

Resource Management Committee (RMC) Resolutions

2008/2/RMC01 The **Study Group on Fisheries Induced Adaptive Change [SGFIAC]** (Co-Chairs: M. Heino, Norway, U. Dieckmann, Austria, A. Rijnsdorp, The Netherlands) will meet at the ICES Headquarters in Copenhagen, Denmark, 30 March – 3 April 2009 (prior to the meetings of AFWG and WGNSSK) to:

- a) assemble and review empirical evidence of fisheries-induced adaptive change and its consequences for the conservation of biodiversity and sustainable exploitation of marine species within an ecosystem context, including previous work by WGAGFM and WGECCO;
- b) evaluate the impact of existing management measures and tools, such as minimum mesh and landing sizes, precautionary reference points, marine protected areas, and effort regulations, on fisheries-induced adaptive change;
- c) develop scientific and methodological tools to monitor and respond appropriately to risks to biodiversity and sustainable exploitation posed by fisheries-induced adaptive change;
- d) relate consequences of fisheries-induced adaptive change to current management objectives and evaluate possible more specific objectives for managing fisheries-induced adaptive change.
- e) review the evidence for fisheries-induced adaptive change in commercially exploited fish stocks in the OSPAR area in relation to the QSR 2010.

SGFIAC will report by 30 April 2009 for the attention of SCICOM and ACOM.

Supporting information

Priority:	The activities of the Study Group will provide ICES with a basis for advice on whether and how the adaptive effects of fisheries need to be taken into account in future management. Such advice is needed in relation with the precautionary approach, the ecosystem approach, biodiversity, and the evaluation of risk and uncertainty. Consequently, these activities are considered to have a high priority.
Scientific justification and relation to action plan:	Action Plan No: 2.5 (Assess and evaluate the genetic consequences of human-induced selective factors) Term of Reference a) Several countries are conducting, or have recently completed, significant studies in this area, and the subject would benefit from a review of progress and an evaluation of the results obtained. Term of Reference b) A framework is needed for evaluating which stocks are most at risk, what level of monitoring is needed, and how to respond when fisheries-induced adaptive changes are likely to have significant negative impacts. Where management measures to mitigate such changes are required the most cost-effective management measures should be identified. Term of Reference c) As this is a relatively new field, methods for observing and monitoring fisheries-induced adaptive change and its consequences, as well as methods for evaluating possible management targets and thresholds, are still under development. Term of Reference d) Managing fisheries-induced adaptive change is implicitly included in

	<p>management objectives under the precautionary approach, as sustainable harvesting must be understood to include evolutionary sustainability. However, explicit attention to fisheries-induced adaptive change raises new issues. For example, the World Summit on Sustainable Development (2002) stipulated that fish stocks shall be maintained or restored to levels that can produce the maximum sustainable yield by 2015, but MSY itself may be eroded through fisheries-induced adaptive changes. It is therefore important to assess the degree to which fisheries-induced adaptive changes are properly accounted for by the existing management objectives, and to what degree more specific considerations are warranted.</p> <p>Timeframe: 3-4 years</p>
Resource requirements:	No financial requirements for ICES. The research programmes that provide the main input to this Study Group are already underway, and resources are already committed (see 'Participants' below). The resources required to undertake additional activities in the framework of this Study Group are negligible.
Participants:	Ca. 25–30 participants. Closely related EC-funded projects are <i>Fisheries-induced Adaptive Changes in Exploited Fish Stocks</i> (2005–2009) and <i>Fisheries-induced Evolution</i> (2007–2010), as well as the <i>Marfish</i> project within the EU Network of Excellence <i>Marine Biodiversity and Ecosystem Functioning</i> (2005–2009). These will secure participation from both fisheries research institutes and universities.
Secretariat facilities:	None.
Financial:	No financial implications.
Linkages to advisory committees:	ACOM
Linkages to other committees or groups:	<p>For management implications: Resource Management Committee (RMC), Living Resources Committee (LRC), Working Group on Fishery Systems (WGFS), Study Group on Management Strategies (SGMAS)</p> <p>For more fundamental aspects: Working Group on the Application of Genetics in Fisheries and Mariculture (WGAGFM)</p>
Linkages to other organizations:	None.

2008/2/RMC02 The **International Bottom Trawl Survey Working Group** [IBTSWG] (Chair: R. ter Hofstede, The Netherlands) will meet in Bergen, Norway, from 30 March–3 April 2009 to:

- a) Coordinate, report and plan for the next twelve months North Sea and North-Eastern Atlantic surveys, including appropriate field sampling in accordance to the EU Data Collection Regulation and refine the standard reporting format.
- b) Further evaluate and standardise criteria for ensuring quality and consistency in collection and reporting of survey data, including the review of abundance indices;
- c) Examine gear performance issues by (i) reviewing the reporting procedures of trawl, vessel and environmental parameters and (ii) analyse net geometry readings to evaluate changes;
- d) Review recent updates within DATRAS and prioritise further developments ;
- e) Improve the quality of current IBTS data by: (i) the production and dissemination of identification keys for IBTS groundfish surveys, (ii) examination of DATRAS data to identify and correct erroneous length and distribution records, (iii) examine quality of age-length keys and (iv) ensure correct and consistent taxonomic use during IBTS surveys;
- f) Review national progress in improving quality of historic IBTS data;
- g) Agree upon the implementation of the outcomes from the SGSTS in respect to issues relevant to IBTS;
- h) Review and if required update the shapefiles and supporting information for the agreed strata in the Eastern Atlantic;
- i) Review the implications of new the EU DCR and implement changes where necessary;
- j) Review the IBTS manuals and update as necessary.

IBTSWG will report by 1 May 2009 for the attention of SCICOM.

Supporting Information

Priority:	Essential.
Scientific justification and relation to action plan:	<p>The general need for monitoring fish abundance using surveys is evident in relation to fish stock assessments and in biodiversity studies. The meeting is based on the following needs:</p> <p>a) This is a core function of the IBTSWG. It is an important forum for coordination and evaluation of standardized bottom trawl surveys in the Eastern Atlantic Area, to ensure good survey coverage in relation to stocks and areas, intercalibration work, and high quality of data. The development of a standard reporting format is intended to provide a brief, structured overview of the main results and difficulties from individual vessel surveys annually, and will provide a centralised and easily accessible overview of specific survey data sets, to those using the data. IBTSWG will continue to review feedback and implement modifications.</p> <p>b) In order to achieve the required level of quality in survey data, there is an urgent demand for clear international protocols on sampling strategies and data analysis, including defining the best adapted methods for computing indices.</p>

	<p>c) The standardised gear settings seem to differ amongst countries, therefore reporting protocols for trawl, vessel and environmental parameters have to be improved and detected changes in the settings have to be evaluated.</p> <p>d) The development of DATRAS needs to be evaluated. IBTSWG will comment on the new version of DATRAS and will recommend on desired further developments.</p> <p>e) and f) Detected errors in the database (e.g. DATRAS) should be corrected and protocols for the avoidance of misuse of existing data and for the prevention of future errors will be developed and implemented.</p> <p>g) Aspects of quality in survey design, sampling strategies and analysis of data are of prime importance for IBTSWG. Many aspects of trawl standardisation and intercalibration being examined by SGSTS are pertinent to IBTS and review of recommendations is essential.</p> <p>h) GIS *.shp files have now been made available for strata used by most of the surveys in the Eastern Atlantic area. The IBTSWG will further develop a scheme that will include all shapefiles, strata descriptions, computed areas and the information used for the strata definition.</p> <p>i) The new EU DCR (date) is expected to have implications for the current design of the surveys coordinated by the IBTSWG and the implementation of new requirements needs to be addressed.</p> <p>j) All changes in the protocols of the surveys coordinated by the IBTSWG coming from the above ToR's have to be implemented in the IBTS manuals.</p>
Resource requirements:	<p>A five day IBTS meeting. Pre-prepared documents from members. Eight days Chair's time to edit.</p> <p>It is estimated that each ToR will require at least 8 hours pre-preparation</p>
Participants:	<p>All members will participate in all ToRs, although leads for each ToR are allocated. It would be highly beneficial to have the person responsible for the ICES DATRAS participating for some days.</p>
Secretariat facilities:	None
Financial:	None
Linkages to advisory committees:	ACOM
Linkages to other committees or groups:	<p>Assessment WG's, WGBEAM, WGBIFS</p> <p>g) Cooperation with SGSTS</p>
Linkages to other organizations:	IOC, GOOS
Secretariat marginal cost share:	ICES: 100%

The IBTSWG discussed the possibilities to meet in quarter 3 or 4, but due to e.g. the timing of the coordinated surveys, it was agreed to schedule the meeting around the first of April, as usual.

In order to stimulate working activities in between annual meetings, countries have committed themselves in plenary to prepare specific ToR's for the next meeting.

Table 1. Overview of the proposed ToR's for 2009 and the countries committed to take the lead in preparing them for next meeting.

TOR	LEAD	TOR	LEAD
A	Ireland, England, Netherlands	F	England
B	Ireland, Northern Ireland	G	Scotland

C	Sweden, England	H	France
D	ICES	I	Denmark
E	England, Netherlands, Germany	J	Spain, Ireland

2008/2/RMC03 The Planning Group on Northeast Atlantic Pelagic Ecosystem Surveys [PGNAPES] (Chair: Alexander Krysov*, Russian Federation) will meet in Torshavn, Faroe Islands, from 18–21 August 2009 to:

- a) critically evaluate the surveys carried out in 2009 in respect of their utility as indicators of trends in the stocks, both in terms of stock migrations and accuracy of stock estimates in relation to the stock – environment interactions;
- b) review the 2009 survey data and provide the following data for the Northern Pelagic and Blue Whiting Working Group:
 - i) stock indices of blue whiting and Norwegian spring-spawning herring.
 - ii) zooplankton biomass for making short-term projection of herring growth.
 - iii) hydrographic and zooplankton conditions for ecological considerations.
 - iv) aerial distribution of such pelagic species as mackerel.
- c) describe the migration pattern of the Norwegian spring-spawning herring and blue whiting stocks in 2009 on the basis of biological and environmental data;
- d) plan and coordinate the surveys on the pelagic resources and the environment in the North-East Atlantic in 2010 including the following:
 - i) the international acoustic survey covering the main spawning grounds of blue whiting in March-April 2010.
 - ii) the international coordinated survey on Norwegian spring-spawning herring, blue whiting and environmental data in May-June 2010.
 - iii) national investigations on pelagic fish and the environment in June-August 2010.
- e) respond to the findings of the Planning Group on Redfish Surveys.
- f) Assess the results of the scrutiny of echogram workshop [WKECHOSCRU].
- g) Provide time series of the abundance at age, of North Sea herring in the Norwegian Ecosystem survey (with variance), also with the associated target strengths used to determine those estimates of abundance.

PGNAPES will report by 1 September 2009 for the attention of SCICOM and ACOM.

Supporting Information

Priority:	The coordination of the surveys has strongly enhanced the possibility to assess abundance and provide essential input to the assessment process of two of the main pelagic species in the Northeast Atlantic and describes their general biology and behaviour in relation to the physical and biological environment.
Scientific Justification and Relation to Action Plan:	<p>The Planning Group is a potential meeting place for inter-disciplinary discussion and considerations on ecosystem approach to management of fisheries.</p> <p>ToR a) Two international and some national surveys with coordinated by PGNAPES. The Planning Group describes the procedures for acoustic, hydrographic, plankton, and fish sampling to be used during the surveys.</p> <p>ToR b) The abundance indexes estimates of Norwegian Spring Spawning Herring and Blue Whiting produced from surveys are used in</p>

ICES Northern Pelagic and Blue Whiting Fishery Working Group (NPBWWG) in assessment. The collection of environmental data improves the basis for ecosystem modelling of the Northeast Atlantic.

ToR c) The Planning Group describes the migrations of the stocks and considers possible stock – environment interactions.

ToR d) The Planning Group contributes significantly to improving abundance surveys essential for fish stock assessment of herring and blue whiting and improving the collection of data for ecosystem modelling of the Northeast Atlantic. The Planning Group will identify existing procedures to ensure that the sampling gear and any instrumentation used to monitor its performance are constructed, maintained and used in a consistent and standardized manner. Where necessary, procedures and protocols should be established for intercalibration to take into account platform and sampling tools-survey gear differences.

ToR e) There is a need to monitor the pelagic redfish in the Northern Norwegian Sea, where a fishery is rapidly expanding. The task at present for the Planning Group will be to coordinate and quality control surveys in the area where redfish is recorded. In the coming years, the Planning Group should also evaluate the surveys and analyse and report the results. For a survey in 2008, there may be a need for coordination during the spring 2008 through consultations between interested parties. In general, the remit of this group addresses Action Numbers 1.2.2, 1.3 and 1.11.

Resource Requirements :	None
Participants :	15
Secretariat Facilities:	Standard report production.
Financial:	None
Linkages to Advisory Committees:	ACOM
Linkages to other Committees or Groups:	WGNPBW, WGMHSA and SGBYSAL
Linkages to other Organisations:	None

2008/2/RMC04 The **Study Group on Redfish Stocks [SGRS]** will be renamed the **Planning Group on Redfish Surveys [PGRS]** (Co-Chairs: A. Pedchenko*, Russia and Benjamin Planque*, Norway) and will meet at ICES Headquarters, Copenhagen, from 26–29 January 2009, in Reykjavík, Iceland, from 28–30 July 2009, and in Bergen, Norway, from 1–3 September 2009 to:

- a) evaluate the ICES need for surveys on redfish, with particular emphasis on the assessment and advice of redfish in the North Atlantic;
- b) report on the most efficient and cost effective method of providing time series of redfish abundance for advice, and whether existing ICES International surveys can be used;
- c) at the 26–29 January 2009 meeting plan:
 - i) an international trawl/acoustic survey on redfish in the Irminger Sea and adjacent waters in June/July 2009 and
 - ii) an international trawl/acoustic survey on redfish in the Norwegian Sea and adjacent waters in August 2009
- d) initiate an international database for redfish surveys;
- e) at the 28–30 July 2009 meeting report on the outcome of the 2009 Irminger Sea survey;
- f) at the 1–3 September meeting report on the outcome of the 2009 Norwegian Sea survey;
- g) provide a strategy for ICES and a framework for planning redfish surveys from 2010 onwards.

PGRS will report by 15 March 2009 (January meeting) and 15 August 2009 (July meeting); 15 October 2009 (September meeting) for the attention of the SCICOM and ACOM.

Supporting Information

Priority:	Essential
Scientific justification and relation to action plan:	<p>This group was previously The Study Group on Redfish Stocks [SGRS] and the remit has slightly changed to The Planning Group on Redfish Surveys [PGRS]. PGRS will be responsible for the planning and reporting of the international hydroacoustic-trawl survey on pelagic redfish (<i>Sebastes mentella</i>) in the Irminger Sea and Norwegian Sea. Redfish in the Norwegian Sea has been fished in an Olympic fishery by an international fleet since 2005. Since 2007, ICES has advised a protection of juveniles, no directed trawl fishery and low bycatch limits for <i>S. mentella</i> in Sub-areas I and II. NEAFC has recently set a TAC for pelagic <i>S. mentella</i> in this area of 14,500 t. The unknown stock size and its relations to other <i>S. mentella</i> stocks on the shelves have evoked the immediate need for an international survey on redfish in the Norwegian Sea and adjacent waters.</p> <p>SGRS has been responsible for the planning of the international trawl/acoustic surveys of redfish in the Irminger Sea and adjacent waters since 1994 and corresponding reports on the survey results. This task will be transferred to PGRS. The observed drastic changes in abundance and biomass estimates since 1994 and considerable changes in environmental conditions in recent years confirm the need of precise monitoring of the redfish in the distribution area.</p> <p>SGRS, however, repeatedly faced the problem of a large spacing between hydroacoustic survey tracks and between trawl hauls due to the large survey area (about 400 000 square nautical miles) that has to be covered with only three vessels currently participating in the survey. In order to reach a sufficient density of survey tracks and trawls, SGRS recommended (ICES CM 2005/D:03) that "as many vessels as possible (at least four) should participate to improve the quality of the derived estimates. Thus, the efforts directed at involving other nations in the survey should be continued." Consequently, the potential countries were requested to consider a participation in the next redfish survey in June/July 2007, without success so far. SGRS repeated this recommendation in 2007 (ICES CM 2007/RMC:01).</p> <p>The first international survey on redfish in the Norwegian Sea, carried out in August 2008, was hampered by insufficient harmonisation of instrumentation (hydroacoustics, hydrography), trawl gear and biological sampling. The need for a planning group on redfish surveys in the Norwegian Sea, with close linkage to SGRS was clearly identified in the post-survey meeting of the 2008 survey. Moreover, the expansion of the survey area and participation of more than three vessels has been recommended.</p> <p>From the early stages of the survey, it is highly advisable to build up an international database for redfish surveys in the Norwegian Sea, including scrutinised hydroacoustic data, biological data and hydrographic data. The existing data from the redfish surveys in the Irminger Sea should be transferred into an international database as well.</p>
Resource requirements:	N/A
Participants:	<15 (incl. the cruise leaders of each vessel and the principle experts involved in abundance and biomass calculations). Participation of SGRS members is highly recommended due to the expected synergistic effects in the planning of the survey and analysis of hydroacoustic, biological and hydrographic data.

Secretariat facilities:	N/A
Financial:	Travel costs will be eligible for participants from Member States of the European Union through the EU Data Collection Regulation (Reg. 199/2008).
Linkages to advisory committees:	ACOM
Linkages to other Committees or Groups:	RMC, AFWG, NWWG, SGRS, PGNAPES
Linkages to other Organisations:	NEAFC

2008/2/RMC05 The PGNAPES Scrutiny of Echograms Workshop [WKECHOSCRU]
 (Chair: Alexander Krysov*, the Russian Federation) will meet in Bergen, Norway
 from 16-18 February 2009 to:

- a) review methods for the scrutiny of the PGNAPES survey echograms;
- b) develop a standard scrutinizing method;
- c) compare the old and the new standard methods.

WKECHOSCRU will report by 18 August 2009 for the attention of SCICOM and PGNAPES.

Supporting Information

Priority:	PGNAPES plans to carry out two international acoustic surveys of the herring and blue whiting with participation of 5-6 vessels from different countries.
Scientific Justification and Relation to Action Plan:	The Planning Group contributes significantly to improving abundance surveys essential for fish stock assessment of herring and blue whiting. The evaluation and standardization of the scrutinizing methods has of great importance for accuracy of acoustic estimations of fish. The Planning Group initiated carrying out of the Scrutinization Workshop with aim to discuss the new and standard scrutinization methods
Resource Requirements :	None
Participants :	15
Secretariat Facilities:	None
Financial:	No financial implications.
Linkages to Advisory Committees:	None
Linkages to other Committees or Groups:	PGNAPES, WGWIDE
Linkages to other Organisations:	None

2008/RMC06 The Study Group on the History of Fish and Fisheries [SGHIST] (Co-Chairs: Bo Poulsen*, Denmark and Martin Pastoors*, The Netherlands) will be established and will meet in Vlaardingen, The Netherlands, from 26–29 October 2009 to:

- a) update the inventory of historical data on marine fisheries and resources in the North Atlantic
- b) coordinate data recovery programmes for historical data
- c) propose data-storage solutions that will allow access to recovered historical data.
- d) initiate studies on the history of fishing technologies and fishing power
- e) develop methods that can be applied to historic data in order to estimate long-term dynamics.
- f) carry out cross-regional comparisons of fish and fisheries in the North Atlantic.

SGHIST will report by 30 November 2009 for the attention of SCICOM.

Supporting Information

Priority:	The activities of this Group will improve the understanding of long-term changes in fish stocks productivity and changes in the ecosystems. Consequently these activities are considered to have a high priority.
Scientific justification and relation to action plan:	There is growing interest in historical data on fish and fisheries. The interest is on the discovery, recovery, digitization and analysis of historical data. The analysis of historical data is expected to give insight in long-term historical trends in fish stocks and fisheries which can be related to long term changes in environmental indicators. The work links to the History of Marine Animal Populations project that is funded under the Census of Marine Life and which aims to discover historical data sources. Several fisheries research institutes in Europe have started to make inventories of historical information and the workshop is intended to bring these initiatives together. WKHIST 2008 has recommended that a project should be set up to recover the historic information that has been collected by marine research institutions and zoological museums around the North Atlantic and the Mediterranean. SGHIST will oversee that project. SGHIST will link with methodological experts to advance the methodologies for analyzing historic data including methods for using meta-information from different areas.
Resource requirements:	No specific requirements
Participants:	The Group is expected to attract approx 15 participants
Secretariat facilities:	None.
Financial:	No financial implications.
Linkages to advisory committees:	ACOM
Linkages to other committees or groups:	Linked to ICES proposal for the digitisation, analysis and interpretation of plankton data for pre-1914 ICES sampling in the north sea and adjacent waters
Linkages to other organizations:	Census of Marine Life / History of Marine Animal Populations

2008/RMC07 The **Workshop on Blue Whiting Recruitment** [WKBLUR] (Chair: Mark Payne*, Denmark) will meet in ICES Headquarters, Copenhagen, Denmark from 10–12 November 2009 to:

- a) Examine and comment on whether the time series of recruitment used in the stock assessment reflects the trends in recruitment of the whole stock;
- b) Determine if environmental variability drives the recruitment variability of the stock;
- c) Explain whether the recruitment, or recruitment variability, can be predicted or described in a quantitative manner.

WKBLUR will report by 4 December 2009 for the attention of SCICOM and ACOM.

Supporting Information

Priority:	High, as management strategy evaluations for advice require information on recruitment variability.
Scientific Justification and Relation to Action Plan:	The development of management plans requires simulations that replicate the recruitment dynamics of a stock. At present there is no clear understanding of the recruitment dynamics of blue whiting. There have been some new studies and recent publications on this subject and ICES requires a synthesis of this work, and it needs to be put into the context of the provision of advice.
Resource Requirements :	A Room at ICES HQ
Participants :	10
Secretariat Facilities:	Standard report production.
Financial:	None
Linkages to Advisory Committees:	ACOM
Linkages to other Committees or Groups:	WGWIDE, PGNAPES
Linkages to other Organisations:	None

Approved at SCICOM Meeting 8 January 2008

2008/2/RMC08 The Working Group on Multispecies Assessment Methods [WGSAM] (Co-Chairs: John Pinnegar, UK and Bjarte Bogstad, Norway) will meet at ICES Headquarters, Copenhagen from 5–9 October 2009 to:

- a) review further progress in multispecies and ecosystem modelling throughout the ICES region;
- b) report on the development of key-runs (standardized model runs updated with recent data, and agreed upon by WGSAM participants) of multispecies fisheries models for different ICES regions;
- c) Determine a standardized format for reporting Ecopath key-runs;
- d) Review current process-knowledge, data requirements, and data available to model predation on pre-settlement life stages by pelagic predators;
- e) Work towards the inclusion of spatial overlap in existing multispecies models;
- f) Review methods for estimating consumption and diet composition in multispecies models;
- g) Work towards implementing new stomach sampling programs in the ICES area in 2011 by reviewing protocols and estimating costs.

Longer-term aspirations (possible ToRs for future years)

- Investigate alternative ways to present multispecies advice to decision makers;
- Explore the possibility of developing ‘virtual data sets’ which might be used in multiple models, for comparison and sensitivity testing.

WGSAM will report by 20 November 2009 for the attention of the SCICOM and ACOM.

Supporting information

Priority:	Multispecies assessment modelling is essential for the development of viable long-term management strategies.
Scientific Justification and relation to action plan:	<p>The increased emphasis on ecosystem management, and the move away from advising on single stocks in isolation, necessitate considering interactions between fish stocks and the ecosystems of which they are part.</p> <p>Historically the ICES multispecies working and study groups have acted as a useful conduit within the ICES system, drawing together advice and quantitative outputs from many different assessment working groups and combining these into an integrated product of direct use to managers and researchers. The 2007 meeting of WGSAM showed that there is much ongoing work within this field of research, and that there is a need for a pan-European forum for reviewing progress within this important field (ToR a).</p> <p>Stomach content data serve as the basis for a plethora of multi-species, extended single-species, and ecosystem models. Having a solid foundation of adequate stomach content data is a pre-requisite for implementing the ecosystem approaches to fisheries. Stomach sampling has been annual in some areas, while in other areas (e.g. the North Sea) a large effort (‘Year of the Stomach’) has been made sporadically. At the 2009 WGSAM meeting the group will work towards implementing new</p>

	<p>stomach sampling programs throughout the ICES area in 2011 by reviewing protocols and estimating costs.</p> <p>Multispecies models have often been used to provide updates of natural mortality <i>M</i> for inclusion in conventional single-species stock assessments. Consequently it is considered useful to have occasional 'key runs' for each region, whereby time-series are updated and mode configurations are agreed by a number of regional experts. WGSAM will continue to work towards key runs in the Barents Sea, Bay of Biscay and Iceland as well as devising the reporting formats necessary for key runs using Ecopath with Ecosim (ToR's b) and c).</p> <p>At the WGSAM 2008 meeting it became apparent that little is known with respect to the role that herring and sprat (and other pelagic fish) play as predators of demersal fish eggs and larvae. Research in several sea areas (e.g the North Sea, Iceland, NW Atlantic) suggest that herring may constrain the recovery of commercial species when they are at high abundance, and conversely when herring are removed other species seem to experience enhanced recruitment success. In 2009 WGSAM will review the evidence-base on this topic (ToR d) and this may influence future stomach sampling exercises, and species included as predators in multispecies models.</p>
Resource Requirements:	–
Participants:	Approx 20. Expertise in ecosystem, modelling and fish stock assessment from across the whole ICES region.
Secretariat Facilities:	None
Financial:	No financial implications
Linkage to Advisory Committees:	ACOM
Linkage to other Comities or groups:	AMAWGC, WGRED, WGECO, SGMAS, WKEFA, SGMIXMAN, most assessment Expert Groups.
Linkages to other organisations:	–

2008/2/RMC09 The Working Group on Fishery Systems [WGFS] (Chair: Kjellrun Hiis Hauge*, Norway) will meet at ICES Headquarters, Copenhagen from 12–16 October 2009 to:

- a) review and generate recommendations about the future structure of risk evaluation and management strategy research within ICES toward greater inclusiveness across the fisheries system and greater usefulness in policy advice. This includes re-evaluating the role of WGFS in light of several other ICES groups involved in risk evaluation and management strategy;
- b) catalogue successes, problems and approaches in participatory, bio-economic modelling of management scenarios as a stakeholder involvement tool in fisheries management? This includes an evaluation the links and synergies between participatory modelling and collaborative research;
- c) evaluate the past contribution of WGFS activities on ICES as a way to inform future directions.

WGFS will report by 1 December 2009 for the attention of the SCICOM.

Supporting Information

Priority:	The main focus of WGFS is the fishery system and the role of scientific advice within that system. The system-based approach relates directly to priorities such as developing an ecosystem-based approach to management and the effective implementation of the precautionary approach. Consequently, these activities have a very high priority. The work of the Group is also essential if ICES is to advance the development of realistic projections of fisheries development that take into account the reaction of other parts of the overall fisheries system.
Scientific Justification and Relation to Action Plan:	<p>The Group met in 2000, 2001, 2003, and 2004 to develop a framework for case study analysis and has identified European (North Sea cod) and North American (Georges Bank mixed fisheries) case studies. Funding for the European case study had been granted from 2003 under the EU Framework V Programme; funding for the North American study was granted from 2004. This effort resulted in 7 papers that were published in the special issue of the ICES JMS based on the Symposium on Management Strategies held in Galway in 2006.</p> <p>The key role for the WGFS is to integrate across disciplines to develop analytical and investigative methods/approaches for studying fishery management systems. The main but not exclusive focus of these investigations of the overall fisheries system is to improve the effectiveness of scientific advice. The Group met in 2005 in conjunction with the PKFM, FEMS and EASE projects all of which dealt with organizational and institutional aspects of the production of scientific advice. The 2006 meeting placed a strong emphasis on the ecosystem-based approach and particularly the issue of spatial planning. The 2007 meeting also considered and provided specific recommendations in relation to ICES current reorganization of the advice system, especially in respect to the European Marine Strategy and the role of the Regional Advisory Council. The 2008 meeting invited experts from policy arenas outside of fisheries to discuss the ways they handle uncertainty in making scientific advice.</p>
Resource Requirements:	Secretariat support for meeting.
Participants:	These include scientists working with fisheries management, both from an economic, social and biological perspective. Participation is from

	ICES countries and scientists both from disciplines and scientific circles not traditionally represented at ICES.
Secretariat Facilities:	No additional software/hardware is anticipated beyond that which is currently available.
Financial:	None
Linkages to Advisory Committees:	The goal for this Working Group is to better understand fishery management systems which is a central element of the work of ACOM.
Linkages to other Committees or Groups:	Close links to SGMAS and SGRAMA who address the technical aspects of management strategies.
Linkages to other Organisations	ICES will continue to seek to widen participation for this group, including contact with relevant academic and inter-governmental organisations

2008/2/RMC10 **The Working Group on Methods of Fish Stock Assessments**
 [WGMG] (Chair: C. L. Needle, UK) will meet in Nantes, France from 20–29 October 2009 to:

- a) Work according to specific ToRs developed intersessionally by the end of June 2009 in consultation with ACOM, relevant benchmark and assessment WG chairs, and relevant stock assessors. These ToRs are to be considered and finalised by SCICOM at the ASC meeting in September 2009.
- b) Review the major problems and possible solutions to fish stocks assessments. The review should include an analyses of strengths and weaknesses, conditions for applicability of alternative solutions and process issues such as quality assurance protocols, sequential peer reviews and benchmarking.
- c) Prioritize (in combination with ACOM) common methodological problems identified in benchmark reviews and recommendations by external reviewers.

WGMG will report by 20 November 2009 for the attention of the SCICOM and ACOM.

Supporting Information

Priority:	The work of this group is essential for ICES to progress in the development of methods for fish stock assessment and advice.
Scientific justification and relation to action plan:	<p>Term of Reference a)</p> <p>Much of the recent output of WGMG has not had a strong influence beyond the confines of the meeting. The challenge is to try and continue strong threads of research within the group while avoiding marginali-sation.</p> <p>Better communication between WGMG and the wider assessment community is clearly required. One way to achieve this could be for WGMG to act (at least in part) as a method exploration and development service for the series of benchmark as-sessment meetings that are planned to be held each year by ICES. In this context, a possible schedule would be as follows:</p> <p>1) Well in advance [six months] of the WGMG meeting in October, the WGMG chair would approach the chairs of the forthcoming benchmark and assessment meetings (and, ideally, the relevant stock assessment scientists) to discuss and determine the key methodological issues for those benchmarks. The WGMG chair would have to be careful to ensure a focus on a limited number each year.</p> <p>2) These discussions would provide the basis for the WGMG ToRs for the October meeting. The WGMG chair would circulate these ToRs as widely as possible, to try and bring together a group with the skills and interests necessary to address the relevant issues.</p> <p>3) WGMG would then meet in October (or around then) to consider ways in which to improve the methods available for the key issues. The intention would be to feed these into the subsequent benchmark meetings in the early spring of the following year - but only in a general sense. Rather than do the work of the benchmark groups for them, WGMG would provide general advice on how to deal with generic issues (such as modelling discards etc.)</p> <p>This scheme should ensure that WGMG remains relevant and focussed to the key stock assessment issues prevalent within ICES, while also allowing the flexibility for some regular themes to be continued (in as much as they are relevant to a forthcoming benchmark).</p>
Resource requirements:	None.

Participants:	The Group is well-manned by regular members. However, it may benefit from some wider participation to deal with specific issues arising relevant to subsequent benchmark meetings.
Secretariat facilities:	None required.
Financial:	No financial implications.
Linkages to advisory committees:	ACOM has strongly supported the work of this group and has worked actively in formulating the ToRs for recent meetings. WGMG will report to ACOM at its autumn meeting in 2009.
Linkages to other committees or groups:	WGMG will report to the SCICOM at the ICES ASC in 2009.
Linkages to other organisations:	There is similar work going on within ICCAT and NAFO. Coordination should be assured.

2008/2/RMC11 **A Working Group on Holistic Assessments of Regional Marine Ecosystems** [WGHAME] will be established (Co-Chairs: H. R. Skjoldal*, Norway, and A. Kenny*, UK) to meet in ICES Headquarters, Copenhagen from 12–16 October 2009 to:

- a) up-date the REGNS integrated assessment undertaken in 2006 by including a further 5 years data on ocean climate, plankton, seabirds, marine mammals, benthos, fish stocks, fisheries;
- b) work in collaboration with the ICES data centre to ensure procedures are in place for the effective long-term management and storage of the data and analyses outputs;
- c) include new data on human pressures such as dredging, shipping and offshore structures (e.g. windfarms);
- d) begin work on investigating the spatial and temporal scaling laws which define the relative effect of widescale climate forcing in relation to more localized human activities by repeating the above assessment at a range of spatial and temporal scales;
- e) begin a review available evidence of large Marine Ecosystem “Regime shifts” or possible oscillations across the North Atlantic region (Scotian shelf, North Sea, Baltic Sea, Bay of Biscay, Mediterranean and Black Seas) and report on the feasibility of establishing assessment methods to determine ecosystem regime shift risk;
- f) further evaluate quantitative/objective methods for assess the cumulative affects of multiple human activities on the status of LMEs;
- g) advise on how the outputs from the quantitative and objective assessment of multiple ecosystem components can support the implementation of the OSPAR Integrated Assessment framework;
- h) contribute evidence in support of the scientific criteria for assessing Good Environmental Status under the MSFD.

WGHAME will report by 1December 2009 for the attention of the SCICOM.

Supporting Information

PRIORITY:	THE WORK OF THE GROUP IS ESSENTIAL IF ICES IS TO PROGRESS THE DEVELOPMENTS OF INTEGRATED ASSESSMENT IN THE CONTEXT OF THE EAM.
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Scientific justification and relation to action plan:

In order to help develop stronger links between science and advice in ICES it will be necessary to have regional assessment groups which can objectively integrate datasets corresponding to a wide range of ecosystem components. A pilot study was undertaken in the North Sea in 2006 to undertake such an integration exercise (REGNS), an approach which has since been adopted in ICES by a Baltic Sea Working Group. These assessments show the value of creating assessment databases (including the development of methods) for the evaluation of spatial and temporal trends in the state of LMEs, and more importantly to provide evidence of what is driving such changes. The available evidence on comparative ecosystem dynamics through the application of consistent and comparable integrated assessment techniques applied at the scale of LMEs offers great potential in better understanding what controls the observed large-scale and significant changes in marine ecosystems. Whilst the focus for this group will be the North Sea it is inevitable that what controls the dynamics of the North will be driven by forces beyond its immediate boundaries, so working with other groups will be essential. In this respect ICES has established a new WG on operational

oceanographic products for fisheries and environment (WGOOFE) that includes a continuation of NORSEPP (North Sea Pilot Project). The WG on holistic assessments will seek to cooperate with WGOOFE to include updated information on physical conditions and drivers in the integrated assessment.

It is now clear that the outputs of REGNS can add considerable value in supporting the developing OSPAR Integrated Assessment framework by providing quantitative numerical outputs which can be used directly in the OSPAR assessment matrix. It would be an objective of the WGHAME to work in collaboration with OSPAR and EC MSFD (WG on GES criteria) to ensure the outputs of the group support their policy objectives.

The group would plan on meeting in Autumn each year (probably in late October) so as to prepare its scientific assessment on integrated ecosystem state ahead of the preparation of ICES advice in the following year. The group would ensure datasets are updated ahead of the meeting in order to maximize the time at the meeting for analysing the data using the methods applied by REGNS.

Resource requirements:	No specific resource requirements beyond the need for members to prepare for and participate in the meeting.
Participants:	Membership of the group will include those who were involved in the REGNS process plus additional members drawn from existing relevant WGs such as WGRED (Jake Rice). Support for such a group has so far been offered by the Chair of WGSE (Jim Reid), Hein Rune Skjoldal (IMR) and the ICES data centre (Neil Holdsworth).
Secretariat facilities:	This group is likely to have high demand on the computing resources of the Secretariat, but no additional software/hardware is anticipated beyond that which is currently available.
Financial:	None specific.
Linkages to advisory committees:	An obvious very close link with ACOM activities.
Linkages to other committees or groups:	Methodological issues are within the mandate of this Group but for the purpose of this meeting this issue is not on the agenda. Fish stock assessment methods are referred to the Methods WG that has been set up.
Linkages to other organizations:	ICES will seek widened participation for this group including contact with relevant academic and intergovernmental organizations (including FAO, OECD, and IIFET) for this meeting.

2008/2/RMC12 The Study Group on Risk Assessment and Management Advice [SGRAMA] (Chair: Knut Korsbrekke, Norway) will meet in Madrid, Spain from 23–27 November 2009 to:

- a) on the basis of the previous SGRAMA meetings and reports, input from WGFS and experience gained elsewhere, continue to develop operational guidelines for risk assessment as a part of the fisheries management advice process by:
 - i) identifying potentials for measuring or estimating consequences and probabilities.
 - ii) relating indicators to negative consequences and developing management procedures based upon such indicators.
 - iii) considering different approaches to risk identification;
 - iv) considering risk communication as a part of traditional fisheries management advice;
 - v) and in further detail suggest what elements or phases of a risk assessment is best suited for expert groups only
- b) present previous reports and proposed guidelines and framework to scientists outside SGRAMA and incorporate comments and suggestions;

SGRAMA will report by 10 January 2010 for the attention of SCICOM and ACOM.

Supporting Information

Priority:	The work is essential for ICES to progress in the development of its capacity to provide advice on fisheries and marine management which includes considerations of risk. Such evaluations are necessary to fulfil the requirements stipulated in the MOUs between ICES and Commissions
Scientific justification and relation to Action Plan:	<p>[Action numbers 3.2, 3.4, 3.5, 3.12, 4.2, 4.3, 4.5, 4.11.2, 4.13, 4.15, 7.2]</p> <p>The SGRAMA report is a first step in establishing guidelines for production of risk assessments and inclusion of considerations of risk management in the advice.</p> <p>Risk assessment and risk management is an important field in several branches of science. The SGRAMA aims at drawing on the experience from other branches of science, and to include that experience in the development of risk assessment and risk management in fisheries science.</p> <p>The field covered by the SGRAMA is close to the field of the WGFS. The ToR a) is coordinated with a ToR for the WGFS, to ensure a rational division of labour, where the SGRAMA concentrates on technical aspects supporting risk decision making</p> <p>ToR a) The guidelines shall outline the kind of information needed required for a risk assessment. They shall describe the process of identifying risk including how these relates to existing conservation and target limits, and with an overall focus on the ecosystem effect of fishing. The guidelines shall furthermore contain references to methods of quantifying risk including pseudo quantification methods and other qualitative approaches to risk analysis</p> <p>An important part of the guidelines will be a description of both risk identification processes and risk communication (how to communicate the findings in the assessment to managers in a way that facilitates decisions).</p>

Resource requirements	
Participants:	Experts with qualifications regarding assessment and institutional aspects of risk assessment and management. Effort should be made to attract participants with experience in risk assessment and management outside the fisheries sector.
Secretariat Facilities:	Secretariat support
Financial:	No extra costs for ICES
Linkages to advisory committees:	ACOM
Linkages to other committees or groups:	WGFS, AMAWGC and Assessment WGs ToR c) relates directly to the WKREF, and WGEIM under SCICOM
Linkages to other organisations:	This work serves as a mechanism in fulfilment of the MOU with EC and fisheries commissions. Co-ordination should be assured as a number of participants in EU-funded projects such as JAKFISH are expected to participate.

2008/2/RMC13 **The Study Group on the evaluation of assessment and management strategies of the western herring stocks [SGHERWAY]** (Chair: Emma Hatfield, UK) will meet in Belfast, UK from 7–11 December 2009 to:

- a) evaluate the utility of a synoptic acoustic survey in the summer for the Hebrides, Malin and Irish shelf areas, in conjunction with PGIPS surveys of VIaN and the North Sea;
- b) explore a combined assessment of the three stocks and investigate its utility for advisory purposes;
- c) evaluate, through simulation, alternative management strategies for the metapopulation of VIaN, VIaS and VIIaN and the best way to maintain each spawning component in a healthy state.

SGHERWAY will report by 1 March 2010 to the attention of the SCICOM Committee.

Supporting Information

Priority:	It is expected that this work will resolve issues surrounding the assessment and management of the herring stocks to the west of the British Isles. Its impact is expected to be high and consequently this work is considered to have a very high priority.
Scientific Justification and relation to Action Plan:	<p>The EU funded project WESTHER evaluated the uncertain stock identity of herring stocks to the west of the British Isles. Its results suggested a rearrangement of the stocks as they are currently assessed and these results now need to be taken forward into the assessment and management process.</p> <p>We recognize the need to provide sound management advice for the western herring areas, and in particular the importance of ensuring as far as possible that there is no depletion of local components. HAWG noted that WESTHER was not funded to evaluate the extent of mixing in the fisheries or to evaluate alternate management strategies for the area. Currently it is unclear what management regime would provide the most cost effective method for successful management and what data would be needed to support this management.</p> <p>We consider that it is necessary to move towards an integrated management plan for this area through a series of iterations involving the following steps :-</p> <p>Investigation of combined assessment of the three currently assessed stocks, VIaN, VIaS and VIIaN (to be called the Malin Shelf stock), including an investigation of the utility of a combined acoustic survey.</p> <p>Examination of alternative management strategies based on their ability to deliver protection to local populations and provide cost effective information applicable for management of the two proposed stock units of herring to the west of the British Isles (Malin Shelf and Celtic Sea).</p> <p>Amendment of existing, or development of new, cost effective assessment and data collection schemes which will be required to support this management.</p> <p>SGHERWAY supports directly ICES Goals 1, 3 and 4 in the action plan, specifically 1.11, 3.4, 4.1, 4.2, 4.3 and 4.15.</p>
Resource Requirements:	It is proposed that this would be the second of two meetings of SGHERWAY. It is intended that there would be 8-10 –participants, meeting for a week each time, with intersessional work required.
Participants:	Herring biologists and scientists experienced in assessment and management strategy evaluation, from Ireland, Norway, The Netherlands, and the UK have agreed to attend the study group.
Secretariat	None, other than formatting and publishing of the final report.

Facilities:	
Financial:	There are virtually no financial implications
Linkages To Advisory Committees:	The study group will provide information to ACOM. This group feeds into the advisory process.
Linkages To other Committees or Groups:	This SG is essential to the work of HAWG and will have clear links to PGIPS.
Linkages to other Organisations:	None

New version of PGRS Terms of Reference Approved at SCICOM Meeting on 8 January 2009

2008/2/RMC04 The **Study Group on Redfish Stocks [SGRS]** will be renamed the **Planning Group on Redfish Surveys [PGRS]** (Co-Chairs: Kristján Kristinsson*, Iceland and Benjamin Planque*, Norway) and will meet at ICES Headquarters, Copenhagen, from 26–29 January 2009, in Reykjavík, Iceland, from 28–30 July 2009, and in Bergen, Norway, from 1–3 September 2009 to:

- a) evaluate the ICES need for surveys on redfish, with particular emphasis on the assessment and advice of redfish in the North Atlantic;
- b) report on the most efficient and cost effective method of providing time series of redfish abundance for advice, and whether existing ICES International surveys can be used;
- c) at the 26-29 January 2009 meeting plan:
 - i. an international trawl/acoustic survey on redfish in the Irminger Sea and adjacent waters in June/July 2009 and
 - ii. an international trawl/acoustic survey on redfish in the Norwegian Sea and adjacent waters in August 2009
 - iii. planning joint international trawl/acoustic surveys (ITAS) on redfish stock in the Irminger Sea and adjacent waters in June/July 2009
- d) initiate an international database for redfish surveys;
- e) at the 28-30 July 2009 meeting report on the outcome of the 2009 Irminger Sea survey;
- f) at the 1-3 September meeting report on the outcome of the 2009 Norwegian Sea survey;
- g) provide a strategy for ICES and a framework for planning redfish surveys from 2010 onwards.

PGRS will report by 15 March 2009 (January meeting) and 15 August 2009 (July meeting); 15 October 2009 (September meeting) for the attention of the SCICOM and ACOM.

Supporting Information

Priority:	Essential
Scientific justification and relation to action plan:	<p>This group was previously The Study Group on Redfish Stocks [SGRS] and the remit has slightly changed to The Planning Group on Redfish Surveys [PGRS]. PGRS will be responsible for the planning and reporting of the international hydroacoustic - trawl survey on pelagic redfish (<i>Sebastes mentella</i>) in the Irminger Sea and Norwegian Sea. Redfish in the Norwegian Sea has been fished in an Olympic fishery by an international fleet since 2005. Since 2007, ICES has advised a protection of juveniles, no directed trawl fishery and low bycatch limits for <i>S. mentella</i> in Sub - areas I and II. NEAFC has recently set a TAC for pelagic <i>S. mentella</i> in this area of 14,500 t. The unknown stock size and its relations to other <i>S. mentella</i> stocks on the shelves have evoked the immediate need for an international survey on redfish in the Norwegian Sea and adjacent waters.</p> <p>SGRS has been responsible for the planning of the international trawl/acoustic surveys of redfish in the Irminger Sea and adjacent waters since 1994 and corresponding reports on the survey results. This task will be transferred to PGRS. The observed drastic changes in abundance and biomass estimates since 1994 and considerable changes in environmental conditions in recent years confirm the need of precise monitoring of the redfish in the distribution area.</p> <p>SGRS, however, repeatedly faced the problem of a large spacing between hydroacoustic survey tracks and between trawl hauls due to the large survey area (about 400 000 square nautical miles) that has to be covered with only three vessels currently participating in the survey. In order to reach a sufficient density of survey tracks and trawls, SGRS recommended (ICES CM 2005/D:03) that "as many vessels as possible (at least four) should participate to improve the quality of the derived estimates. Thus, the efforts directed at involving other nations in the survey should be continued." Consequently, the potential countries were requested to consider a participation in the next redfish survey in June/July 2007, without success so far. SGRS repeated this recommendation in 2007 (ICES CM 2007/RMC:01).</p> <p>The first international survey on redfish in the Norwegian Sea, carried out in August 2008, was hampered by insufficient harmonisation of instrumentation (hydroacoustics, hydrography), trawl gear and biological sampling. The need for a planning group on redfish surveys in the Norwegian Sea, with close linkage to SGRS was clearly identified in the post - survey meeting of the 2008 survey. Moreover, the expansion of the survey area and participation of more than three vessels has been recommended.</p> <p>From the early stages of the survey, it is highly advisable to build up an international database for redfish surveys in the Norwegian Sea, including scrutinised hydroacoustic data, biological data and hydrographic data. The existing data from the redfish surveys in the Irminger Sea should be transferred into an international database as well.</p>
Resource requirements:	N/A
Participants:	<15 (incl. the cruise leaders of each vessel and the principle experts involved in abundance and biomass calculations). Participation of SGRS members is highly recommended due to the expected synergistic effects in the planning of the survey and analysis of hydroacoustic, biological and hydrographic data.
Secretariat facilities:	N/A

Financial:	Travel costs will be eligible for participants from Member States of the European Union through the EU Data Collection Regulation (Reg. 199/2008).
Linkages to advisory committees:	ACOM
Linkages to other Committees or Groups:	AFWG, NWWG, SGRS, PGNAPES
Linkages to other Organisations:	NEAFC
