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COMMISSION STAFF WORKING PAPER

**22nd REPORT OF
THE SCIENTIFIC, TECHNICAL AND ECONOMIC
COMMITTEE FOR FISHERIES**

Brussels, 3-7 April 2006

***This report does not necessarily reflect the view of the European Commission and
in no way anticipates the Commission's future policy in this area***

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1 INTRODUCTION

The 22nd meeting of the STECF was convened in Centre Albert Borchette, Brussels from 3-7 April 2006.

Dr John Casey in his capacity as Chairman of the STECF opened the meeting.

The terms of reference for the meeting were reviewed and briefly discussed to arrange the details of the meeting. The session was managed through alternation of plenary and parallel working groups meetings.

The 22nd meeting of the STECF was attended by members of the STECF, The STECF Secretariat, invited experts and representatives of the Commission Services.

The Chairman closed the meeting at 1530h on 7 April.

1.1 List of participants

The complete addresses of the participants is listed in Annex I.

1.1.1 Members of the STECF:

Ardizzone, Giandomenico
Bertignac, Michel
Cardinale, Massimiliano
Casey, John (Chairman)
Di Natale, Antonio
Ernst, Peter
Farina, A. Celso
Gustavsson, Tore
Kuikka, Sakari
Lokkegaard, Jorgen
Messina, Gaetano
Munch-Petersen, Sten
Perraudeau, Yves
Petrakis, George
Rätz, Hans Joachim
Somarakis, Stylianos
Van Hoof, Luc
Vanhee, Willy
Virtanen, Jarno

1.1.2 Invited experts:

Bailey, Nick
Clarke, Maurice
Frost, Hans
Kuzebski, Emil
Kornilovs, Georg
Kraak, Sarah
Saat, Toomas
Statkus, Romas
Wanzenböck, Josef

1.1.3 STECF Secretariat:

Doerner, Hendrik
Shepherd, Iain
Zableckis, Sarunas
Ziegler, Robert

1.1.4 DG Fisheries and Maritime Affairs

Biagi, Franco
Patterson, Kenneth

Penas, Ernesto

1.2 Terms of reference

1.2.1 Information from the Commission, institutional aspects and STECF functioning

1. Improving consultation on Community fisheries management (frontloading exercise) and likely implications for the STECF planning. Issuing of an early policy statement describing the overall approach on TACs? STECF is requested to advise on the feasibility and likely problems. The Commission will deliver a presentation and circulate a non-paper
2. Election of the new STECF and state of play of the evaluation of the FISH/2004/AMI "Studies and support services related to the Common Fisheries Policy
3. STECF is requested to evaluate, amend as needed and adopt the STECF draft rules of procedure (to be circulated within Monday next).
4. New items for the 2006 workplan:
 - a. STECF opinion by written procedure:
 - i. Evaluation of ICES advice on the use of pulse-trawl electrical gear to target plaice and sole in beam-trawl fisheries
 - ii. Evaluation of ICES advice on Norway pouts and Sprat for a mid-year revision of the TAC
 - b. Evaluation of a possible fishing effort regime in the Kattegat: new item for the WG on "mixed fisheries and fishing effort management" of 5-9 June

1.2.2 Conservation issues

1. **Porbeagle** is a highly migratory wide-ranging species whose global population is not proven to have been depleted in most of its distribution range.

Nonetheless, ICES advise that, given the apparent depleted state of the porbeagle in the Northeast Atlantic, no fishery should be permitted on this stock and that new information is needed. The directed fishery by Community vessels has reached a very low level and the Council of the European Union has invited the Commission to come forward, inter alia, with a proposal to regulate both directed fisheries and by-catches of this stock. The STECF is therefore requested to advise:

 - a. whether the ICES call for closing the already very low level directed fishery in the North East Atlantic is justified on the basis of the overall dimension and distribution of the population as well as according to the fishing practices (e.g. selectivity, fishing during reproduction season, spawning grounds, ..) and dimension of the concerned fisheries;
 - b. on what possible management measures, other than the closure of already low level directed fishery, may be advocated to improve the perceived status of the stock with the aim of limiting either the targeted fishing effort or unwanted by-catches of porbeagle as well as by favouring the reproductive success. Are there reproductive seasons and spawning areas?
 - c. whether the stock may be structured in sub-populations which are poorly or not interrelated to one another. Are these scientific evidences sufficiently robust to justify a management of the stock by areas? How many and which subpopulations can be envisaged in the various oceans and particularly in the whole Atlantic including adjacent seas?
 - d. whether management measures taken at Community level only may be adequate to improve the perceived status of the stock and to recover to sustainable though higher level of catches in the directed fishery;
 - e. whether the data to be collected by Member States within the Community data collection programme are enough to allow filling the gaps in the knowledge of the status of the stock or if, otherwise, additional scientific and monitoring effort is needed. What additional scientific and monitoring
 - f. data are needed?

- g. whether the data to be collected and provided by the contracting Parties of the various Regional Fisheries Organizations dealing with the management of fisheries exploiting highly migratory species, including porbeagle, are adequate to do an evaluation of the status of the stock? What additional data must be provided to allow for an evaluation of the stock?
2. **sensitive habitats in the Mediterranean** The STECF's sub-group on the Mediterranean met to discuss on 6-10 March, 2006 in Rome sensitive and essential fish habitats in the Mediterranean Sea. They were asked to select species that might be protected, identify habitats that are fundamental for their life cycle, propose regulation measures that might protect them, comment on the impact of these measures and identify the data collection necessary for the measurement of this impact.
Based on the final version of this report, STECF are asked to produce a summary table for each priority species, indicating for each region whether candidate areas have been identified, the regulation measures suggested and their potential impact. Finally the STECF should comment on the completeness of the existing information and what data might be collected under a revised Data Collection Regulation.
3. **fishing effort management** During The 13-17 March 2006 STECF's subgroup on review of stocks (SGRST) met to evaluate fishing effort restrictions in the context of recovery schemes. They were asked to examine existing and proposed derogations; summarise data coverage and quality; and in each case to quantify effort, landings, first-sale value and catches (including discards and unallocated catches of Western sole and cod).
The report will be ready before the plenary meeting in April. STECF should provide a summary and opinion on the sub-group's findings.
4. On 28-31 March a sub-group of the STECF will met to evaluate plans for the **protection of marine resources in Italy mainland and Sicily**. The main goal is to evaluate whether the recurrently undertaken temporary fishing bans have been part of a reliable plan for the protection of exploited resources. STECF will examine the sub-group's analysis and deliver an opinion on the usefulness of the plan in protecting marine resources
5. A meeting on **eel management** of the subgroup on stock management was held in Ispra on March 21-24 to (1) establish the reference level for escapement; (2) measure silver eel escapement, and any other relevant parameters; (3) determine how to establish intermediate (or proxy) targets such as settlement rates for glass eel, population densities for yellow eel, maximum mortality rates due to fishing or turbine passage, or relevant water quality parameters and (4) to recommend a programme for data collection, monitoring, follow-up and enforcement of regulations. *STECF should summarise the findings of this group and provide an opinion on it.*

1.2.3 Economic issues

1. In view of the upcoming revision of the Data Collection Regulation, the STECF sub group on economic affairs, SGECA, met on 13-17 February 2006 to **review data collection needs of the fish processing industry and aquaculture**.
 - a. For the processing industry they were asked to review all economic indicators required by the Data Collection Regulation N°1639/2001 amended N°1581/2004 (Appendix XIX); identify potential interpretation problems and new indicators to consider; review national programmes for collection and sampling and propose sampling schemes to achieve adequate precision and homogeneous calculation of indicators;
 - b. and for aquaculture they were asked to provide a general overview analysis of the problems encountered in collecting the economic data, point out possible special statistical problems. propose a list of economic indicators to be collected and identify homogeneous methods of calculation of the indicators and common sampling strategies;
 - c. The subgroup report addressed these questions and produced a set of 7 recommendations for the processing industry and 7 for aquaculture. STECF should deliver the subgroup's opinion on these matters and indicate whether further issues need to be resolved.

2. The STECF sub group on economic affairs (SGECA) met on 3-7 March, 2006 in Ispra to list operational **bioeconomic models** that could be used by the STECF and to see what further steps would be needed to deliver a user manual and list of data requirements for each model. At this time (21 March) the report is still being prepared.

Based on the outcome of this meeting, STECF is asked to provide an opinion on the completeness of the list and to determine whether these models are sufficient to answer the needs of the STECF. The next steps in terms of model documentation, development and assessment should be recommended.

2 INFORMATION FROM THE COMMISSION AND REFLECTIONS ON SCIENTIFIC ADVICE IMPROVEMENT

2.1 Improving consultation in fisheries management

2.1.1 Short term perspectives

The Commission presented its current thinking on improving consultation on fisheries management issues which proposes changes to the timing of the annual management decisions which should allow more time for consultation with stakeholders about management options and at the same time, reduce uncertainty and increase transparency. The proposals involve a number of elements:

1. The aim of the proposed working method is to improve the consultation process with the stakeholders as well as to achieve a better coordination between the Commission, Member States and scientific advisors concerning the long term aims of fisheries management and means to reach those aims, in advance of the presentation of Commission proposals for annual fisheries management.
2. Dialogue with Regional Advisory Councils (RACs), the Fisheries Council and the European Parliament on the basis of a Policy Statement to be published early in the year (April/May). This policy statement will provide the Commission's views and strategy for setting TACs and quotas for the following year in the light of the most recent scientific advice.
3. Mid-year proposals for management decisions for those stocks where scientific advice is available in June (Baltic stocks, deepwater stocks and a number of pelagic stocks) with the aim of finalising Management decisions by the Council in September/October.
4. Consultations on those stocks where scientific advice is available in October as is the current practice, except that the debate on the Commission's intentions would already have taken place earlier in the year on the basis of the policy statement. In addition, ICES is considering whether its advice for more stocks could be brought forward from October to June, but this will not take place before 2007 at the earliest.
5. Consideration whether a stand-alone regulation for the management of fishing effort, separate from the TAC and quota regulation is desirable.
6. Development of a new procedure regarding proposals for derogations from Annex II of the current TAC and quota regulation that would be separate to the annual discussions. Decisions would be taken after submission of a dossier to the STECF, followed by a Commission proposal based on the advice from STECF.

2.1.1.1 STECF comments

STECF notes that the Commission's proposals for improving consultation in fisheries management primarily concern the decision-making process for stocks that are assessed by ICES. Furthermore, the proposals do not require significant changes to the timing or workload of the ICES science programme while potentially increasing the involvement of stakeholders in the decision-making process and providing more time for discussion on the management of some fisheries. STECF agrees that this would represent a major step forward in EU fisheries management with minimal additional burden on the ICES science programme.

2.1.2 Implications for the STECF workload

The initiative to propose management measures in June for those stocks for which ICES issues advice in May is however, likely to increase the workload of the STECF and require a meeting of STECF to address any unresolved scientific issues arising from the ICES advice and before the Commission's mid-year proposals are made. The Commission and STECF

will need to carefully consider whether this could be accommodated either by moving the April plenary to sometime after the May ICES advice has been issued or to convene an additional meeting of the STECF.

2.1.3 Candidate stocks for early management proposals and decisions for TACs

If the EU wishes to change their annual planning cycle and produce mid-year advice and agree TAC's for certain stocks in accordance with proposal 3 above, the following considerations should be taken into account with respect to those stocks for which ICES may be able to issue its advice in May (some examples of candidate stocks are given below, but the list is incomplete):

- Some stocks that are caught in single species fisheries may be good candidates for mid-year management proposals. Examples include herring stocks, capelin and sandeel. However, there is a need for the Commission and ICES to agree on precisely which stocks ICES is able to deal with at its May meeting of ACFM.
- Some species are currently dealt with at the end of the year because in-year information is required. These include mackerel, blue whiting and Atlanto-scandian herring. STECF considers that advice for these stocks should not be brought forward to May since they are subject to the fisheries agreements with third countries.
- Agreeing TAC's and effort regimes for the Baltic ahead of the September Council may be possible, as advice for the Baltic as a whole is presently given by ICES in May. However, some Baltic stocks e.g. Baltic cod and salmon presently have high exploitation rates, and in the short term, until fishing mortality rates are significantly reduced, management proposals will probably require scientific advice that is based on the most recent fishery-dependent and fishery-independent information and is probably best dealt with after the October report of ACFM.
- Deep-sea species are probably also good candidates for mid-year agreements, since there is no urgent need for a precise yearly evaluation, and therefore could be taken away from the heavily loaded end-year meetings. They are already assessed in May.
- If STECF is consulted for these in the middle of the year, this should take place after the ICES advice is given. This may also enable economic analyses to be carried out earlier than at present so that the potential economic consequences of various proposals can be taken into account before management decisions are taken.
- ICES advice on the stocks assessed by the ICES North-western Working group is already issued after the May ACFM, so these stocks are also good candidates for an early decision on management action.

2.1.4 Proposals for a separate effort regulation

STECF notes that the current effort regulations are annexed to the annual fixing of fishing possibilities and are designed to temporarily enhance existing multi-annual recovery and management plans. The recovery and management plans are fixing fishing possibilities primarily through TACs, which are enforced, through Total Allowable landings. STECF notes that, as associated measures to recovery and management plans, the current effort management regulations do not limit the overall effort deployed by fleets but by individual vessels engaged in various fishing activities and that the effect of the current effort regulations remain not fully evaluated. Given the interim and supporting nature of the current effort management regulations, STECF considers that they should not stand alone.

Several stocks are managed by third-country agreements. These usually take place in the fourth quarter. STECF notes that unless the timing of negotiations with third countries is altered, there is little point in bringing forward the advice for the stocks concerned. In the ICES area, such stocks currently include mackerel, Atlanto-scandian herring and blue whiting. Other stocks that may be added to this list are anglerfish, horse mackerel, Norway pout and sandeel.

It should be noted that in view of the mixed fisheries for demersal stocks we need to have advice on all the demersal species in one area before TAC's and effort regimes are implemented.

Concern was expressed, that the Commission's proposals for improving communication in the management system are currently focused only on issues arising from the ICES advice.

STECF notes that similar development may need to be considered for the process associated with other advice for stocks of interest to the EU.

2.1.5 Improving consultation on Community fisheries management: longer-term perspectives

In response to the Commissions current thinking on improving consultation in the fisheries management process, the Committee discussed the long-term issues particularly associated with the provision of integrated advice and management.

2.1.5.1 A Framework for the Development of the Advisory System

According to existing legislation, the aims of the CFP require the input of scientific advice. Under Council regulation (2371/2002), among others, the Council seeks to improve fisheries management by: 1) focussing on a process of scientific advice delivering sound and timely advice and 2) creating broad support for management initiatives by consulting all relevant stakeholders. The effective inclusion of stakeholders' views in the cycle of policy formulation will contribute to a broader support to the management system and therefore will result in more effective implementation of the management measures.

The regulation establishing the current CFP (Council Regulation EC 2371/2002, Chapter 10, refers to *good governance*, where the following elements are identified:

- a) clear definition of responsibilities at the Community, national and local levels;
- b) a decision making process based on sound scientific advice which delivers timely results;
- c) broad involvement of stakeholders at all stages of the policy from conception to implementation;
- d) consistence with other Community policies, in particular with environmental, social, regional, development, health and consumer protection policies.

STECF recognizes that sustainable management has four basic components: biological sustainability, economic sustainability, social sustainability, and institutional sustainability. For effective management and to fulfil the requirements of good governance referred to above, STECF considers that it is essential that development of mechanisms that will allow integrated advice, which take into account ecological, societal and economical perspectives are progressed as quickly as possible. STECF urges the Commission to consider, in consultation with other interested parties, how this can best be achieved and to identify the appropriate fora to undertake integrated analyses and to give integrated advice

STECF notes that the Commission's proposals for improving the consultation process is in keeping with the objectives of good governance. STECF agrees that in the medium to long-term, increased stakeholder participation and an integrated sustainability focus (ecology, economy, society) for the system will allow for improved communication and support to the measures proposed.

Furthermore, and in keeping with the objectives of good governance, STECF is of the opinion that improved consultation along the lines proposed would allow NGO's and industry groups to gain a better understanding of the whole advisory process. This in turn, may help to prevent the frequent "last minute" problems in decision-making that currently plague the December Fisheries Council. To help facilitate a better understanding and increase transparency, STECF suggests that its work should be open to closer scrutiny and interest groups should be allowed access to all STECF meetings with observer status.

2.1.5.2 General comments on integrated assessments and advice

Noting that various bodies that currently give management advice to the Commission and other customers are well established equipped to deal with biological advice, STECF considers that such advice could be significantly enhanced if economic and societal information and analyses were incorporated into their assessment and advisory procedures. At present most, fisheries advisory bodies already undertake multidisciplinary assessments and provide advice that takes into account information on factors such as fish biology and dynamics, oceanography, climate in its assessments. Furthermore, in providing advice management information (legislation, management instruments and agreements and information on fleet dynamics is already incorporated in providing advice for many fisheries.

While such information may be sufficient to advise on the likely consequences of management decisions for the stocks, it ignores the potential economic and social consequences. STECF considers that the advice from advisory bodies could be significantly enhanced if economic and social information could be incorporated into the assessment and advisory process.

STECF also notes that improving the commitment of actors to long-term management solutions in particular, almost certainly requires both economic and societal information and argumentation. Section 4.2 of this report describes several economic models, which can be run with the data provided by the EU data collection program. All these models could be used to add value to the advice that is currently provided to the Commission and other customers of fisheries advice. The advantage of including the longer-term economic forecasts would be to demonstrate the longer-term economic benefits of following the shorter-term advice, which is very often rather unpalatable to the fishing industry.

It is noteworthy, that the different aims of various actors may not necessarily mean different preference in management actions. For example, a low effort regime which maximizes long-term economic profits (profit is currently close to zero in many EU fleets) is also a level where the ecosystem impacts of the fishery are lower. Closer negotiations between fisheries scientists, managers, NGO's and industry may help to find solutions, which could satisfy the aims of all parties.

2.1.5.3 STECF planning and STECF working procedures

Dealing with uncertainty in stock assessments and catch forecasting

The current perceived need to include the very latest biological information to various stock assessments has not been systematically tested by simulation modelling. However, it is likely that the perceived need for the latest information may not be justified in all cases. STECF considers that more detailed stochastic evaluations may show that some of the uncertainties (such as unknown natural mortality or uncertain stock-recruitment parameters applied in forward simulations) are so dominant, that the use of latest possible data is unlikely to reduce the overall uncertainty on the predictions to any meaningful extent.

STECF has stated previously, that the uncertainty associated with forward catch predictions are likely to be underestimates. While stock assessment scientists are generally aware of this fact, the methodological tools routinely in use at present do not contain appropriate statistical routines, to determine the accuracy and precision of predicted results. This is largely because input parameter estimates are assumed fixed, (in some cases they are fixed assumptions), whereas in the future simulations some of those parameters have probability distributions, which were fixed in the historical data analysis part of the assessment. This seems to lead to a scientific dilemma that is difficult to solve if the methodology for the historical data analysis is not updated.

The underestimation of uncertainties has a direct impact on exploitation levels in risk-averse decision making, which is what the precautionary approach in fisheries is concerned with. Since any agreed catch level should be based on forward predictions which result in a high probability of the stock remaining above the appropriate biomass reference point, the variance estimate (how wide the probability distribution is), has a direct influence on the choice of an appropriate catch. Figure 2.1 below illustrates this, and underlines the importance of uncertainty estimation to decision making.

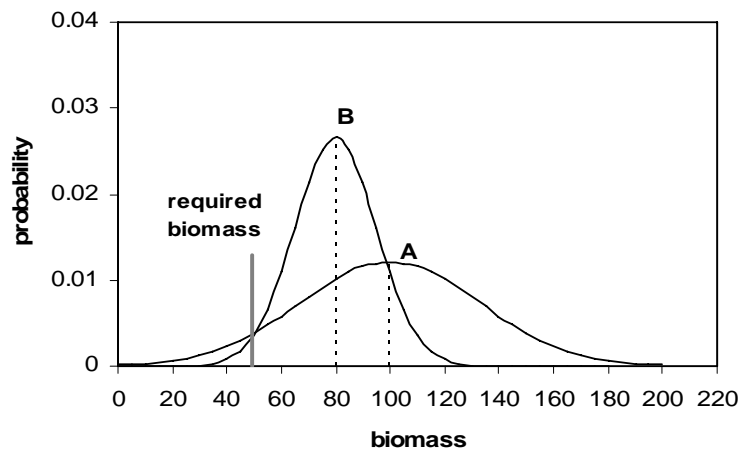


Fig.2.1. Impact of uncertainty on risk evaluations. If only a point estimate model is used (dashed vertical line), a higher expected biomass would be obtained in case A. However, with a probabilistic model this option would give a higher probability to be below the critical required spawning stock biomass due to higher uncertainty. Correct uncertainty estimation is important in similar types of risk averse problems

Simulation tools to address the above concerns are currently being developed and applied in the EU-funded projects EFIMAS and COMMIT. Among other things, COMMIT aims to find elements in the fisheries management field, which will improve the commitment and interest of stakeholders to agree on required actions. The simulation results, which are very essential in communication, are evaluated in a further EU-funded study (PRONE), as well as the impact of management system (ITQ, ITE, TAC, no TAC) on the interest to use scientific information. **However, none of the above projects have been completed and the following discussion is largely based on emerging findings that have not been fully qualified.**

Achieving stability through robust decision-making

Furthermore, the aim of reaching biomass levels that can produce maximum sustainable yields (MSY) by 2015 (Johannesburg Declaration) will create a buffer for the stocks (in terms of more age groups and more spawners) against recruitment fluctuations. Expert views suggest, that such changes are likely to lead to more information-robust management (less information-dense and data-hungry and with more time between the assessment result and the management decisions). Therefore, the need for late-in-year stock information may decrease as the EU moves towards achieving the aims of the Johannesburg Declaration.

It is also important to note, that if the aims of the Johannesburg declaration can be approached by decreasing the fixed costs of fleets. Their economic performance would improve. Lower fishing effort would result in reduced running costs, which will increase the chances of the fleets to make a profit. If fixed costs are also reduced by some mechanism (e.g. ITQs are one of a number of ways to reduce over-investment in fleet capacity), there is an even greater chance to increase profits. However, the mechanisms to achieve the longer-term goals of the Johannesburg Declaration are many and the success of those to be implemented is dependent on effective support of stakeholders. There may also be a need to re-allocate resources to develop appropriate biological and socio-economic tools to give appropriate advice.

The EU – funded projects mentioned above are currently developing tools (FLR software, www.flr-project.org) that can combine and compare the different types of information and management options. STECF considers such tools as fundamental for the provision of integrated longer-term management advice and encourages the Commission to continue to support further improvement of bio-economic simulation tools. STECF also considers that the biological and economic fields of fisheries science should be integrated to support the consultation processes. In addition, expertise from the social sciences should also be

incorporated to take account of the potential societal impacts of management decisions and inform the negotiation process.

The aim of CFP (broad involvement of stakeholders at all stages of the policy from conception to implementation) is now well established e.g. in ICES, where various interest groups are represented as observers. STECF would welcome a similar development with regard to its working groups since it is likely, that open communication would decrease any misunderstanding between scientists and other interested parties and the processes relating to a clear definition of responsibilities (Council regulation 2371 – 2002, Chapter 1) would become stronger. It is important, for example, that the catching sector realises that a key role they have in responsible fishing, to report catches correctly. Scientists and managers must also clearly understand their different duties in risk assessment and risk management, in order to make the system work in an effective way.

2.1.6 Conclusions

In order to set up an advisory and consultative system for European fisheries management with a focus on the long term, the requirements of the future system must first be taken into account. STECF considers that a longer-term based management system needs to acknowledge the aim to move towards a sustainable ecosystem based management system that involves stakeholders at all stages of the process and integrates ecological, economical and societal aspects.

The current system relies almost entirely on the analyses of biological data and on catch data from the fisheries. The result is either that biologist/population dynamiscists are required to give advice which impinges on fields of expertise (policy, economy, or sociology) beyond their competence, or alternatively, that biologists' advice is given in isolation from the policy, economical, or social issues. STECF considers that the integration of t scientific expertise from policy, economic and sociological fields is required in order to provide appropriate integrate fishery management advice (For further reference see the publications of Lane and Stephenson given below)

2.1.7 Some references related to the topic:

- Barber, W. E. and Taylor, J. N. (1990). The importance of goals, objectives and values in the fisheries management process and organisations: a review. *N. Am. J. Fish. Manage.* **10**, 365-373.
- Bernstein, P. L. (1996). *Against the Gods - The Remarkable Story of Risk*. John Wiley & Sons. 383 pp.
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2.2 Cost effectiveness of management actions

In (Commission Communication COM (2002) 276 EU asks Commission to carry out an impact assessment, including a cost effectiveness analysis for any large scale economic management action. STECF considers that as far as is practically possible, this should be followed in all fisheries decision making and supporting science and recommends that the Commission take this into account when planning terms of reference for scientific working groups.

For example, in the case of the Italian temporary management plans (Section 3.4), which have been financially supported, STECF recognizes that there may be more cost effective ways to allocate the available funds (which are partly socio-economically justified) to achieve the desired biological response in the stocks. For example, a cost-benefit analysis may indicate that the permanent closure of large area may be more cost effective than a series of smaller temporary closures. As noted by the Commission, this is both a highly scientific risk assessment and especially risk management issue and the potential effects of different measures can only be solved scientifically using bio economic analysis tools.

2.3 Appointment of the STECF membership

The Commission informed STECF on the state of play regarding the evaluation of the candidates for the new STECF membership. Several applications submitted according to the call FISH/2005 "Studies and support services related to the Common Fishery Policy", arrived very late and this has caused a delay in the selection process. The selection is still on-going but should be completed within a few weeks. The Commission's intention is to complete the selection process during April and nominate the new members of the STECF in May 2006.

2.4 STECF Rules of procedure

In response to Article 11 of Commission Decision EC 629/2005 of 26 August 2005 establishing a Scientific, Technical and Economic Committee for Fisheries, the STECF with significant assistance from Mr F Biagi of DG Fish has commenced drafting its new rules of procedure. For information, the current draft is appended to this report at Annex II. STECF wishes to stress that its draft Rules of Procedure is a work in progress, is currently incomplete and is subject to change.

Important issues that still need to be addressed include *inter alia*:

1. STECF representation on the ACFA

2. the role of STECF with respect to Regional Advisory Councils
3. procedures for requesting information collected under the DCR
4. STECF role with respect to Regional Fishery organisations

It is the aim of the Committee to prepare a final draft Rules of Procedure for formal adoption at the November 2006 plenary meeting. To facilitate this, STECF **recommends** that a meeting of the STECF Bureau be convened for 3 days in May / June 2006 to prepare a revised and updated draft for circulation to the Committee for comment and amendment before submission to the Commission by 1 August for consideration and approval ahead of the November 2006 plenary.

2.5 Additional items for the 2006 STECF workplan

The Commission informed the Committee that the following additional items will be added to the 2006 workplan of the STECF:

1. The Commission will ask the Committee to review and provide its opinion by written procedure on matters arising from the following meeting reports:
 - a. Evaluation of ICES advice on the use of pulse-trawl electrical gear to target plaice and sole in beam-trawl fisheries. This meeting is being held during the week of 3-7 April 2006.
 - b. Evaluation of ICES advice on Norway pouts and Sprat for a mid-year revision of the TAC. The ICES advice will be forthcoming after the May 2006 meeting of the Advisory Committee on Fisheries management.
2. Evaluation of a possible fishing effort regime in the Kattegat. This item will be added to the the Terms of Reference for the SGRST (06-02) working mixed fisheries and fishing effort management to be held in Ispra from 5-9 June, 2006.

3 CONSERVATION ISSUES

3.1 Advice on porbeagle (*Lamna nasus*)

3.1.1 Request to STECF: text from the Commission:

Porbeagle is a highly migratory wide-ranging species whose global population is not proven to have been depleted in most of its distribution range. Nonetheless, ICES advise that, given the apparent depleted state of the porbeagle in the Northeast Atlantic, no fishery should be permitted on this stock and that new information is needed. The directed fishery by Community vessels has reached a very low level and the Council of the European Union has invited the Commission to come forward, *inter alia*, with a proposal to regulate both directed fisheries and by-catches of this stock. The STECF is therefore requested to advise:

1. Whether the ICES call for closing the already very low level directed fishery in the North East Atlantic is justified on the basis of the overall dimension and distribution of the population as well as according to the fishing practices (e.g. selectivity, fishing during reproduction season, spawning grounds) and dimension of the concerned fisheries;
2. on what possible management measures, other than the closure of already low level directed fishery, may be advocated to improve the perceived status of the stock with the aim of limiting either the targeted fishing effort or unwanted by-catches of porbeagle as well as by favouring the reproductive success. Are there reproductive seasons and spawning areas?
3. Whether the stock may be structured in sub-populations which are poorly or not interrelated to one another. Are these scientific evidences sufficiently robust to justify a management of the stock by areas? How many and which subpopulations can be envisaged in the various oceans and particularly in the whole Atlantic including adjacent seas?
4. Whether management measures taken at Community level only may be adequate to improve the perceived status of the stock and to recover to sustainable though higher level of catches in the directed fishery;
5. Whether the data to be collected by Member States within the Community data collection programme are enough to allow filling the gaps in the knowledge of the status of the stock or if, otherwise, additional scientific and monitoring effort is needed. What additional scientific and monitoring data are needed?
6. Whether the data to be collected and provided by the contracting Parties of the various Regional Fisheries Organizations dealing with the management of fisheries exploiting highly migratory species, including porbeagle, are adequate to do an evaluation of the status of the stock? What additional data must be provided to allow for an evaluation of the stock?

3.1.2 STECF response to the Commission's request for advice on porbeagle (*Lamna nasus*)

3.1.2.1 Background

In 2001, ICCAT began to work towards population assessments of this and other pelagic sharks (SCRS, 2001). Heessen (2003) stated that, since a separate stock is considered to exist in the NE Atlantic, this stock could be dealt with separately. In 2004, ICCAT (SCRS, 2004) produced assessments of two sharks, though not porbeagles. In 2005, ICES produced advice on NE Atlantic porbeagle, in response to the request from the European Commission. Porbeagle advice was sought under the Memorandum of Understanding between ICES and the Commission.

3.1.2.2 Fishery

The main community countries catching porbeagles are Spain and France. However in the past, important fisheries were prosecuted by Norway, Denmark and Faeroe Islands.

The target fishery for porbeagles before WWII was mainly a Norwegian longline fishery in the North Sea. After WWII, the target fishery resumed with Norwegian, Faroe Islands and Danish vessels involved. Norway took about 6 000 t in 1947. Landings declined to about 500 t per year by the mid 1970s. During the 1950s the main country, Norway shifted effort further west towards Faroes, Shetlands, Ireland and the offshore banks. Trends in landings data are presented in Figure 1.

The Norwegian/Faroese target fishery moved to NW Atlantic from the early 1960s. The Norwegian fishery yielded about 8 000 t in the NW Atlantic, but this declined rapidly. Faroese effort continued in this area but then moved to west Africa as landings declined. The modern target fishery in the NW Atlantic is prosecuted mainly by Canada. In 2004, Canada began to consider if the species should be placed on the endangered list.

The Danish target longline fishery in the North Sea displayed declining landings from about 2 000 t in the early 1950s to around 200 t in the 1970s. Landings fluctuated around 80 t in the 1980s. This fishery has now ceased.

There is a French target longline fishery. This fishery is prosecuted by a small fleet of about 15 specialised vessels also targeting albacore tuna. Porbeagle is targeted in spring, before tuna fishing begins. There is some bycatch of porbeagles in French tuna target fisheries (mostly mid-water trawl). In 2004, about 50% of porbeagle landings were from longlines, with most of the remainder from unspecified gears. The majority of landings are from Sub-area VIII (Figure 2). French landings peaked at over 1 000 t in 1979. They fluctuated between 600 and 1 000 t, until the mid 1990s. Since then they have fluctuated around 350 t. French gillnet fishing for porbeagles and tuna ceased 2000, when this gear was banned.

The Spanish landings of porbeagles are mainly taken in fisheries, using longlines, targeting swordfish and tuna. Reported annual data (Figure 1) are sporadic, though they are much higher than other countries, in any given year. Spanish landings in NE Atlantic were over 3 500 t in 1970s and varied widely between 30 and 1 000 t in recent years. However it is possible that these peaks may reflect misidentification of shortfin mako shark. A recent analysis of by-catch in Spanish swordfish fisheries did not find this species to be an important component.

Several countries have sporadic fisheries taking porbeagles, in North Sea, west of Ireland and Biscay, as they appear. These include Denmark, UK, and France. Data on porbeagles caught by gear for 2003 and 2004, from UK and Germany. The total catch from these countries was 46 t. Gillnets accounted for 26 t and longlines for 20 t. There is a by-catch by demersal trawlers from many countries, including Ireland, UK, France and Spain.

3.1.3 STECF Recommendations regarding porbeagle

3.1.3.1 Concerning the ICES advice (ToR 1)

The 2005 ICES advice for NE Atlantic porbeagle is that “given the apparent depleted state of this stock, no fishery should be permitted on this stock.” ICES (2005) states that the main target fishery ceased by the 1970s, due to reduced profitability, and moved to other parts of the world. ICES considers that this is evidence that the stock was depleted to, at least, uneconomic levels. The fact that no target fishery has resumed is considered by ICES to show that it has not recovered. ICES considered that if the stock had recovered this would have been reflected in increased catches.

Available information on stock status is summarised in Table 3-1 for this and other contiguous populations. In the NW Atlantic, an analytical assessment showed that the porbeagle is depleted (DFO, 2001) and that current fishing mortality is well above sustainable levels. In the Mediterranean, the stock status is unknown, though anecdotal information suggests that it is depleted.

STECF points out that porbeagle is particularly vulnerable to exploitation and similar catch levels to those observed in the NE Atlantic, depleted the stock in the NW Atlantic. Recent landings in the NE Atlantic are less than 10% of the historic levels during 1940s to the 1960s. Based on low catches and the high market value for porbeagle, ICES has inferred that the stock in the NE Atlantic is depleted,. STECF notes that the ICES advice is not based

on an analytical assessment. Nevertheless, STECF considers that given the evidence available on the stock status of porbeagle in the Northeast Atlantic, and taking a precautionary approach, the ICES advice that no fishery should be permitted on this stock is justified.

STECF notes that the relatively stable landings from the directed French fishery for porbeagle may indicate that the stock is stable. However, the reported annual landings from this fishery are low and in the absence of appropriate fishery dependent information e.g. the extent of the fishery and the catch rates over time, it is not possible confirm that this is the case.

While concurring with the advice from ICES that no fishery should be permitted on the stock of porbeagle in the NE Atlantic, STECF recognises that in practice this is impossible without closure of all fisheries that catch porbeagle, including those that take an incidental catch, however small. Therefore STECF **recommends** that no directed fishing for porbeagle in the NE Atlantic be permitted and that additional measures be taken to prevent by-catch of porbeagle in fisheries targeting other species.

3.1.3.2 Concerning other possible management measures (ToR 2)

STECF advice is based on the precautionary approach. In addition to the main STECF advice, STECF notes the following initiatives.

Currently, Germany has proposed that porbeagle be added to Appendix II of the Convention on the International Trade in Endangered Species (CITES). This measure, on its own, would not be sufficient to prevent catching of porbeagle. However it could be considered an ancillary measure.

Experience from surface longline fishing shows that porbeagles are usually captured alive. Therefore, a mitigation policy might be implemented by releasing porbeagles.

3.1.3.3 Concerning population structure and distribution of porbeagle (TOR 3 and 4)

Figure 3-1 shows the worldwide distribution of the species. Porbeagle is a temperate shark, present in all main ocean basins, other than the north Pacific. Porbeagle does not occur in lower latitudes. The species is generally found in waters <14° C. Currently, three separate management units are considered in the northern hemisphere (Table 3-1).

Table 3-1 Porbeagle fishery. Available information on management units and stock status. There is no genetic information available at present

	Unit	Information	Comment	References
Stock discrimination	NAFO area	Mainly tagging	2 unpublished Transatlantic migrations	Campana et al., 1999.
	ICES area	Mainly tagging	2 unpublished Transatlantic migrations	Heessen, 2003
	Mediterranean.	-	No recaptures of Atlantic specimens	STECF-SGRST, 2003
Stock status	NAFO area	Analytical	$F (~0.11) > F_{0.1} (~0.08)$ and $B ~30\% B_0$	DFO, 2001
	ICES area	InferenceExpert judgement	Low catch, low effort, yet catch has high value	ICES, 2005
	Mediterranean.	-	Anecdotal information suggests depletion	-

Within these currently accepted management units (Table 3-1) available information on fishing patterns, by season and area, show that extensive migrations take place.

It is possible that movements occurs between the management units. There is most likely no mixing with populations elsewhere in the world.

STECF considers that the currently accepted approach of three management areas is justified. Analytical assessments show that, at least, one of these stocks (NW Atlantic) is depleted. Whilst inference suggests that another (NE Atlantic) is also depleted. STECF considers that given the migratory nature of this shark, further subdivisions of these units are unwarranted.

Given that the majority of catches appear to come from the tuna and swordfish fisheries, STECF considers that this issue be addressed by ICCAT. STECF is aware that ICCAT has not produced specific management advice for porbeagle.

3.1.3.4 Concerning data requirements (TOR 5 and 6)

Detailed catch and effort data are required from the French target fishery, and other longline fisheries. Such data on this and the historic fisheries are urgently required before more comprehensive assessments can be conducted and better advice provided.

It is unclear if the absence of reported landings by Spain in some years, and by third countries in most years, is due to lack of data or no landings. STECF **recommends** that all countries provide complete catch data for porbeagle for all years. STECF considers this a high priority.

The DCR was modified to require collection of species-specific data (SGRN 2003). This modification seems to be yielding better data from 2004 onwards. STECF recommends that catch data be collected by gear. Also, length, maturity and sex data should be collected. However, these data alone are insufficient for improved elaboration of stock status, but will provide better insight into the biology of porbeagle. The discard sampling programme may provide useful data on porbeagles in the future.

STECF recommends that further work should focus on collecting catch and effort data from the historic directed fisheries and the current sporadic fisheries. STECF recommends that the Commission asks ICES to address this issue.

No growth, reproduction or mortality data exist for the NE Atlantic stock, but STECF considers it unlikely that this stock differs greatly from the NW Atlantic stock.

A time series of data may exist from divers' observations in the North Sea. STECF recommends that these data be investigated and evaluated.

3.1.3.5 References

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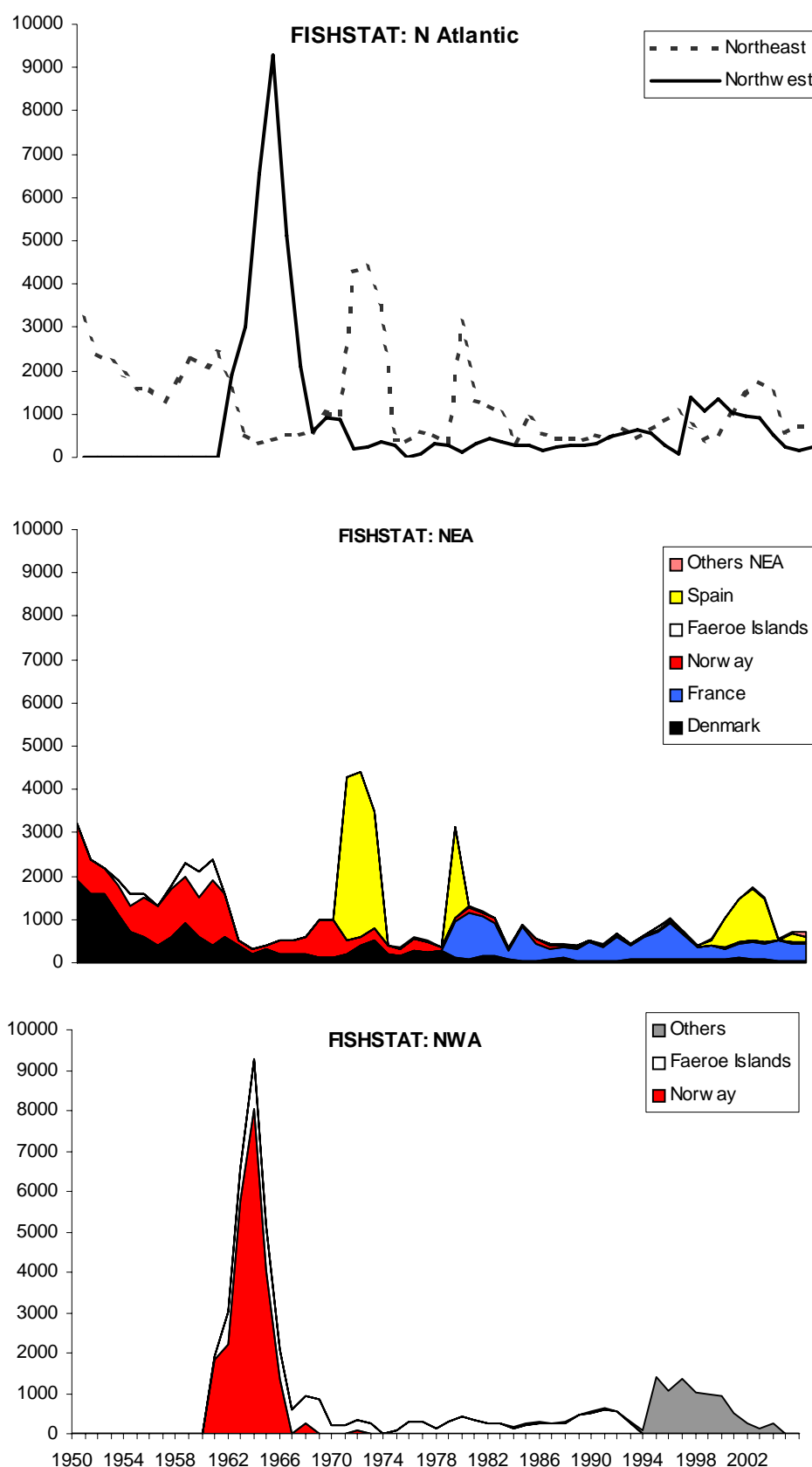


Figure 3-1 Porbeagle fishery. Available landings data in north Atlantic, by management area and country.

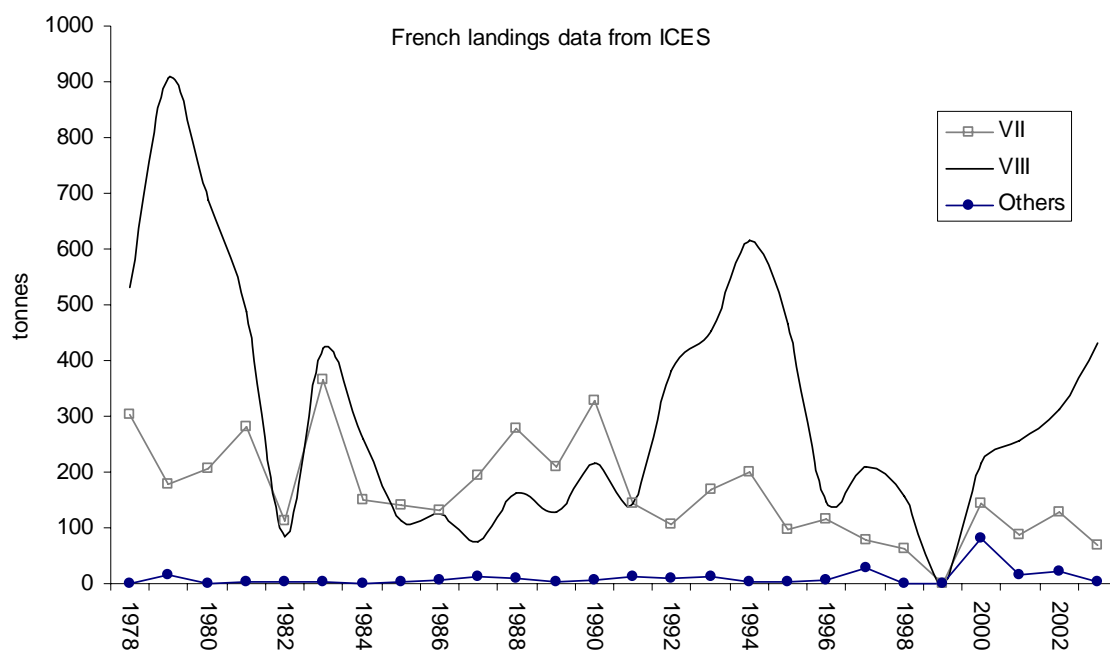


Figure 3-2 Porbeagle fishery. Trends in French landings, from ICES FISHTAT data. Zero values in 1999 are due to missing data, not absence of landings.

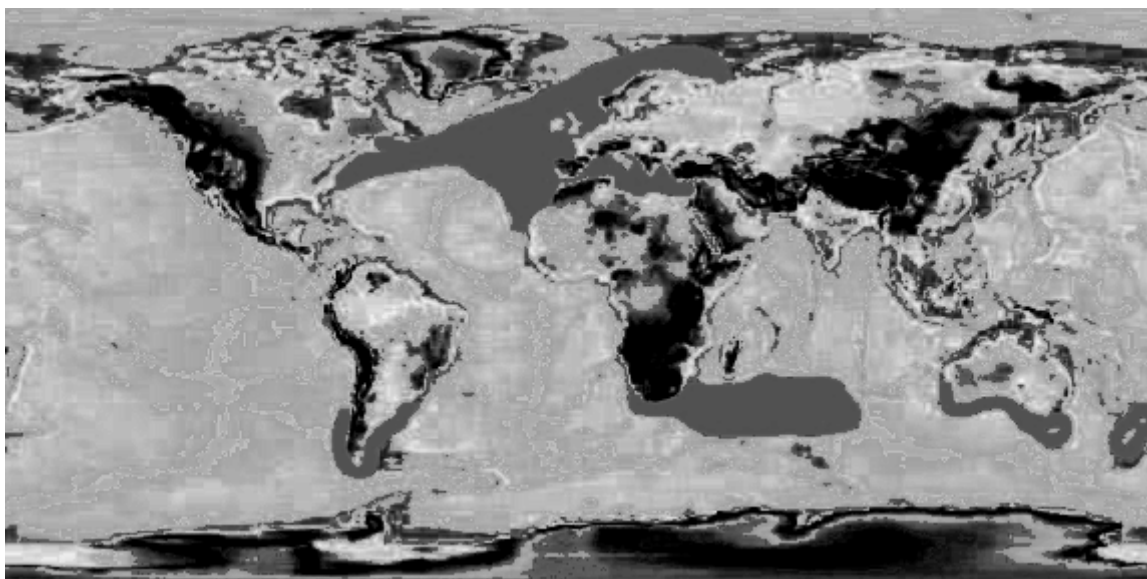


Figure 3-3 Porbeagle fishery. Worldwide distribution of porbeagle (*Lamna nasus*).

3.2 Sensitive and Essential Fish Habitats in the Mediterranean

3.2.1 Background

A Working Group meeting of the STECF-SGMRD (STECF SGMED 06-01) Sub-group was held in Rome from 6-10 March 2006. The major aims were to “identify and map marine habitats crucial for conservation of commercial fish and shellfish resources”. Scientists from Italy, Spain, Greece, Turkey and Lebanon suggested approaches to determine “Sensitive and Essential Fishery Habitats (SH and EFH)” that should be protected in order to improve the status of exploited stocks in the Mediterranean Sea. STECF notes that in defining and identifying SH and EFH, the Sub-group did not take into account information on protected species (sea turtles, cetaceans, monk seals, etc.) and fish species with no commercial value.

Several fish resources in the Mediterranean are suffering from overfishing (see reports SEC 2002 (1374) on Mediterranean shared stocks, SEC 2004, (772) on Mediterranean fleets, SEC 2005, (266) on the state of the stocks and the reports of the GFCM-SAC). Various protection measures have been adopted in the last 15 years (fishing bans, MPAs etc.) but there is no clear evidence of a measurable reduction in fishing mortality or stock recovery. For the most important fish habitats, additional measures beyond those already implemented at national or Community level are to be considered in management plans intended to ensure the long term sustainability of the resources. At present a major problem is the standardization of a common methodology for identification and delineation of such areas.

Although measures to protect ESH and SH have already been taken elsewhere, (i.e. US and ICES areas), the approach is relatively new to the Mediterranean. The key issues that must be addressed in identifying ESH and SH are; which species should be considered, which stage of the life cycle, the extent of the area to be closed to fisheries, which actions should be implemented and what are the potential ecological and socio-economical implications of introducing any protection areas identified? The Sub-group report primarily addresses the definition and identification of SH and EFH including criteria for the selection of species and critical life stages taking into account experience gained in areas outside the Mediterranean Sea.

STECF reviewed the report of SGMED and makes the following observations and recommendations.

3.2.2 Definitions

For the purposes of identifying EFH and SFH in the Mediterranean, STECF has adopted the following definitions:

ESSENTIAL FISH HABITAT (EFH) is a habitat identified as essential to the ecological and biological requirements for critical life history stages of exploited fish species, and which may require special protection to improve stock status and long term sustainability.

SENSITIVE HABITATS (SH) are fragile habitats that are recognised internationally as ecologically important and which support important assemblages of commercial and non-commercial fish species and which may require special protection e.g. *Posidonia* beds/

3.2.3 Identification of Sensitive Habitats

In the Mediterranean Sea habitats showing the SH characteristics are widespread, both on continental shelf and slope. STECF has identified the following habitats as sensitive habitats and recommends that they should be protected:

Posidonia oceanica beds, Coralligenous and Maerl beds, Sub marine canyons, *Leptometra phalangium* and *Funiculina quadrangularis* beds, Coastal lagoons, Deep-sea coral mounds.

3.2.4 Identification of Essential Fish Habitats

3.2.4.1 Selection of priority species and critical stages for the identification of Essential Fish Habitat

Selection of priority species was based on stock status and overall ranked value of commercial landings for each Mediterranean GSA (Geographical Sub-Areas adopted by GFCM_FAO), independent of fleet segment or fishery type.

3.2.4.2 Selection of life stages

The most important EFH were identified:

- **Nursery grounds** where the highest concentrations of recruits are found.
- **Spawning areas** with large seasonal concentrations of mature females. Mature females were considered as the best criterion since males of many species often appear in spawning condition outside of the main spawning season.

3.2.4.3 Persistency in space and time

Stability over time (seasons and years) of biological critical stages is considered strong justification to identify EFH for commercial species. Analysis of persistence using time series of abundance data should be considered a basic part of the methodological approach for

EFH identification in the Mediterranean. Such estimates are available for many GSAs in the Mediterranean.

The EU funded long-term projects such MEDITS and GRUND have been identified as useful sources of time-series data to identify EFHs. The Sub-group report successfully identifies EFHs for hake and red mullet. For example, for GSA9, it suggested that a closure of 3-5% of the fishing grounds for hake would offer protection for 20-50% of hake recruits in the Tyrrhenian-Ligurian Sea.

Available information on Essential fish habitat

The sub-group report presents candidate EFHs for the major demersal and pelagic commercial fish species for which information was available for different areas of the Mediterranean *vis*: hake (*Merluccius merluccius*) and red mullet (either *Mullus barbatus* or *M. surmuletus*), the deep-sea rose shrimp (*Parapaeneus longirostris*) and Norway lobster (*Nephrops norvegicus*), anchovy (*Engraulis encrasicolus*) and sardine (*Sardina pilchardus*).

STECF notes however that information availability is not consistent for each of these species and that the species in each of the different regions of the Mediterranean Sea are not all covered.

For some demersal fishes, the Sub-group considered that temporary protected areas seemed the best option for the protection of the young stages of some species. This was the case for red mullet in most of the GSAs. Hake is probably the best described species for the Mediterranean: nurseries and spawning areas are well known for most of the areas. Good knowledge is also available on deep-water rose shrimp (*Parapaeneus longirostris*). For small pelagic fishes some information on the location of nursery areas are presented in the report of the Sub-group. Preliminary maps of the spawning areas for large pelagics and areas with large concentrations of juveniles are also given in the report. The report also highlights the shortage of data on the location and persistence of concentrations of the young stages of some species, notably the pelagics and this was particularly true for the southern and easternmost parts of the Mediterranean.

The Subgroup report also suggested that the failure of existing protection measure is in many cases due to a lack of cooperation among scientists, managers and fishermen and suggests that consultation among all stake-holders is desirable before decisions on the protection of EFHs are taken.

Experiences from outside the Mediterranean Sea

Marine Protection Areas (MPAs) have been used widely in fisheries management, both locally nationally and internationally. The sub-group report considered some examples from the northeast Atlantic.

A common feature in most previous and existing North Sea MPAs are that they do not appear to have been very successful in reaching their management objectives. This is further complicated by the fact that, in most cases it has been difficult or impossible to identify whether changes in the stocks are due to the effects of management or due to natural variations in the stocks throughout the lifespan of the MPA. This has often been due to insufficient relevant baseline information. Nevertheless, there are some generalisations that can be made regarding the use of closed areas in management.

- If fishing effort is not strictly managed, then seasonal closures often lead to increasing effort outside the closure period, thus diluting or negating the desired effect.
- If the fisheries on the particular stocks are managed by stock specific TAC/quota system, effort is likely to increase either in adjacent areas or in the area of closure after the closure has been lifted.
- If the closure is restricted to only certain vessels or gear types, any increase in effort of vessels unaffected by the closure may also dilute or negate any potential benefits.
- For migratory species, including cod, mackerel and herring, MPAs are probably not very effective as a primary management tool unless extensive proportions of the range of the stock can be permanently closed to fishing.
- Simulation modelling of the likely effect of closed areas on mobile fish species is desirable. However such simulation requires rather detailed information on the

variation in time and space of both the species considered and the fisheries exploiting them. In many cases the information required may not be available.

Coordination activity with other related scientific activities on SH, EFH and MPA.

The complexity of the conditions for successful results of MPA has led to initiation of 2 EU funded projects on MPAs:

- 'PROTECT' covering the NE Atlantic
- 'EMPAFISH' covering the Western Mediterranean and the Atlantic.

STECF suggests that future activities on MPAs in the Mediterranean should be coordinated with these 2 projects.

3.2.5 STECF conclusions and recommendations

1. STECF noticed that it was not possible for the sub-group to give an exhaustive answer to each of the TORS, particularly to those asking for geographical details on the location and extent of SH and EFH for all species concerned. In order to identify the location and extent of SH and EFH in the Mediterranean, there is a clear need to collect and/or collate baseline information on the distribution and abundance of the critical life history stages of overexploited species.
2. SH are habitats linked to fish assemblages and benthic communities while EFH are areas of importance for commercial species. A better understanding of the physical processes that influence aggregation behaviour is probably more important in identifying the geographical location and extent of EFH for pelagic species.
3. Both Sensitive Habitats (SH) and Essential Fish Habitats (EFH) should be protected in order to improve the current status of both habitats and stocks in an attempt to ensure the long-term sustainability of the Mediterranean fishery resources.
4. Sensitive Habitats (SH) of major relevance for the marine ecosystem are: *Posidonia* beds, Coralligenous biocoenoses, Maerl bottom, *Leptometra phalangium* beds, *Funiculina quadrangularis* beds, *Isidella elongata* beds, deep-water corals, sea mounds and canyons, sea bottom deeper than 1000 m. Some of these habitats are locally protected (i.e. *Posidonia* beds and deep-water corals) in the Mediterranean Sea while for others, current legislation offers no protection.
5. The identification of EFH for demersal species should be based on the location, extent and persistency of the critical life-stages of the species identified as priority species. Therefore, nursery grounds and spawning areas with large concentration of mature females should be especially considered as EFH.
6. The species to be selected for protection of EFH should be ranked according to the status of the stock and the landing value per geographic sub-area (GSA).
7. Information on inshore EFH and SH is fairly well known. In EU legislation trawling is prohibited within three miles of the coast although illegal trawling is known to take place. However, information on the identification, location and extension of offshore EFH and SH are relatively limited.
8. Hake is the most important demersal species for which EFH information has been presented for different GSA (Table 3-2). Insufficient information on other species presented to STECF highlights the need to collect and collate baseline information in order to progress with the identification of EFH. Potential EFHs for elasmobranchs need particular attention because of their vulnerability to exploitation.
9. Closed or restricted areas and seasons are the main measures to protect EFH. Those should be considered along with other technical measures as increasing gear selectivity, improved gear design, and reduction of fishing effort in areas adjacent to the protected areas of EFHs or after re-opening following a seasonal fishing ban.
10. Research should be conducted to improve the available scientific knowledge on EFH, such as oceanographic features, benthic characteristics, ecological processes and impact of fisheries.
11. The development of pan-Mediterranean programmes are required in order to provide consistent information and criteria to designate EFH and SH. One possible way forward

would be to extend the EU data collection and/or EU experimental surveys to other Mediterranean countries through an agreement within the GFCM.

12. STECF considers that international agreements are needed to better protect some EFH and SH that are located in International waters.
13. Effect of closed areas on trends in SSB, R, F, biodiversity, etc, should be quantified prior to their implementation. The objectives of the closure should be clearly defined and a monitoring programme should be put in place to assess the affect of the closure against agreed performance measures.

Table 3-2 **Fish Habitats knowledge for hake in the Mediterranean Sea**

Identification			Recommendations
Nurseries	Spawning		
SPAIN			
GSA 1	YES	NO	Enforcement of the existing measures Extension of some closed areas
GSA 6	YES	NO	
GSA 5	YES	NO	
ITALY			
GSA 9	YES	YES	Probably the most important and large nursery grounds in the Mediterranean sea. Closed areas for 3-5% of the persistent nursery grounds
GSA 19	YES	NO	To protect the main identified persistent nurseries
GSA 15	YES	NO	Protection of two main nursery grounds (15% of stable nurseries)
GSA 16	YES	NO	
GSA 19	YES	YES	
GREECE			
GSA 20	YES		Many small areas of nurseries closed to bottom trawl fishery during all year round
GSA 22	YES		
GSA 23	YES		

3.3 Fishing Effort management

3.3.1 Background

The STECF Sub-group SGRST on Fishing effort management held its first of three planned meetings in 2006 in the “Casa Don Guanella” at Barza d’Ispra, Italy, during 13-17 March 2006 to deal with terms of reference (TOR) listed below.

Since 2003, the TAC and quota regulations have included associated measures in the form of maximum fleet specific effort regulations to enhance multi-annual recovery and management plans. The effort regulations are specific for gear types and management areas and define special conditions, to which the vessels of given fleets have complied or do comply, hereafter called derogations. STECF and its Subgroups have repeatedly been asked to review the effort regulations. The current effort regulation for 2006 is given in Annexes IIA, IIB and IIC of Council Regulation 51/2006.

3.3.2 Terms of reference

- A. evaluation of the 3 categories of derogations described below pertaining to Annex II of Council Regulation 51/2006. Within these categories, the group shall examine specific possible derogations as in the Annexes to these terms of reference:

- all vessels using gillnets and entangling nets of less than 110 mm and with logbook records representing less than 5% cod catches in 2002 in all areas;
- all vessels using otter trawls with mesh sizes of 70 to 99 mm in the Eastern Channel and the North Sea;
- all vessels absent from the port of less than 24 h and fishing with trammel nets of less than 110 mm in areas II, IV and VIId.

- B. evaluation of the existing derogations for each category defined by fishing gear group, special conditions and areas given in Annex IIA and II C to Regulation 51/2006 with special emphasis on cod (Annex IIA) and Western Channel sole (Annex IIC), respectively.
- C. summarise the data coverage and quality and describe the methods applied and advise on measures required to improve the requested analyses, especially where the data coverage is insufficient.

The evaluation of the ToR A, B and C should concentrate to quantify the following parameters of each category:

- the amount of cod (Annex IIA) and sole (Annex IIC) caught annually in numbers at age including discards and unallocated landings, except Nephrops with the catch unit to be given in weight;
- the amount of landings and estimated approximate first-sale value of other species caught annually;
- the number of kW-days at sea expended by vessels fishing.

3.3.3 STECF comments

During the first of its three meetings scheduled for 2006 (SGRST 06-01) the STECF Subgroup SGRST on fishing effort management compiled national fleet specific catch data for 2003-2004 and fleet specific effort data for 2000-2004. Due to the early time of the year, the group was unable to include data for 2005. The group's work also suffered from late, incomplete and imprecise data reports. Such difficulties mainly arise because most experts were unable to aggregate the fleet specific data according to the special conditions of derogations laid down in Article 8.1 of the Annex IIA of Council Regulation 51/2006 and for a variety of reasons, the inability to provide the discard data requested. All data reports disregarded unallocated catches.

All experts present at the meeting confirmed that their national institutes would undertake every effort to make available the data requested in advance of the upcoming meeting of the Subgroup in June 2006. STECF notes however, that experts from some Member States that have a significant involvement in the major fisheries were not present at this meeting and therefore there is no guarantee that the data required from such Member States will be available at the forthcoming meeting in June 2006 (SGRST 06-04: 5-9 June 2006, Ispra, Italy). STECF wishes to stress that it is essential that the datasets required are as complete and accurate as possible; otherwise the ability of the STECF to give appropriate advice will be severely compromised.

Constrained by the fragmentary data bases, the Subgroup report of 13-17 March, 2006 deals only with reviews of 6 proposals of new and the existing derogations pertaining to Annex IIA. It is the intention that Annexes IIB and IIC will be reviewed during two follow up meetings scheduled for June (SGRST 06-04) and October (SGRST 06-05). STECF notes that the reviews of the new and the existing derogations in Annex IIA based on cod catches in numbers including discard estimates, the value of first sale values of landings and nominal effort in kW*days at sea given in the report, are not representative and should not be used for management purpose. This is mainly because of missing information about the special conditions and discards. STECF further notes that the lack of data particularly affected the group's ability to adequately review the 6 new derogations proposed by the EU Fisheries Council and the member states Denmark, France and UK.

STECF considers that the analyses and results presented in the Report of the March 13-17 meeting of SGRST are preliminary and should be considered for illustrative purposes only. As the great majority of data reports of member states continued to have no or inadequate quantitative information on sample coverage, sampling intensity, and data processing, the Subgroup was also unable to advise on the accuracy and precision of the fleet specific discard estimates provided.

STECF recommends that all member states provide fleet specific landings and discard data by age 2003-2005 and effort data 2000-2005 (consistent with the data call for the June meeting) by 15 May 2006 in order to enable the Subgroup SGRST on Fishing effort management to accomplish the requested reviews of proposals for new and the existing derogations in Annexes IIA-C of the Council Regulation 51/2006.

In line with its November 2005 advice, STECF continues to encourage the development and trialling of novel methods for reducing unwanted elements of the catch (for example through improvements in gear selectivity). Such measures potentially contribute to reducing F on species where exploitation is beyond sustainable limits and offer conservation benefits for emerging year classes of other species (e.g haddock). For such measures to be evaluated adequately, field observations on selectivity and catch and effort data relevant to the proposed area of application should be made available to STECF.

3.4 Evaluation of the plans for the protection of marine living resources in Italian mainland, Sicily and Sardinia

3.4.1 Background

A meeting of the STECF-SGBRE sub-group (SGBRE 06-01) took place in Brussels from 27-31 March 2003 to examine numerous management plans for the protection of marine living resources in Italy and the autonomous regions of Sardinia and Sicily. The objectives as given by the Commission were as follows:

Scientists shall provide advice on the basis of both their expertise, including previous STECF works, and of scientific information attached to the plans for the protection of the resources and shall, in particular, evaluate the reliability of the plans in terms of:

- diagnosis upon which the plan is based (e.g. status of the resources and evolution of main fishery indexes);
- prognosis and expected results (benchmarks, appropriateness of the methodology to evaluate the objectives, reduction in fishing capacity, etc.)
- -congruence of the plan both with the targets (e.g. timeframe, appropriateness of management measures with conservation objectives, effectiveness of proposed measures, etc.) and with ongoing fishing practices as well as with already enforced management measures (e.g. the likely outcomes of the plan can be voided by current fishing practices? etc.)
- added value to ensure higher conservation of the exploited resources targeted by the plan in order to achieve higher long-term yields and better economic performances of the fleets involved. Since the various Italian Administrations (national Ministry, Region of Sicily and Region of Sardinia) have implemented different plans for the protection of the resources and have delivered different type of scientific analysis, STECF is requested to differentiate between Italy mainland, Sicily and Sardinia when delivering its advice.

STECF was requested by the Commission to examine the sub-group's analysis and deliver an opinion on the usefulness of the plans in protecting marine resources

3.4.2 Context

According to Community rules, a plan for the protection of marine living resources must include additional measures to temporary fishing bans, such as permanent reduction of fishing capacity or by adopting supplementary technical measures. Those are designed to further reduce fishing mortality over and beyond what is already enforced at national or Community level. The plan must be notified to the Commission which submits it to the opinion of the Scientific, Technical and Economic Committee (STECF) that must evaluate the scientific basis and likely effectiveness of the plan in terms of pursued conservation results. It is responsibility of a Member State to provide adequate scientific justifications to support the execution of temporary fishing bans under the requirements of the FIFG Regulation.

Both Sicily and Sardinia are Regions with autonomous Statute and they can rule on fishery matters with the exception of the fleet policy which is regulated at national level. The annual temporary fishing ban is one of the management measures regularly undertaken in Italy, including also Sicily and Sardinia, during the last 18 years although it has been differently modulated with respect to timing and fisheries in the various Italian seas.

3.4.3 Terms of Reference to the SGBRE Sub-group

1. to evaluate whether each plan for the protection of the resources is based on information and sound scientific analysis that allow to establish measurable objectives for each plan as well as to determine a diagnosis of the state of the stocks and of fisheries targeted by each plan;
2. to evaluate whether the scientific analysis allows to conclude that the exploited resources targeted by the plan have been fishing at sustainable or unsustainable levels and if the changes in fishing mortality, prior and after the execution of the plan, will allow higher yields in the long term as well as a reduced biological risk to the fish stocks;
3. To evaluate whether the plan is able to adjust fishing on the target stocks and main associated species in order to achieve greater catches larger and more stable stocks of fish and more profitable fisheries.
4. to evaluate whether and why other type of analysis could/should have been taken into consideration to set up the basis and to evaluate the appropriateness of the plans;
5. to evaluate whether the scientific basis of the plan has taken stock of and full exploited the monitoring data gathered through the Community data collection programme (Council Regulation (EC) 1543/2000).
6. to advice whether and why there may be scientific analysis in the fisheries science toolbox which are not valid to assess the state of exploited resources in the Mediterranean;
7. to evaluate whether the scientific analysis ensures a full coverage of geographical stocks and fisheries involved in the plan for the protection of the resources and which areas, fisheries and stocks are not covered;
8. to evaluate whether the measures implemented in the legislative acts match with the alternative management measures identified and justified in the various scientific reports. Identify also if an uneven implementation of the temporary fishing ban between areas is justified on the basis of the different conditions of exploited resources targeted by the plan;
9. to evaluate whether and how much the temporary fishing bans and complementary measures, if any, have been contributing to reduce the fishing mortality and the fishing effort as well as to improve sustainable exploitation of targeted resources;
10. To evaluate whether the implemented closed areas, in terms of location and dimensions, are relevant for the concerned stocks;
11. to evaluate whether the closed areas implemented in conjunction with the plan affect and how the operations of fleets involved in the plans.
12. to evaluate whether between year changes in the execution of the plan are scientifically justified and if they may negatively influence the effectiveness of the plan.
13. to evaluate whether the expected results may be voided by alternating temporary fishing bans between adjacent maritime departments taking into consideration the mobility of the fleets, the location of operating fishing grounds and uneven distribution of exploited resources between territorial and international waters;
14. To evaluate whether in conjunction with the plan there has been, for the fleet areas covered by the plan, a permanent reduction of the fishing capacity with respect to the period before the plan;
15. To evaluate whether and why the absence of a recurrent temporary fishing ban concerned fleets may further deteriorate the state of exploited resources;

3.4.4 STECF considerations and recommendations on (all areas)

STECF has reviewed the report of SGBRE and makes the following observations and recommendations.

1. STECF recognizes that, in spite of the implementation of different management measures in the last 18 years, several important marine living resources (i.e. hake, red mullet, deepwater rose shrimp) around Italian coasts (GSAs 9, 10, 11, 16, 17, 18, 19) are overexploited. This is documented in a number of places : SEC 2002

- [1374] on Mediterranean shared stocks; SEC 2004 [772] on Mediterranean fleets; SEC 2005 [266] on the state of the stocks; GFCM-SAC reports; and scientific documents attached to the plans and presented to the STECF Sub-group).
2. STECF considers that the measures currently included in the Italian plans are among those recommended as candidate measures by the scientific community.
 3. STECF notes that in accordance with EC 2792/1999, plans for the protection of marine living resources must include additional and supplementary technical measures designed to further reduce fishing mortality over and beyond what is already enforced at national or Community level.
 4. STECF notes that the scientific information used to establish the guidelines of the plans are limited. STECF recognizes that the information and the analysis presented by Sardinia and Sicily (including the 2006 plan) are comprehensive. Italian mainland has presented incomplete information for areas and species, limiting stock trends to abundance and not biomass of the species concerned and an inadequate analysis of the levels of exploitation.
 5. STECF considers that the plans presented by the Italian authorities (Italian mainland, Sardinia and Sicily) have not clear measurable objectives, in terms of targets to achieve (i.e. level of F and SSB, mean size/age of the stock, biodiversity, etc) as well as a time frame for achieving (see guiding principle established by the Commission in EC 2792/1999). STECF also reiterates that conservation measures should follow the general guidelines delineated by STECF in the report of the November 2005 plenary session.
 6. STECF considers that the expected positive effect of the management measures, included in the plan may have been compromised by factors such as increase in the fishing capacity of the fleet, increase in gear catchability, technical creeping, inadequacy in the design and implementation of the management measures included in the plan (i.e. extension and period of the fishing ban, extension and location of the closed areas), deterioration of essential fish habitats, low selectivity of the fishing gears, etc. Also, it has not been possible to disentangle the effects of different factors and management actions on the fishing mortality of the exploited stocks.
 7. STECF advises that national management measures on fisheries exploiting stocks straddling international management areas may be inadequate to achieve conservation objectives.
 8. STECF considers that the status of essential fish habitats (EFH) and sensitive habitats (SH) is likely to deteriorate if the management measures currently implemented are discontinued. However, STECF was unable to assess whether the abandonment of the current measures will have any deleterious effect on stock status.
 9. STECF considers that protection plans are insufficient to safeguard long-term sustainability of the exploited stocks. STECF considers that for the season fishing ban to be effective, it should include the following elements:
 - The ban should be compulsorily applied to all relevant fishing methods and gears that catch the species the ban is designed to protect
 - The ban should be for a continuous period when all fishing by relevant fishing methods and gears is prohibited
 - The ban should be extended to large areas at least to the GSA level. This is to minimise the transfer of effort to adjacent areas and especially to prevent diversion of effort into international waters outside 12 miles which could negate the potential benefits of the ban. The design in terms of period of closure must be revisited and planned to match the period of recruitment of the target species included in the plan.
 10. STECF recommends that the present location and extension of closed areas should be reviewed to ensure that they encompass those areas where SH and EFH for the most important marine living resources are persistent in time.
 11. STECF recommends effective management measures for the protection of the marine resources should not only include a compulsory fishing ban which, provided that it

substantially reduces the annual total number of days at sea of the fleet but should be supplemented with the following elements:

- a progressive reduction of the effective fishing capacity of the fleet
- the establishment of permanent closed areas to protect SH and EFH. The extent of such areas should be sufficiently large to ensure that the desired effect is achieved.
- an increase in selectivity of the gears in order to decrease F on the juveniles, reduce discards and reduce the impact on benthic communities

12. STECF recommends that in future, indicators of the status of the main target stocks at the time when the plan commences should be provided. The effectiveness of the plans over time should be then evaluated with respect to such indicators.

13. STECF also recommends that in future the cost effectiveness of different management options are evaluated to identify which option will result in the highest possible biological impact for a given amount of subsidy. Section 2.1 in this report presents a general discussion on this topic.

Table 3-3 summary of closed areas

areas	mandatory	period	week-end + holydays	banned area extension (4 ml or 60 m)	voluntary	period
ITALY mainland 2004						
bottom trawl fishery + pelagic trawl fishery (excluding oceanic trawlers)	North-Central Adriatic (Trieste to Monfalcone)	Y	August 2 to September 5	no fishery	July 5 to October 10	N
	South Adriatic + Ionian Sea (Molfetta to Crotone)	Y	September 9 to October 10	no fishery	July 5 to October 10	N
	Tyrrhenian Sea + Ligurian Sea (Reggio Calabria to Imperia)	Y		no fishery	Y	35 days between July 5 to October 10
all other fisheries (excluding hydraulic dredges, recreational fishery and "pescaturismo")	Adriatic Sea + Ionian Sea (Trieste to Crotone)	N			Y	July 5 to August 1
all passive gears (excluding recreational fishery and "pescaturismo")						
ITALY mainland 2005						
bottom trawl fishery + pelagic trawl fishery (excluding oceanic trawlers)	North Adriatic (Trieste to Ancona)	Y	August 1 to 30 (3)	no fishery	September 14 to October 31	N
	Central Adriatic (S. Benedetto del Tronto to Manfredonia)		two periods of 15 days: August 13 to 27 and September 17 to October 1 (3)	no fishery	September 14 to October 31	N
	South Adriatic + Ionian Sea (Molfetta to Crotone)		two periods of 15 days: September 3 to 19 and	no fishery	September 14 to October 31	N

areas	mandatory	period	week-end + holydays	banned area extension (4 ml or 60 m)	voluntary	period
		September 30 to October 14 (3)				
Tyrrhenian Sea + Ligurian Sea (Reggio Calabria to Imperia)	N		no fishery		Y	September 12 to October 11 (1)
all other fisheries (excluding hydraulic dredges, recreational fishery and "pescaturismo")						
all passive gears (excluding recreational fishery and "pescaturismo")						
Sicily 2004						
All fishing vessels registered in Sicily (excluding oceanic trawlers)(4)	Maritime Compartments of Porto Empedocle, Mazara del Vallo and Trapani	Y (4)	August 10 to September 9	no fishery except for "pescaturismo"	N	N
	Maritime Compartments of Palermo and Milazzo	Y (4)	August 25 to September 23	no fishery except for "pescaturismo"	N	N
	All the other Maritime Compartments	Y (4)	September 10 to October 9	no fishery except for "pescaturismo"	N	N
Sicily 2005						
All fishing vessels registered in Sicily (excluding oceanic trawlers)(4)	All Maritime Compartments (5)	Y	30 days continuously or even in two periods between August 5 to October 30.	N	Y (6)	
	Trawlers fishing in the Straits of Sicily	Y	30 days continuously or even in two periods between August 5 to November 10.	N	Y (6)	
Purse seiners	All Maritime Compartments	Y	30 days continuously between August 5 to November 30.	N	Y (6)	
Sicily 2006						
All fishing vessels registered in Sicily (excluding oceanic trawlers)(4)	All Maritime Compartments (7)	Y	45 days continuously between September 15 to October 30	Y (12)	N	N

	areas	mandatory	period	week-end + holydays	banned area extension (4 ml or 60 m)	voluntary	period
	All Maritime Compartments (8)	Y	45 days continuously between April 1 to May 15	Y	N	N	
	All Maritime Compartments (9)	Y	45 days continuously between October 15 to November 29	Y	N	N	
Purse seiners	All Maritime Compartments (10)	Y	45 days continuously between September 15 to October 30 (11)		N	N	
Sardinia 2003							
Set net fishery and small bottom trawlers <15 grt	All Maritime Compartments	Y (13) (14) (17)	March 1 to April 14			Y (15)	March 1 to April 14
purse-seiners for small pelagic species and artisanal long-liners targeting swordfish	All Maritime Compartments	N (17)				Y	45 days continuously
bottom and pelagic trawlers between 15 to 30 GRT	All Maritime Compartments	Y (17)	September 12 to October 27			Y (16)	March 1 to April 14 or September 12 to October 27
bottom and pelagic trawlers (all, except for the previous categories)		Y	September 12 to October 27				
Sardinia 2004							
Set net fishery and small bottom trawlers <15 grt	All Maritime Compartments	Y (14)	February 21 to May 5		February 21 to May 5 (18)		
purse-seiners for small pelagic species and artisanal long-liners targeting swordfish	All Maritime Compartments					Y	February 21 to May 5
bottom and pelagic trawlers between 15 to 30 GRT	All Maritime Compartments	N			February 21 to May 5 (18)	Y (16)	February 21 to May 5 or September 15 to October 14
bottom and pelagic trawlers (all, except for the previous categories)	All Maritime Compartments	Y	September 15 to October 14		February 21 to May 5 (18)	Y (16)	

- (1) the ban was decided on single Maritime Compartment basis, only after the agreement of at least 60% of ship owners;
- (2) the ban was decided on single Maritime Compartment basis, only after the agreement of at least 70% of ship owners;
- (3) a reduction of the fishing effort (maximum 32 days of fishing activity) was applied in the period between the end of the closure to December 31.

- (4) voluntary for the vessels having a licence for bottom or pelagic trawl choosing to continue the fishery with another gear during the period of the ban.
- (5) excluding trawlers fishing in the Straits of Sicily, purse-seiners and vessels engaged in "pescaturismo";
- (6) voluntary for the vessels engaged in "pescaturismo";
- (7) limited to bottom or pelagic trawls, excluding the "Mediterranean" licence;
- (8) limited to bottom static fisheries (fixed gears, lines, longlines and harpoon), excluding the "Mediterranean" licence
- (9) limited to surface fisheries (gillnets, purse-seines, lines, longlines and harpoon), excluding the "Mediterranean" licence and some recreational fisheries;
- (10) limited to bottom trawlers having a "Mediterranean" licence
- (11) the ban is valid only for Italian national waters but these vessels can fish outside, according to a specific Management Plan to be established;
- (12) excluding licences for "Coastal local fishery" when they have to recover days of adverse meteorological conditions
- (13) mandatory for the small trawlers <15 GRT;
- (14) excluding small bottom trawlers <15 GRT registered in Cagliari allowed to continue the fishery between C. Spartivento to C. Carbonara;
- (15) voluntary for small bottom trawlers between 15 to 30 GRT;
- (16) bottom trawlers having also a longline licence can choose to continue their activity even during the closure when fishing with longline outside the national waters; vessels can choose between the closure in spring or in fall;
- (17) several fishing activities are excluded from the closure: scuba diving professional fishery, red coral fishery, most of the recreational fishery activities, sport game fishery and scientific surveys.
- (18) The prohibition to carry on trawl fishery within 5 miles from the coast or 100 m depth is enforced in some areas during the ban in spring, to protect coastal resources.

NOTE: in addition to time-area closures for fleet segments, several closed areas have been established so far in the Italian Seas, including the Sicilian area; the details of these areas are included in the plans or in other specific Decrees.

3.5 Eel management

STECF was asked by the Commission to review and summarise the findings of the report of the SGRST Sub-Group (SGRST-06-02: Eel Management) on eel management held in Ispra from 21-24 March 2006 and provide its opinion.

3.5.1 Background

The EU Commission has proposed that the primary instrument for management of European eel should be the development by Member States of "eel management plans". The objective of each plan should be to achieve an escapement of 40% from each river basin. This 40% level is established with reference to a situation in which eel recruitment is at a normal historic level, the full productive extent of the eel habitat is utilised, there are no barriers to migration and no mortalities from fishing, turbines or pollution.

3.5.2 Terms of reference

Develop guidelines for the content of eel management plans. These should include

1. How to establish the reference level for escapement (e.g. in terms of kg silver eel escapement per hectare of eel habitat);
2. How to measure silver eel escapement, and any other relevant parameters;
3. How, and whether, to establish intermediate (or proxy) targets such as settlement rates for glass eel, population densities for yellow eel, maximum mortality rates due to fishing or turbine passage, or relevant water quality parameters;
4. Provisions for data collection, monitoring and the follow-up and enforcement of regulations. Such data collection should be adequate to allow an estimation of whether compliance with the target has been achieved.

3.5.3 Presentation and summary of discussions

The Subgroup chairman, Josef Wanzenböck, attended the STECF to present the report and provided a clear overview of its findings. He explained that there was extensive discussion of many of the issues and some divergent views that required careful consideration in seeking agreement on what could be said. STECF commends the Subgroup on reaching a consensus view that can quickly form the basis of action for this pressing issue. STECF regarded this as a very helpful report and notes the attendance list of experts which confers considerable authority to the findings. The report is well put together and well focused on the main issues. STECF considered that little would be gained by attempting to summarise the report since its concise and clear nature makes the report very approachable and easy to read in its present form.

3.5.4 STECF comments on the Report of the Subgroup on eel management

3.5.4.1 Establishing the reference level for escapement

A pragmatic approach utilising available data in a hierarchical way was proposed by the Subgroup. STECF considers that the flexibility and sensitivity of the approach can accommodate the variable quality of eel data throughout Europe and offers a way of establishing a reference level in even the most data poor situations.

3.5.4.2 Measuring silver eel escapement

The Subgroup highlighted the value of fishery independent data for the measurement of silver eel escapement, but again offered an hierarchical approach allowing other forms of data to be utilised. The importance of independent survey information is well recognised and for areas dependent on less reliable data, attempts should be made to introduce such surveys as a matter of urgency.

3.5.4.3 Intermediate (or proxy) targets – outline of a strategy and immediate measures

The subgroup decided that present scientific knowledge and data hindered discussions on the adoption of proxy's for the 40% escapement of silver eels. This discussion is for the future and requires improvements in understanding of the relationships between various stages in the eel life cycle. Outputs from parallel work such as the EU funded project SLIME (Study Leading to Informed Management for Eel, Project Number: FP6 - 022488) expected during the latter half of 2006 may well furnish some of the information required. For the present however, the Subgroup considered it crucial to offer advice on a long term strategy combining improved knowledge base and immediate management measures to address the universally agreed poor state of the populations of this species, particularly exemplified by the drastically reduced recruitment.

STECF agrees with the Subgroup's view that the longer term strategy and management plans will take some time to be effective and that immediate measures are necessary. The subgroup made three key recommendations for action addressing i) fishing effort on adults, ii) turbines/pumping mortality and iii) limiting trade in glass eels in order to achieve an immediate increase in silver eel output. The immediate management measures attracted the most debate from STECF, in particular the Subgroup's recommendation to reduce fishing effort by 50%.

During discussion of how the 50% reduction figure had been determined and whether this was considered adequate, it emerged that this figure had been arrived at as a compromise and was not based on any single piece of scientific advice. The lack of a clear scientific outcome on this issue, gave STECF little confidence of its suitability. Various modelling studies were presented to the Subgroup some of which had suggested larger effort cuts were required. There was, however, concern in STECF that these approaches might be making unwarranted assumptions about the relationship between fishing effort and fishing mortality but in the absence of comprehensive data STECF could not consider this further. STECF was of the view that where a range of possible options existed, these should be presented to managers who are in a position to take consideration of appropriate levels of risk. Adopting a very risk averse attitude would imply that directed fishery should be closed for a while to see first the response in adult stock, and then, later on, in recruitment. It was,

however, also pointed out by the Subgroup Chairman that model outputs predicting more drastic cuts were derived from populations with very long generation times not observed throughout most of the eel's range. However, the long term stock response is more dependent on production capacity of the stock to provide level of recruitment with a corresponding to a certain size of spawning stock or recruits per spawner.

Furthermore, the suggested 50% fishing effort cut should be viewed *in conjunction* with the measure to cut turbine mortalities. However, as there is no certainty about time schedule to be applied in turbine modifications, and this is also outside of the power of fisheries managers, there is a need to make a sufficient management actions before the other actions are known.

The Subgroup had found difficulty in agreeing to very stringent action being applied to fishermen in the absence of efforts to reduce unquantified but likely significant mortality from other anthropogenic sources. A 50% effort cut coupled to reductions in turbine mortality achieved the widest support in the subgroup, but it is difficult for STECF to find clear scientific justifications for the conclusion. The observations of severely reduced recruitment alone, underline the need for a much more significant reduction in effort but there are additional considerations related to genetic variability that also point to the need for sustained periods of low fishing mortality on eel populations. Genetic characteristics determining longer residency in freshwater in some eels allows for excessive effort to operate on this portion of the population to the extent that genetic diversity is lost. Eel populations and the fisheries they potentially support could then be put at long-term risk and may no longer possess the characteristics to recover.

STECF emphasises the need to ensure that the measures applied to deliver the effort reduction are effective in doing so. For example, reliance on regulation of days fishing in those elements of the fishery utilising traps (fyke nets etc) is unlikely to achieve the target and it is necessary to ensure that schemes applied locally are appropriate to the fisheries concerned. There is also a need to ensure that the unit of fishing effort remains the same. Technological change in response to the imposition of effort controls (and other management measures) will almost certainly undermine the effort reduction measure.

Concern was expressed that reductions in fishing opportunities would lead to the development of illicit fishing and encourage a black market particularly involving non-professional fishermen. There was particular concern about STECF permitting a fishery for glass eels albeit for restocking purposes, provided opportunities for illegal trade. Details for effective management of this aspect and the prevention of trade other than for restocking need to be carefully worked out. It was felt that a major difficulty might arise in relation to the use of glass eels in aquaculture. Unlike the rearing of salmon or trout, aquaculture systems for eels do not remove the risk of overfishing, since, for the present, eels cannot reproduce in the rearing systems and wild caught juveniles are used instead. Demand for eel products produced in aquaculture as well as capture fisheries therefore contributes to the mortality of wild eels. STECF is of the view that for the measure on restricting trade in glass eels to be effectively limited to restocking purposes only, special efforts will be needed to ensure these do not end up in aquaculture enterprises. STECF wishes to make a clear statement that provision of uncontrolled trading opportunities at the time of a fishing ban encourages illegal fishing – this must be prevented.

There was some discussion of the need for a fishery for glass eels at all. It was not possible for STECF to exhaustively discuss and evaluate the benefits of restocking programmes. Some work suggests that restocked animals do not subsequently contribute to spawning but during the Subgroup's discussions, it was agreed that direct stocking of glass eels into habitats that had otherwise become unavailable (for example through barriers preventing upstream migration of glass eels) might potentially contribute to future spawning and should not therefore be excluded from management plans.

STECF had concerns about aspects of the adaptive management elements of the plans discussed in the Subgroup's report – some members of STECF felt that adaptive management was inappropriate and that a simulation based approach adopting a highly risk averse approach was required. STECF recognised that reaching the 40% escapement objective could take of the order of 3 generation times. This means some considerable time might elapse between the management measures applying to young and adult eels in river systems and the time when significant improvements in recruitment might be detected. Large delays between management measures and measurable response do not facilitate the

effective use of adaptive management. Responses in the mortality of adult eels within inland systems following management measures is, however, potentially detectable on a shorter time scale but owing to the uncertain relationship between effort and fishing mortality and in the future spawning stock – recruitment relationship in the spawning areas, effort reductions would have to be large in order for impacts to be detectable and effective. In utilizing adaptive approaches, there is a need for response measures to any failures in existing plans to be based around the latest information and knowledge rather than on outdated measures conceived in data poor circumstances.

3.5.4.4 Data collection, monitoring and follow up

In its report, the Subgroup outlined the current status of data collection for eels and concluded that the important elements and framework are in place but that the process needs to be rapidly and effectively implemented. Member States need to give urgent attention to the actual collection and delivery of data relevant to eel management.

STECF was of the opinion that the supply of eel fishing capacity information under the DCR was not particularly important but that collection and supply of fishing effort data was essential and urgently required.

STECF considered that an important aspect of the follow up to this initiative is the dissemination of information and consultation with all stakeholders including industrial interests and officials responsible about water way management.

3.5.5 STECF recommendations

STECF considers that the constructive report of the Subgroup represents a significant step forward and should form the basis of early management action on eels. In the light of this STECF **recommends**:

1. that the plans developed here, applying to inland waters and estuaries, should be accompanied by parallel plans for coastal waters as well.
2. That the reference level for silver eel should be established hierarchically depending on the quality of data available for a specific river basin. Preference should be given to historic data on silver eel escapement reflecting a near natural situation followed by other available historic data on eel which need modelling and inference to link them to silver eel escapement. If no historic data concerning eel for a given river basin exist other methods contained in the Subgroup report should be used for inference of natural silver eel escapement.
3. that methods to measure silver eel escapement should be adopted in a hierarchical order using various standard stock estimation methods depending on the quality of data available for a specific river basin. Preference should be given to data from fishery independent surveys where available
4. The Subgroup recommended that an immediate reduction in all fishing effort on all life stages of eel (professional and recreational as realised in COM(2005) 472 by a 15 day closure or by some other mechanism that reduces fishing effort by 50%. However, STECF can find no justification for the choice of this figure and recommends that as an immediate measure, the exploitation rate should be reduced in line with advice from ICES. This states that “ICES repeats its recommendation that a recovery plan for the whole stock be developed urgently, and that exploitation and other anthropogenic impacts be reduced to as close to zero as possible, until such a plan is agreed upon and implemented.”
5. That in any implementation of effort reductions, in an attempt to reduce exploitation, careful attention is paid to ensuring the mechanisms for reduction are tailored to the different types of fishery to ensure effective reduction in fishing mortality.
6. That an immediate reduction in turbine and pumping stations mortality, with the initial emphasis placed on actions addressing mortality in the lowest reaches of the river basins. Special consideration should be given to achieving good quality spawner escapement from places where known contaminant levels or disease and parasite (*Anguillicola*) infections are absent or low
7. That a total ban on trading of glass eels for purposes other than restocking of open waters within the eels natural distribution area, until the stock has attained the level in the ICES advice which is 50% of virgin biomass..

8. That special attention is paid to the elimination of the glass eels trade for aquaculture. There should be no opportunities for uncontrolled trading to lead to illegal fishing that undermines efforts to reduce fishing mortality.
9. The longer term Management Plans should be developed in two phases and include milestones to be achieved at specific dates. The timetable for the implementation of the National Management Plans should remain unaltered. These should be submitted in December 2006 for approval and implementation by July 2007 at the latest. The final management measures should be established and implemented not later than 2015 and should, with all probability, achieve a full recovery of spawner escapement to 40% of the pristine level within three eel generations (that is: circa 20 years in the Mediterranean and up to 45 years or more in Northern Europe). In the calculation of the required protection levels, it can be assumed that equally protective measures are taken in the whole distribution area, and that increased spawner production results in recovery of recruitment, subsequently contributing to the full recovery in three generations time.
10. The Water Framework Directive time plan of implementing environmental and ecological monitoring (2006), a programme of measures (2009) and the achievement of good ecological status (2015) should have a positive impact on eel escapement and spawner quality. STECF notes that it is difficult to predict the real impact of these on eel populations in Europe. Additional eel specific measures should be adopted into the Water Framework Directive programme, such as reintroductions where absent in its natural distribution area, protection of waters where contaminants and parasites are low/absent and ensuring upstream passage for recruits and downstream passage for silver eels. Under the implementation of the Water Framework Directive specific extensions should be implemented for eel as an indicator of river connectivity and ecological and chemical status. The WFD should use of eels as a biomonitoring organism for monitoring the chemical status of surface waters with respect to hazardous substances, because of several ecological and physiological traits of this species.
11. That a campaign to disseminate the management ideas to all stakeholders (including large scale industries – eg hydro) is an important requirement.
12. That there is urgent implementation of agreements on data collection on eels

4 ECONOMIC ISSUES

4.1 Economic Indicators for the fish processing industry and aquaculture, Review of economic issues

4.1.1 Background

It is the Commission's intention to maintain the collection of data concerning the processing industry in future Regulations (2007 onward) and in addition, to include the collection of data to measure the economic performance of the aquaculture sector.

In light of this, the Commission decided to convene a SGECA meeting (SGECA 06-01) in Ispra, from 13-17 of February 2006, with the aim of reaching common agreement on the quality and use of the economic information to be collected.

4.1.2 Terms of reference

The Group was given the following Terms of Reference:

4.1.2.1 Processing industry

1. Review of all economic indicators required by the Data Collection Regulation N°1639/2001 amended N°1581/2004 (Appendix XIX): problems of interpretation encountered, new indicators to consider
2. Propose definition of homogeneous methods of calculation of the indicators and common sampling strategies
3. Carry out a quick review of each current national programme for collecting economic data for the processing industry (method of collection, sampling plan ...) and identify the possible problems encountered to fill the objectives of the E.C. regulation N°1639/2001 amended N°1581/2004 (precision levels, etc....)

4.1.2.2 Aquaculture

1. From a general overview analysis of the problems encountered in collecting the economic data, point out possible special statistical problems
2. Propose a list of economic indicators to be collected
3. Propose definitions of homogeneous methods of calculation of the indicators and common sampling strategies

The Group has delivered its report and it is published on the STECF website.

4.1.3 Review and definitions of Economic Indicators for the fish processing industry

The STECF considers the report useful in the process of making a new Data Collection Regulation (DCR) replacing the current regulation. In this respect STECF recommends to use the indicators for the fish processing industry as presented below in Table 4-1 as proposed by the working group STECF SGECA-06.01. This table provides a well-defined overview of the necessary economic indicators to be collected.

The STECF recommends that concerning the collection of data it should be coordinated between data available to EUROSTAT and data collected under the Data Collection Regulation.

The Working Group made a general recommendation and six specific recommendations.

Concerning the general recommendation, as observed by the working group: *The main objective of the data collection programme is to give researchers a minimum amount of data to advise the European Commission or national governments. The use of aggregated and segmented data limits the scope of analyses. Hence it is recommended that national researchers involved in the data collection programme have access to anonymous or blinded micro data (single fish processing/aquaculture enterprise data) of their respective national Statistical Office and the right to publish results according to European data protection and confidentiality standards.* It is the opinion of STECF that this not so much constitutes a

recommendation concerning the drafting of a Data Collection Regulation but does carry relevance for the use of the data.

In order to provide consistent time series, the working group recommends data be collected on an annual basis. The data should be available within 24 months of the end of the calendar year to which they refer.

Concerning the recommendations made by the working group it is clear that the working group has identified the following areas of concern:

1. Multi-activity enterprises and the dilemma of classification by dominant activity.
2. Micro and small scale enterprises; most national Statistical Offices do not collect data for such enterprises.
3. The difficulty of accurately estimating raw material use.
4. The unavailability of prices per product.

The STECF considers all these recommendations as related to the implementation of the DCR by the individual MS. The technical hitches may differ from one MS to another; hence no common solution can be defined. Therefore the STECF encourages the Commission to enter in a dialogue with each MS in order to find suitable solutions. The report of the Working Group might serve as a guide-line. The STECF stresses however that the data should be available at the latest within 24 months of the end of the calendar year to which they refer.

The STECF agrees with the Working Group that segmentation by employment as proposed by the Commission (Commission recommendation concerning the definition of micro, small, and medium-sized enterprises; 2003/361/EC) is useful but notes that the majority of enterprises would fall into the category of micro/small enterprises.

micro / small: 1-49

medium: 50-249

large: >250

Table 4-1 Economic Indicators for the fish processing industry.

Indicators required by EC regulation 1639/2001 appendix XIX	Revised Economic indicators proposed by the working group	Structural Business Statistics (SBS)	ESA 1995	Adopted Indicator Revised by the working group	Additional specifications	Comments
Income (turnover)	Turnover	12 11 0		Turnover	Total	Might be skew due to multi-activity enterprises.
	Other income			Other income	Exclusive of turnover, financial income and extraordinary income	Might be skew due to multi-activity enterprise. No standardized Eurostat definition available but reference could be made to Directive 78/660/EEC where the profit and loss account items are enumerated.
Production costs – Labour costs (incl. social costs)	Production costs – Labour costs (including social costs)	13 31 0 13 32 0 13 33 0		Labour costs	1. Wages and salaries 2. Social security costs	
Production costs – Energy	Production costs – Energy	20 11 0 (13 11 0)		Energy costs		
Production costs – Raw material (value)	Production costs – Raw material (value)	(13 11 0)		Raw material (value)	Purchase of fish and other raw material for production and packaging.	
Production costs – Other running costs	Production costs – Other operational costs	(13 11 0)		Other operational costs		

Indicators required by EC regulation 1639/2001 appendix XIX	Revised Economic indicators proposed by the working group	Structural Business Statistics (SBS)	ESA 1995	Adopted Indicator Revised by the working group	Additional specifications	Comments
Fixed Costs	Depreciation		6.02. to 6.05.	Depreciation (Capital costs)		
	Financial costs, net			Financial costs, net		No standardized Eurostat definition available but reference could be made to Directive 78/660/EEC where the profit and loss account items are enumerated
	Extraordinary costs, net			Extraordinary costs, net		No standardized Eurostat definition available but reference could be made to Directive 78/660/EEC where the profit and loss account items are enumerated
	All taxes	42 51 0		All taxes		In SBS only used for credit institutions; reference also made to Directive 78/660/EEC
	Profit for the financial year, net	42 60 0		Profit for the financial year, net		See comments on All taxes
Investment (Asset)	Gross Investment in tangible goods (Investments)	15 11 0	3.102. to 3.111.	Gross Investment in tangible goods		ESA Codes should be used as a complement to the SBS definition of the indicator
Investment (Asset)	Balance sheet total (Assets)	43 30 0	7.09. to 7.24.	Total Assets (Capital value)		ESA codes should be used as a complement to the SBS definition of the indicator. In SBS only used for credit institutions; reference should also be made to Directive 78/660/EECESA definition of the indicator
Financial Position	Net capital			Net capital		No standardized Eurostat definition available but reference should be made to Directive 78/660/EEC where the profit and loss account items are enumerated
Financial Position	Debt			Debt	Provisions, long- and short-term debt	See comments on Net capital above.
Financial Position	Balance sheet total (Liabilities)	43 30 0		Total Liabilities		In SBS only used for credit institutions; reference should also be made to Directive 78/660/EEC
Raw Material	Raw material (tonne)	N/A	N/A	Raw material (tonne)	Total and per species	Commodity numbers (EC's Combined nomenclature).
Employment	Employment	16 11 0 16 14 0	11.32. to 11.34.	Employment	1. Numbers 2. Full-time equivalents (FTE)	
	Number of enterprises	11 11 0		Number of enterprises		

4.1.4 Review and definition of economic indicators for aquaculture

Aquaculture is becoming increasingly important in Europe in terms of food security, fishery products, trade balance and employment. While it is a business based activity, the production process is biological and diversified in terms of species, production techniques and enterprise sizes. Therefore, when addressing the issue of economic performance, the diversified nature of the sector and the ecological aspects need to be taken into account.

The main objective for the collection of economic data for the aquaculture sector is to analyze the economic performance of the aquaculture industry, including both financial and non-financial economic data, as well as the competitiveness of the aquaculture sector.

In this respect, STECF recommends that the economic indicators for aquaculture as presented in Table 4-2: Economic indicators for aquaculture, as proposed by the working group STECF SGECA-06.01, are used. This table provides a definitive overview of the necessary economic indicators to be collected.

In order to have a detailed and specific overview of the sector it is agreed that a subdivision of the sector into more homogenous groups is called for. Segmentation, along the lines of farm and rearing techniques and, when needed, by species, is essential to distinguish different modes of production. This is especially the case for fish and molluscs. It is recommended that detailing this segmentation be implemented preferably along the line of production technique and, in case of the same species under different production techniques, be implemented according to production technique /species combinations.

In addition it is recommended to include segmentation of enterprises according to size of the undertaking; segmentation on scale of production.

Concerning changes in value of stock, noting that aquaculture stock fluctuates both in volume and in value, and acknowledging this to be a common problem across all MS, STECF recommends to apply general accounting standards (International Accountancy Standards Board) for the valuation of the stock.

Concerning depreciation, STECF notes that this issue is already subject of an ongoing study in the fisheries sector. STECF recommends applying similar principles of depreciation to aquaculture and hence the result of this study should be used.

Beyond the financial performance, it is necessary to gain an insight into sustainability (economic, social, ecological) and the socio-economics of the sector. Concerning feed conversion ratio (FCR), although it is an indication of (economic) efficiency and environmental impact, formulating a concise set of environmental impact indicators is beyond the scope of this exercise. Therefore STECF **recommends** using the forthcoming meeting on the ecosystem approach (STECF June 19-23, SGRN-06.01), be requested to propose a concise set of environmental impact indicators for aquaculture

Concerning statistics on output prices, in particular the harmonization of size categories across MS, STECF considers it premature to implement EU wide market standards. Information on which to base such a system is currently unavailable and for economic analyses, these data so far have not been essential.

Concerning valuation of family labour, according to STECF it is the MS duty to attribute value to “unpaid”, family labour. STECF recommends that this should correspond with the evaluation of “unpaid” family labour as currently undertaken in other artisanal sectors such as services, agriculture and fisheries.

Table 4-2 Economic Indicators for aquaculture

Economic indicators	Structural Business Statistics	ESA 1995	Indicators	Additional specifications	Comments
Turnover	12 11 0		Turnover	Per species/Group of species. Value, ton, number of juveniles	

Economic indicators	Structural Business Statistics	ESA 1995	Indicators	Additional specifications	Comments
Other income			Other income	Exclusive of turnover, financial income and extraordinary income	No standardized Eurostat definition available but reference could be made to Directive 78/660/EEC where the profit and loss account items are enumerated
Production costs – Labour costs (include social cost)	13 31 0 13 32 0 13 33 0		Labour costs	1. Wages and salaries 2. Social security costs	
Production costs – Energy	20 11 0 (13 11 0)		Energy costs		
Production costs – Raw material (value)	(13 11 0)		Livestock costs (value)	Purchase of eggs, fry, fingerlings, smolts, etc.	
Production costs – Raw material	(13 11 0)		Fish Feed costs	Purchase of fish feed, in volume and value	
Production costs – Other operational costs	(13 11 0)		Other operational costs	Sanitary, packaging, fees for use rights, maintenance, depuration...	
Depreciation (Fixed costs)		6.02. to 6.05.	Depreciation (Capital costs)		
Financial costs, net			Financial costs, net		No standardized Eurostat definition available but reference could be made to Directive 78/660/EEC where the profit and loss account items are enumerated
Extraordinary costs, net			Extraordinary costs, net		No standardized Eurostat definition available but reference could be made to Directive 78/660/EEC where the profit and loss account items are enumerated
All taxes	42 51 0		All taxes		In SBS only used for credit institutions; reference also made to Directive 78/660/EEC
Profit for the financial year, net	42 60 0		Profit for the financial year, net		See comments on All taxes above
Gross Investment in tangible goods (Investments)	15 11 0	3.102. to 3.111.	Gross investment in tangible goods		ESA codes should be used as a complement to the SBS definition of the indicator
Balance sheet total (Assets)	43 30 0	7.09. to 7.24.	Total Assets (Capital value)		ESA codes should be used as a complement to the SBS definition of the indicator
Net Capital			Net Capital		No standardized Eurostat definition

Economic indicators	Structural Business Statistics	ESA 1995	Indicators	Additional specifications	Comments
					available but reference should be made to Directive 78/660/EEC where the profit and loss account items are enumerated
Debt			Debt	Provisions, long- and short-term debt	See comments on Net capital above.
Balance sheet total (Liabilities)	43 30 0		Total Liabilities		In SBS only used for credit institutions; reference should also be made to Directive 78/660/EEC

Value of unpaid labour	N/A	N/A	Imputed value of family's labour		
Employment	16 11 0 16 13 0 16 13 1 16 14 0	11.32. to 11.34.	Employment	1. Full time 2. Part time 3. Seasonal 4. Full-time equivalents	
Number of enterprises	11 11 0		Number of enterprises		

4.2 Bioeconomic models

4.2.1 Background

STECF decided in 2003 to organise a series of subgroup meetings with the purpose of investigating the availability of bio-economic models that could be used to support the advice of the STECF about fisheries management.

The subgroup of economics, SGECA, and the subgroup of stock assessment, SGRST, was first asked to review the EIAA model that was used assess economic repercussions of the ACFM advice i.e. fisheries that were subject to quota management. Secondly, the group was asked to review models appropriate for economic assessment of fisheries not subject to quota management i.e. models appropriate for economic assessment of the fisheries in the Mediterranean Sea and adjacent waters. Thirdly, the group was asked to review available models in a broader context.

The first subgroup meeting about the EIAA review was held in June 2004, while the meeting held in October 2005 addressed models in a broader context. The third meeting held in March 2006, addressed all three areas.

The STECF further emphasised that the review of the models should take into account the operationality of the models with respect to the needs of the Common Fisheries Policy in terms of TAC/quota management and fleet management. The operationality of the model included availability of data on a continuous basis.

Following submission of the draft report from the second meeting held in October 2005 to the STECF plenary meeting in November 2005, STECF recommended that based on the current overview of available models a selection should be made of those models that are at present operational, publishable and do have a specific use for STECF. And in addition STECF recommended to establish a task force that will for each selected model create a manual on the use and data requirement of the specific model.

4.2.2 STECF comments on the report of the Sub-group on bioeconomic models

The STECF Sub group on economic affairs (SGECA) met on 3-7 March, 2006 in Ispra to list operational bio-economic models that could be used by the STECF and to see what

further steps would be needed to deliver a user manual and list of data requirements for each model. The terms of reference requested the Sub-group to address the following items:

1. Objectives and methodologies of the bio-economic advice
2. Review of types of models used
3. Relevant projects
4. Data requirements
5. Adjustments of data regulation
6. Advice procedures and organisational framework
7. Finalize the report with regard to ToR of the 1st meeting (items 1-6 above)
8. Setting up a task force

Based on the outcome of this meeting, STECF was asked to provide an opinion on the completeness of the list and to determine whether these models are sufficient to answer the needs of the STECF. The next steps in terms of model documentation, development and assessment should be recommended.

The sub group report includes the following main conclusions:

4.2.2.1 Identification of models

The sub group report presents the following models as relevant and has classified those according to the type of the model and harvest control rule (HCR) for which it applies. Output driven models are applicable for fisheries managed with quotas while input driven models are applicable to fisheries managed with effort restrictions. Optimisation models are applicable for both input and output restrictions and produce solutions for pre-defined objectives (e.g. maximum employment or maximum profit).

Table 4-3 bioeconomic models

Model	Type of model	Harvest Control Rule
EIAA	Output driven	TAC/quota
TEMAS	Input driven	Sea days, capacity
MOSES	Optimisation/input driven	All
BIRDMOD	Input driven	Sea days, capacity
MEFISTO	Input driven	Sea days, capacity
EMMFID	Optimisation	All
SRRMCF	Optimisation	All
COBAS	Input driven	Sea days, capacity
ECONMULT	Input driven	Sea days, capacity

The sub group report includes also a non-exhaustive list of relevant projects and models with regard to bio-economic modelling.

4.2.2.2 Indicators

The objective of managing the fishing capacity of the EU fleet is to achieve a balance between the capacity and available fishing opportunities. It is how the capacity that exists at a particular time is deployed and the availability of resources at the same time that will achieve the correct balance. This task requires development of suitable bio-economical indicators.

The report points out that the target reference points need to be elaborated. Instead of using exact target points as MSY or MEY, the report proposes the use of biological reference limits. Economic indicators such as resource rent and the value of the stock biomass should supplement these reference limits.

4.2.2.3 Type of advice and model selection

The report identifies different kinds of advice needed:

1. Regular tasks (e.g. annual TAC/quota decisions and effort restrictions)
2. Ad hoc tasks (e.g. impact of technical measures)
3. Long term strategic tasks (e.g. long term management objectives and reference targets)

For these different kinds of questions, different kinds of analysis and models are required. The sub group report introduces a selection of models that could be applicable for either calculation of consequences, simulation or optimisation.

Table 4-4 models suitable for different types of advice

HCR	Approach	Model candidate
1. TAC/QUOTA OR F	Output driven	EIAA
2. Days at sea and/or capacity	Input driven	MEFISTO and BIRDMOD
3. TAC/quota and sea days and capacity	Optimisation	EMMFID and SRRMCF

The sub group has identified three approaches to accomplish economic evaluations according to different kinds of HCR: a) TAC/quotas, b) effort restrictions, c) combinations of those above.

4.2.2.4 Task force and criteria for manual

STECF recommended (STECF 21st meeting, November 2005) establishing a task force to, for each selected model, compile a manual on the use and data requirement of the specific model. The report describes a detailed requirement for manual for each selected model. The aim of this work is to make models more broadly accessible and thereby increase the transparency, development and applicability to improve the ground for better advice.

4.2.3 STECF considerations and recommendations

STECF notes that the sub group has adequately addressed its terms of reference properly and endorses the findings of the report. STECF was informed by the Commission that the need for economic information is increasing as also stated in Council Regulation 2371/2002¹, Article 14, and Commission Regulation 1438/2003², Article 12. In this respect bio-economic models and the development thereof is of utmost importance. The models presented in the sub group report are considered useful instruments in answering questions related fisheries management in bioeconomic framework i.e. managing the fishing capacity of the EU fleet is to achieve a balance between the capacity and available fishing opportunities. STECF also notes that the sub group report refers to ongoing EU-funded projects such as EFIMAS and COMMIT that are developing and testing a new modelling platform. The results of the above mentioned task force work could be utilised on this platform.

STECF recommends that the Commission set up appropriate task forces to provide documentation for each model according to the guidelines given in the Report of the Subgroup on Bioeconomic models (SGECA 06-01). Such documentation should contain the following items:

1. Model language
2. Model objective and scope
3. Type of advice and time range (simulation, static comparative, optimisation)
4. Model overview - diagram
5. Full specification of the equations of the model
6. Full specification of the variables of the model
7. Full list of the parameters of the model (including parameter values)
8. Data requirements to initialise the model; i.e. a complete list of indicators
9. Required time to run the model, to produce and disseminate the advice
10. Format of output of the model
11. Procedure of how to run the model

¹ Council Regulation (EC) No 2371/2002 (OJ L 358 of 31 December 2002, p.59 -80)

² Commission Regulation (EC) No 1438/2003 (OJ L 204 1 August 2003 p. 21- 29)

12. Where has the model been used, outcome, validation and references

13. Institute and key personnel

5 OTHER MATTERS.

5.1 STECF representation on the Advisory Committee for Fisheries and Aquaculture

Every year the Advisory Committee for Fisheries and Aquaculture (ACFA) organises 12 meetings under four different fields: fisheries resources, aquaculture, markets, general issues. Since 2001 STECF members (biologist and/or economist) have participated in the meetings of ACFA : Michael Keatinge (biologist) and Yves Perraudau (economist and coordinator for the actions of the Scientific Committee within the ACFA).

Sine the beginning of 2006 STEFC has been represented at the following 4 working groups of the ACFA :

- 25 January 2006 with the group 1 (resources)
- 15 February 2006 with the group 3 (markets)
- 23 February 2006 with the group 4 (general affairs)
- 30 March 2006 with the group 2 (aquaculture)

STECF will also be represented at the following forthcoming meetings of the ACFA

- 27 April 2006 with the group 1 (resources)
- 07 June 2006 with the group 4 (general affairs)
- 15 ou 16 June with the group 2 (aquaculture)
- 26 ou 27 June with the group 3 (markets).

No direct actions have arisen for the STECF as a result of its participation in ACFA Working Groups.

5.2 Participation of stakeholders in STECF Working groups.

In order to increase transparency in the decision-making process advocated in Council Regulation 2371/2002, the STECF discussed the issue of stakeholder participation in its working groups. The Committee considered that such involvement is desirable and agreed that as a pilot exercise, the SGRST meeting on effort management scheduled for June 5-9 2006 in Ispra, Italy, should be open to any interested parties to attend with observer status. Noting that the primary stakeholder interest is likely to be from RACs and members of the ACFA, the Commission agreed to inform these bodies of the intentions of STECF with respect this meeting.

To facilitate participation of observers and at the same time ensure that the number remains manageable, the Commission agreed to set up a pre-registration procedure, the details of which will be made available when the RACs and the ACFA are notified.

5.3 STECF document availability

Taking into account that reports from STECF and its subgroups are frequently referred to and cited from, it would be very helpful if the Secretariat could ensure that all reports are posted on the Internet. Although STECF reports are intended as Commission Staff Working Papers, they are an important part of the fisheries management decision making process and in the interests of transparency, it is desirable that the NGOs and other interest groups are able to access and quote from the reports once they have been finalised. The Secretariat has already provided access to some of the STECF reports via a link on the STECF home page. The Committee asks that the catalogue of documents available via this link be extended as far back in time as is practically possible.

ANNEX I INSERT LIST OF PARTICIPANTS AND CONTACTS.

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