

**MINUTES OF THE
ADVISORY COMMITTEE ON ECOSYSTEMS**

ICES Secretariat

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International Council for the Exploration of the Sea
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TABLE OF CONTENTS

Section	Page
1 OPENING OF THE MEETING.....	1
2 ADOPTION OF THE AGENDA AND SCHEDULE OF THE MEETING; DESCRIPTION OF PROCEDURES .	1
3 INFORMATION REGARDING OTHER FORA.....	1
3.1 Fifth North Sea Conference—Bergen Declaration	1
3.2 Global Ocean Ecosystem Dynamics (GLOBEC), including ICES/GLOBEC Working Group on Cod and Climate Change (WGCCC)	2
3.3 Global Ocean Observing System (GOOS).....	2
3.4 Global International Waters Assessment (GIWA).....	2
4 DISTRIBUTION OF COLD-WATER CORALS IN THE ICES AREA IN RELATION TO FISHING ACTIVITIES [DG FISH REQUEST].....	2
5 IMPACT OF CURRENT FISHING PRACTICES ON NON-TARGET SPECIES AND SUGGESTIONS FOR APPROPRIATE MITIGATING MEASURES [EC DG FISH].....	3
6 BY-CATCH OF CETACEANS IN FISHERIES [EC DG FISH]	3
7 SENSITIVE HABITATS IN THE ICES AREA [EC DG FISH].....	4
7.1 Recommendations.....	4
8 REVIEW OF DRAFT OSPAR PRIORITY LIST OF THREATENED AND DECLINING SPECIES AND HABITATS [OSPAR 2002/EXTRA]	5
9 PROGRESS IN MARINE HABITAT CLASSIFICATION AND MAPPING IN THE ICES AREA, INCLUDING IN THE BALTIC SEA [HELCOM 2002/5]	6
10 EVALUATION OF ADVISORY FORMS AND MANAGEMENT APPROACHES NECESSARY AND SUFFICIENT FOR THE PROTECTION OF GENETIC DIVERSITY OF EXPLOITED STOCKS AND STOCKS SUFFERING SUBSTANTIAL MORTALITY AS BY-CATCH [EC DG FISH]	6
11 ECOLOGICAL DEPENDENCE IN MANAGEMENT ADVICE [EC DG FISH]	7
12 SCIENTIFIC COMPONENTS NEEDED FOR PROVISION OF SCIENTIFIC ADVICE REQUIRED BY AN ECOQO FRAMEWORK [PLANNING FOR SCIENTIFIC VALIDATION OF ECOQOS, BASED ON THE MINISTERIAL DECLARATION FROM THE FIFTH NORTH SEA CONFERENCE].....	9
13 DEVELOPMENT OF AN ECOSYSTEM APPROACH TO MARINE MANAGEMENT [DELEGATION OF TASKS AND RESPONSIBILITIES WITHIN THE ICES STRUCTURE]	10
14 GEF BALTIC SEA REGIONAL PROJECT—OPPORTUNITIES FOR COOPERATIVE ACTION	12
15 ORGANIZATIONAL AND PROCEDURAL ISSUES	12
15.1 Issues from the Management Committee on the Advisory Process	12
15.2 Report of the Study Group on ACFM Working Procedures	12
15.3 Working/Study Groups under ACE	13
15.4 Working procedures of ACE.....	14
16 WORK PROGRAMMES FOR 2003	14
16.1 OSPAR Commission	14
16.2 Helsinki Commission.....	14
16.3 European Commission	14
17 ANY OTHER BUSINESS	14
18 ADOPTION OF THE 2002 ACE REPORT AND REVIEW OF DRAFT MINUTES.....	15
ANNEX 1: LIST OF PARTICIPANTS.....	16
ANNEX 2: AGENDA	19

1 OPENING OF THE MEETING

The Chair, H.R. Skjoldal, opened the meeting of the Advisory Committee on Ecosystems at 14.00 hrs and welcomed the members.

Participants then introduced themselves and indicated their areas of scientific work.

The ICES General Secretary welcomed the participants. He noted that possibly the most urgency should be given to items 4 and 6 on the agenda, on cold-water corals and cetacean by-catches, respectively, for DG FISH. He pointed out that the members are here as individual experts who need to apply their expertise to the issues at hand on the agenda. He then wished the Committee well in its work.

The Chair expressed his thanks to M. Tasker for helping on two of the agenda items for the meeting, namely the item on cold-water corals as Chair of the SGCOR and also on cetacean by-catch as interim Chair of WGMMPH. He has worked very quickly and well in providing the reports from these groups rapidly. The Chair also commended ACE for responding rapidly to the e-mail review of the advice on cold-water corals last October.

The Chair also raised the concern of DG FISH that conflicting advice may be produced by the different ICES Advisory Committees. This concern is stated in an annex to the SG report.

Finally, he noted the concern of the Bureau that Advisory Committees provide advice rather than simply compiling scientific information. He pointed out that the time scales for fisheries management use of advice is a clear annual cycle, while on the environment side, the cycle can be much longer. At present, OSPAR is reviewing its Joint Assessment and Monitoring Programme and ACE may be interested in this.

The Consultative Committee is now finalizing a draft Action Plan for the ICES Committees, which is of interest to ACE.

The Chair wished to emphasize the need to consider interlinkages in the ecosystem in its work and these linkages and their impact, both directly and indirectly.

The Chair then pointed out the role of ACE in quality assurance in the ICES system of the material provided by the various working groups that ACE will be reviewing. The responsibility for the quality of the scientific information rests with ACE, but the material provided represents a good basis to work from.

2 ADOPTION OF THE AGENDA AND SCHEDULE OF THE MEETING; DESCRIPTION OF PROCEDURES

ACE reviewed the draft agenda. The Chair pointed out that several of the agenda items were based on the letter from DG FISH from September 2001, some of which are for beginning work on issues. Two items, agenda items 4 and 6, are to respond to specific requests from DG FISH. In addition, there is a relatively recent request from OSPAR to review the draft list of threatened and declining species and habitats, and a request from HELCOM on marine habitat classification in the Baltic Sea.

The schedule for the meeting was reviewed in detail. Three sub-groups have been proposed to work on some of the agenda items on Sunday.

The agenda and timetable were adopted without comment.

3 INFORMATION REGARDING OTHER FORA

3.1 Fifth North Sea Conference—Bergen Declaration

The Chair provided a summary of the outcome of the Fifth North Sea Conference. Section 1 of the Bergen Declaration commits the North Sea countries to implementing an ecosystem approach to management in the North Sea. The section on fisheries also mentions target limits for fish stocks. Prior to the Conference, a workshop on research priorities in relation to developing an ecosystem approach had been held.

3.2 Global Ocean Ecosystem Dynamics (GLOBEC), including ICES/GLOBEC Working Group on Cod and Climate Change (WGCCC)

K. Brander provided an overview of recent activities of the ICES GLOBEC office and the new activities that are being initiated in the North Atlantic. The main activity this year has been a Workshop on Transport of Cod Larvae, which took place in April.

He then presented some recent results of studies of the distribution of several fish species and zooplankton species in the Northeast Atlantic, which generally show a northward movement in the distribution of species that traditionally have inhabited more southern waters. This is only partially related to temperature, and appears to be related to the shelf currents.

H. Sparholt stated that ACFM has proposed to amend the reference points for fish stocks owing to the changes that are being observed in fish stocks and their distribution based on environmental change.

3.3 Global Ocean Observing System (GOOS)

H. Dooley provided an overview of recent developments in GOOS in relation to the ICES area. He particularly mentioned the NORSEPP project in the North Sea, which relates to fish stock assessment. In addition, there will be an open lecture by Tom Malone on what ICES can contribute to GOOS. This will be followed by a Theme Session on operational oceanography, at which there will also be papers from the stock assessment community in addition to the traditional oceanographic papers.

F. Colijn described a new project to interest European ferry lines to serve as ships of opportunity in taking continuous measurements using automated equipment.

3.4 Global International Waters Assessment (GIWA)

E. Andruliewicz pointed out that there is a brief description of GIWA in the SGEAM report. GIWA is co-sponsored by UNEP, GEF, and other donors to provide a global assessment of international waters, both fresh waters and marine. There is a defined, standardized methodology that is being employed in the development of assessments of the water bodies, which have been divided into 66 regions over the globe. In addition to the environmental aspects, socio-economic implications are also included in this assessment. As the ICES area is included in this global assessment, ICES has been approached to join this work.

4 DISTRIBUTION OF COLD-WATER CORALS IN THE ICES AREA IN RELATION TO FISHING ACTIVITIES [DG FISH REQUEST]

C. Frid presented a draft section for the report based on material from SGCOR. As this is in response to a request from DG FISH, the area covered is only the Northeast Atlantic.

In the review of this section, the question was raised as to whether this material only covered bottom trawling so that pelagic trawls would be allowed. However, it was felt that any towed gear that impacts on the sea floor, whether intentionally or accidentally, should be covered in this section. Thus, the best terminology could be “mobile gears that may impact the sea floor”.

A description of one type of mitigation measure was provided in the draft section. It was felt that an evaluation of this, and possibly other, mitigation measures should be provided and then the advice should be given. In the discussion, it was pointed out that current measures are still being evaluated, so this material covered the information that was available. At present, we can be confident that closure will give good protection, but other potential measures have not yet been evaluated, so we cannot comment on any other measure.

The question was raised as to whether we need to protect all areas where corals are found or only some of these areas. It was felt that ACE should consider this. It was pointed out that damage to coral is long lasting; it is difficult for them to recover from damage. In addition, it appears that corals may be important to the productivity of marine ecosystems, although this has not been proved clearly. However, there is a desire to maintain biodiversity, and to see coral reefs as having intrinsic value. The case must be made for why we should protect cold-water coral reefs from fishing effects in opposition to the protection of all the other benthic habitats that are affected by fishing. However, this question is a social and policy question, and as such should rather be handled by the EC.

The EC Observer pointed out that coral reefs are protected by law under the Habitats Directive. Coral reefs are explicitly mentioned in the Habitats Directive and they are a matter of public concern. This is the background to the request for this information from the EC.

It was pointed out that many coral reefs have been damaged by fishing, both intentionally and unintentionally, and now there is a desire to protect the reefs that remain. However, as it is difficult to study these deep-water corals and they have not been studied extensively in terms of their distribution, it is impossible to evaluate how much remains of the coral reefs that originally existed.

It was proposed that a summary of some WGECO text on avoiding destroying sensitive habitats should be included here.

In the review of the final draft, ACE agreed that SGCOR should be requested to update its report on cold-water coral distribution regularly.

5 IMPACT OF CURRENT FISHING PRACTICES ON NON-TARGET SPECIES AND SUGGESTIONS FOR APPROPRIATE MITIGATING MEASURES [EC DG FISH]

N. Daan presented a draft section for the report based on material from WGECO. He noted that there may also be some relevant information from the report of the Study Group on Elasmobranch Fisheries.

In the discussion, it was noted that WGECO recommended that a Study Group should be established to cover this issue. It was proposed that draft terms of reference be prepared for such a group at this meeting, if time permits.

6 BY-CATCH OF CETACEANS IN FISHERIES [EC DG FISH]

M. Vinther presented a draft section for the report based on material from WGMMPH. He pointed out that the material does not contain many recommendations and more will undoubtedly need to be added.

The EC Observer stated that the 2001 ACE report gave five different modes of action that could be taken, but they were not specific enough. Recommendations should be prepared that are as sufficient as possible. For example, recommendations for closed areas should provide for closure of an area that is sufficient to adequately protect cetaceans without being overly restrictive.

In reviewing the information on by-catch of cetaceans, it was pointed out that this material is supplementary to the material presented in the 2001 ACE report.

It was proposed that by-catch figures be presented as a percentage of the population in a given area, if possible, so that these figures can be compared with the 1.7 % target level for maximum by-catch levels for harbour porpoises. M. Tasker pointed out that this would be difficult to calculate at this stage.

The EC Observer stated that this request has been made because cetaceans are specifically covered by the Habitats Directive, and populations are supposed to be kept within favourable conservation status. The EC is not a party to the ASCOBANS agreement, so the 1.7 % target is not binding on the Commission.

Noting that the basic material for this section of the report was taken directly from the WGMMPH report, it was questioned whether this entire material should be included or whether it should be shortened significantly. Also, it was questioned whether references should be included in this section. At this stage, it was decided to retain this material in order to have a complete response and retain a transparency as to the origin of the statements.

The EC Observer questioned whether the information was complete, because only the fleets of certain countries are mentioned for specific areas, whereas it is known that there are other fisheries in those areas. In response, it was pointed out that information on the distribution and effort of fisheries is not easily available and there is no comprehensive information on this topic. Furthermore, there is no requirement for reporting by-catches nor for having observers on board fishing vessels. However, the obligation has existed since 1992 for EU Member States to collect data on by-catch in fisheries and to report these data. This does not include a requirement for having observers on board.

ACE decided to recommend once again, as was done last year, that data be collected on by-catches of cetaceans using observers on board the fishing vessels. This recommendation must be made very clearly and should make the point that,

until such time as this programme is implemented effectively, it will be impossible to provide full advice on this topic. A comprehensive observer programme is needed to provide the complete information so that all fleets are included.

It was pointed out that WGMMPH had been unable to provide a recommendation on time/area closures owing to the lack of adequate data on by-catches in the various areas and fleets. However, it was agreed that a recommendation should be provided that a temporal closure should lead to a reduction in by-catch in proportion to the amount of time that the fishery is closed. This is also generally true for area closures.

A recommendation for overall collection of data using observers on vessels should cover the entire area.

The requirement for pingers was discussed, but it was agreed that there should be no overall requirement for pingers. This requirement should be on a gear and an area basis. And this requirement should cover all such vessels in the designated areas.

The question was raised as to whether a reduction in fishing capacity could be just as effective as the use of pingers. It was agreed that effort reduction should be included as one mitigation measure.

Subsequently, more detailed recommendations for the use of pingers by area and fishery were considered. In the discussion, it was questioned whether the wide-scale use of pingers in the North Sea will be effective. This recommendation should be followed up by a recommendation to monitor the effectiveness of the use of pingers. A number of amendments were agreed on the recommendations; the preceding text was agreed without further comment.

7 SENSITIVE HABITATS IN THE ICES AREA [EC DG FISH]

T. McMahon presented a draft section for the report based on material from WGECO.

It was felt that the definition of habitat sensitivity should be related to specific types of external factors.

ACE considered whether this material should be provided as guidance to the outside world or should rather be considered as internal material for further work. It was noted that WGECO has recommendations for future work on this topic.

In the detailed discussion on this draft section, the wording of the definition of habitat sensitivity was questioned as well as the order of the conclusions. The conclusions should clearly define where we have information and what still needs to be done. It was agreed that the conclusions would be reviewed and restructured.

In terms of the definitions, sensitive habitats can be defined in terms of their structural properties, while critical habitats are defined in terms of their being critical to certain external factors. However, it is difficult to categorize habitats as sensitive without being more specific in relation to conditions. We could clarify this definition as sensitive habitats in relation to physical disturbance, particularly fishing activities. Habitats can be ranked according to the reversibility of the impact of perturbations on them.

However, it was pointed out that the request is in relation to mitigation measures that can prevent damage from happening to certain types of habitats from fishing activities, and this section should be written in relation to this objective.

It was noted that the issue of sensitivity probably needs to be explored further in relation to habitat classification and other relevant issues, particularly in relation to what the habitats are sensitive to.

7.1 Recommendations

- 1) ICES should progress work on the sensitivity of marine habitats to fishing impacts.
- 2) ICES should include evaluation and definition of appropriate levels of marine habitat sensitivity in future work plans along with work on the recovery rates of different habitats after impact from fisheries activities.

8 REVIEW OF DRAFT OSPAR PRIORITY LIST OF THREATENED AND DECLINING SPECIES AND HABITATS [OSPAR 2002/EXTRA]

The Chair reported that this is an extra request from the OSPAR Commission that was received in January 2002. It was considered by MCAP, which decided that ICES should accept to handle this request, although we could not promise to cover the full range of items that are contained on the draft list of species and habitats. OSPAR is still in the process of defining criteria for the listing of species and habitats as threatened or declining. These criteria are termed the Texel-Faial Criteria after the locations of the workshops at which they have been prepared. ICES was requested to review the draft list on the basis of the data on which each species or habitat had been proposed; in addition, the draft Texel-Faial Criteria should be considered, but as they are not final this is not a priority part of the request.

H. Rumohr provided an overview of the types of species and habitats that are included in the draft list. He stated that there is a need for geo-referenced data, and we must be careful not to make global statements based on the material available. The Working Groups that provided responses to this request had a number of comments on the draft criteria.

The format for the response on this request needs to be determined. C. Frid stated that at WGECO a template was used to provide a consistency of approach, and other Working Groups have taken a similar approach, but using different formats. He proposed that all this material be summarized in a table.

The Chair proposed that the body of the ACE report should contain a description of the basis for this review, an overview of the conclusions reached on this list, together with a summary table of these conclusions. However, the information and assessments provided by the various Working Groups could also be of great interest to OSPAR in their further work on this topic, so some means should be found to provide this material. This could be pulled together in an annex to the ACE report. It would be useful to put these contributions together in a common format, to the extent that this is possible without taking too much time. The WGECO format provides a good template for this.

The question was raised about the double treatment of coral reef habitats. Given that there are two Commissions that are requesting this advice from different standpoints, it was felt that individual responses should be given to each request, but that the advice must be consistent.

The case of where there is poor evidence or a lack of evidence for the statements made was discussed, as for many of the items on the list there is a lack of published evidence. Also, consistency should be checked in the statements of the various evaluations provided by the Working Groups on the species and habitats on the draft OSPAR list. Clear justification should be provided if we recommend that certain items should not remain on the OSPAR list.

It was noted that there is an underlying problem of what is a habitat: is it only a physical feature or does it also include the associated community? It was pointed out that there will be a Theme Session on Atlantic seamounts at the 2002 ASC, which should provide a good deal of information on these habitats. There is a good deal of evidence that fish associated with seamounts can easily become depleted, but there is no clear evidence that fishing on these seamounts has actually damaged the habitat itself.

A sub-group under H. Rumohr will review all the responses from the Working Groups with regard to the draft OSPAR priority list of threatened or declining species and habitats, checking for consistency in approach, and consistency among the various responses.

Subsequently, ACE reviewed the compiled overview of the responses provided by the various working groups on the threatened and declining species and habitats that had been prepared using the format prepared by WGECO for this review.

The table provides a summary of the ICES advice; the basis for this summary is contained in an annex, which includes the details providing the evidence for the material in the table.

Several comments were made concerning the format of the table and the contents of this table. The standard comment for the cases in which ICES did not provide a review for specific species was also considered and amended slightly.

The question was raised as to whether ACE should comment on the inclusion of commercial fish species, that are subject to regulation under another regulatory scheme, on a draft OSPAR list of threatened and declining species.

ACE discussed whether a draft statement under both cod and salmon as to whether the inclusion of these species on the list of threatened and declining species would further aid the recovery of these stocks. It was pointed out that there is a

difference between the level at which OSPAR is designating threatened or declining species and the level of the assessment of fish stocks, and this is an important issue. ACE agreed that a statement to this effect should be added to the introductory paragraphs of this response.

The question was raised as to whether ACE should comment on the Texel-Faial criteria for the selection of threatened and declining species and habitats and it was noted that ICES was specifically not requested to comment on these criteria. They have been developed in OSPAR through a series of workshops in which stakeholders have been involved in addition to scientists. Thus, a purely scientific review at this stage was not envisaged.

It was considered that the overall format of this response was excellent and that this response had been handled well in the context of the request. This was considered a comprehensive response to the OSPAR request.

9 PROGRESS IN MARINE HABITAT CLASSIFICATION AND MAPPING IN THE ICES AREA, INCLUDING IN THE BALTIC SEA [HELCOM 2002/5]

P. Keizer presented a draft section for the report based on material from WGMHM. This section contained a recommendation that ICES endorse or support an OSPAR workshop to develop plans for mapping initiatives. Regarding the HELCOM request that ICES extend the work on habitat classification to the Baltic Sea, it was noted that discussion papers will be prepared for the next WGMHM meeting to review the application of the EUNIS classification to the Baltic Sea. These papers will be needed to facilitate a clearer definition of what HELCOM expects from a classification system, so that this can be taken into account in further work regarding the Baltic Sea. At present, it is not clear what HELCOM would like to obtain in terms of habitat classification and mapping, and they must give a clear specification before further work can be done. Nonetheless, it was pointed out that there is a need for a classification system to be developed fairly soon.

In the discussion, it was noted that the EUNIS classification system has not been accepted for North America or for the Baltic Sea.

It was recalled that last year ACE had noted that the scale of habitat classification is much finer than the scale at which management decisions are made. The habitat classification scheme is at the level of metres while the management scale is at the level of several square kilometres. Thus, not all the management needs will be met by EUNIS. In addition, clear rules must be developed for spatial aggregations to broader geographical areas. A good classification scheme should also be able to take into account processes, such as anoxia, and these processes should not get lost at the bottom of the scheme, as seems to be the case in the EUNIS system.

In addition to the spatial resolution, there also needs to be a temporal resolution for the Baltic Sea, in terms of ice and other seasonal occurrences. Knowledge of the bathymetry is also very important in classification.

It would be useful to know the requirements for habitat mapping in terms of sand and gravel extraction, the effects of fishing, and other relevant activities.

ACE considered the recommendation that ICES support an OSPAR workshop on habitat mapping with particular emphasis on the North Sea; ACE agreed that support and active involvement in this workshop should be provided by ICES for this workshop.

It was pointed out that the response to the HELCOM request in this section is not clear. Further discussion indicated the importance of holding a workshop to prepare a detailed work plan for the development of a marine habitat classification scheme for the Baltic Sea. It was pointed out that this workshop could benefit from the participation of experts from other areas. Draft terms of reference for this workshop will be prepared for consideration at the ACE Consultations Meeting at the end of September.

10 EVALUATION OF ADVISORY FORMS AND MANAGEMENT APPROACHES NECESSARY AND SUFFICIENT FOR THE PROTECTION OF GENETIC DIVERSITY OF EXPLOITED STOCKS AND STOCKS SUFFERING SUBSTANTIAL MORTALITY AS BY-CATCH [EC DG FISH]

J. Rice presented a draft section for the report based on material from WGAGFM and WGEKO. The material from these two groups was coordinated owing to the participation of two members of WGAGFM in the WGEKO meeting. He pointed out that, as we do not have the information to regulate specifically against the loss of genetic diversity,

general rules-of-thumb are provided that would minimize the risk of loss of genetic diversity. Specific considerations need to be developed on a case-by-case basis.

In the discussion, a question was raised concerning the impact of the loss of genetic diversity on the stock that was mentioned in the advice. The full example is provided in both the WGECO and WGAGFM reports, but was considered too technical to be included in the ACE report. Noting that these changes were in the direction of earlier maturation and spawning at younger ages and sizes, and also have an effect on the maximum size of the adults, ACE felt that this should be summarized briefly as there are commercial implications. There are very significant implications for some of these changes on the life history of some of these stocks.

It was pointed out that ACE should provide advice on preserving the total range of genetic diversity of fish populations, given that we cannot predict which traits are the most important for the preservation of the stock. We are not looking to take an agricultural approach to developing fish stocks, and caution must be exercised.

It was pointed out that in considering genetic change in fish populations, it is important how the objectives for reducing genetic change are stated as they will have a strong impact on how this is treated.

It was noted that fishing pressure is selective for the large fish and the loss of the largest fish may select against traits that allow survival of the earliest stage in the life history of the fish, at which the largest proportion of mortality occurs.

In the discussion, it was pointed out that the original material from WGAGFM was very technical. At WGECO, this material was simplified, and the summary for ACE has removed much of the technical details. ACE felt that an expert in genetics should review this section of the ACE report to ensure that there is no misinterpretation of the original genetics material.

ACE requested that some additional material be included in this section, covering the case study mentioned in the recommendations. Some key references should also be added to substantiate some of the statements.

11 ECOLOGICAL DEPENDENCE IN MANAGEMENT ADVICE [EC DG FISH]

S. Jennings presented a draft section for the report mainly based on material from WGECO. He pointed out that the ecological dependence that is apparently in question here is the predator-prey relationship. The question arises from the outcome of the ACE consideration last year on the use of precautionary reference points as EcoQOs. This draft section covers situations when ecological dependence may affect management advice. Several cases where such ecological dependence is already being considered in the development of the advice are described and suggestions are provided on stocks for which ecological dependence may need to be considered in management advice.

In discussion, it was pointed out that while it is very worthwhile to investigate predator-prey relationships, this is time-consuming and expensive work and not many institutes are able to carry out this work.

It was pointed out that the strong interactions between marine mammals and fish in Arctic waters should be mentioned, as this is a significant factor. In discussion, it was felt that the ecological roles of marine mammals should be addressed with regard to forage fish and other fish; however, the issue of competition between marine mammals and fishermen for the fish should only be mentioned, but without going into any detail.

The Chair noted that much of this information has been obtained in other types of studies, and further studies of the ecosystem, including data collection, should be made more systematic. Physical forcing should be taken into account to a greater extent; this is documented in certain cases, but has not been clearly addressed in other cases. Furthermore, the appropriate spatial scale for taking these interactions into account needs to be determined.

In discussion, it was felt that a clear response to this specific question should be given to DG FISH, concentrating on what they are interested in. This can include a paragraph that indicates that this is only one of many factors that are relevant for consideration.

The EC Observer stated that the idea behind this request is to identify stocks that are closely linked, such as cod and sprat in the Baltic Sea. Knowing that ICES will re-examine reference points, it is important to know whether ecological dependence should be taken into account in the revision of these reference points.

The Chair of ACFM stated that a process will be initiated that will review all the reference points to ensure that they are at a proper level and to remove inconsistencies.

Examples were given of cases in which the forage fish were considered more important than the predator fish, namely, cod and *Nephrops* in the Irish Sea area and cod and shrimp in the area near Greenland.

Concern was expressed that ACFM has started the process of reviewing and revising reference points without involving ACE and persons with expertise in ecosystem issues. If reference points are to be revised within one year, the schedules must be planned carefully so that appropriate consultation can be catered for. It was pointed out that the 2002 WGECO meeting developed a proposal for the Working Groups that should be involved in the process of including ecological dependence in fish stock assessments, as well as a time schedule for this work.

CAMLR has developed a framework that accounts for all levels of the ecosystem to protect them from the outset, and sets a very good example for how this can be done.

In reviewing the recommendations in this draft section, it was noted that the development of guidelines for considering ecological dependence in management advice will require considerable effort on the part of the scientists and working groups in ICES. The EC Observer pointed out that the development of such guidelines is already covered by the MOU between ICES and the EC as part of the long-term considerations required in fisheries management.

ACE agreed to include the WGECO table identifying relevant working groups and the time frame for carrying out this activity in its minutes (Table 11.1).

Table 11.1. The proposed process for the continued development of a mechanism for ICES to provide for “ecological dependence” in management advice.

Task	Lead party(ies)	Example timeframe
1. Development of a framework for assessing what constitutes a “strong ecological linkage”	WGECO	March 2002
2. Development of guidelines for Working and Study Groups to use the framework, to know when they are dealing with cases where “strong ecological linkages” are present	WGECO	2003
3. Development of guidelines for Working and Study Groups and Advisory Committees, to know what weight to give “strong ecological linkages” when drafting or finalising advice	WGECO and Advisory Committees and Working Groups	2003
4. New initiatives proposed, new scientific data emerge, new societal preferences expressed	ACE/WGECO	Spring Year 1
5. Specialists use framework for the gathering and assessment of information and commentary provided to WGECO on priority cases Biotic interactions Habitat interactions	BEWG WGSE WGMMPH WGEF BEWG WGMHM	Autumn Year 1 – Spring year 2
6. Review of priority cases and analysis of ecological relevance, nature and strength of the linkages, and the threats to them	WGECO	May Year 2
7. Assessment of possible management responses for protection of ecological linkages and provision of commentary to ACE	WGECO	May Year 2
8. ACE formulates advice to ICES customers	ACE	Aug/Sept Year 2

With these comments, ACE adopted this section for its report.

**12 SCIENTIFIC COMPONENTS NEEDED FOR PROVISION OF SCIENTIFIC ADVICE
REQUIRED BY AN EcoQO FRAMEWORK [PLANNING FOR SCIENTIFIC VALIDATION OF
EcoQOs, BASED ON THE MINISTERIAL DECLARATION FROM THE FIFTH NORTH SEA
CONFERENCE]**

The Chair recalled that ACE had provided advice to OSPAR last year on EcoQOs for seabirds and marine mammals, including the development of a general framework for EcoQOs. This year further work has been done by several working groups, particularly WGECO. In addition, WGPE, BEWG, and MCWG were requested to review scientific studies in relation to EcoQOs on eutrophication. ACME had discussed EcoQOs on eutrophication issues at its meeting immediately preceding the ACE meeting, and has provided agreed text for ACE for consideration under this item.

M. Tasker presented some draft text on this topic, based on work from WGECO and several other Working Groups, as well as the outcome of the ACME meeting earlier in the week. He noted that there are still problems with the use of terminology for EcoQOs, which contributes to the confusion and lack of understanding of these concepts. He felt that further work needs to be done on terminology to clarify and standardize the language.

It was proposed that the minimum that ACE can do is to provide the wisest commentaries that we can on the Bergen requirements. We can also provide comments on the language to make it more consistent with that used in other relevant activities, given that the language is causing a number of problems. Finally, we could also provide broader comments on the issue of the process by which these EcoQOs are being developed.

It was pointed out that EcoQOs can be considered as one aspect of an ecosystem approach; this is one component in an integrated management system and this holistic aspect should be considered when we prepare this advice.

Concerning the terminology, the framework in which EcoQs, EcoQOs, and EcoQ elements are used does not differ from other frameworks, such as indicators and reference points. EcoQ elements are like indicators, and EcoQOs are like reference points, i.e., something that you can measure and regulate against. However, this terminology is different from terms that are used in other organizations where the terminology has been in use for a number of years, and the correspondence is not always clear or used consistently. It was pointed out that in preparatory work for what is now the EU Water Framework Directive in the late 1980s and early 1990s, the term ecological quality objective was proposed. The North Sea Task Force was requested to develop this concept in more detail, and this was done in a series of workshops. The differences in terminology then developed in proposing means of operationalizing the ecological quality objective framework. If we want to change the definitions from those used in the EU Water Framework Directive, we need to have a clear justification, as that has been the basis for the terminology that has evolved.

It was proposed that EcoQOs be viewed from a tiered approach, with EcoQOs at different levels of a tiered system, from broader tiers at a higher level to more specific tiers at a lower level. This would then permit overlapping EcoQOs occurring at different tiers.

Objectives should be set to some quantifiable parameter in the environment. Supporting information may also be needed to interpret this objective. In interpreting our indicators, we may need a suite of quantitative information to be able to understand their implications.

In the discussion of terminology, it was pointed out that the various partner organizations of ICES will inevitably use different terminology and there is nothing that we can do about this. Thus, it would be best if ICES develops clear terminology for its own use and then ensure consistent use of that terminology. As the advice on ecological quality is to be used for management decision making, the terms need to be very clear and used consistently. The meaning of EcoQ metric needs to be clarified and related to the North Sea Conference term EcoQ element.

It was pointed out that one source of confusion in last year's report was switching between ICES definitions and the assumed OSPAR definitions. We should define the ICES terms and then use them, without relation to other potential uses of the terms.

The question was raised as to whether to include material in the WGECO report concerning a process for screening potential candidates for identifying appropriate EcoQOs and defining a reference level for them. ACE agreed that this portion of the WGECO report should be included in the ACE section of the report on this topic.

ACE reviewed draft text for the report for this section and a number of comments were made on the text. The comment was repeated that it would be useful to simplify the terminology, using "indicator" instead of "EcoQ metric". This

terminology has developed further since last year's ACE meeting and there is now a broader international agreement on relevant methodology.

Based on the discussion, ACE agreed the following recommendations for ICES activities to follow up the work on the development of EcoQOs:

- 1) WGECO should be the lead Working Group to coordinate the scientific input needed for advisory support to the developing EcoQO framework. Some of this coordination will be through work done by WGECO, and some through evaluation against consistent standards and integration of work done in other Working and Study Groups.
- 2) a) ICES should provide the necessary synthesis, analysis and reporting of results for the EcoQOs in relation to: i) SSB for commercial fish stocks (ACFM + assessment WGs); ii) seal population trends; and iii) harbour porpoise by-catch (ACE + WGMMPH); iv) oiled guillemots (ACE + WGSE);
b) ACE should lead on the advice output to OSPAR/North Sea Ministers;
c) Over the next round of meetings, the appropriate ICES Working Groups should consolidate the available data relative to the eutrophication EcoQs and EcoQOs, review the proposed EcoQ elements and objectives, and where necessary suggest altered or alternative EcoQ elements and objectives. The objective of this work is to understand the properties of the selected indicators, and propose modifications that may make them more operational and well linked to monitoring programmes. WGECO should consider the results of these reviews in the context of the evaluation criteria and screening processes that they have been developing, and the overall goal of supporting an ecosystem approach to scientific advice and management.
- 3) In relation to medium-term development of EcoQOs, we recommend that:
a) With regard to the EcoQ for fish communities, WGECO should i) consolidate the scientific basis for the EcoQ elements and reference levels; ii) consolidate the scientific basis for the two suggested EcoQ elements and their reference levels; iii) further quantify the relationship between fishing effort and the two metrics of fish communities; and iv) continue to develop and evaluate candidate metrics of fish communities, particularly with regard to factors such as spatial integrity and ecological functionality.

13 DEVELOPMENT OF AN ECOSYSTEM APPROACH TO MARINE MANAGEMENT [DELEGATION OF TASKS AND RESPONSIBILITIES WITHIN THE ICES STRUCTURE]

T. Noji presented an overview document that compiled material on ecosystem approaches to management on the national, regional, and international levels, providing a very brief summary of the core elements of these approaches. This compilation was based on the 2001 and 2002 SGEAM reports as well as various other reports that he had reviewed for this document. This document contained several recommendations for future work, providing for the establishment of a Regional Ecosystem Group (REG) for the North Sea and one for the Baltic Sea, as well as the establishment of a permanent working group that should focus on ecosystem-based management issues.

Noting that there is considerable interest in this topic, the Chair proposed that a summary of the developments in the ecosystem approach to marine management would be useful to be included in the ACE report.

In the discussion, it was noted that developments in this area are occurring rapidly, particularly in North America and Australia. However, if we are to include some of this material in the ACE report, it should be very up to date. In addition, we should include a relatively balanced view of these new programmes, and not only the positive side of an ecosystem approach.

It was felt that there is a need to distinguish between marine management as a whole and fisheries management. Fisheries management does not intend to manage the marine environment, and this should be clarified at the outset of this document.

Several initiatives were noted to be missing. There is a project in Ireland to develop an ecosystem-based programme to manage the Irish Sea. Also, the EC is now developing a strategy for managing the marine environment. From the fisheries side, it would be important to quote the FAO initiatives for an ecosystem-based approach to fisheries management that arose from the meeting in Reykjavik in October 2001.

It was noted that we cannot manage the ecosystem; we can only manage human activities.

A question was raised about the recommendation that a working group be established on the ecosystem-based approach and whether this should not be done by ACE. It was noted, however, that there is a need to integrate scientific information over a large number of fields and this is best carried out by working groups.

Doubt was expressed about whether a REG for the Baltic Sea could be successful, as this approach has been attempted before. But ICES might be able to play a role in promoting integrated work in the Baltic Sea.

Several alternative approaches were elaborated in terms of how existing work in, e.g., fish stock assessment working groups, can be amended or expanded to include broader consideration of ecosystem issues. Fish stock assessment working groups are regional by nature, given the distribution of the stocks, and they could serve as a basis for developing regional ecosystem assessments.

It was pointed out that at least three Assessment Working Groups are taking hydrographic conditions and plankton conditions into account in their work, including the Baltic Assessment Working Groups. For the Baltic, it has been proposed that this information be collated by the Baltic Committee to be used by the Assessment Working Groups. Thus, there are some initiatives taking place.

It was pointed out that the draft new Common Fisheries Policy will set up Regional Advisory Groups, so ICES will need to gear its advice to the regional level. We must take account of what is occurring in other organizations in this field.

It was commented that the SGEAM terms of reference are too broad, and the report is not clear. It was noted, however, that there is a need to have the correct persons attending the meetings, with the correct level of preparation.

The issue of governance in an ecosystem approach to management also needs to be addressed, either by a working group or possibly by a Dialogue Meeting.

It was proposed that the document prepared for this agenda item should include a summary of the national initiatives, information on developments in the fisheries area including FAO and the EU, as well as other relevant regional or international developments. The issue of integration could be explored in terms of how existing working groups can be asked to expand their work to take on new issues. Another approach would be to look to the role of ICES in the further development of EcoQOs and the pilot project requested by the Bergen Declaration, and then determine whether this can be handled by the existing working groups or whether a new group is required.

A revised draft of this section was subsequently reviewed.

In discussion of this draft section, the question was raised as to whether ACE should adopt a definition of an “ecosystem approach to ocean management”. The proposed ACME definition contains the words “sustainable use of ecosystem goods and services”, which is an American terminology that has not been used in ICES. However, last year ACE was not able to agree to a definition. It was proposed that ICES does not need its own definition of ocean management, but that ICES should use the definitions that the customers are using. The alternative approach is that ICES sets up a study group to develop definitions for the terminology that ICES will use in its ecosystem work.

It was agreed that the ACME definition should be taken out of this section.

The comment was made that very few changes were made to this text based on the discussions that took place earlier during the meeting. The text now under consideration was proposed to be used as an internal document, as there are developments that have not been included in this text that must be used as a basis for further work in ICES.

It was noted that there are a wide range of views on the ecosystem approach within ACE, and we have not yet reached consensus. We need to capture the diversity of opinions that have been expressed in the discussions in ACE in the text on this subject, so that we have a basis for developing consensus. The major international bodies are not saying the same thing on this subject, so we should not be ashamed that ACE has not yet reached consensus on this topic.

The Chair invited specific presentations and comments on alternative views so that they can be developed further. He invited views on how this issue can be taken forward in ICES.

Generally, it was commented that the text up to Section 13.3.6 was acceptable, but that the text on a framework for an ecosystem approach is not accepted. Several comments were made on the text up to this section, for finalization for the ACE Report.

14 GEF BALTIC SEA REGIONAL PROJECT—OPPORTUNITIES FOR COOPERATIVE ACTION

J. Thulin provided an overview of the current status of the GEF Baltic Sea Regional Project. The Project is composed of four components: 1) large marine ecosystem activities; 2) land and coastal management activities; 3) institutional strengthening and regional capacity building; and 4) project management. The project is expected to start in autumn 2002 and run for six years. It is anticipated that the funding for the first two years will be agreed on 18 July, which will be the starting date for the project. Further information can be found on this project on the ICES website. This project will promote coordination among the major organizations and institutes in the Baltic Sea area, as well as harmonization of the major activities in relation to studying the Baltic ecosystem and human influences on it.

In terms of potential interactions between this project and ACE, it was noted that no specific questions could be foreseen at present for ACE to answer, but ICES work in relation to the project will be conducted within the current ICES working group system. The Baltic Committee will be heavily involved in the implementation of this project, and ACE can expect to be involved also.

The question was raised as to whether habitat classification and mapping is part of this project. Economic support for these activities will be explored under this project. Thus, there is a potential that this project could support the workshop on habitat mapping in the Baltic Sea that was proposed under agenda item 7, above.

15 ORGANIZATIONAL AND PROCEDURAL ISSUES

15.1 Issues from the Management Committee on the Advisory Process

The Chair pointed out several items from the report of the January meeting of MCAP. These included that the working group system, particularly that related to Assessment Working Groups, is overloaded with work. It is proposed that an external review be conducted for ACFM. He also pointed out the discussion about scientific information and advice, and whether all advice necessarily is only for management. On the environmental side, advice has traditionally been provided by ACME on monitoring guidelines and other related issues. The topic of how eutrophication issues are handled was also discussed by MCAP. Finally, MCAP discussed whether observers should be admitted to meetings of the Advisory Committees.

In the discussion, it was noted that there is no consensus within ICES concerning the issue of observers. At present, at the working group level, anyone nominated by a national Delegate can attend a working group meeting. This means that persons from industry can attend a working group meeting provided that they have been nominated by a national Delegate. These persons can contribute helpfully to the work of the group, but there are other implications. Within a year or so, there will need to be much clearer guidelines concerning participation in working group and advisory committee meetings.

The Chair proposed that members consider this issue and speak with their Delegates about it.

15.2 Report of the Study Group on ACFM Working Procedures

The Chair of ACFM, Tore Jacobsen, provided a brief overview of the report of the Study Group on ACFM Working Procedures. He noted that the regional aspect has been given a high priority in this report. A peer review system has been proposed and a first trial of this proposal will be held in August this year, with representatives of the fishing industry in the North Sea. Problems with salmon advice have also been reviewed, as ACFM has very little expertise on salmon. For the past three years, the salmon advice has been prepared by a sub-group of ACFM well in advance of the May ACFM meeting.

The issue has been raised as to whether having ACE could result in conflicting advice with ACFM. There has also been expressed the desire that ACFM take more considerations of ecosystem influences into its stock assessments.

The EC Observer stated that the EC intends to establish Regional Advisory Committees that will include stakeholders, including both industry and environmental groups. There will be seven or eight such committees and ICES will need to be present at these meetings. The problem of needing to prepare new stock assessments when new survey data become available will continue; this will be inevitable.

It was pointed out that ICES needs to establish procedures to ensure that this work is conducted in a balanced way, given that reassessments are only requested when it appears that there are more fish than originally assessed. In response, the EC Observer stated that the EC does not want to burden ICES with additional intersessional work; thus, it

tries to balance these requests carefully. The new proposals for the Common Fisheries Policy will try to provide for more long-term prognoses.

A comment was made concerning the potential regionalization of the management: ICES should respond to this new development in its work.

The Chair pointed out a paper by H. Sparholt and M. Bertelsen that had been considered by ACFM. This stated that in a small percentage of the cases, the spawning stock biomass has been overestimated by a large amount. This has implications for the setting of reference points. He reiterated his position that there is a need to revise the way that environmental information is incorporated into stock assessment models.

The Chair of ACFM stated that there is a lot of uncertainty in stock assessments, and this uncertainty increases in the process of forecasting. Thus, ACFM needs to rethink the way that it provides its advice. Also, in recent years most of the errors have been in the direction of overestimating the stock size. He felt that there is very little that can be contributed from the environmental side for the short-term forecast; environmental variation will be more important for the long-term forecasts.

ACFM has proposed that the Study Group that is reviewing the Precautionary Approach meet in December 2002 to review and possibly revise the reference points for the relevant stocks. In this regard, it was noted that the process of including environmental factors could be incorporated into the determination of biomass reference points during this revision activity. It was pointed out, however, that the multispecies interactions are dynamic and change over time; these dynamics should be taken into consideration in the process of revising the reference points. At present, reference points are based on a static view. This addition may require a different means of management. It was pointed out that reference points have been brought in to move stock assessments to a more risk management framework, so that decisions can be linked with the associated risks. However, some of the earlier work underestimated the uncertainty, and this needs to be corrected in the review process.

It was proposed that this Study Group be requested to initiate some consideration of how environmental conditions can begin to be incorporated into the revision of the precautionary reference points. This will need to be a process, that could be started at the first meeting.

It was pointed out that Committees and Working Groups do not know how the ecological information that they are generating could be incorporated into the fish stock assessment process. It was proposed that this issue be discussed in the Consultative Committee, to determine means of bringing forward relevant work by other groups that could contribute to including ecological considerations into stock assessment.

15.3 Working/Study Groups under ACE

ACE noted that it presently has four Working Groups: WGECO, WGMMPH, SGEAM, and SGIDM; the last-named has not yet met. ICES has nearly 100 working groups, covering survey work, stock assessments, methods, ecology, and thematic areas. Some working groups are also working on more integrated issues, and ACE should consider how this integration could be enhanced.

T. Noji presented a paper proposing options for including more ecological considerations in fish stock assessments. A variety of options were presented to support ongoing activities in relation to ecological issues in marine resource management and the assessment of fish stocks.

The proposals for WGECO were presented and discussed. It was felt that there is a need for a group dealing with the ecosystem effects of fishing activities, including impacts on habitats and on food webs. This is a large amount of work that needs to be conducted.

However, the comment was made that it is late in the meeting to come to decisions on the future direction for ecosystem work as there is not adequate time to discuss them completely when the final advice on the requests has not been completely agreed.

The question of the development of ecological models to assess fish stocks was discussed and it was pointed out that such a model should be regionally based. Several models are already being developed for specific areas.

It was proposed that the regional structure of the fish stock assessment working groups could be used as a basis for incorporating ecological information.

The comment was made that this work needs to be structured to respond to requests and should also take into account the work presently being conducted in the various working groups.

This discussion has centred on whether there are better models to be used for fish stock assessment by including more ecosystem factors into the models. At the Symposium on Ecosystem Effects of Fishing, several papers were presented on new models on ecosystem interactions, however, none of these models were ready to be used for fish stock assessment. The EU has now funded a project that compares multispecies models, but the results will not be available for 1.5 years. There is also relevant work being conducted in Australia. ICES should follow this work and take steps to utilize the outcome as soon as it becomes available.

It was pointed out that recent reviews have shown that no single multispecies model can predict the consequences of fishing on the other components of the ecosystem.

The issue of regionally based work has been discussed many times in ICES, but this has not been accepted by the Council as it will skew the work of ICES given that resources are not evenly distributed among ICES Member Countries. The inequities that will be created and the loss of North American expertise have caused the Council not to accept a regional basis to this date.

The Chair of CONC reminded ACE that the Action Plan provides that there will be clear interaction between the Advisory Committees and the Science Committees. ACE should consider what it would like the Science Committees to do to bring forward the science that is required by ACE to carry out its work.

15.4 Working procedures of ACE

Owing to a lack of time, discussion of this item was deferred to the ACE Consultations Meeting.

16 WORK PROGRAMMES FOR 2003

16.1 OSPAR Commission

ACE reviewed the draft requests from OSPAR for 2003. There is one request for the further development of ecological quality objectives that will undoubtedly be on the work programme for 2003. In addition, a series of supplementary requests has been formulated for the further development of additional EcoQOs if supplementary funding can be agreed by North Sea Contracting Parties to OSPAR. The final list of requests will be decided at the OSPAR Commission meeting late in June.

16.2 Helsinki Commission

ACE reviewed the draft requests from the Helsinki Commission for 2003. Three are relevant to ACE: 1) the triennial review of marine mammal populations in the Baltic Sea; 2) expansion of the marine habitat classification system to the Baltic Sea; and 3) the development of a monitoring protocol for marine mammals in the Baltic Sea.

16.3 European Commission

It was noted that requests from the EC are not available until September, so any relevant requests will be considered at the ACE Consultations Meeting at the end of September.

The EC Observer stated that DG FISH is drafting a communication on scientific advice. He also mentioned that DG ENVIRONMENT may also be requesting some advice from ICES under the framework of the EC. He mentioned that there is a need for fisheries effort data for both fisheries and environmental advice, and this may be the subject of a request in the future.

17 ANY OTHER BUSINESS

The Environment Adviser presented a draft outline for a "layman's QSR" for the Northeast Atlantic, including the Baltic Sea, that has been requested by Germany to be prepared in association with the Joint OSPAR/HELCOM Commission Meetings at Ministerial Level, that will be held in Bremen in June 2003.

18 ADOPTION OF THE 2002 ACE REPORT AND REVIEW OF DRAFT MINUTES

ACE reviewed the draft sections of its 2002 report and made a number of amendments. With these amendments, ACE adopted its report. The report will be edited by the Environment Adviser and posted on the restricted access ACE website for any final checking that members may wish to make. When the edited report is placed on the website, members will be notified by e-mail and will be given about three weeks to make any final comments.

Draft minutes were made available. Members were requested to provide comments to the Environment Adviser, with a copy to the Chair. The final minutes will be adopted at the ACE Consultations Meeting at the end of September.

The Chair thanked the members for their efforts before and during the meeting, and hoped that the report will be useful to the readers. He also thanked the Secretariat for their assistance.

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ANNEX 2: AGENDA

File name

A1-open.doc	1	Opening of the meeting
A2-agd.doc	2	Adoption of the agenda and schedule of the meeting; description of procedures
A3-fora.doc	3	Information regarding other fora
A31-nsc.doc	3.1	Fifth North Sea Conference – Bergen Declaration
A32-glob.doc	3.2	Global Ocean Ecosystem Dynamics (GLOBEC), including ICES/GLOBEC Working Group on Cod and Climate Change (WGCCC)
A33-goos.doc	3.3	Global Ocean Observing System (GOOS)
A34-giwa.doc	3.4	Global International Waters Assessment (GIWA)
A4-cor.doc	4	Distribution of cold-water corals in the ICES area in relation to fishing activities [EC DG FISH]
A5-fish.doc	5	Impact of current fishing practices on non-target species and suggestions for appropriate mitigating measures [EC DG FISH]
A51-info.doc	5.1	Information on by-catches of non-target species, except cetaceans
A52-sgdbi.doc	5.2	Potential use of data products produced by the Study Group on Discard and By-catch Information
A53-data.doc	5.3	If sufficient data, evaluate the impact of fishing on non-target species
A54-spec.doc	5.4	Species and fisheries where mitigative actions may be warranted; propose and justify alternative mitigative measures
A6-ceta.doc	6	By-catch of cetaceans in fisheries [EC DG FISH]
A61-gear.doc	6.1	Update information on by-catches of cetaceans by species, gear, and area
A62-count.doc	6.2	Update information on sizes and distribution of cetacean populations against which by-catches can be counted
A63-clos.doc	6.3	Details of gears, areas, and times associated with effective closures
A64-ping.doc	6.4	Potential advantages and disadvantages of a generalized use of pingers in fixed gear; technical specifications affecting the effectiveness of pingers
A65-adv.doc	6.5	Potential advantages and disadvantages of a generalized use of pingers or other deterrents in pelagic trawls; updated information and technical specifications
A66-tech.doc	6.6	Technical details of any other possible mitigation measure
A7-hab.doc	7	Sensitive habitats in the ICES area [EC DG FISH]
A71-crit.doc	7.1	Definition of criteria or standards for determining what is a “sensitive habitat”
A72-sens.doc	7.2	Process to summarize information on distribution of sensitive habitats
A73-sugg.doc	7.3	Adequacy of information as a basis for scientific advice for an evaluation of the impact of current fishing practices on sensitive habitats and suggestions for mitigating measures
A8-osp.doc	8	Review of draft OSPAR Priority List of Threatened and Declining Species and Habitats [OSPAR 2002/extra]
A9-class.doc	9	Progress in marine habitat classification and mapping in ICES area, including in the Baltic Sea [HELCOM 2002/5]
A10-adv.doc	10	Evaluation of advisory forms and management approaches necessary and sufficient for the protection of genetic diversity of exploited stocks and stocks suffering substantial mortality as by-catch [EC DG FISH]

A11-eco.doc	11	Ecological dependence in management advice [EC DG FISH]
A111-link.doc		11.1 Process to be able to obtain information to consider ecological dependence in management advice, first addressing the groups of species with known, strong ecological linkages
A112-spec.doc		11.2 Specification of data requirements and models required to provide the scientific basis for a request of this type
A12-sci	12	Scientific components needed for provision of scientific advice required by an EcoQO framework [planning for scientific validation of EcoQOs, based on the Ministerial Declaration from the Fifth North Sea Conference]
A121-gen.doc		12.1 General
A122-eut.doc		12.2 Eutrophication-related EcoQOs
A13-mar.doc	13	Development of an ecosystem approach to marine management [delegation of tasks and responsibilities within the ICES structure]
A131-ices.doc		13.1 ICES area
A132-nsea.doc		13.2 North Sea, including report of the Bergen workshop
A133-bal.doc		13.3 Baltic Sea
A14-gef.doc	14	GEF Baltic Sea Regional Project—opportunities for cooperative action
A15-org.doc	15	Organizational and procedural issues
A151-mcap.doc		15.1 Issues from the Management Committee on the Advisory Process
A152-acfm.doc		15.2 Report of the Study Group on ACFM Working Procedures
A153-wgs.doc		15.3 Working/Study Groups under ACE
A154-ace.doc		15.4 Working procedures of ACE
A16-work.doc	16	Work programmes for 2003
A161-osp.doc		16.1 OSPAR Commission
A162-hel.doc		16.2 Helsinki Commission
A163-eur.doc		16.3 European Commission
A17-aob.doc	17	Any other business
A18-rep.doc	18	Adoption of the 2002 ACE Report and review of Draft Minutes