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DIRECTORATE-GENERAL FOR MARITIME AFFAIRS AND FISHERIES
THE DIRECTOR-GENERAL

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Mr. Niels Wichmann
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Subject: Implementing Maximum Sustainable Yield policies

Dear Mr. Wichmann

Thank you for sending us a copy of the NSRAC position paper of February 2011 "Development of a coherent and logical approach towards maximum sustainable yield (MSY)".

Our basic approach was set out in the 2006 Communication "Implementing sustainability in EU fisheries through maximum sustainable yield"¹. You will find much in that Communication that is in line with the NSRAC thinking: the need to move gradually to MSY; the need to avoid unnecessary instabilities; ambitions to develop regional and multispecies plans and to take account of social and economic effects. Of course, our first guiding principle was a commitment that the Commission would actively consult the RACs.

I understand your concerns that the Commission may propose changes in fisheries management to reach single-species MSY targets in a short time-frame, and that these could have deleterious and unnecessary short-term effects. We have considered this carefully, and concluded that, while some transitional effects are unavoidable, the economic and operational impacts would be both necessary and relatively modest.

Need for move to MSY

In principle, the need to move to MSY fishing is set by the "Johannesburg" commitment of Member States to reach MSY objectives by 2015. The Commission strongly supports this policy objective as a means to:

- improve the operational stability of fishing operations

¹ COM(2006) 360 final

- improve their economic performance and financial stability;
- reduce the impact of fishing on the marine environment and on marine ecosystems;
- reduce discarding.

Basis for MSY estimates

For management measures to reach MSY conditions by 2015 we rely on the advice of ICES and STECF. The Commission welcomes the new form of advice from ICES which sets out advice explicitly in this form, and intends to base its proposals on this advice. I understand your concerns about this form of advice are centred on the uncertainty with which single-species MSY parameters (such as F_{msy}) are estimated, the interdependence of MSY parameters among stocks that are linked by predation or competition in marine ecosystems, and the practical problems relating to fishing several species at MSY when these are caught together in mixed fisheries. ICES and STECF are well aware of these issues as they have been discussed often. The advice they provide us now reflects the best available science and, in the opinion of both the scientific institutions and ourselves, the science has now reached such a level of maturity that it can be implemented, while efforts continue to refine and improve the advice.

Mixed fisheries

In our Communication of 2006 we stated that it would be desirable to have in place regional fisheries management plans which cover a range of stocks in a mixed fishery. So far, we have implemented plans which cover both plaice and sole in the North Sea, and both hake and Nephrops off the Iberian peninsula. These are relatively simple situations in which a 1:1 relationship can generally be assumed to exist between the fisheries impacts on the two species concerned.

The cod recovery plan was developed as a single-species plan although cod are of course caught in mixed fisheries as well as in targeted fisheries. The scientific advice available at the time was however insufficiently developed to allow a full mixed-fisheries plan to be developed. The mixed fishery aspect was nevertheless taken into account in the definition of gear groupings and other additional measures in the plan.

We agree with you that there is a need to further improve the basis to allow the management measures to take into account the fisheries and biological interactions.

We have not yet been able to develop a standard approach to mixed-fisheries management. In general, it is necessary both to measure and to be able to predict the extent of these technical interactions if they are to be used in a plan for management effect. Work was initiated in 2002 by STECF and followed up by ICES at a series of meetings on this topic. Modelling and analysis of these interactions is demanding of data, and the development process was hampered by substantial gaps in discard data and in reliable landings data. It is regrettable that, after nearly ten years of effort it has still not proven possible in most cases for ICES and STECF to provide sets of catch options for mixed fisheries that are compatible with each other.

While the Commission still hopes that progress can be made in this area, a word of caution is in order. Mixed-species management plans can only be constructed by assuming some pattern of fishing activity by the various fleet segments resulting in a

particular catch composition for a particular combination of stock conditions. Management actions based on such predictions would end up constraining fishing operations to keep to past practices, if quotas for the various stocks were set on this basis. This could cause a loss in flexibility for the catching sector, and possibly also a loss in fishing opportunities if the set of quotas in a mixed fishery were fixed according to sustainability for the weakest stock. To avoid this, some predictive model of fishermen's adaptive behaviour would be needed.

These are complex issues, of course, and likely will take time to develop. Meanwhile, many stocks are far from their single-species biological objectives and we will have to decide on their management on the basis of the best available information in line with the principle of precaution aiming to ensure the conservation of these stocks.

Ecosystem considerations

It is evident that ecosystem interactions will have an effect on perceptions of MSY targets. The MSY for Nephrops stocks in the North Sea will be different according to the size of the cod populations predated upon them, for example. The MSY for cod in the Baltic Sea will be different according to the size of the populations of pelagic fish on which they predate as adults (and which predate on them as larvae). Important progress has been made in quantifying these interactions.

Even if it is not obvious how this is done, these interactions are in fact taken into account for management purposes. While complex multispecies models are not used directly for management and forecasting purposes, their outputs are indeed used. Multispecies analyses by ICES are run for groups of stocks in ecosystems such as the North Sea in order to estimate predation rates on commercial species by other commercial species. From these analyses, estimates of non-fishing mortality are then taken up in the single-species assessments that are used for advisory purposes, including the estimation of MSY targets. As the analyses are updated, this provides an adaptive, moving picture of MSY targets in the marine ecosystem, where the MSY targets for each species are calculated in the context of the recent state of the ecosystem.

This approach may fall short of an ideal ecosystem modelling and management approach where a "target" ecosystem state can be identified and aimed at for a group of stocks. However, that ambition may not be realistic in our present state of knowledge.

Firstly, some marine ecosystems have been heavily exploited for many years and we lack data concerning their "natural" state or even their interactions in conditions of lower exploitation. It is necessary to gather information about the behaviour of less heavily exploited systems before analysing their status, and making further predictions for management purposes and updating targets.

Secondly, taking ecosystem management decisions is a new science that needs to be developed. Mathematical models to do this exist, but have not yet been used in practice. Operationally, MSY ecosystem management will mean deciding either to overfish or to underfish one fish stock with respect to its single-species MSY target in order to benefit another fish stock. Overfishing one stock in order to benefit another would likely not be compatible with maintaining ecosystems in a healthy state, and thus not compatible with

commitments under the Marine Strategy Framework Directive². Underfishing one stock (such as a prey species) to ensure a higher availability to a more valuable predator species could be feasible, but entails resource allocation problems where different fishing sectors (from different Member States, perhaps) are involved in the "gaining" and "losing" side of the fishery. This is an aspect where further policy development will be needed, and I would welcome the opinion of the NSRAC on this topic. Further knowledge of economic and social parameters would undoubtedly be helpful in this context.

I agree with you that there is substantial scope for development and further work both on the scientific side and in policy development. In the meantime, we should continue to respect our current political commitments and take decisions on the basis of current scientific advice. Moving to ecosystem management means taking account of more interactions and will require more caution.

Following from the commitments in the Implementation Plan of the World Summit on Sustainable Development in 2002, there is a clear duty and need to implement MSY advice as far as possible according to current scientific advice. This remains therefore the basis for the Commission proposals as also set out in the recently adopted Communication "Consultation on Fishing Opportunities for 2012".

I would therefore like the follow-up to this discussion to be carried forward in the context of the consultation on that document. My officials will be available for discussion in the North Sea RAC as well as other RACs. While we can have a valuable discussion about implementing methods for MSY, it would be difficult to argue deferring the implementation of MSY to some date after 2015 in the expectation that more scientific advice may then become available concerning ecosystem effects.

Meanwhile, the Commission will be investing more effort in developing long-term plans. Wherever possible, these will be adapted to take account of technical and species interactions. The development of plans already involves stakeholder participation and dialogue. In the near term, it is hoped to implement this approach to the review of the cod management plan in the first instance, before applying to other stocks and resources elsewhere.

Yours sincerely,



Lowri EVANS

² Directive 2008/56/EC of 17 June 2008; and particularly Descriptor 1.7 in Annex to Commission Decision 201/477/EU of 1 September 2010 on criteria and methodological standards on good environmental status of marine waters. OJ L 232 of 2.9.2010, p. 14