

IDEAS FOR RE-ARRANGEMENT OF ASSESSMENT WORKING GROUPS

by

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INTRODUCTION

There is a growing concern among Chairmen of Committees, Working Groups, ICES Staff members and others about the growing number of meetings of working groups, study groups, workshops etc. held under the auspices of ICES and the number of reports that have to be processed through the ICES Secretariat. Although this is a general ICES problem (Pope, 1989), ACFM is responsible for a large number of permanent WG's, which have been established over many years as demands for advice developed.

For outsiders, it is often not at all clear why responsibilities for species and areas have been split among different WG in the way they are. Although there is undoubtedly historical justification, it does not seem obvious to me that the present set up is necessarily the most efficient one to cope with the scale of stocks for which management advice is required, neither from the practical nor from the scientific point of view. This contribution is aimed at identifying the pro's and con's of different possible strategies in structuring the assessment WG from an ACFM perspective.

ACFM

The task of ACFM is to provide coherent management advice on a multitude of fish stocks in the Northeast Atlantic to a variety of customers. The assessment task itself is delegated to WG and in effect ACFM has only to scrutinize the assessment methods used by individual WG and to distil appropriate measures for each stock.

In principle, standardization of assessment methodology greatly facilitates the work of ACFM, but in practice different species exhibit different biological characteristics and different fisheries provide specific problems. Because of the variable degree of reliability of the catch statistics and the variable amount of biological detail collected for individual stocks, it seems doubtful whether complete standardization is attainable or even desirable. On the other hand, the credibility of ACFM depends very much on the consistency of the advice produced both within a year for different stocks and within a stock over time. Despite considerable improvements in the standardization of reports, the situation is still not entirely satisfactory.

In order to overcome problems related to new methodology, specific terms of reference as well as guide-lines how to use the available software package are given to the WG and any advances in assessment methodology are referred to the Methods WG before new approaches are accepted.

Within the time constraints of two ACFM meetings per year during which more than 100 assessments have to be reviewed, this system can only work if WG follow largely the standard procedures. Even then it is unlikely that all members have been in a position to familiarize themselves with the details in the WG reports, because most of them only become available just prior to the meeting. If an error is found, this will be more a matter of chance than of systematic quality control.

In my view, ACFM should only consider a re-assessment during its meeting when obvious errors have been spotted which can be modified within the available WG files. However, the know-how about individual stocks available within ACFM is insufficient to make significant procedural amendments to WG assessments and in the past, ACFM itself has introduced sometimes errors in this respect.

WORKING GROUPS

Most scientists in fisheries research are associated with particular (groups of) species and consequently turnover of membership in assessment WG is slow. The obvious advantage is that a large expertise is built up within these groups, but on the other hand there is a danger of conservatism by following fixed routines. The present exchange of ideas between WG is often minimal and this may be one reason for existing differences both in respect of approach and in quality of the reports presented to ACFM. Exchange of new ideas even between members of the same WG appears to be severely hampered by the fact that routine procedures consume all available time. Although from a consistency point of view the reports showing least scientific progress are probably the easiest ones for ACFM, there is obviously scope for new thinking within many groups!

WG which do not have strict terms of reference with regard to the provision of management advice represent noteworthy exceptions to this rule: the Methods and the two Multispecies WG are illustrative of the potential progress that might be achieved by other groups if their burden could be somewhat relieved. Also the WG on Fisheries Units in Sub-areas VII and VIII has succeeded in developing new methodology along with the provision of management advice

In my view, most of the assessment work as presently carried out by the various groups is highly uninteresting technical labour, which could be done as efficiently by two or three experienced technicians as by a large group of scientists. The task of the WG should largely remain to interpret the results and compare them with those from other groups, develop new methodology, and implement new research programmes to solve specific problems, rather than spending too much time on technical details. New working procedures are called for.

Another problem that WG are faced with is that special requests from customers (eg. mesh assessments) are often directly transferred by ACFM to the terms of reference without prior consultation with the chairman or proper evaluation of the implications. This means that in addition to the permanent assessment burden which receives the highest priority, these problems have to be addressed after all the other work has been done. The North Sea Roundfish WG has thus met for 13 days of intensive work for several years in succession and that is more than one can expect from even a healthy scientist: a reduction in overall efficiency seems unavoidable.

A last problem is that the data for some stocks are not good enough for a reliable assessment anyway and that consequently WG are wasting their time in preparing new figures without much new evidence. The amount of time wasted could be halved by calling upon these groups only every second year, which time could then be used more effectively at home to try to improve the data base. Particularly where stocks are not considered to be severely overexploited, WG would not have to meet so often. Obviously, if TAC's for these stocks are required, ACFM should be prepared to give advice on a level of TAC for two years ahead. Under the circumstances indicated, this would not necessarily mean a worse advice and certainly the advice would be more consistent!

THE PRESENT SET-UP

The table lists the present 26 assessment WG reporting to ACFM and indicates their duration (1989) and meeting frequency. Most of them meet annually. Exceptions are the Methods and Multispecies Assessment WG, which meet once every 1.5 year and the Nephrops and European Eel WG, which meet irregularly. Thus, the approximate number of meetings per year is 24, involving ca 200 working days. Many WG are species oriented, whereas others are primarily area oriented, although the distinction is not always sharp.

Existing WG	days	frequency	time of year
<i>Species oriented WG</i>			
1	Seals	?	?
2	Pandalus	5	1
3	Nephrops	8	variable
4	North-Atlantic Salmon	8	1
5	Baltic Salmon	8	1
6	Eel	variable	variable
7	Blue Whiting	7	1
8	Herring south of 62°	11	1
9	Atlanto-Scandian Herring	5	1
10	Mackerel	9	1
11	Horse mackerel	10	1
12	Industrial Fishery	8	1
13	North Sea Roundfish	13	1
14	North Sea Flatfish	7	1
15	Hake	10	1
16	East Greenland Cod	7	1
<i>Area oriented WG</i>			
17	IIIa Demersal Fish	8	1
18	Irish Sea/Bristol Channel	10	1
19	Baltic Pelagic	11	1
20	Baltic Demersal	10	1
21	Arctic	10	1
22	North-western	8	1
<i>Method oriented WG</i>			
23	Fishery Units	8	1
24	Multispecies Assessment	10	2/3
25	Baltic Multispecies	5	1
26	Methods	10	2/3
Total	26 WG	196	24

Apart from the work of the Methods WG which has consolidated the basis of fish stock assessment, the most significant recent scientific advances are in my view those related to technical and biological interactions as exemplified by the reports of the Fisheries Units and the two Multispecies WG. These three WG are primarily area oriented. This suggests that, in order to be prepared to accommodate likely changes in assessment procedures in the future, area oriented WG are probably more effective than species oriented WG. This is particularly true for the demersal species, which are often caught in mixed fisheries and therefore are subject to similar sampling procedures by national fleets and to similar management constraints.

On the other hand, species oriented WG have the advantage that comparisons can be made of the assessment results for the same species in different areas, which serves as a check as to whether the results obtained for individual stocks make sense within the broader context of the population dynamics of the species in general. Also, some species differ in their biological characteristics to the extent that they require a specific assessment methodology. Such a broad difference exists for instance between the pelagic species and demersal species. In these cases, it would seem appropriate to keep the WG species oriented, at least for the time being until the methodology has become sufficiently standardized to be incorporated in area oriented WG.

PROPOSALS

Species oriented WG.

Seals, Pandalus, Nephrops, salmon, eels and blue whiting pose very special problems to both assessment and management and therefore represent examples where a species oriented WG can probably not be avoided. The split between a North Atlantic and a Baltic Salmon Assessment WG seems to make sense, because there are logistic reasons from the customers point of view to keep these two separate.

As regards mackerel and horse mackerel, I strongly feel that they should be combined in one WG, because the fisheries overlap and the assessment methodology of using egg surveys as a basis for estimating spawning stock biomasses is very similar. In view of the level of exploitation and the fact that the assessment is heavily dependent on an egg survey carried out every third year, there appears to be no need for this WG has to meet every year. Species like anchovies and sardines might be included in the terms of reference of this WG as well.

Herring has traditionally been assessed by different methods from most other species and it would seem convenient to maintain this tradition. In my opinion, however, the two herring assessment WG should be merged into one, because this would guarantee a more consistent assessment among the stocks in different areas than ACFM has seen in the past. Evidently, there is reluctance within these WG to merge, but there would be considerable gain for ACFM if any discrepancies between herring assessments became resolved within one WG.

The Industrial Fisheries WG has to cope with very specific sampling problems. Although there would be advantages in merging the assessment with the assessment of North Sea roundfish because of severe by-catch problems, this is likely to present problems in the short term and therefore I would propose to keep this WG as it stands for the time being, but to aim for a combined WG in the future.

I am aware of the specific problems that are faced by two other existing species oriented WG, namely the Hake and East Greenland Cod WG. However, these groups suffer from limited participation and therefore I feel that the assessment would better be integrated within area oriented demersal fish WG in order to break with existing traditions and to allow for new ideas to emerge from larger groups of scientists.

Screening the existing WG thus leads to the conclusion that maybe 10 such species oriented WG might be maintained.

Area oriented WG.

Many of the existing WG are to a large extent area based, but with new requests reaching ACFM from the EEC for TAC's for specific areas and species, the actual split of responsibilities of different groups has become rather messy. Streamlining the tasks of the various WG and re-arrangement of their responsibilities for different stocks would therefore seem appropriate.

The North Sea Flatfish and North Sea Roundfish WG have developed in parallel over the years, but they actually employ very similar assessment methodology. Standardization would undoubtedly be further enhanced by combining these two into a North Sea Demersal Fish WG. Complete integration of the two groups would, however, result in a very large number of assessments that have to be made and extension of the duration would seem unavoidable. For logistic reasons therefore, it would seem better to establish one or two other Demersal Fish Assessment WG for Sub-areas VI, VII, VIII and IX. Since the hake, megrim and anglerfish stocks also fall in this region, a split into two WG would probably be appropriate, although it is not perfectly clear how the areas and species could best be split up. One proposal might be to establish a Demersal Fish Assessment WG for Sub-areas VI, the Irish Sea and Bristol Channel and to link the hake, megrim and anglerfish stocks to the WG on Fisheries Units in Sub-areas VII and VIII.

The Channel stocks of cod and flatfish could probably be assigned to the North Sea WG. My personal opinion about the WG in IIIa is that, although there may be logistic reasons from the management side to deal with IIIa separately, the biological reality is inconsistent with an assessment of the stocks in this area in isolation and therefore I prefer to have IIIa included with the North Sea.

The historic separation of a Baltic Pelagic and a Demersal WG has undoubtedly been justified in the past, but with the progress being made in the Baltic Multispecies WG a combined WG might be installed in order to anticipate future developments in this field.

The Northeast Arctic Assessment WG represents a true demersal area oriented WG and should be maintained, whereas the Northwestern Assessment WG could be merged with the East Greenland cod WG.

Method oriented WG.

There are at present 3 WG, which have less stringent terms of reference in respect of the provision of advice by ACFM. These are the Methods WG and the two multispecies WG. Although the latter two have been very much area-oriented in the past, it would seem appropriate to merge them into one, particularly since there does not seem a strong need to re-assess a multispecies system on an annual basis. This Multispecies WG could thus consider the North Sea and the Baltic, and possibly the boreal systems, alternatingly rather than having more parallel groups. This would enhance standardization of procedures between areas.

In addition there is the WG on Fisheries Units in Sub-areas VII and VIII. At some stage, when this WG has largely solved the methodological problems related to the area under investigation, the actual assessment might be transferred to an area oriented assessment WG. It would seem to me that a general Fisheries Units WG could then be asked to look for instance at the North Sea rather than installing a separate group for this area.

The following text table illustrates these proposals.

Original number	Proposed WG	days	frequency	time
<i>Species oriented WG</i>				
1	Seals Ass WG	8	1	?
2	Pandalus Ass WG	5	1/2	spring
3	Nephrops Ass WG	5	1/2	spring
4	North Atlantic Salmon Ass WG	8	1	spring
5	Baltic Salmon Ass WG	8	1	spring
6	Eel Ass WG	5	1/2	variable
7	Blue Whiting Ass WG	8	1/2	autumn
8/9	Herring Ass WG	10	1	spring
10/11	Mackerel / Horse mackerel Ass WG	10	1/2	autumn
12	Industrial Fisheries Ass WG	8	1	spring
<i>Area oriented WG</i>				
13/14/17	North Sea / Kattegat Dem. F. Ass WG	10	1	autumn
13/14/18	Sub-area VI and Irish Sea Dem. F. Ass WG	8	1	autumn
19/20	Baltic Fish Ass WG	10	1	spring
21	Northeast Arctic Ass WG	10	1	autumn
22/16	Northwestern Ass WG	8	1	spring
<i>Method oriented WG</i>				
23/15	Fisheries Units Ass WG	10	1	variable
24/25	Multispecies Ass WG	10	1	variable
26	Methods WG	10	1	variable
Total	18 WG	134.5	15	

DISCUSSION

The overall gain that could be achieved by the proposed re-arrangement would be a reduction of the number of WG from the present 26 to only 18. Apart from the fact that this reduction would obviously enhance the standardization of assessment methodology and the consistency between assessments, a real gain in time and efficiency would only be achieved, if the same work could also be done within less time. Apart from everything else, there is a clear gain for ICES in scheduling 18 instead of 26 assessment meetings, many of which are now overlapping and putting an extra burden on the ICES staff.

My personal view is that a 10 day meeting is the ultimate limit of what an assessment scientist can stand and an average of 6 to 8 days would probably be the optimum time-span in respect of efficiency. A possible reduction in the number of days depends heavily on the possibilities to finish preparatory work before the meetings start, but also on the terms of reference which are given to the WG. The first part is a WG matter. Responding favourably to requests from WG's for more days actually diminishes the need for the members to finish their home-work. This is therefore not the way to proceed. When the new computer system has been installed at ICES, I cannot see that there would be large difficulties in running the standard assessment procedures for all stocks simultaneously right from the beginning of the meeting and the final VPA's and predictions might be expected after 4 or 5 days. In this case, it should be possible to conclude an assessment meeting after 8 days at maximum, as long as there are no significant extra tasks given to the WG.

However, if for instance mesh assessments are required, this can only be done after the routine work has been completed, which means a considerable prolongation of a meeting. In my opinion, laying additional tasks on the shoulders of assessment WG should not be done lightly. ACFM of course plays a crucial role in formulating appropriate terms of reference, which the WG can cope with within a reasonable time. It would seem far better to convene ad hoc study groups in such cases or establish a general WG on Technical Measures. The extra time of

approximately 50 days gained by a general reduction in the number and duration of meetings might be employed to get additional jobs done more efficiently and under less stress. Lastly, ACFM would gain from less reports and more consistent assessments, so that relatively more time could be spent on quality control.

One argument that is often heard when advocating merging WG is that countries will send less people. However, this seems based on the assumption that national authorities are in fact irresponsible people. Although this may be true in some cases, there are also at present physical limitations to the number of meetings that can be attended by the available staff and countries may not be able to send an extra representative for that simple reason.

The real bottle-neck for ACFM is the number of stocks that have to be considered. In 1989 there were 120 "stocks", and for about 75 of these assessments were provided. The comparable figures in 1986 were about 90 "stocks" and 55 assessments, and further expansion can be expected. Whether these assessments are done by less WG might seem futile, but I do not think this is true. Consistency is more likely to be retained in fewer groups and therefore a reduction can be expected to serve the purpose. More time, however, could be gained by accepting the fact that for many stocks we are not really in a position to make a reliable update of our advice every year. It probably needs some time to convince the customers that a two year TAC advice is not necessarily worse in all cases than a fictitious update. ACFM could take a much stronger position here than it has done in the past!

There is of course no need to change things in a hurry or to introduce radical changes at once. The appropriate procedure would probably be to merge WG in the forthcoming years according to a pre-established plan, which takes into account the turnover of chairmen.

CONCLUSIONS

Based on these considerations, I come to the conclusion that

- *there are too many WG and the work presently carried out must be consolidated in less WG;*
- *WG should be area oriented rather than species oriented unless there are very specific biological reasons;*
- *the WG members must try hard to change the procedures, do more preparatory work at home, and come to the meeting preferably with a first trial run for the VPA ready;*
- *the duration of routine assessment WG meetings should be limited to 6-8 days and the terms of reference should be adjusted so that the work can realistically be expected to be finished within this time span;*
- *additional assessment tasks should be given to (a) separate group(s);*
- *ACFM must seriously consider in which cases requests for annual updates of assessments should be considered given the available data-bases en when a longer term TAC would seem appropriate.*

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