scientific advice was given in relation to the Minimum Biologically Acceptable Level (MBAL) for each fish stock. Provided stocks remained above the MBAL managers were free to set TACs in accordance with socioeconomic or other factors. This policy resulted in a decline in stock sizes over time as managers did not react to declines until MBALs were reached.

Since 1999 the provision of scientific advice by ICES (the International Council for the Exploration of the Sea) has improved. The MBAL concept has been expanded to include consideration of the fishing mortality rate as well as the fish stock biomass. Separate 'precautionary' and 'limit' biological reference points had been introduced, but decision making remained on an annual basis.

Moving to Multi-annual Decisions

Multi-annual or long-term management plans have a number of advantages over annual decision making. They make it possible to set an objective and develop a plan

to achieve it, i.e. to 'design for success'. They can provide greater stability for the fishing industry and better conservation prospects. They provide for a more ordered management process, without the last minute arguments over TAC levels. Finally, they provide for a system that is amenable to evaluation and assessment.

On the other hand, there are also some objections to multi-annual plans, namely that they can tie the hands of Ministers when they make decisions on fishing opportunities (there are concerns about a lack of political commitment within the Council of Ministers), and that they can lead to unexpected results.

The legal basis of long-term plans is provided through bilateral management agreements (e.g. with Norway over saithe, haddock, herring, etc.), through plans agreed in regional fisheries organisations (e.g. the North East Atlantic Fisheries Commission), and through Articles 5 and 6 of Council Regulation 2371/2002 (which provide for recovery and management plans).

The process of developing a long-term plan starts with scientific advice and includes consultation by the Commission with stakeholders (including through RACs) and Member States, a Regulatory Impact Assessment, and a proposal from the Commission to the Council and European Parliament. The process ends with the adoption of the plan by the Council and its implementation by Member States.

Problems encountered with this process include: difficulties with shared stocks (with Norway); confusion over recovery plans, management plans and long-term plans; a lack of economic data to inform long-term planning; and the links between these plans and Member States own operational plans for the EFF (European Fisheries Fund), etc.

Long-term management plans include: biological reference points, as targets and warning points; rules for setting TACs in relation to estimates of stock size and fishing mortality rate; limits on TAC changes from year to year; and systems of effort management.

TAC-Setting Rules and Biological Reference Points

About 15 management plans are already in place for various fish stocks, although some were incomplete in some areas. Some of the early plans were for recover only.

Some plans imposed a 15% stability criteria, i.e. a limit on year to year changes in TAC.

What Works and What Doesn't ?

Of the management plans already in place most – but not all – have succeeded in reducing fishing mortality. Success is judged as a decrease in the fishing mortality rate and increases in stock size and catches.

A review of the success of individual plans suggests that: the 15% stability criteria included in some plans may slightly reduce their effectiveness; the success of the plans depends on effective enforcement; and that the benefits can take a long time to develop (typically between 5 and 15 years).

Effort management remained a problem, and has not so far proved successful as a management tool, as did mixed fisheries where scientific advice was proving difficult to develop.

Management plans forthcoming include those for western horse mackerel (an initiative of the Pelagic RAC), West of Scotland herring, Baltic salmon and pelagic stocks, eels (a recovery plan), and hake.

Afterword

ICES advice is for a reduction in TACs for most stocks in European waters in 2009. Of the 8 stocks for which increases in TAC are recommended, 6 are subject to long-term management plans, suggesting that such plans do deliver benefits.

Questions

Q. **Jean-Pierre Plormel (SWWRAC)** noted that Mr Patterson had made no reference in his presentation to the effects of variations in recruitment to fish stocks.

- A. **Mr Patterson** replied that long-term management plans should allow stocks to increase in size which should in turn result in higher recruitment. If such increases do not occur then the plan is not working.
- Q. **M. Plormel** responded that this didn't answer his question. A high biomass of fish does not guarantee high recruitment as low recruitment can occur when biomass is high (and vice versa) due to other factors.
- A. **Mr Patterson** acknowledged that predicting recruitment and its relationship to biomass was very difficult. However, the probability (risk) of low recruitment was higher when biomass was low. Long-term management plans should be about mitigating risk and about minimising fluctuations in spawning stock biomass and the fishing mortality rate. The risk of low recruitment could be reduced by ensuring a large spawning stock.
- Q. **Joe Maddock (NWWRAC)** commented that there had been a lot of talk about fish stocks, but no mention of fishing fleets. If there are no fish then fishing vessels will be out of business, so fishermen have a strong incentive to abide by fisheries regulations. However, current management systems are very complex to comply with, with different plans for different species in a mixed fishery. Rather than further cuts to TACs effort management would be a more effective management method, and easier to comply with.
- A. **Mr Patterson** agreed that it was difficult to deal with mixed fisheries. He pointed out that in Canada and the USA the management approach was that where one stock required a recovery plan then management measures were applied to all stocks in the same fishery, regardless of the effects this had on the fishing industry. Fish stocks had to be considered in the wider context of the whole ecosystem and of the fisheries in which they are caught.

Socio-Economics and Long-Term Management Plans

Alberto Spagnolli (European Commission)

[Link to Presentation](#)

Mr Spagnolli had been asked to focus on the socio-economic aspects of long-term management plans, to build on what Ken Patterson had said in the previous presentation.

Economic factors are an important driver of fishermen's behaviour in response management measures and other factors that affect their industry. Despite this, consideration of socio-economics in fisheries management has only a relatively recent history, especially in Europe, and there remains a need to increase the consideration of socio-economic issues when making fisheries management decisions.

To this end it was desirable to carry Impact Assessments (IAs) of policy options to consider: trade offs between biological, economic and social aims; trade offs over time; the sectors and individuals likely to be affected; and what incentives might evolve as a result of the measures being considered. Impact assessments should be embedded in the policy making process and should involve consultation with stakeholders. The final aim should be to identify the best policy options and to assess the likely short-term costs and long-term gains. Carrying out impact assessments was a very complex task and the way it was done had to be adapted to suit the particular circumstances of each case.

A formal impact assessment has been completed for North Sea cod^{*}, building on the work started at the joint NWWRAC / NSRAC symposium on the cod recovery programme (held in Edinburgh in March 2007). Impact assessments are at various stages of preparation for northern hake, North Sea flatfish, anchovy, West of Scotland herring, horse mackerel, and Baltic salmon and pelagics.

^{*} Commission Staff Working Document SEC(2008)386: *Impact Assessment regarding the Commission's proposal establishing revised measures for the recovery of cod stocks.*

Socio-economic impact assessments are important because rebuilding fish stocks is about more than just maximising yield, or minimising the risk of stock collapse. It is also about investments, revenues, costs, employment, etc.

From an economic perspective stock rebuilding is about investing in fish stocks. Reducing the harvest now is the investment, with a return expected over time through an increase in stock size (and thus catches). The time frame and rate of growth for the return are very important factors, as are industry and market responses and incentives. Essentially it was a question of the value of the catch now versus the value of the catch in the future, plus the benefits of getting out of a risk area. Finally it is important to maintain the industry while the stock grows. Basic investment analyses can help with all these.

The bottom line is that we should aim to select a path of desired fishing mortality rates that will lead us to the target stock size. If we know where we are and where we want to get to, we need to define intermediate targets along the path from one to the other, i.e. we should work towards the final objective rather than trying to get there in a single step. Once the target stock size has been reached we need to make sure we stay there.

Factors for success include sound predictions of factors such as production costs and industry profits; consideration of incentives for current and future production; the distribution of gains from stock recovery; and the ability to meet social objectives.

Ultimately it is a question of making the best policy choice – will it achieve harvest and other goals; what sort of incentives will it provide for the industry ?

The Role of the RACs in this process should not be to produce socio-economic impact assessments – that is the job of the Commission. Nevertheless, the RACs have an important role to play and can provide valuable input to the impact assessment process.

In the early stages of the process they can contribute to the terms of reference, and to scoping the problems and policy options to be examined. During the process they can help provide missing information or data to improve the quality and reliability of the analyses. Finally, an important role is to comment and provide feedback on the draft impact assessments.

It was acknowledged that lack of time was often a problem and that there is a need to improve procedures to facilitate RAC input to the impact assessment process. In some cases political or legal constraints, immediate risk, etc., may require a different approach to impact assessments.

Questions

Q. **Pim Visser (NSRAC)** suggested that the objective of fisheries management should be economic stability, not just achieving MSY. Socio-economic objectives should be addressed separately (in their own right) from biological objectives. He also expressed frustration at the lack of progress with the impact assessment for North Sea flatfish.

A. **Mr Spagnolli** agreed with the need to give more prominence to economic objectives, but pointed out that Maximum Economic Yield (MEY) was a more conservative management strategy than MSY, associated with a lower rate of fishing mortality.

Regarding North Sea flatfish, the situation had deteriorated so quickly that emergency measures were required and there was no time to complete the impact assessment. The Commission still had all the information that had been collected and would use this when developing a recovery plan.

Q. **Pim Visser (NSRAC)** pointed out that cuts in fishing opportunities could result in the loss of markets and suggested that impact assessments needed to take account of market changes.

A. **Mr Spagnolli** acknowledged the point, but commented that a lot of work is required to address such issues.

Q. **Liberato Fernandes (SWWRAC)** stated that it was impossible to have good fisheries management without taking account of local specificities. He questioned whether a RAC covering a very large area with diverse fisheries and conflicting interests can make effective and representative recommendations, and suggested that there was too much centralisation within the EU.

A. **Mr Spagnolli** replied that the main historical problem had been the lack of comprehensive economic data from different fisheries. This had been

addressed through the new data collection regulations which adopted a métier approach whereby data were collected by fleet segment, area, etc. The resulting data should allow more precise assessments to be made of potential impacts on different fisheries and areas. However, there was still a need to improve data collection, for example from local markets. The RACs were in a position to assist with obtaining these and other local information.

The issue of internal debate, etc., within the RACs was a question of governance and representation, and not one that he could comment on.

ICES Experience with Long-Term Management Plans

Mike Sissenwine (Chair, ICES Advisory Committee)

[Link to Presentation](#)

Dr Sissenwine advised that although he was speaking on behalf of ICES, his presentation would also be influenced by his 30 years experience of fisheries management plans in the USA which he felt was relevant to this discussion.

Types of Evaluation

One of ICES's main roles was to provide scientific evaluations of long-term management plans. ICES had actually established a working group on long-term management plans in 1994, and has been thinking for some time about the best approaches to evaluating them.

Some evaluations are simply qualitative.

Some are deterministic (predictive), but these assume perfect knowledge. Although this assumption is not realistic the approach has some utility. In particular, it allows rapid evaluations to be made of whether or not a plan may work. This approach was used to evaluate the first cod recovery plan.

Most evaluations use Stochastic Simulation Modelling. This approach involves modelling different scenarios and can provide indications of likely outcomes. The approach recognises the uncertainties in our knowledge, arising from uncertainties in stock assessments, variability in recruitment, etc. It can also avoid problems due to the mis-specification of models (by comparing results from different models), and to failures to fully or properly implement management plans.

Objectives

Evaluation is tied to the objectives of the management plan, however plans often lack specific (measurable) objectives. There has been a lot of focus on the precautionary approach, but there is no agreement on what constitutes 'recovery' under the precautionary approach. Plans may need to be more specific in relation to the precautionary approach.

Analysis of Management Plans

An analysis of management plans considered by ICES shows that of the 38 stocks covered, only 9 plans were evaluated as precautionary. Nine were evaluated as not being precautionary, 11 had some problems, and 9 were still under evaluation.

There was wide variability in the numbers of plans for different areas and species. By area, the greatest number of plans was for the North Sea (11), followed by widely distributed/migratory stocks (6) and the Baltic Sea (5). By species, cod had by far the greatest number of plans (10), followed by herring (4).

Presentation of Modelling Results

The outputs of simulation modelling for different parameters have traditionally been presented as graphs, with a mean surrounded by a scatter of outcomes from different scenarios. A new format being introduced plots the scenario outcomes as points in a phase (or quadrant) diagram. Different areas of the plot are categorised as 'safe', 'danger' or in between, in a 'traffic light' colour scheme. It is easy to see where the scatter of points from the multiple scenarios fall in relation to these areas, and thus to judge the predicted 'state' of the stock.

For North Sea cod, the results presented in this format suggest that progress will be achieved by 2010, with the main concentration of points by then out of the 'danger' zone and into the intermediate zone. Further progress is predicted by 2010 and by 2015 the mean of the scenario outcomes is well into the safe (green) zone.

Over the longer term (to 2025) the results suggest a higher level of risk, with more probability of the stock moving back into the intermediate zone. This is linked to the 15% stability criteria (which constrains the response to any – natural – fall in stock size) and highlights the point that fish stocks do not respect management rules.

Evaluation Process

The most appropriate role of scientists in developing long-term management plans is an important issue. A number of different scenarios were possible (and had been used in different cases), including:

- ◆ Scientists take the lead in developing the plan (e.g. ICES for NE Atlantic mackerel).

- ◆ Scientists participate in developing the plan, under someone else's leadership (e.g. pelagic RAC for western horse mackerel).
- ◆ Scientists evaluate the completed plan, but are not involved in developing it (e.g. Commission – many stocks).

Finally, it was important to be clear about exactly what a (fisheries) management plan is, to avoid confusion with, for example, ecosystem management plans, etc.

Questions

Q. **René-Pierre Chever (CLPMEM du Guilvinec)** stated that while the scientific techniques were important there was something missing; namely consideration of sociological aspects. Why were experts in the field of sociology not involved in this process?

A. **Thierry Guigue (AGLIA)** suggested the next presentation by Sven Jentoft might have more to say on sociological issues.

Dr Sissenwine acknowledged the point. There was a debate within ICES about the extent to which the scientific programme should include economic and social information, but this remained an open question. In the USA cultural anthropologists frequently contribute to the fisheries management process, along with biologists and economists.

Q. **Antonio Cabral (SWWRAC)** pointed out that the CFP Regulations clearly state that RACs can make recommendations on any aspect of fisheries management, including social and economic issues. He would not want to see the RACs freedom of action in this respect reduced.

He went on to highlight problems that had been experienced with the evaluation of management plans for Greenland halibut and southern hake, mainly due to uncertainties in the assessments of these stocks.

A. **Dr Sissenwine** responded that he was aware of the impacts that uncertainties in assessments have on fishermen. The answer was to build management plans that were more resilient to uncertainty. ICES had found that some management plans can actually increase uncertainty by amplifying the 'noise' in assessment results with consequent effects on yield. Many aspects of the

operation of management plans are not yet fully appreciated. More development is needed between scientists, stakeholders and managers to identify and address such issues.

How Can Governance Help to Build Long-Term Management Plans ?

Sven Jentoft (University of Tromsø)

[Link to Presentation](#)

Prof. Jentoft thanked the RACs for the invitation to address this seminar. He welcomed the opportunity to learn more about the RACs, which he was interested in but had not had the opportunity to study in detail.

From a governance perspective the RACs raise a number of interesting questions for sociologists such as: how they compare to each other; how they compare with other regional management bodies (such as the US regional management councils); how they contribute to the principles of good governance; and whether they enhance or reduce the governability of European Fisheries.

The title for this presentation contained one general concept (governance) and one specific concept (long-term management plans). Governance is a somewhat illusive term used for different things in a range of circumstances, while management plans are specific fisheries management measures adopted by the EU. In this case we need to consider the specifics of governance as they apply to long-term fisheries management.

Long-term management is supposed to provide greater stability and predictability, with obvious benefits in fisheries management. In reality it is easier said than done, especially in a system as dynamic as a fishery. We need to recognise that there are limits to what is possible or practical, for example due to inherent uncertainties in what we can know about the system (e.g. the state of fish stocks). For that reason it is possible that fisheries governance will always remain as crisis management and that we will have to reduce our ambition to always be in control.

Fisheries governance is a good example of what Rittel and Weber^{*} defined as a 'wicked' problem, in that it is never straightforward. This is partly because it is often

^{*} Rittel & Weber (1973). Dilemmas in a General Theory of Planning. *Policy Science* 4: 155-169.

difficult to define what the problem actually is and because every possible solution tends to have an array of further problems associated with it. For this reason it can be difficult to distinguish between problems and solutions.

Ecosystem based management may be another good example of a 'wicked' problem. It may be the solution to many of the problems facing fisheries and enjoys widespread support, but again it is difficult to define exactly what it is.

Rittel and Weber concluded that the only way to address wicked problems is through an open and inclusive decision making process (rather than through top-down decision making). Since there is no single solution to a wicked problem, and since no one can claim to have the 'right' answer, the only way to address such problems is through an argumentative process where everyone affected sits down and talks about it with the aim of arriving at some common understanding of the problem and agreement about how to proceed.

Governance has been defined as the whole of interactions taken to solve problems and to create opportunities – the sum of the actions of all those involved. By this definition, governance is beyond and more than government. Governance is not a technical exercise where expert knowledge is the only knowledge that counts. For this reason it is necessary to distinguish governance from management. Governance is concerned with which goals we wish to pursue; management is concerned with how we achieving those goals.

Governance is not a quick-fix solution and if it does not work in a particular case the remedy should be to try and fix it rather than abandoning it. So if the RACs don't work as intended then the only appropriate response should be to try and improve them, even if we accept that they will never be perfect.

Fisheries management in Europe at present appears to be a system with varying degrees of stakeholder involvement, of which the RACs are one expression^{*}. The question is no longer one of whether interactive governance is the right approach, but how this should be implemented. Broadening governance is likely to be a learning process that will take time because it raises a number of tricky issues.

^{*} See *The Role of Stakeholders in Fisheries Management*. Marine Policy vol. 32, no. 2. March 2008.

One difficult issue is who should be eligible to participate in the governance process. This is an issue of social justice, but the number of self-proclaimed stakeholders may exceed the practical limits on the numbers that can be included. An additional problem in fisheries management is who else – other than those directly involved in the industry – should be involved (e.g. environmental organisations).

A second issue relates to responsibility and accountability. Are stakeholders just going to be heard or are they also going to have real power (and responsibility)? If the former, and if their advice is ignored (a common complaint in the US regional advisory council system) this would discourage future involvement.

A third important issue is trust, and whether stakeholders can be trusted. Typically we trust members of our own group but distrust members of other groups. Building trust between groups can be difficult, but a lack of trust can hinder constructive interaction.

Fourthly, there is a cost to participation. It consumes time and energy that might have been invested in other activities. For stakeholders, an important question is whether participation (in a RAC for example) represents the best use of limited resources.

A fifth issue is whether participation is efficient. It has been suggested that more participation (more stakeholders) increases the number of decisions that have to be made. This in turn can delay the decision making process.

Finally, should stakeholders be asked to participate in all discussions, or do some subjects require more stakeholder input? It has been suggested that participation would best be reserved for those issues where important values or principles are at stake, where decisions have important consequences, or where precedent is set. Practical and technical issues may best be left to experts, assuming that technical and important issues can be distinguished. There is a risk of participation overload.

In conclusion, involving RACs in long-term planning would seem to be a step in the right direction towards better governance. Governance is good for long-term planning (because it brings stakeholders onboard), but long-term planning is also good for governance (because it makes stakeholder participation more meaningful).

Questions

- Q. **Jean-Pierre Plormel (SWWRAC)** expressed surprise that there had been no mention of measuring tools. A simple method of fostering interactive governance would be to survey the satisfaction of participants.
- A. **Prof. Jentoft** commented that this is the type of issue that social scientists are interested in and that he would welcome the chance to ask that type of question. He sees RACs as part of the answer to this question, and would like to see more research on issues like this.
- Q. **Liberato Fernandes (SWWRAC)** said that the answer to the previous question was that there was widespread dissatisfaction within fishing communities about the balance between participation and power. Simply giving advice but having no influence on decision making was not very satisfactory, especially when the Commission appeared to do the opposite of what the RACs had recommended. He queried whether it was possible for the RACs to act as effective representative bodies, or to find solutions, etc., across areas as large as that covered by the SWWRAC.
- A. **Prof. Jentoft** remarked that it was not surprising that there were some disappointments within the RACs and that this was to be expected. However, the RACs still represented a step in the right direction – it was better to be heard and ignored than not to be heard at all. He also remarked that good governance did not always mean majority rule. It needed to be recognised both that there are minority interests, and that not all interests are equally well organised. Good governance needs to take account of such factors.

The Baltic Sea RAC's Experience of Long-Term Management Plans

Michael Andersen (Baltic Sea RAC)

[Link to Presentation](#)

Mr Andersen confessed that he found himself in a somewhat awkward position in that while he worked for Danish fishermen, he was having to speak on behalf of the Baltic Sea RAC. In general he felt that the RACs are now making themselves heard and, as importantly, that the members of the RACs are hearing each other.

Three long-term management plans for fisheries in the Baltic were at various stages of development. A plan for cod had been completed, under pressure from the Commission (who had threatened to reduce TACs if a plan was not put in place), but had not yet been endorsed by ICES. A plan for salmon was under preparation. The RACs input to this had been completed and submitted to the Commission. Finally work on a plan for pelagic stocks in the Baltic was ongoing.

In general, the Baltic RAC had received good cooperation in developing long-term management plans from the Commission, from ICES, and from members of the RAC. Overall the RAC had found it a positive experience, but they had noticed that some stocks were more 'sexy' than others. The pelagics plan, for example, had attracted less interest and participation than the others.

A key issue was a lack of definition about the purpose of long-term management plans. It is not clear whether they are supposed to please managers / politicians, or consumers, or fishermen, or scientists, or fish. A second problem is the lack of necessary knowledge and information – it had often proven difficult to get answers from the scientists. A final concern is that the plans tend to focus too much on biology (on the fish stocks); perhaps they need to focus more on fishermen.

The question of the timescale for developing and implementing long-term management plans also needs to be considered. It was arguably better to make gradual progress through a step-wise approach over a longer period of time, rather than rushing things under a sense of (perhaps artificial) urgency. There was also a

need for plans to provide a range of targets, rather than focussing simply on a single objective, such as lots of cod.

It was important also to remember that many things affect fisheries. Do we really believe we can decide what will happen in nature? Plans should be aimed at determining how we respond to what happens in nature, not at dictating what fish stocks should do.

Questions

- Q. **Pavel Salz (FRAMIAN)** asked why the Baltic Sea RAC was developing long-term management plans – what was the problem they were trying to solve?
- A. In the case of cod, the primary incentive for the development of a plan had been pressure from the Commission, which had threatened to cut the TAC if a plan was not put in place. However, the RAC also acknowledged that planning was useful; it was wise to decide what they were going to do in the future, i.e. to have a ‘what if’ plan.
- Q. **Mike Sissenwine (ICES)** clarified that ICES was not blocking the long-term management plan for Baltic cod stocks; the problem was that they did not have the processes in place to enable them to approve such plans. ICES acknowledged that this was not a desirable state of affairs. More scientific involvement was needed in the development of management plans. There was also a need for ICES to shift its scientific focus from research to operational work to facilitate reviews of long-term management plans. This change would require compromise within ICES.
- A. **Mr Andersen** stressed that in general the Baltic Sea RAC had received good cooperation from ICES. However, they had found that ICES could become ‘overly-scientific’ – there was a need to move away from judging things as either ‘right’ or ‘wrong’ / ‘passed’ or ‘failed’ to a more constructive, moving process.
- Q. **René-Pierre Chever (SWWRAC)** was pleased by the comments he had heard on behalf of the Baltic Sea RAC. This represented a good example of pragmatism and a ‘common sense’ approach to management. In developing plans it was sensible to try and reach a ‘minimum common denominator’ that

was acceptable to everyone. Was that the approach that the Baltic Sea RAC had adopted?

- A. **Mr Andersen** replied that the Baltic RAC had found great benefit from full and open discussion of issues. The most important step had been discussions within the RAC which had led to a common understanding of issues, and provided an agreed basis for developing solutions.

It was not always appropriate to settle on the lowest common denominator. RAC members could agree to disagree and the RAC can present differences of opinion to managers.

The North Sea RAC's

Experience of Long-Term Management Plans

Mike Park (Vice-Chair, North Sea RAC)

[Link to Presentation](#)

Mr Park introduced himself as both Vice-Chair of the North Sea RAC, and as Chair of the Nephrops Development Group – one of 5 working groups within the RAC responsible for developing long-term management plans for different fisheries. In view of this, his presentation would tend to focus on the work of the Nephrops Development Group.

In general, it is important that the RACs are listened to – and this appeared to be increasingly the case. The North Sea RAC would like to be able to focus more on longer-term issues, but in practice found that a lot of its time is taken up dealing with short-term issues, especially output from the Commission. This raises a question about whether RACs should concentrate on key issues, rather than trying to respond to everything coming from the Commission. Whatever the RACs did, however, it was essential that they took the fishermen with them.

The North Sea RAC was simpler than some other RACs, with fewer stakeholders and a smaller area to deal with. Its structure has evolved over time, with a number of sub-committees, working groups, etc. The development of long-term management plans is overseen by the Demersal Working Group, which in turn reports to the RAC's Executive Committee.

Nephrops*

The Nephrops Working Group was established in June 2006 to develop a long-term management plan for North Sea nephrops. The characteristics of this species, including its growth pattern, habitat, behaviour, etc., make it relatively difficult to assess. Surveys have used towed cameras to measure burrow density as an index of abundance. Current methods of assessing the nephrops stock are not ideal and

* *Nephrops norvegicus* = Norway lobster, Dublin Bay prawns, langoustine, scampi, etc.

the scientific methods used are complex and difficult for fishermen to understand. Despite past problems with unrecorded catches the evidence indicates that the abundance of larger animals has not reduced.

There are believed to be eight functional nephrops stock units within the North Sea, but not all have been surveyed and the relationships between them are not clear. Nevertheless North Sea nephrops are managed as a single stock. Ideally a long-term management plan should consider the management of the separate units, but this would create significant challenges relating to management, enforcement, and relative stability (quota allocation).

At present there are no biological reference points for the nephrops stock, or management objectives. It is not clear that Maximum Sustainable Yield would be an appropriate objective for this species.

Critical questions for the nephrops working group include: which assessment methods should be used?; what harvest regime is appropriate?; are reference points and objectives needed?; how should discards be dealt with?; and should stock units be managed separately? A major problem for the working group is that there are huge gaps in the scientific information on the nephrops stock(s) which makes it very difficult to plan for the future.

Since its establishment there have been very few meetings of the nephrops working group, primarily due to a lack of funding. There is a huge opportunity here to involve fishermen in the management system, but it is breaking down due to a lack of cash (to pay expenses, etc., for fishermen participating in meetings).

Another issue for RACs is the lack of independent expert advice. At present the RACs encounter the same individual scientists whether dealing with ICES, STECF, or national fisheries laboratories, etc. It would be desirable for the RACs to have access to independent scientific experts.

Questions

- Q. **Gerrard O'Flynn (NWWRAC)** asked what a 'simple' effort management system would look like?

- A. **Mr Park** stated that the North Sea RAC views 'simple' as meaning devolved management. As with the current kW/days system of effort control, they believe that management responsibility and authority should be devolved to the Member States.

The North Western Waters RAC's Experience of Long-Term Management Plans

Barry Deas (NWWRAC)

[Link to Presentation](#)

The National Federation of Fishermen's Organisations is a member of four RACs. Although this presentation is being given on behalf of the NWWRAC, much of what will be said is also relevant to the North Sea RAC (Mr Deas is Chair of the North Sea RAC's Demersal Working Group).

One of the main drivers for the development of long-term management plans is a political commitment – to achieve Maximum Sustainable Yield (MSY) in fisheries by 2015 (as agreed at the World Summit for Sustainable Development, Johannesburg 2002). This represents a significant challenge for RACs.

In more detail, the challenges for RACs include: advancing meaningful; inclusive, well-grounded, long-term management plans; balancing long-term objectives with short-term viability; facilitating a move away from crisis management; achieving a high degree of stability; achieving a high long-term yield; and developing long-term management plans within the three pillars of sustainability – biological/environmental, economic and social.

Initial discussions had been held at a meeting in Edinburgh in 2005, organised by the North Sea RAC but with participation from other RACs. The main conclusions of this seminar were that the MSY concept had its limitations, not least in relation to mixed fisheries, although there was merit in striving for high yield, stability and profitability. One of the main reasons for the failure of fisheries management over the last 20 years had been poor institutional arrangements and the prioritisation of only one element of sustainability (biological).

The Edinburgh meeting had also concluded that there was a need to adopt a more pragmatic approach. The precise destination is not critical but we need to move in the right direction. It is important to recognise that there are different routes to high stocks / high yields; it would be preferable to have a menu of management options

that could be selected from, and which might vary by fishery. A one-size-fits-all approach may be convenient for bureaucrats, but is a recipe for failure. Collaboration would be very important; between fishermen, scientists, managers, etc.

Defining objectives for a long-term management plan is relatively easy. The main challenge is to effectively implement the plan. Again, stakeholder involvement in the development of the plan is essential, and this process has to involve trade-offs of various kinds, and ways are needed to handle risk and uncertainty. A key to the process is to provide stakeholders with options and their consequences so that they can make informed decisions. The role of scientists also needs to alter and they need to look beyond biology to include socio-economic considerations in their calculations.

Since the Edinburgh meeting the North Western Waters RAC has established four area-based working groups that have taken on the preliminary work of developing long-term management plans. A major emphasis so far has been on identifying data, defining fisheries, etc.

From this preliminary work it has become clear that developing plans for some fisheries will be easier than others. Saithe, for example, is already near MSY but mixed fisheries are much more difficult to deal with. Problems encountered include weak data; distraction by short-term issues; and the lack of a clear framework for engagement with scientists and stakeholders.

Despite a good start to the process of developing long-term management plans within the North Western Waters RAC subsequent progress has been disappointing and the process is now effectively stalled. The two major problems encountered have been difficulty in accessing the necessary science, and lack of resources to facilitate participation by fishermen.

Effective long-term management plans require access to good science to provide an understanding of the state of stocks, stock trends, and fishing patterns, and options for stock development and for the content of the plans. A major issue is how such science is to be funded. The Commission has made it clear that it will not 'pay twice' for science, i.e. it will not fund the RACs to obtain independent scientific advice.

One possible option might be for the RACs to make requests to ICES through the Commission (under the Memorandum of Understanding between the Commission

and ICES). Such requests would need to be properly framed, which again is likely to require specialist support.

Stakeholder involvement in long-term management is essential and the RACs have a key role to play in facilitating this. They provide a forum for the dialogue that will be essential for the development of long-term management plans. However, there is a problem of scale – RACs operate at a regional scale, but most fisheries operate at a more local scale. There is a need to engage with actual fishermen – those directly involved in fisheries – rather than just their representatives, but this again becomes an issue of resources. RACs have no funding to facilitate engagement with fishermen (although their administration is funded), for example to hold port meetings, etc.

In conclusion, the North Western Waters RAC believes that long-term management plans are important. They offer an opportunity to move away from crisis management, and there is a political imperative to develop them. The RACs are well placed to develop these plans, but two main problems have stalled progress in the North Western Waters RAC (and North Sea RAC) – access to science, and lack of resources to facilitate participation at fishery level.

Questions

- Q. **Yves Foëzon (SWWRAC)** agreed with the need for funding for RACs to be actively involved in developing long-term management plans, but wondered whether RACs were the right platform for this new governance involving many stakeholders?
- A. **Mr Deas** replied that while the RACs are the natural place for dialogue, they need to move beyond being reactive. From this seminar we should be looking for an understanding with ICES regarding the provision of science to the RACs, and a way forward regarding the funding of this and other RAC activities. A danger is that the RACs simply become talking shops.

Day One Plenary Session

Chaired by John Casey (CEFAS)

Dr Casey commented that day one of the seminar had been most useful; we had heard experiences, observations and proposals on ways forward from a number of speakers. He suggested that this plenary session should start with specific questions for the speakers, and then begin a discussion of what the outcomes of the seminar should be.

The recurring themes so far, he suggested, were that long-term management plans were a good thing, that it was important to have clear objectives, and that all stakeholders should be involved from the beginning.

Gerard von Balsafoort (PRAC) suggested to Barry Deas that clear objectives are critical.

Barry Deas (NWWRAC) replied that the RAC was not abrogating its responsibility to define objectives, but felt that this could perhaps be done in a looser way. The point was not that objectives were not necessary, but that effort should be expended on moving in the right direction.

Katherine Short (WWF) asked whether the Baltic Sea RAC had considered getting an independent evaluation its long-term management plan for cod, not necessarily as an alternative to ICES but as a way of moving things forward.

Michael Andersen (BSRAC) replied that they had not, because they thought ICES was going to do the evaluation. Their impression was that the Commission believed the plan was largely complete and they had expected ICES to simply sign it off. He asked Ms Short who she would recommend to carry out an independent evaluation. She replied that a range of independent scientists were available who could undertake such work.

Reinhard Priebe (European Commission) noted the positive comments made about the role of the Commission in developing long-term management plans and confirmed its spirit of cooperation. There was no doubt that long-term management

was preferable to annual management and although many questions remained these were questions of detail rather than principle. An important question was how to implement long-term management within the European Union where the decision making process was already very complex and likely to become more so.

On the subject of resources, he acknowledged the financial and time constraints under which the RACs operated, but pointed out the Commission operated under similar constraints. Given this it was not realistic for the RACs to expect any significant increase in funding from the Commission. One issue that the Commission should perhaps consider would be to prioritise what it puts to the RACs to avoid overloading them.

Michael Andersen (BSRAC) commented that if resources were limited then it should be accepted that more time will be required to develop long-term management plans. The Commission should avoid putting pressure on RACs to develop plans within a short time frame. Long-term management plans should be viewed as a management tool, but should not be made legally binding in all cases as circumstances may change.

Barrie Deas (NWWRAC) acknowledged the difficulty of increasing RAC budgets in the short term but wondered if we could not be more creative about funding them, making better use of what funding is available (e.g. various European funding packages).

Antonio Cabral (SWWRAC) asked Michael Andersen (BSRAC) whether, after three years of existence of the Baltic Sea RAC, he was happy with the Commission's proposals for fishing opportunities in 2009, and how did he transmit such information to the RAC members?

Michael Andersen (BSRAC) replied that he was not happy with all the proposals, but was fairly happy that the proposals were less severe for stocks that have long-term management plans. For example, under the management plan for cod a 15% decrease in TAC had been proposed while ICES had recommended a cut of 27%. He felt that the existence of long-term management plans had put the RAC and stakeholders in a stronger negotiating position.

John Casey moved the discussion on to the more general issue of what the outcomes from the seminar should be. There were, he felt, a number of questions that needed to be addressed in developing long-term management plans: where are we; where do we want to be; how do we know where we want to be; and so on... An important point was to distinguish between overall objectives and interim objectives.

Mike Sissenwine (ICES) commented that while objectives can provide useful signposts they can tend to become rigid over time, perhaps embodied in law. It was important that management plans retained flexibility.

Liberato Fernandes (SWWRAC) commented that the presentations had been very interesting and that the RACs were a very positive development. A problem, however, was that trust in the RACs was limited but expectations were raised by them. There was, he felt, an imbalance in the geographical distribution of RACs. The South Western Waters RAC accounted for 50% of all fishing activity in all the RAC areas. This area was too big and made it difficult for stakeholders to listen to each other and agree a uniform position. The RACs should have more autonomous decision making power with the Commission's role being advisory.

Sven Jentoft (University of Tromsø) stated that this was an issue of how many RACs there are. Smaller RACs with more autonomy would be more meaningful with more stakeholder participation. In larger RACs there was a risk that the only voice heard would be that of the RACs' own bureaucrats.

John Casey reminded delegates of the need to remain focussed on long-term management plans.

Pavel Salz (FRAMIAN) remarked that RACs were able to bring fisheries policy closer to the grassroots. But while we had heard a lot about the 'joy' (the positive aspects) of developing long-term management plans, there had been very little mention of the pain. How were the RACs to deal with the short-term costs and sacrifices that such plans might require of fishermen? The human element seemed to be missing from these discussions.

Michael Andersen (BSRAC) said that he had tried to focus on the benefits of long-term management plans, but would not describe their development as a 'joyful'

exercise. It is necessary and beneficial to have such plans, but a lot of discussions, compromises and sacrifices are required to reach the necessary agreements.

Mike Park (NSRAC) felt that it was difficult to distil ownership of management plans down to the individual grassroots level. It was easier to develop plans when stocks were in good condition (such as nephrops) – it was “difficult to be green when you are in the red”. Essentially the RACs are working, but it is a growing process. As the RACs grow they will acquire responsibility.

Barrie Deas (NWWRAC) remarked that a major challenge for RACs was the complexity of multi-species, multi-gear, multi-jurisdiction fisheries. Some long-term management plans will be difficult to develop. There are benefits in starting at a small scale and informal level to get initial buy-in from stakeholders.

Benoît Guerin (SWWRAC) commented that fishermen only tend to be familiar with their own bit of the fishery. Before planning can start it is important to have an agreed overview of the fishery.

René-Pierre Chever (SWWRAC) remarked that he had been involved in developing long-term management plans for scallops and nephrops in Brittany, and that this process had taken 10 to 20 years. It was important to involve fishermen, and to commit them to the process. Simply saying there were no resources to facilitate participation was not acceptable.

Mike Sissenwine (ICES) commented that this had been an interesting discussion. However, he was frustrated that there was no real plan for the development of long-term management plans. We need to build an integrated and interactive process to develop these plans. This process should identify priorities, assign roles and responsibilities, and establish a time frame.

John Casey concluded the Plenary Session by thanking all of the speakers and participants.

Day 2

Chaired by Hugo Andersson (NSRAC)

In opening the second day of the seminar, Hugo Andersson thanked AGLIA for the well-organised cocktails and wine tasting the previous evening.

Economics of Stock Recovery: Ideals and Illusions

Pavel Salz (FRAMIAN)

[Link to Presentation](#)

Mr Salz introduced himself as an independent fisheries economist, with the stress on 'independent' – he did not represent any particular constituency. The title of the presentation reflected his conclusion that the CFP has become a mixture of beliefs and illusions. The survival of the fishing industry depended on economic factors such as price, income and costs, and these factors were as important as the state of the fish stocks.

A number of points were important as background:

- ◆ the Common Fisheries Policy is about managing people;
- ◆ the 'Tragedy of the Commons' remains a basic unresolved problem;
- ◆ fishermen are entrepreneurs and fishing is an economic activity;
- ◆ society as a whole is entitled to benefit from a common resource (there is no reason why fishermen should garner all the benefits from fisheries);
- ◆ an efficient, profitable and accountable fishing industry is an essential condition for the restoration of healthy fish stocks.

About 10 stock recovery plans have been implemented under the CFP since 2004, or are being developed, but these are all focussed on factors related to fish biology. None of them make any mention of economics or of socio-economic factors. Socio-

economic impacts are left to Member States to deal with through programmes such as FIG (2000-2006) and EFF (2007-2013). Given that different Member States have differing priorities – for example, some fund decommissioning while others fund regional development – this creates an uneven playing field. From an economic perspective it is surprising that financial support is given to the people (or companies) that destroyed the fish stocks in the first place.

The EFF programme is conceptually similar to the preceding FIG programme. Decommissioning tends to take out the least efficient actors, and essentially represents an investment in relics of the past. Under normal economic conditions many of these actors would have been forced out anyway. ‘Technical creep’ is often blamed for the failure of decommissioning to reduce the level of fishing effort. This is frustrating because while the European Commission promotes technical development in other fields (where it is regarded as a ‘good’ thing), in fishing technical development is seen as being ‘bad’.

Financial aid for temporary cessations of fishing simply delays restructuring of the industry. The fishing industry should be strong enough to withstand difficult periods without external assistance. Such support helps keep boats operating past the point where they cease to be economically viable, and this is not consistent with conservation. The proposals for regional development within the EFF programme are rather vague, and there are a lot of differences between Member States.

It is impossible to tell whether the FIG programme was effective because its terms of reference did not include any detailed examination of its socio-economic benefits. It is also difficult to assess how effective the EFF programme will be and we are unlikely to know this in the foreseeable future. As mentioned, there are significant differences between Member States’ priorities for this programme which is destroying the level playing field. Another major failure of the programme is the weakness of the link to stock recovery programmes.

The cod recovery plan is the most advanced such plan under the CFP and cod is seen as a ‘flagship’ species. The rules required the impact assessment to include an economic evaluation but the conclusions drawn (both economic and biological) were rather ‘obvious’ and simplistic.

The basic problem is how to force fishermen to stop fishing so that effort is reduced. Economic pressures tend to make the fishing fleet operate at its maximum size and there is a reluctance to reduce effort. Economists believe that economic instruments can support the reduction of fishing effort.

Use of economic instruments should be considered in view of the recognition that the quality of the available biological data is too low to guide the cod recovery plan, as stated in EU documents. A second reason is that we cannot predict the speed of stock recovery. The CFP has been based on hope for 30 years, but commercial businesses cannot live on hope.

Several comments can be made about the economic analysis of cod recovery: past effects of cod recovery measures have not been evaluated (as required by the rules for impact assessment); recovery paths have not been analysed (this is necessary to reconcile short and long-term interests); and economic behaviour is disregarded. The latter point is important because fishermen are entrepreneurs – they react to management measures and change their practices.

The fundamental problem is that the resources allocated to economic analysis are totally inadequate. Economists are obliged to present analyses to STECF without solid preparation. There is no equivalent of ICES to collect, collate and analyse economic data. The new Data Collection Regulation is only a small step to addressing this problem; it is important not to confuse accounting with economic analysis.

A basic problem is that socio-economic aspects are seen as a consequence of fisheries management, rather than as a cause of the poor state of fish stocks.

The Ideals and Illusions of the CFP can be summarised as:

- ◆ Scientific data offers a sound basis for policy. (Economic data will not solve problems but will complement biological data.)
- ◆ Command and control policies will solve the ‘tragedy of the commons’. (This is fundamentally a governance problem.)
- ◆ Time is not a limiting factor. (It is fundamental to reconcile short and long-term interests.)

- ◆ Financial support is necessary. (Financial support creates the wrong incentives and sustains an inefficient and unresilient fishing industry.)
- ◆ Fishing is important in many coastal communities. (In fact the supposed socio-economic importance of fishing in coastal areas of Europe is exaggerated – only 5 to 10 regions in Europe have a real dependence on fishing.)
- ◆ Large stocks are necessary to create 'rent'. (We could have an efficient, modern, profitable fishing industry based on the stocks that we have now. If the stocks increase in the future then the industry can grow.)
- ◆ Technological 'creep' should be prevented. (Technological development, at the industry's expense, should be encouraged as it will lead to smaller, more efficient fishing fleets able to compete in globalised markets.)
- ◆ The fisheries sector is 'different'. (Fishing is no different to any other economic sector – the participants follow normal patterns of economic behaviour, respond to incentives and use their inventiveness to stay in business.)

Returning to the basic background points summarised at the beginning: The CFP is about managing people, so it is appropriate for the social sciences to contribute to policy preparation. The tragedy of the commons remains unresolved at the grassroots level; there is a reluctance to invest in the future of the fishing industry (i.e. to accept short-term pain for long-term gains). Fishing is an economic activity so market forces can be used to manage it. Eco-labelling of products is one example of this. Unlike fishing, in most other industries exploiters pay some royalty to society (e.g. through licence fees), which provides society with a benefit from a common resource. Finally, an efficient, profitable and accountable fishing industry is a necessary precondition for the restoration of healthy fish stocks.

To achieve a more pro-active CFP it is suggested that:

- ◆ There should be differentiation between coastal and offshore fishing fleets as they have different economic structure and environmental impact.
- ◆ Substantial access fees and cost recovery should be introduced to European fisheries. A 10% rent would be worth some €600 million per annum, which is

approximately equal to the resources of the EFF. Such a fee would push less efficient operators out of the industry.

- ◆ All financial support should be phased out. Such support simply delays restructuring.
- ◆ Cooperative rules should be developed. The fishing industry needs to cooperate to decide how to manage stocks. The RACs would be a good forum for such discussions.
- ◆ 'Environmental indicators' should be defined and linked directly to the accountability of individual producers. It is essential that producers (fishermen) know what their roles and responsibilities are. Under the tragedy of the commons no one takes any responsibility for the impacts of fishing.
- ◆ The conditions should be created for a small, modern and efficient European fishing industry, with the flexibility to exploit available fishing opportunities. Nationalistic restrictions are not economically efficient in an age of globalisation. The economic consolidation of the fishing industry cannot be avoided, but the longer it is delayed the more pain there will be.

Questions

The Chair asked that questions on this presentation be held over until the plenary session.

Long-Term Management Plans and the Implementation of the Ecosystem Approach: An International Overview

Katherine Short (WWF)

[Link to Presentation](#)

Ms Short remarked that this was a large topic to cover in a short time. She clarified that she was not an expert on European fisheries management systems – this presentation would draw on her experiences in the management of the South East trawl fishery in Australia.

In general, long-term management plans and ecosystem management plans were the correct way for fisheries management to go, but they need time and effort to build trust and to achieve consensus. Consensus was important because it gave the outcomes greater security (made them less likely to be challenged or over-ruled).

The WWF has published a policy framework for ecosystem based management^{*} and a collection of case studies (including the Baltic Sea) of the implementation of ecosystem based management[†].

The focus of ecosystem based management is on maintaining the natural structure, functioning, and productivity of ecosystems; on incorporating human uses and values in their management; and on recognising that they are naturally dynamic and constantly changing. Management is based on a vision shared by all stakeholders, and on scientific knowledge informed by monitoring and research. Ecosystem based management is holistic, not just about managing target fish stocks but also other fish, seabirds, mammals, habitats, etc., that affect or are affected by fisheries.

^{*} Ward et al. (2002). *Ecosystem-Based Management of Marine Fisheries: Policy proposals and operational guidance for ecosystem-based management of marine capture fisheries*.
http://assets.panda.org/downloads/ebm_report.pdf

[†] Grieve & Short (2007). *Implementation of Ecosystem-Based Management in Marine Capture Fisheries: Case studies from WWF's Marine Ecoregions*.
http://assets.panda.org/downloads/wwf_ebm_toolkit_2007.pdf

WWF has identified 12 steps towards ecosystem based management: 1) identify stakeholders; 2) map ecoregions and habitats; 3) identify partners and their interest/responsibilities; 4) establish ecosystem values; 5) determine factors affecting them; 6) conduct an ecological risk assessment; 7) establish objectives and targets; 8) develop strategies for achieving them; 9) design information and monitoring systems; 10) establish research and information needs and priorities; 11) design performance assessment and review processes; and 12) prepare education and training packages for fishers.

Challenges for ecosystem based management include terminology (there is a profusion of terms and acronyms); the need to foster and motivate ('professionalise') the seafood industry; the need to finance transition and the establishment of necessary institutions; and the lack of integration (governance structures are often not well adapted to handle broad issues of ocean governance). Voluntary codes of practice have been found valuable in developing ecosystem based management.

The Australian South Eastern Scalefish and Shark Fishery can serve as a case study of the implementation of ecosystem based management. This is a complex fishery covering a very large area with multiple species, multiple fishing gears, and multiple jurisdictions (6 State plus the Commonwealth). As such it has some similarities with the situation in European waters.

The South East Regional Marine Plan has been implemented for this area. The plan included a restructuring package (which has seen the fleet shrink from about 300 vessels to about 80); the introduction of formal harvest and stock rebuilding strategies; extensive area closures; significant gear changes; and the introduction of Individual Transferable Quotas (ITQs). Management Advisory Committees have been established for specific fishing gear / species / area groups. About AUS\$228 million has been invested in the fishery (e.g. in restructuring) in the last three years.

Good integration has been achieved between scientists and the Management Advisory Committees (which have scientific sub-committees). There has been a strong commitment within the committees to inclusion and each has included NGO representation which has helped move things forward. An important element is for fishermen to have strong leaders to represent their interests and make decisions on

their behalf. These committees are now about 15 years old and are now being rationalised to reduce their number.

A network of Marine Protected Areas was agreed with fishermen covering some 225,000 km², and including specific features of conservation interest. Many new ecosystem management tools have been introduced and, following a large up-front investment, the effect had been to reduce decision making times. All marine species exported from Australia now require a formal impact assessment under the Environment Protection and Biodiversity Conservation Act.

Where to from here for RACs and ecosystem based management in Europe? An important start would be to build trust between RAC members, for example through local projects. Find and promote good science and promote collaboration and inclusion between scientists and fishermen. Be pro-active and get on the front foot. Find allies in unexpected places (e.g. the Marine Stewardship Council).

Finally, TRUST is the greatest asset.

Questions

The Chair asked that questions on this presentation be held over until the plenary session.

EFIMAS: Expanding the Role of Modelling in Decision Support

Doug Wilson (IFM, Aalborg University)

[Link to Presentation](#)

EFIMAS* was a large, multi-national research project funded under the European 6th Framework Programme that ran from April 2004 to March 2008. With about 30 partners the project's aim was to develop a set of new tools (models) that could simulate and evaluate the biological, social and economic consequences of a range of fishery management options and objectives. The project involved a total of 22 focus groups with 122 participants, in five countries (Greece, Spain, UK, Ireland and Denmark) and five fisheries sectors (catching, onshore, women in fisheries, local managers, and environmentalists), and had involved a lot of talking to a lot of people.

Issues addressed had included the role of science in fisheries management, the way in which science operates, and the reaction of participants to modelling. Modelling is often alienating or off putting to many people, although others see models as potentially useful. Concerns about models often focus on the perception that they are theoretical and remote from the 'real' world; that they tend to be ascribed too much authority; that they lack transparency; and that they are only as good as the data that goes into them.

The classical role of science in fisheries management is to describe nature and set limits, on which rules and decisions on the allocation and exploitation of resources can be based. The basic requirement in this case is that science is objective. However, this classical role is undermined by the high stakes and uncertainty in fisheries. Stakeholders exploit scientific uncertainty through the political process; scientists find it difficult to deal with uncertainty and resort to the precautionary approach, which tends to lose them credibility; and managers try and find technical solutions to what are really political problems.

* <http://www.efimas.org/>

An alternative role for science is that of facilitation. In this role, science uses models to describe scenarios ('what happens if we do this...') to inform stakeholders and decision makers. There is no objective final answer; science's role is to aid decision making by providing information on the likely outcomes of different scenarios. The basic requirement in this case is that science is transparent.

An example of the application of this participatory modelling approach, from outside the world of fisheries, is the New England Project, which concerned the supply of electricity in the North East USA. The New England power grid was suffering a high rate of supply failure due to a lack of generating capacity, but the provision of new capacity was stalled by political paralysis. The electricity companies wanted to provide a more reliable source of power by building a new nuclear power station, but this was opposed by environmentalists who also wanted less pollution.

MIT was asked to demonstrate that building a nuclear power station was the right thing to do. MIT decided to undertake some modelling to provide more information to inform their decision. In consultation with a variety of stakeholders they developed models to analyse multiple scenarios and to examine trade-offs between different scenarios. The process continued for about 10 years and although it never reached a final consensus it was "spectacularly effective" in reorientating the debate away from a polarisation around single issues towards consideration of multi-generation strategies that were able to increase reliability and reduce pollution.

The main lesson was that participatory modelling can help people learn to negotiate, but it cannot solve problems.

Participatory modelling in fisheries requires the ability to model scenarios with multiple options and the ability to place values on these options. Uncertainty has to be placed front and centre, and flexibility is required to respond to stakeholder creativity. Participatory modelling is a complement to the classical role of science, not a substitute for it. It forces stakeholders to clarify their objectives and explicitly address tradeoffs between various strategies.

The work carried out under the EFIMAS project suggests that the institutional framework for long-term management should be 'Results Based Co-management'. Under this framework, the 'public' (society) sets limits, such as precautionary levels,

using classical science with wide stakeholder participation. The industry then develops a plan, facilitated by scientists through participatory modelling. Science also help industry to meet the burden of proof to show that the plan meets the limits set by the public. It is suggested that the first level (the classical science) should be paid for by the public, but that (in principle) the industry should pay for the second level (the burden of proof).

Modelling has two different roles in results based co-management: firstly Stock Assessment Modelling, which sets the limits on exploitation; and secondly, Management Strategy Evaluation Modelling, which helps build management plans to meet the limits on exploitation. The management strategy evaluation is not used to set quotas (for example) but to evaluate whether we should be setting quotas or taking a different management approach. This is a circular, or iterative, process.

The EFIMAS project has developed a library of models (Fisheries Library in R; FLR) that can be used in this management strategy evaluation. The library contains different models that can be used to address different questions or situations and which can be 'plugged' together. These models have been evaluated in a number of case studies including the fisheries for Mediterranean swordfish, North Sea flatfish (with the NSRAC), and hake (with the SWW and NWW RACs).

A new project called JAKFISH (Judgement And Knowledge in Fisheries Involving StakeHolders) started in April 2008 with the aim of learning more about how participatory modelling works in practice. The project is looking for other questions that RACs would like addressed through participatory modelling and would like to hear from any RAC that would be interested in participating (contact Doug Wilson - dw@ifm.aau.dk).

Questions

The Chair asked that questions on this presentation be held over until the plenary session.

The Pelagic RAC's

Experience of Long-Term Management Plans

Gerard van Balsfoort (Pelagic RAC)

[Link to Presentation](#)

The Pelagic RAC is now three years old. In that time it has made 102 recommendations to the European Commission, 80 relating to specific stocks and 22 relating to horizontal issues. There has been only one case where the RAC was unable to reach a consensus position. Over the three years the number of recommendations relating to Total Allowable Catches (TACs) for individual stocks had fallen sharply, while the number relating to long-term management had doubled.

Three examples of the Pelagic RACs involvement in long-term management planning are presented:

North East Atlantic Mackerel

For NE Atlantic mackerel the pelagic fishing industry was interested in the possibility of long-term management based on a fixed total allowable catch. Its priorities were TAC stability (at about 550000 to 600000 tonnes), and larger fish. The species is relatively long lived and has relatively stable recruitment but the stock is relatively data poor with assessments based on a 3-yearly egg survey. The fishery is jointly managed by the EU, Norway and Faroe.

A stakeholder meeting was held in April 2007, involving the Pelagic RAC, industry representatives, ICES, and national fisheries scientists. The RAC asked independent scientists for assistance, while the Commission asked ICES to evaluate the management plan.

The initiative ended up being 'owned' by the Commission with the Pelagic RACs participation organised by the them.

Blue Whiting

The blue whiting stock is jointly managed by the EU, Norway, Iceland and Faroe and is largely fished in International Waters. Over many years with no management the

level of exploitation by non-EU vessels had increased dramatically. In 2005 the pelagic fishing industry took the initiative to try and develop an allocation key and long-term management plan for blue whiting. Based on the industry agreement the coastal states reached an agreement on TACs and other management measures by the end of 2005.

Since then the Pelagic RAC has had no real participation in the management process for blue whiting. Ownership of the long-term management plan started with stakeholders but was taken over by the coastal state administrations.

Western Horse Mackerel

For western horse mackerel the Pelagic RAC developed a long-term management plan and offered it to ICES. The plan was developed over 2006/07 with the assistance of a group of scientists formed at the invitation of the RAC. Following consultation with the pelagic fishing industry (to establish its priorities) and consideration of different management options, the RAC agreed to recommend a three year management plan based on the trend in recent egg survey data. This plan was endorsed by ICES, which concluded that it was precautionary. To the Pelagic RAC's annoyance, the European Council decided to adopt only a one year TAC.

This plan was developed by an ad hoc group, outside the normal ICES system. The starting point was the industry's priorities and an important element of the process was translating the industry's 'language' into scientific terms. The scientists were able to show the industry the results of different scenarios, and the 'price' of different trade offs, allowing the Pelagic RAC to make an informed choice between scenarios.

Active and open discussion and collaboration between science and stakeholders was essential in this process, and there was significant input (and costs) by scientists. The development of the management plan was followed by Doug Wilson's team under the SAFMAMS* project. The project concluded that this could be an inspiration for other RACs but cautioned that there were specific factors unique to the pelagic fishing industry that might make the lessons less applicable to other sectors.

* SAFMAMS: Scientific Advice for Fisheries Management on Multiple Scales (www.ifm.dk/safmams/)
Developing a Long-Term Management Plan for Western Horse Mackerel within the Pelagic RAC
([www.ifm.dk/safmams/Downloads/WP3/D7 Annex Horse_mackerel_participatory modelling.pdf](http://www.ifm.dk/safmams/Downloads/WP3/D7%20Annex%20Horse_mackerel_participatory_modelling.pdf))

These included the homogeneity of the industry (relatively few participants, few fisheries); the fact that stocks were in relatively good condition; and the large institutional capacity of the industry and stakeholders. Unlike the other examples cited, ownership of the development of the Western horse mackerel plan had remained in the hands of the Pelagic RAC throughout the process.

Future challenges for the Pelagic RAC include: developing management plans for blue whiting, mackerel and West of Scotland herring; improving knowledge of stocks with input from fishermen; sourcing science directly; and increasing collaboration with stakeholders in third countries.

A major problem for the Pelagic RAC is that some of the important pelagic stocks (blue whiting, Atlanto-Scandian herring, North East Atlantic mackerel) are shared with third countries. Management plans for these stocks are being developed between coastal states (EU, Norway, Faroe, Iceland, etc.) but the Pelagic RAC has no direct access to this process. The RAC's only possible input to this process is through the Commission. Nevertheless, the Pelagic RAC is actively pursuing collaboration with stakeholders in Norway and possibly other third countries.

Questions

The Chair asked that questions on this presentation be held over until the plenary session.

The South Western Waters RAC's Experience of Long-Term Management Plans

Benoît Guerin (General Secretary, SWWRAC)

[Link to Presentation](#)

The South Western Waters RAC (Conseil Consultatif Régional des eaux occidentales australes – CCR-S) is only one and a half years old, so only early comments are possible at this time.

The case of the anchovy fishery provides an example of the methodology that the RAC has used to try and reach agreement on long-term management plans. This is an offshore fishery over a large area throughout much of the Bay of Biscay. The fishery was in a state of crisis and has been closed for four years.

A working group was established in October 2007 to try and find a way of moving beyond the state of crisis. Proposals made by the working group were used in a Commission non-paper in November 2007 and in December of that year an agreement was reached between the French and Spanish sectors. During this process the RAC acted as a platform to promote dialogue between the stakeholders.

Problems encountered included the biology of the anchovy which has a short life cycle and high year-to-year variability in recruitment, making long-term stock forecasts difficult. Many stakeholders were only interested in getting the fishery re-opened, rather than in long-term management. All of the parties involved had to accept trade-offs and compromises. Things that were missing from the process included accurate data on the fishery (both the fishing fleet and the fish stocks), and any definition of specific ecological, social or economic objectives.

The RAC ultimately selected a regulation linked to a certain level of risk, with optimisation of the economics of the fishery. The RAC also sought stronger enforcement of regulations in this fishery and proposed a minimum landing size. Area closures to protect juvenile anchovies were also considered in the EC non-paper but were resisted by both the French and Spanish sectors because this area was open to

Spanish vessels that fished for live bait, in return for which French vessels received more quota.

The Commission is to draft new management regulations for the anchovy fishery and the RAC is awaiting their proposals.

Positive aspects of the experience include the rapprochement and dialogue between 'historical enemies', and the dialogue between fishermen and scientists. The process helped keep fishermen informed and created a platform for debate, both between fishermen, between fishermen and scientists, and with the Commission. This has helped reduce many of the tensions that existed previously and made dialogue easier.

Negative aspects include the difficulties experienced by members of the working group in understanding the information provided by STECF (which was not presented in a form that was easy for non-experts to understand). Economic aspects of the fishery were neglected and there was no NGO involvement, although they have legitimate interests.

On a more general note, while recovery plans are well defined there is no definition of what a long-term management plan should be.

The fishing industry sits between the environment and the resources they exploit, and it is important that all stakeholders shed light on the picture, to help increase our knowledge and understanding of the fishery. There is also a need to more clearly define separate fisheries units to assist with management.

A suggested concept for the relationship between fishermen, scientists and managers is that they form three 'poles', surrounding a central pilot who helps facilitate discussions and agreements. Priorities should be to identify common interests between stakeholders, to engender real trust, to reassure stakeholders, and to help them balance short-term costs against long-term benefits.

This will need both time and resources. A full time employee should be hired for each long-term management plan, to liaise between these three poles, to circulate information and eventually to help build trust. There is a need to develop a long-term 'contract' between the parties, with the flexibility to adapt to changing conditions. The need is to create and maintain momentum, although the road may be bumpy.

Questions

The Chair asked that questions on this presentation be held over until the plenary session.

Day Two Plenary Session

Chaired by Reinhard Priebe (European Commission)

Joe Maddock (NWWRAC) remarked that this was a very worrying time for the fishing industry across Europe. He disputed Pavel Salz's suggestion that the 'Tragedy of the Commons' still applied to European fisheries – there were many management measures under the CFP which meant that fisheries could no longer be regarded as a 'common'. There was a need for reform, especially in the management of mixed fisheries where it was only possible to comply with the regulations through discarding. It will not be easy, but we need a mechanism that will allow fishermen to participate in a mixed fishery without having to discard fish (e.g. days at sea, land all you catch, etc.). The management of mixed fisheries needs to be better tuned to what fishermen actually do.

Lucette Joselon (Région Pays de la Loire) pointed out that there had been no mention of port facilities and other infrastructure necessary to support the fishing industry. These facilities also depended on maintaining a viable fishing industry.

René-Pierre Chever (SWWRAC) pointed out that many management plans already exist in coastal areas around Europe, although they may not be called management plans and may not cover fishing. This experience should not be ignored and lessons should be learned from these examples. The impression appears to be given that nothing existed before the long-term fisheries management plans that we are talking about, but this is not correct.

In addition, it is important that sociology is brought into the decision making process. Facilitating the development of long-term management plans requires dedicated persons with a range of skills (part-biologist, part sociologist, part-fisherman, etc.). Funding such posts should be a priority, and would cost a lot less than the price of a fishing vessel.

Reinhard Priebe (European Commission) asked Pavel Salz how he viewed the current package of fuel-aid measures and the current over capacity of fishing fleets?

Pavel Salz (FRAMIAN) replied that he saw the fuel aid package as a result of significant political pressure. However, it sent the wrong message to the fishing industry, namely that policy makers will try and shield the industry from every problem it encounters.

In response to the other comments, the question of whether the Tragedy of the Commons really existed was interesting. One characteristic of the Tragedy, however, was that the participants are typically not aware of it. The key point was that 30 years of the CFP have achieved little, largely because of socio-economic factors, and there are still too many fishing vessels. This could be called a Tragedy of the Commons or it could be called something else, but what we call it doesn't alter the basic facts.

On the subject of fisheries dependence, it should be remembered that many fishing communities have disappeared over the last 40 to 50 years or more. It is a mistake to try and freeze a historic situation – communities need to change as circumstances change.

In terms of planning, no single actor can drive the development of management plans. The agriculture sector is much better organised and cooperative in this respect and a similar approach is needed in fisheries.

Reinhard Priebe (European Commission) commented that the European Maritime Policy addresses the need to integrate marine plans and policies.

Katherine Short (WWF) noted that there was a trend across Europe for small-scale, innovative projects intended to take control of problems, gain the initiative and find solutions. These projects were producing new ideas and testing results. It doesn't matter that this is a messy process it is moving in the right direction.

It needs to be stressed that relationships matter – NGOs, stakeholders, etc., need to spend time together, learn from each other and understand each other. It is necessary to take a long-term view, plan for what is coming, and move beyond crisis management. As a guideline, RACs should devote at least 30% of their time to the long-term view.

Ken Patterson (European Commission) suggested that the fishing industry is different to other sectors. It is inconceivable that any other industry of comparable size (e.g. cucumber growing, lawn-mower manufacture) would have its own

Directorate General within the European Commission, and all the other structures associated with it. Fishing had these structures because its political importance in Europe was very high, relative to its value.

There was a large (political) stakeholder input to the management process, focussed on maintaining fishermen's livelihoods, etc., which meant that decisions were taken above the level of scientific advice. The results were not sustainable and had resulted in the degradation of fish stocks. RACs are in a position to address the question of how to get out of this situation, and this represented an important challenge to them. Are the RACs in a position to propose and support long-term management plans that will result in short-term pain for fishermen ?

Franz Lamplmair (European Commission) remarked that Pavel Salz had provided some food for thought, but he wondered what his views were on how we should promote stock recovery and conservation. To the RACs he posed the question of whether offshore fishing fleets should be left to manage themselves, while the CFP and European political process focussed on inshore fleets?

Pavel Salz (FRAMIAN) replied that he appreciated the political importance of fishing, but felt that this was exaggerated. It had its roots, he believed, in the 1970s when the 200 mile Exclusive Economic Zone was declared around Europe. A major concern at the time was to avoid fish wars within the EU. It was known at the time, he suggested, that the CFP wouldn't work but it represented the best compromise possible at the time.

Perhaps now we need to look at fisheries in a different way to that of the last 30 years. Maybe we should seek to move on, to create an efficient fishing industry. Technical development means that further reductions in fleet size will be necessary. But with greater efficiency, better marketing, etc., maybe a larger proportion of the fleet will survive. At present the average age of the European fishing fleet is more than 30 years; this is not a dynamic industry.

Liberato Fernandez (SWWRAC) pointed out that until recently investment in the fishing industry was intended to increase catches and/or reduce the workforce. Small-scale fisheries had been condemned.

There was a need to improve selectivity and reduce waste; TACs were not the only answer. This could be done through traditional fishing industries which have been thinking about this for many years and have implemented conservation plans without the Commission, ICES, etc.

Alexandre Rodriguez (NWRAC) suggested that the biggest obstacle to the RACs' participation in the elaboration and assessment of long-term management plans was a lack of human and financial resources, together with time constraints.

He queried whether the RACs should run to respond to every consultation procedure or request for advice dictated by the Commission, or whether they should take the initiative in a more proactive manner by focussing on key strategic issues (such as long-term management plans, ecosystem-based management, marine protected areas, or the review of the CFP).

The RAC secretariats have identified additional means of funding some of the RACs' activities through European programmes such as EFF, Interreg, and FP7. He invited delegates to give some thought to, and discuss, the possibility of building a network of partners and experts across the RACs that could cooperate and share experience in this field.

Pim Visser (NSRAC) felt that there was a growing gap between fishermen and the sort of discussions held in this seminar – this gap needed to be narrowed. Pavel Salz was preaching a bland, liberal, capitalist approach to management, but it was not clear if Western Europe was interested. We should look beyond pure capitalistic considerations.

Marina Santurtun (AZTI) suggested that there were differences in the implementation of scientific advice in Southern and Northern Europe. It was to be hoped that the relationship between scientists and the RACs would improve. The work of scientists is often limited by their models, and they need feedback from the RACs to improve these. RAC members should be aware that to move ahead it will be necessary to focus on ecosystem issues, but this will require money and time.

Gerard van Balsafoort (PRAC) remarked that the long-term management plans developed by RACs so far had been in situations where stocks were stable (e.g. pelagic stocks), or where the alternative was worse (e.g. Baltic cod). If a

management plan were to result in large cuts in fishing opportunities at the start it would be much more difficult to sell to stakeholders. In such circumstances the RAC would probably never get agreement.

Benoît Guerin (SWWRAC) commented that targets and objectives are not always very clear in management plans. Perhaps the focus should be more on the means to be used to reach agreements, rather than on specific objectives. Blunt transitions are not likely to be well accepted.

Katherine Short (WWF) encouraged the need for practical steps to close gaps. Small scale projects, such as the Strategic Environmental Assessment project in the Yorkshire (UK) lobster fishery were important as building blocks which helped to de-politicise the management process and educate stakeholders.

Summary

Reinhard Priebe (Plenary Session Chair)

Some key points from the seminar were:

- ◆ There was agreement that there was no alternative to long-term management plans, and that these represented the best option.
- ◆ There was a lot of scope for improvement in management processes.
- ◆ There were lots of ideas, for example on results-based management, interactive governance, and (maybe) greater industry accountability.

The concluding impression was that the involvement of RACs in decision making had been positive, although improvements were still needed. The Commission believes that the RACs have found their place in European fisheries management systems, although there are large differences in the approaches taken by the different RACs.

Three slides from the seminar that he felt should be highlighted were Sven Jentoft's list of critical questions for RACs, Pavel Salz's checklist of previous failures, and Ken Patterson's overview of the results of long-term management plans to date. The latter

suggested that some plans had been excellent, some good, and some 'interesting', although it was difficult to identify why these differences arose.

There would be a major reform of the CFP in 2012. The Council of Ministers would shortly start considering topics for reform, and there would be an element of front-loading in the reforms. Reforms would include the introduction of a regional element to the CFP and a review of legislation. (The fuel aid package is an attempt to help the industry adapt that cannot wait to 2012). Any input from the RACs to the reform process would be welcome.

In conclusion he wished to thank the RACs for organising this seminar. Not all the necessary solutions had been found, but there had been plenty of food for thought. The seminar confirms the Commission's view that it was worth creating the RACs and that they have found their position in improving policy.

Rapporteur's Summing Up

Ian Napier (Rapporteur)

This has been an interesting couple of days. We have heard views on, and experiences of, long-term management plans from all of the main parties that are involved in them: the European Commission; ICES; and from the RACs themselves. We have also heard from several speakers who provided an external perspective, both on long-term management plans and on the role of RACs in their development.

There is a general consensus that long-term management plans are 'a good think', and that the RACs have an important – if not essential – role to play in developing them.

It is clear though that many questions remain to be answered, both about what we should expect long-term management plans to achieve, and about the processes involved in developing and implementing them.

A number of speakers expressed the view that having a definite final destination was less important than making progress in roughly the right direction. This represents a pragmatic approach to the development of long-term management plans which makes the most of the information that we have, rather than getting fixated on the information that we don't. It also represents the development of long-term management plans as an iterative process, rather than as something that can be completed in one step.

It is clear that a major part of the work of developing long-term management plans is going to fall on the RACs. Most of the RACs that we have heard from have already made some progress in developing plans, although some have made more than others.

There appears to be a general concern about the workload that the development of long-term management plans is likely to impose on the RACs, and about the lack of necessary resources. An associated problem, commented on by several speakers, is that short-term management issues take up so much time that it is difficult to focus on long-term issues, or plans. As well as the resource issue, there are clearly issues

here for both the RACs and the European Commission in terms of how the RACs manage and prioritise their work, and of how much 'work' the Commission imposes on them. One speaker suggested that the RACs should allocate at least 30% of their time for long-term issues.

It is probably fair to say that this Seminar has not provided many specific answers to the questions surrounding the development of long-term management plans. However, as a number of speakers pointed out, there probably is no single 'answer', given the variety of circumstances that these plans will have to address.

In his welcoming address at the start of the Seminar, M. Batteux suggested that this Seminar would provide an overview and a foundation for the development of long-term management plans. Although a lot of detailed work remains to be carried out I think it has achieved that goal.

I would suggest that it will be important – and beneficial – for the RACs to continue to cooperate and share experiences in this important area.

Concluding Remarks

Hugo Andersson (Day 2 Chair)

The seminar had heard a lot of information from a lot of different angles. It was clear that there were a lot of differences between the long-term management plans developed so far. Perhaps we need to have some sort of framework for these plans, or perhaps they need to be different (although not too different).

There is a close link between long-term management plans and maximum sustainable yield (MSY). Plans are needed to achieve MSY but we do not necessarily know what MSY is; we are starting down a road without being clear what our goal is.

There is unanimous agreement on the role of the RACs. Some work has been done, but a lot remains to be done. There is a good focus on long-term management plans within the RACs but they need the resources to do what needs to be done, especially to get stakeholders involved. This requires times and resources and will have to be addressed by the RACs.

In conclusion, thanks were due to: the interpreters; to Benoît Guerin and the staff from the RAC secretariats for their excellent work in organising this seminar; to the Region Pays de la Loire and to AGLIA for hosting the seminar; and to all the delegates and speakers for their contributions.