

SCICOM PROGRESS REPORT 2011

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SCICOM Progress Report 2011

An annual report to the ICES Council
to describe the development and implementation of the
ICES Science Plan



ICES

International Council for
the Exploration of the Sea

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1 Introduction (SCICOM Chair)

The SCICOM annual report to Council is a document to review the activities of the ICES science structures and their efforts to implement the Science Plan (2009- 2013). It is important to highlight the role of SCICOM in ICES, if we wish to remain the largest, most relevant, and more credible, marine science organisation.

The report follows the structural mechanisms that SCICOM utilises to deliver the Science Plan:

- **Science Steering Groups** – to manage the Expert Groups portfolio and ensure their delivery is coordinated and driven by the needs of the ICES Science Plan as well as bottom up developments.
- **Strategic Initiatives** – a mechanism to introduce innovative and interdisciplinary thinking to ICES, on topics that are cross-cutting and requiring additional partners outside the ICES constituency. Aimed at increasing the profile and relevance of ICES in a rapidly changing scientific and policy landscape.
- **Operational Groups** – to develop data policies and access mechanisms as driven by the scientific needs of the organisation; to develop a training programme for the ICES constituency; to ensure consistent publications and communication strategies and products.
- **Annual Science Conference** – To provide a relevant and stimulating venue for the ICES community to meet and discuss their science, and to bring new participants in ICES activities.

In addition, and for the first time, SCICOM ran two science strategy meetings at the 2011 ASC in Gdańsk. The results and recommendations of these meeting are also reported here. It is our intention to keep ourselves out of the comfort zone and challenge our science, as a community, at every possible opportunity. Only in this way will we remain relevant and credible.

In the concluding remarks to this report a number of strategic developments and innovative decisions, applicable to the entire Science Programme of ICES, are reported.

2 Science Development in ICES – ASC topical sessions

2.1 Topical session1 – Coastal-zone ecology, health, sustainability and human impact: science for effective management

This session was coordinated by the chairs of SSGSUE (Daniel Duplisea, Canada) and SSGHIE (Erik Olsen, Norway) and was conducted at the ICES ASC on 21 September 2011, 14:00–18:00.

In response to a science plan coding exercise conducted by SCICOM, three topics, which represent significant gaps in our implementation of the ICES Science Plan, were selected for discussion and debate:

- 1) Marine spatial planning, effective of management practices (e.g. MPAs) and its role in the conservation of biodiversity – Erik Olsen (lead discussant)
- 2) Population and community level impacts of contaminants, eutrophication, and habitat changes in the coastal zone – Matthew Gubbins (lead discussant)
- 3) The role of coastal-zone habitat in population dynamics of exploited species – Daniel Duplisea (lead discussant)

The session was structured along keynote presentations followed by discussion as to how ICES might deal with these science plan gaps. Here we outline the major points of the presentations and the suggested course of action that came from the discussions.

2.1.1 Marine Spatial Planning

TOR coding revealed that three sub-topics that would fall under the MSP topic area (predicting benthic habitat spatial patterns, defining the utility of MPAs for diverse conservation objectives, and evaluating the use and effectiveness of GIS methods for MSP) were covered by a very small list of the ToRs of Science expert groups.

What do we need to do?

- 1) Make data and maps available for MSP
- 2) Determine ecological value of habitats (taking into account national differences in valuing habitats)
- 3) Develop tools for habitat mapping, value setting and sensitivity analysis

What measures are proposed to meet these objectives?

- 1) Develop recommendations to EGs to make data and shape file maps available to the ICES spatial data centre
- 2) Consider a workshop or study group that crosses the traditional science boundaries into sociological studies of value and valuation. Include managers and stakeholders. Provide case studies with MPA scenarios using packages like MARXAN
- 3) Liaise with LOICZ in order to inform each other of their mutual work in this area

2.1.2 Impacts of contaminants and eutrophication on population dynamics

ICES is making a determined effort towards integrated ecosystems assessment (IEA) and a desire to move towards integrated advice. It has been recognized, however,

that there are notable gaps in our IEA work, particularly in the field of contaminants and eutrophication. A significant challenge concerns understanding the impacts of diffuse inputs at small scales and more notably the impacts of point sources and cumulative effects on the larger scales processes such as populations and communities. The session encapsulated many of these issues and developed a list of points requiring action if ICES is fulfil its science plan goals in this regard:

- 1) Incorporating contaminant / effects into broader ecosystem assessments
- 2) Consider the impact of contaminants on populations of species not monitored or over large regional scales
- 3) Evaluate the impacts of eutrophication higher up the food web
- 4) Assess the impacts of small eutrophic areas on larger regions
- 5) Promote empirical studies on the impacts of habitat change on biodiversity
- 6) Understand the loss of functional services through habitat modification
- 7) Better appreciate the interactions between multiple pressures and assessing cumulative impacts

Specific measures proposed to address issues:

- 1) Issues 1, 2, 7, could begin to be addressed in the near-term by bringing them to the attention of the new Integrative, Physical, Biological and Ecosystem Modelling working group (WGIPEM). Longer-term actions may require the creation of specific expert groups.
- 2) Issues 3 and 4 require input from appropriate experts. For example, the Working Group on Harmful Algal Bloom Dynamics (WGHABD) could be asked for appropriate actions which would help ICES fill science plan gaps on the broader implications of eutrophication.
- 3) Issues 5 and 6 could be dealt with through a workshop that considers the role of important coastal habitats in exploited species dynamics (see section 3 for further description).

2.1.3 Coastal processes, habitats and population dynamics of exploited species

The role of coastal zone processes and habitat characteristics on the dynamics of exploited species is a science plan topic that requires considerably more work. As this is a poorly studied topic in ICES, a brief presentation was provided, outlining the gaps and possible remedial actions, summarised in Table 1.

Table 1: Potential actions to remedy the gap in ICES science for meeting Science Plan goals to discern the relationship between coastal processes and habitat to exploited species dynamics.

Potential action	Pros	Cons
Ignore	Easy to implement	It is a part of the Science Plan – We can't ignore it
Start a new WG	Potentially fills the Science Plan gap	Establishing the group, robbing expertise from other groups
Hitch-hiking on other initiatives	Quickly fills need	Does not develop expertise among ICES participants
Convene a workshop	Signals the desire to fill the goal, allows an expert base to develop the road	Could fall flat without the right participation

Discussion led to support for a workshop to deal with this science plan gap. It was suggested that a first step would involve gathering up information on case studies, review commonalities, and synthesize the disparate information. A workshop should also develop recommendations for ICES on how to advance this topic further. ToR were drafted for a **Workshop on the Value of Coastal Habitats for Exploited Species** (WKVHES), chaired by Rom Lipcius, USA, NN, IMARES, Netherlands (to be announced), and Per Moksness, Sweden, to meet at ICES HQ (Copenhagen), Spring/Summer 2012.

2.2 Topical Session 2: Health of ecosystems: biodiversity, ecosystem surveys, and management tools

This session was coordinated by Bill Karp (USA, Chair of SSGESST), and Pierre Petitgas (France, Chair of SSGEF), and took place at the ICES ASC on 21 September 2011 14:00–18:00.

Policy-makers are increasingly seeking advice on the sustainable use of ecosystems while accounting for the conservation of biodiversity and ecosystem services, and in a context of a changing environment. The objective of this session was to shed light on the breadth of relevant activities within ICES SCICOM Expert Groups and the extent to which these EGs are responsive to related elements of the ICES Science Plan. The session was organized in two parts. First, two keynote lectures offered a vision of science needs, then selected expert groups presented their achievements towards these needs.

The keynote lecture on biodiversity by Simon Jennings (UK, outgoing co-Chair of the Strategic Initiative on Biodiversity Science and Advice (SIBAS) presented current initiatives and challenges in biodiversity science and advice. Policy requests for science and monitoring now involve ecosystem functioning and environmental issues, including biodiversity. An example is the European Marine Framework Strategy Directive with its 11 descriptors. ICES must now accept the demands to broaden its focus to respond to these needs while continuing to be responsive to traditional fishery management concerns. In this context, there are short- and long-term challenges. Short-term challenges include developing relevant indicators and reference points for biodiversity, understanding pressure-state relationships, and developing new monitoring strategies. Long-term challenges include understanding the role of biodiversity in the functioning of ecosystems, identifying hot spots of biodiversity and key species related to management targets, and taking into account environmental effects on pressure-state relationships. The discussion highlighted the need for ICES to maintain its focus on sustainable use rather than just conservation. Concerns about lack of taxonomic expertise and the consequences for monitoring biodiversity were recognized although it was understood that it may not be necessary to identify everything that is taken in a sample to monitor ecosystem health.

During his keynote lecture on research surveys, David Reid (Ireland, Chair of WGISUR) presented the current survey program coordinated by ICES under the EU fisheries Data Collection Framework and suggested how changes could be made towards an integrated coordinated program for ecosystem monitoring. Under the current survey scheme, overlap and duplication of effort are not uncommon although biological samples may not be completely analysed. Technological innovations could be brought to bear to automate some sampling activities. It was recognized that fisheries surveys cannot be turned into ecosystem surveys by simply acquiring new parameters to be monitored and measured. Ecosystem survey objectives must first be defined and new designs for integrated surveys can then be developed, allowing the

collection of a comprehensive suite of data and samples. In contrast to the current program of fishery-assessment surveys, which are mostly conducted on an annual basis, new international integrated and coordinated survey programs could be developed, with different vessels doing different types of surveys at the same time and perhaps on a multi-annual basis. The discussion highlighted the importance of collecting data on different ecosystem functions simultaneously and at the same locations. Fisheries surveys are designed to monitor changes in abundance and not to sample processes. Rate parameters are also important to estimate *in situ* and this requires surveys that are designed to measure processes at the correct spatio-temporal scales. Current fisheries surveys are already imprecise; therefore we should continue to be careful to ensure good survey precision and consistency in the long-term fisheries survey data series. This need for consistency has made it difficult to bring technological innovation to traditional fisheries surveys although new technologies have become available (e.g. satellites, models, buoys) and, increasingly, ships of opportunity contribute to data collection. A novel framework for integrating international effort at sea should be developed for ecosystem monitoring which recognizes these concerns and considerations.

Selected Expert Groups presented their achievements to the above ends (Table 2). These EGs had been selected based on the extent to which they contribute to the topics and issues discussed during the session. The session raised awareness among expert group chairs regarding some of the challenges facing ICES and made them receptive to future Terms of Reference which would be designed to encourage development of the capacity to better address scientific challenges associated with ecosystem monitoring and management.

More than 40 individuals attended this session and they represented a broad range of scientific expertise and interest. Those present agreed that such topical session made communication effective across some of the traditional (Steering Group) barriers within the ICES science community. This suggests that these types of sessions should be planned for future Annual Science Conferences. Plans for future sessions of this type should ensure that EG presentations are focused on the session topics, thus allowing more time for discussion.

Table 2: Summary of a selection of Expert Group foci and achievements.

	Expert Group	Chairs	Contribution
Ecosystem components			
	Oceanic hydrography (WGOH)	Glenn Nolan Hedinn Valdimarsson	Ocean climate status annual report. Update and analysis of long term time-series in ICES waters. Standard layout
	Phytoplankton and microbial ecology (WGPME)	Bill Li Xelu Moran	Towards a status report. Update and analysis of time-series in ICES waters
	Zooplankton ecology (WGZE)	Mark Benfield	Zooplankton status biannual report. Update and analysis of time-series in ICES waters. Standard layout. Zooplankton methodology manual.
	Benthos ecology (BEWG)	Steve Degraer	Development of indicators. Development of a benthos long term series network. Impact of climate on bioturbation.

Crabs (WGCRAB)	Jan Sundet	Update time-series of landings. Understanding of life history traits and stock structure. Analysis of migration patterns via tagging.
Fish ecology (WGFE)	Dave Kulka	Analysis of survey data. SASI model to define areas that will benefit from protection.
Sea bird ecology (WGSE)	Richard Veit	Development of indicators and ecology quality objectives in OSPAR ecoregions.
Biodiversity		
Biodiversity (WGBIODIV)	Jim Ellis	Development of indicators for EU-MFSD Descriptor 1 on biodiversity. Identification of key species and areas for biodiversity conservation. Increase of species richness in southern North Sea.
Marine habitat mapping (WGMHM)	Jacques Populus	Towards spatial classification modelling of single species/habitats and quality assessment.
Surveys		
International bottom trawl surveys (IBTSWG)	Francisco Velasco	Ensure data quality and access (DATRAS database). Provision of data to other working groups. Survey manuals. Analysis of gear performance. Production of distribution maps. Involved in collecting data for MSFD descriptors
North East Atlantic continental shelf (WGNEACS)	Elvar Hallfredsson	Documentation of survey protocols. Provision of data for assessment by other WGs
Beam trawl surveys (WGBEAM)	Brian Harley	Documentation of survey protocols. Provision of data for assessment by other WGs
Fish technology and fish behaviour (WGFTFB)	Michael Pol	Investigation for sustainable fishing gear, including advice to relevant users. No evidence of different selectivity due to size of ships.
Egg surveys (WGEGGS)	Cindy Vandamme	Planning egg surveys in the North Sea. Spawning habitat maps. Development of Genetic probes to determine early stage egg-species.
Fisheries acoustic science and technology (WGFAST)	Niels Olav Handegard	Development and use of technology and processing methods. Development of multifrequency metrics for the pelagic domain. Characterization of vessel avoidance. Protocols to estimate indicator changes across MPA borders.
Acoustic and egg surveys on anchovy and sardine (WGACEGG)	Jacques Massé	Planning Acoustic and egg surveys in subdivisions VII, VIII and IX. Survey methods and protocols. Intercalibration. Multidisciplinary database at regional scale based on gridded data. Monitoring of pelagic community in the South of Europe (from VII to IX).

Red fish surveys (WGRS)	Kristjan Kristinsson Benjamin Planque	Planification of surveys. Deep sound-scattering layer 400-500 m of mixed fish and unknown sound scatterers forming huge biomass.
Modelling		
Implications of Stock Structure (WKISS)	Niels Hintzen Lisa Kerr	Implications of complex stock structure on population dynamics. Critical to maintain intraspecific biodiversity. Sustainable management options for complex population structures
Multi-species Assessment Methods (WGSAM)	Jason Link Anna Rindorf	Best practice methods for multispecies models. Provide key runs for advice and use in other ecosystem models. Assess natural mortality and address foodweb issues when moving towards MSY
Operational Oceanographic Products for Fisheries and the Environment (WGOOFE)	Morten Skogen Mark Dickey-Collas	Make available operational oceanography products to the fisheries scientists: browser at www.wgoofe.org (soon on ICES data center)
Physical-biological interactions (WGPBI)	Uffe Thygesen Elizabeth North Myron Peck	Implications of PBI for : phytoplankton thin layers, larval connectivity in fish populations. Full life cycle models for copepods and fish. Coupling models: NPZD and higher trophic levels, end-to-end modelling. Simulation of impacts of climate change scenarios

3 Reports of Science Steering Groups

3.1 SCICOM Steering Group on Ecosystem Function (SSGEF, Pierre Petitgas, France)

3.1.1 Vision/ Objective

SSGEF was created to steer and nurture the activities of a suite of EGs related to Topic 1 of the Science Plan “Understanding Ecosystem Functioning”. Under that mandate, SSGEF takes actions to:

- Map the activity of EGs on the SP
- Help EGs focus their ToRs in relation to the SP
- Monitor the activity of EGs
- Facilitate inspiration and communication between EGs
- Identify cross-cutting issues and extract EG highlights on these

3.1.2 Expert Groups

Table 3. EG (acronym, start year, contribution to Science Plan priorities)

Expert Group Acronym	Expert Group Name	Start Year	High contribution to Science Plan
WGOH	Working Group on Oceanic Hydrography	1977	1.1, 3.2
WGPME	Working Group on Phytoplankton and Microbial Ecology	2009	1.1, 1.2, 1.6, 2.4
WGZE	Working Group on Zooplankton Ecology	1996	1.1, 1.2, 1.6, 2.5, 3.2
WGPBI	Working Group on Modelling of Physical/Biological Interactions	2003	1.1, 1.3, 1.4, 3.2
BEWG	Working Group on Benthos Ecology	1985	1.1, 1.2, 1.3, 1.5, 1.6, 2.3, 2.4
WGCRAB	Working Group on Biology and Life History of Crabs	2006	1.4, 2.1, 2.5, 3.1
WGCRAN	Working Group on Crangon Fisheries and Life Histories	1994	2,1
WGCEPH	Working Group on Cephalopod Fisheries and Life History	1994	1.1, 1.3, 1.4, 1.6, 1.7, 2.4
WGSPEC	Working Group on Small Pelagic Fishes, their Ecosystems and Climate Impact	2009	1,1
WGRECORDS	Working Group on the Science Requirements to Support Conservation, Restoration and Management of Diadromous Species	2009	1.1, 1.3, 1.4, 3.1
WGFE	Working Group on Fish Ecology	2002	1.1, 1.2, 1.7
WGSE	Working Group on Seabird Ecology	1995	1.1, 1.2, 1.6, 1.7, 2.1, 2.3, 2.4, 3.1
WGBIODIV	Working Group on Biodiversity Science	2009	1.1, 1.2, 1.3, 1.6, 1.7, 2.4, 3.1
SGIMT	Study Group on Integrated Morphological and Molecular Taxonomy - Linked to WGZE	2009	1.2, 1.6, 2.4, 2.5 has not met in 2011
SGCBNS	Study Group on Climate related Benthic Processes in the North Sea - Linked to BEWG	2009	1.1, 1.6

WKAMO	Workshop on Basin-wide Impact of Atlantic Multidecadal Oscillation - Linked to WGSPEC	2010	1.1
WKNORCLIM	ICES/PICES Workshop on the Reaction of Northern Hemisphere Ecosystems to Climate Events: a Comparison - Linked to WGSPEC	2010	1.1
SGBALANST	Study Group on data requirements and assessment needs for Baltic Sea trout - Linked to WGRECORDS	2007	1.3, 1.4, 3.1
SGIPEE	Study Group on International Post-Evaluation on Eels - Linked to WGRECORDS	2009	1.4, 3.1
SGERAAS	Study Group on Effectiveness of Recovery Actions for Atlantic Salmon - Linked to WGRECORDS	2010	3.1
SGSSAFE	Study Group on Salmon Stock Assessment and Forecasting - Linked to WGRECORDS	2008	1.4, 3.1
WKSTAR	Workshop on Salmon Tagging Archive - Linked to WGRECORDS	2010	1.3, 1.4, 3.1

EGs under SSGEF range across ecosystem components from hydrology, plankton, benthos, fish and shelf fish, to birds as well as EGs that work globally on the ecosystem such as those working on biodiversity or modelling. There is potential for integrative joint analysis of patterns in time-series and understanding the processes behind these patterns across ecosystem components. EGs under SSGEF naturally work in relation to climate change and biodiversity.

3.1.3 2011 activity

In 2010 and 2011 procedures to implement the Science Plan were established:

- coding the ToRs to map the activity of EGs on the Science Plan topics,
- definition of a format for EGs to report science achievements at the ASC
- design of topical sessions at the ASC to engage EGs on cross-cutting issues involving different SSGs.

The procedures are intended to facilitate monitoring and reporting of the activities of EGs, assessing strengths and weakness as well as integrating the science results of EGs

After coding the Science Plan topics and relating the ToRs of EGs to these codes, the activity of the EGs in 2011 (2010 resolutions) can be mapped as follows.

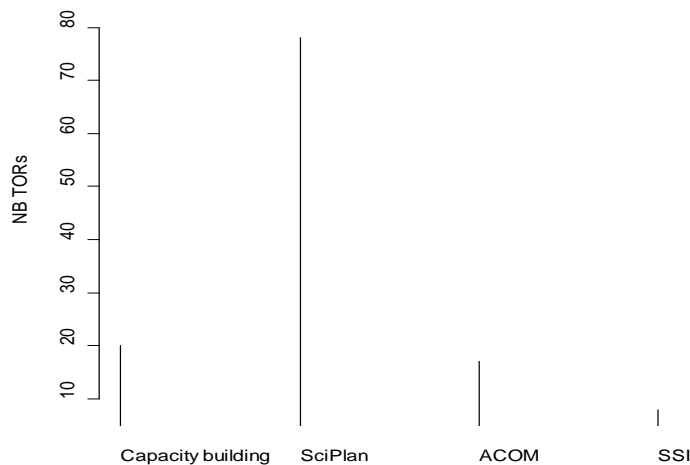


Figure 1. Distribution of ToRs to the ICES Science Plan, ACOM objectives, capacity building objectives and strategic initiatives.

The majority of the ToRs of EGs addressed topics of the Science Plan. Some ToRs remained for capacity building (ToRs with no relation to the Science Plan topics). There were a few ToRs answering advisory requests or requests from strategic initiatives. A balance between bottom-up and top-down defined ToRs is required, ensuring a sustained network of ICES-dedicated scientists.

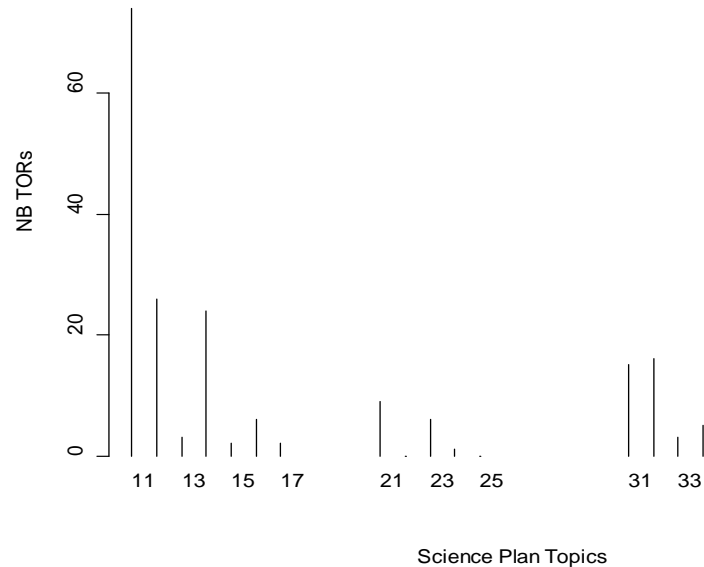


Figure 2. Number of EG ToRs by ICES Science Plan sub-topic areas.

The majority of the ToRs addressed issues related to climate change impacts (topic 11), biodiversity (12), life history (14), impacts of fishing (21), management tools (31) and operational modelling (32).

3.1.4 2011 Highlights of Expert Groups under SSGEF

Table 4. EG acronym, highlights reported at the 2011 ASC

Expert Group	Highlights reported to SSGEF at the 2011 ASC
WGOH	CRR 309 : Report on Ocean Climate 2010. Warming and salinification of deep waters continues. Warming and salinification of upper 100m greater than long term average
WGPME	Towards a status report for phytoplankton and microbes in the North Atlantic Diatoms across the N Atlantic: increase in NW, decrease in NE, larger variation close to coast
WGZE	CRR307 : Zooplankton status report 2008/2009 Seasonal, annual, decadal changes documented in population size, species and distribution
WGPBI	Review of physiological characteristics of marine fish larvae. Comparison of larval dispersion kernels with various models. Copepod biophysical model: <i>Calanus glacialis</i> to invade arctic ocean under IPCC climate change scenario.
BEWG	Contribution to CRR 310: ICES Status Report on Climate Change in the North Atlantic; Benthic indicators; Lessons learned from the WFD as to better perform within the MSFD; On the myths of indicators: general applicability of indicator species?

WGCRAB	Update fishery statistics. Edible crab movements in the English Channel studied with data storage tags: females go W but do not seem to return.
WGCRAN	Update of Crangon fishery statistics in the North Sea. Towards a management plan in Natura 2000 areas. Still a too high level of crushed shrimp in summer.
WGCEPH	Second CRR on cephalopod species to come out in early 2012. Update fishery statistics.
WGRECORDS	Coordination of scientific activities on diadromous species, subject to similar pressures in freshwater, estuarine and marine environments. Commissioning of studies to support the assessment work of ACOM, via Study groups: SGSSAFE, SGBALANST, SGIPEE
WGFE	Contribution to CRR 310: ICES Status Report on Climate Change in the North Atlantic. Swept Area Seabed Impact (SASI) model used to build maps to define locations that will benefit from protection.
WGSE	OSPAR quality objectives for seabird populations. Distribution of habitats. Bycatch, Effects of wind farms. The percent of species at target level of breeding abundance has decreased since 2002 in OSPAR region III (Celtic seas).
WGBIODIV	Development of biodiversity indicators to support Descriptor 1 of the Marine Strategy Framework Directive. Species richness has increased in the southern North Sea demersal fish assemblage as observed in ICES Q1 IBTS.
SGCBNS	Assess and predict changes of bioturbation in response to climate change. Bioturbation potential shows little seasonal variation. Development of a network for long term benthos data (BELTS).
WKAMO	Compare NW Pacific with N Atlantic atmospheric systems. Teleconnection is demonstrated by a correlation between atmospheric indices. In the late 1980s, the NAO and the AO strengthened and caused warming in the NE Atlantic and also in the Japan/East Sea and the Kuroshio Current.
SGBALANST	Establish habitat criteria for trout parr to give advice on trout population status. Definition of a common habitat description, Trout habitat score (THS), which correlates to trout parr density.
SGIPEE	Design a framework for eel post evaluation and review available data. No improvement in eel recruitment since 1980.

3.1.5 Roadmap for 2012

For 2012 (2011 resolutions), the mapping of the ToRs of EGs on the Science Plan topics is as follows

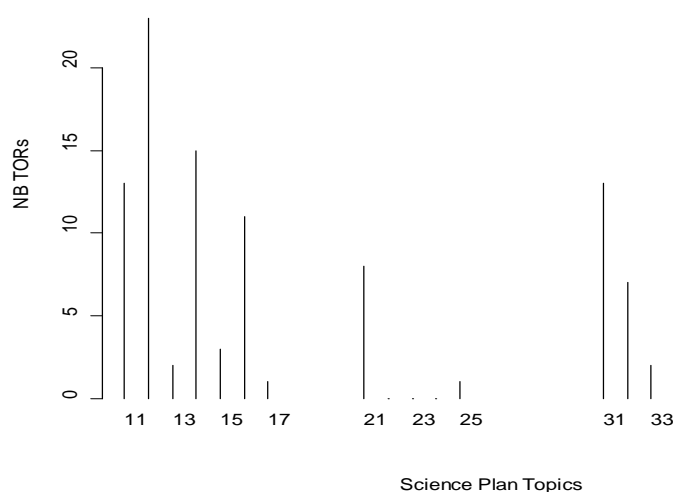


Figure 3. Number of EG ToRs by ICES Science Plan topic areas

The figure shows a similar map than for the 2011 activity (see above), but there are far less ToRs on climate change issues (topic 11). There is thus a proportionally higher concern for biodiversity (12), life-history (14), integration of surveys (16) and management tools (31) and operational modelling combining oceanography (32).

In 2012, communication between EG Chairs will be increased by regular WebEx meetings. A cross-cutting issue identified at the 2011 ASC SSGEF meeting was pattern analysis in long term spatio-temporal time-series to assess change across the ecosystem components and understand the processes behind these changes. Actions to develop these issues will be discussed further.

Also the Strategic Initiatives on Biodiversity (SIBAS) and Climate Change (SICCME) are expected to develop further in 2012, to which EGs under SSGEF have potential to contribute to.

3.1.6 Cross-cutting issues (with other SSG, SI)

As presented in the Table and Figures above, most of the contributions concern theme 1. But themes 2 and 3 are also a concern, in particular topics 21 (Impacts of fishing), 31 (management tools) and 32 (combining with oceanography in modelling). Therefore, collaboration with other SSGs is important. Also, the importance of topic 16 in the ToRs suggests a need to collaboration with SSGESST.

The amount of ToRs dedicated to the role of coastal zone habitats in population dynamics (topic 13) is small although the subject is important. This topic could be enhanced and tentatively developed in collaboration with SSGSUE and SSGHIE.

Many groups under SSGEF compile data to assess populations or environmental status and some produce regular status reports. These works are a resource for developing indicators of ecosystem health, which can serve regional assessments performed in SGRSP or contribute to Strategic Initiatives on Climate Change (SICCME) and Biodiversity Science and Advice (SIBAS).

3.1.7 Issues to the attention of ACOM

Models, data and knowledge are available that could be utilized in co-designing benchmark activity and in particular for predicting larval survival and connectivity, environmentally induced life history changes or assessing habitat quality.

Some EGs under SSGEF have potential to contribute to the production of indicators for the MFSD (1: Biodiversity, 3: Exploited species, 4: Foodweb, 6: Seabed integrity).

3.1.8 Recommendations from the Chair

- Stronger interaction between SSG chairs to properly address cross-cutting issues.
- Continue to organize topical sessions at the ASC involving all EGs across SSGs to properly address cross-cutting issues and engage EGs on them when developing their ToRs.
- Monitor the activity of EGs and assess strength and weakness on cross-cutting issues of the Science Plan.
- Implement a reporting format allowing EGs to showcase their achievements/highlights when reporting.
- To make these recommendations effective, discussions with EG Chairs are key. Regular WebEx will continue to be used to this effect.

3.2 SCICOM Steering Group on Sustainable Use of the Ecosystem (SSGSUE, Daniel Duplisea, Canada)

3.2.1 Overview of Science Steering Group on the Sustainable Use of Ecosystems (SSGSUE)

SSGSUE is a steering group that often time walks the boundary between SCICOM and ACOM activities. Many SSGSUE working groups deal with issue related to development of single species stock assessment products (e.g. WKADSAM, WGMG), multispecies models (WGSAM), operationalizing the ecosystem approach (e.g. WKMARBIO), examining the implications for advice of some basic assumption on stock structure (WKISS, SIMWG). Other groups deal with issues such as efficacy of marine protected areas (SGMPAN), impacts of fishing on the genetics of stocks (WGEVO). There are usually strong and immediate management implications arising from SSGSUE activities.

Table 5. EG (acronym, name, chair, summary, contribution to Science Plan priorities).

Group	Full Name	Chairs	Summary	Science Plan Codes
SIMWG	Stock Identification Methods Working Group	Stefano Mariani	Met over summer 2011 by correspondence. A considerable body of work produced. Reviewed new work on redfish stock structure and concluded that status quo was warranted. This has spawned an ACOM advisory group	311
WGMARS	Working group on Maritime Systems	Dorothy Dankel	Has not yet met, but there have been many discussions concerning the TOR and members suggested by ACOM will attend in order to bring the advisory element to the group	313, 341, 342, 343
WGEVO	Working Group on Fisheries-Induced Evolution	Ulf Dickeman, Mikko Heino, Adriaan Rijnsdorp	strong chairs ambitious agenda. Seens its future in working with other expert groups in both SCICOM (ecosystem effects of fishing) and ACOM (single species fishing effects) to bring research closer to application	211, 311, 313, 314
WGSAM	Working Group on Multispecies Assessment Methods	Anna Rindorf, Jason Link	Good expertise. Has made progress in the consideration of multispecies interaction when considering MSY. Delivers multispecies M to appropriate assessment groups. Searching	311, 313, 171, 253

SGHIST	Study Group on the History of Fish and Fisheries	Georg Engelhard, Bo Poulson	Core group of returning participants as well as some new blood. Capacity is not an issue. The group sees itself as a focal point for disparate researchers in the area and key for identifying datasets not yet digitized and prioritizing datasets	121, 111
SGMPAN	Study Group on Designing Marine Protected Area Networks in a Changing Climate	Robert Brock, Amparo Martinez-Arroyo, Ellen Kenchington	First meeting produced a list of demands to other expert groups to identify species that would most likely be affected by climate change and benefit from protected areas. TOR and their guidelines are not very operational at present and working on refining this.	112, 133, 111, 112, 133, 132, 333, 331
SGVMS	Study Group on VMS data, its storage, access and tools for analysis	Vanessa Stelzenmuller, Heino Fock	Confidentiality of data puts special emphasis on its dissemination, but dissemination needed to make it valuable. Significant national efforts may be needed for this.	213, 346
WGMG	Working Group on Methods of Fish Stock Assessment	Jose DeOlivera	Ambitious work aligned with the strategic initiative on assessment methods. This group will work to help generate datasets that can be used to test various assessment methods	311, 312
WGMHM	Working Group on Marine Habitat Mapping	Jacques Populus	Discussions with benthic ecology working group to coordinate some efforts. There is very little north american involvement in the group. There was much overlap with session G at the ASC in Gdańsk	311, 212
WGOOFE	Working Group on operational oceanographic products for fisheries and environment	Marten Skogen, Mark Dickey-Collas	to be dissolved after 2011, related to WGIPEM	321

WGIPEM	Working Group on Integrative, Physical-biological, and Ecosystem Modelling	Myron Peck, Miguel Bernal	TOR in place for first meeting 2012	
WKMARBIO (dissolved)	Workshop on Marine Biodiversity	Simon Jennings, Mark Tasker	Suggests methods for ICES to meet objective related to biodiversity science needs and feeds to national members	345, 346
WKISS (dissolved)	Workshop on the Implications of Stock Structure (WKISS)	Lisa Kerr, Niels Hintzen	Poorly understood stock structure can lead to large management errors when not properly accounted for. A simulation approach can deal with some of these issues. Will produce a primary publication	334
WGQAF (dissolved)	Working Group on Quantifying All Fishing Mortality	Phil MacMullen	cancelled - dissolved. A workshop is being proposed in its place but there are some issues in finding a willing chair with assessment experience and this is key to making the outcome of the workshop useful for science and management.	
WKIEM (dissolved)	Workshop on Integrated Ecosystem Modelling	Miguel Bernal, Icarus Allen, Stefan Neuenfeldt, Enrique Curchitser, Jose Ruiz	Uncertainty underestimated, prediction is poor but integrated output is useful. Proposed WGIPEM group	244, 313, 314, 346
WKADSAM (dissolved)	Workshop on Reviews of Recent Advances in Stock Assessment Models Worldwide "Around the World in AD Models"	Coby Needle, Chris Legault	dissolved, led to SISAM, proposal for testing of methods with simulated and real dataset	323, 334

3.2.2 Cross-cutting SSGSUE activities

SSGSUE groups work very closely with other SCICOM groups but perhaps even more closely with ACOM groups. One of the best examples of a cross-cutting issue concerns SIMWG and SISAM. SIMWG will be tasked with generating datasets to be used in a SISAM workshop for testing a series of assessment methods to bolster ICES's repertoire and understand the range of different assessment methods. The Chairs of SSGSUE, SIMWG and SISAM are working with various ACOM members to

make this a successful exchange. WGSAM provides natural mortality estimates for several North Sea fish stocks from its MSVPA runs. WGSAM is also involved in multi-species model assessment for the Baltic which appear as though they will become the keystone advisory for Baltic Sea integrated assessment advice arising from ACOM. SIMWG has provided a review of new evidence on redfish stock structure in the Irminger Sea and this will further feed into a benchmarking workshop on redfish assessment in ACOM (WKRED).

SSGSUE groups tend not to produce science for science's sake but always with an application that usually has relevance in the short term. As such, cross-cutting issues and communication are the norm for SSGSUE groups.

3.2.3 Roadmap 2012

- Workshop on the Role of Coastal Habitat on Dynamics of Exploited Populations, June 2012.
- Workshop on Implications of Unaccounted Fishing Mortality (late 2012).
- WebEx calls among EG chairs and/or personal communications between SSGSU chair and EG chairs.
- Follow-up on recommendations from SSGSUE groups to other EGs so that they are understood by the receiver and the proposer and lead to effective interactions.

3.2.4 SSGSUE vision, aspirations from the chair (Daniel Duplisea)

SSGSUE groups work well on the whole. There are issues with getting the right experts to attend some of these groups and this lacking expertise is usually on the assessment and advisory side. Closer contact with ACOM and assessment groups will be encouraged. This is already underway by frequent communication with the ACOM executive on issues relating to spatial planning, reviewing ACOM reports in the context of transparency and establishment of a workshop to deal with the implications of unaccounted-for fishing mortality on advice. A provisional ToR has been drafted for such a workshop and it will proceed when we can ensure that appropriate experts will be behind such a process.

Additionally, I see a necessary role for SSGSUE groups in linking habitat quantity and quality to dynamics of exploited populations. A workshop has been proposed to deal with this in June 2012. Thus filling a gap in the Science plan and it is to be hoped determine a way forward in seeking a long term program on this elusive question.

3.3 SCICOM Steering Group on Human Interactions on the Ecosystem (SSGHIE, Erik Olsen, Norway)

3.3.1 Objective and vision

The Steering Group on Human Interactions on the Ecosystem (SSGHIE) was established in 2009 as a direct follow-up to the ICES Science Plan where “**Understanding Interactions of Human Activities with the Ecosystem**” is one of three thematic areas.

The **objective for the SSGHIE** is to ensure the implementation of the ICES science plan thorough ensuring that all relevant themes are treated in a relevant manner by the expert groups (EGs) reporting to SSGHIE.

The multiple and compounding human impacts on marine ecosystems demand management responses that are increasingly integrated and take an ecosystem approach, through a number of area-based practices (e.g. MSP, zoning plans). To support integrated management through cross-cutting and integrated science is the overall and

long term vision of the SSGHIE. Achieving this vision will require a determined and sustained effort as ICES science is traditionally very focused on extremely specialized topical EGs. This specialization is both ICES strength but also a challenge in tackling the cross-cutting issues that are facing ocean management and science today. SSGHIEs foremost role is therefore to act as a networking mediator between EGs to analyse and handle the difficult questions associated with ecosystem-based approach.

Table 6. Table of expert groups (Acronym and Name, Start year, Contribution to science plan high-level topics.

Acronym and Name	Start Year	Chair	Contribution to science plan
Working Group on Marine Shellfish Culture (WGMASC)	2002	Pauline Kamermans	1.1, 1.3, 2.2, 2.5, 3.3
Working Group on Environmental interactions of Mariculture (WGEIM)	1992	Chris McKindsey	1.1, 1.3, 2.2
Working Group on Pathology and Diseases of Marine Organisms (WGPDMO)	1977	Simon Jones	2.2
Working group on Marine Planning and Coastal Zone Management (WGMPCZM)	2010	Andreas Kannen	1.3, 2.3, 3.3, 3.4
Marine Chemistry Working Group (MCWG)	1969	Katrin Vorkamp	1.1, 2.4, 3.3
Working Group on Marine Sediments in Relation to Pollution (WGMS)	1980	Patrick Roose Lucia Vinas	2.4
Working Group on Application of Genetics in Fisheries and Mariculture (WGAGFM)	1993	Geir Dahle	2.2, 3.3
Working Group on Biological Effects of Contaminants (WGBEC)	1987	Matthew J. Gubbins John Thain	1.1, 2.4,
Working Group on the Effects of Extraction of Marine Sediments on the Marine Ecosystem (WGEXT)	1995	David Carlin	2.4, 3.1, 3.3
Joint PICES/ICES Working Group on Forecasting Climate Change Impacts on Fish and Shellfish (WGFCCIFS)	2008	Suam Kim Manuel Barange Harald Loeng Anne B. Hollowed	1.1,
ICES – IOC Working Group on Harmful Algal Bloom Dynamics (WGHABD)	1997	Joe Silke	2.4
Study Group on Environmental Impacts of Wave and Tidal Energy (SGWTE)	2010	Michael Bell	2.3, 3.3
Study Group on Socio-Economic Dimensions of Aquaculture (SGSA)	2010	Gesche Krause	3.4

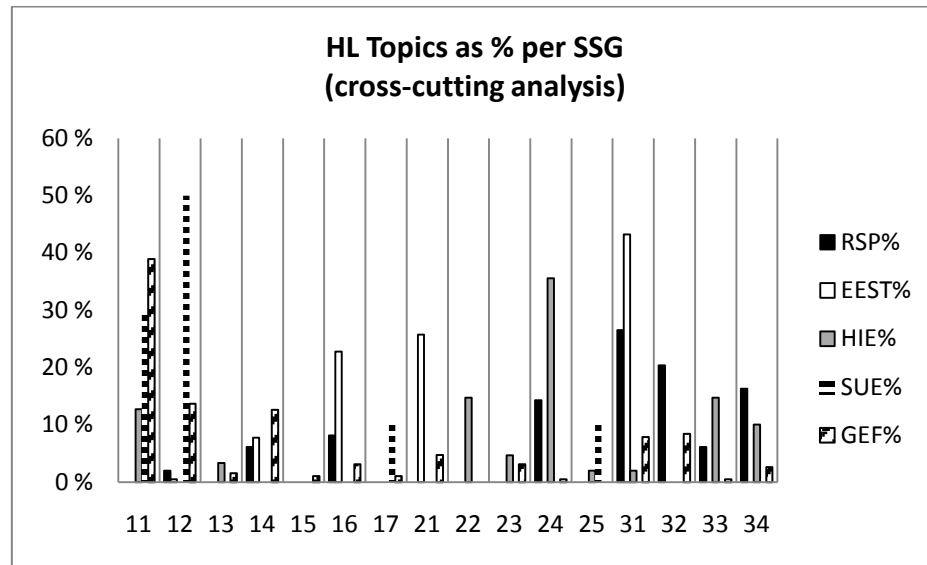


Figure 4. Distribution of ToRs to the ICES Science Plan High-level topic areas.

EGs under SSGHIE cover a range of high-level topics (see table 6 and figure 4). These are:

- 1.1 Climate change processes and predictions of impacts
- 1.3 The role of coastal zone habitat in population dynamics of exploited species
- 2.2 Carrying capacity and ecosystem interactions associated with mariculture
- 2.3 Influence of development of renewable energy resources (e.g. wind, hydro-power, tidal and waves) on marine habitat and biota
- 2.4 Population and community level impacts of contaminants, eutrophication, and habitat changes in the coastal zone
- 2.5 Introduced and invasive species, their impacts on ecosystems and interactions with climate change processes
- 3.1 Marine living resource management tools
- 3.3 Marine spatial planning, effectiveness of management practices (e.g. MPAs), and its role in the conservation of biodiversity
- 3.4 Contributions to socio-economic understanding of ecosystem goods and services, and forecasting of the impact of human activities

Topic 2.4 is the one receiving the most number of ToRs with 2.2 and 3.3 in the following places. This both reflects the importance of the topic, but also that some EGs have split their work into many more ToRs than others. Therefore comparing the number of ToRs between topics may give a false impression of importance as it does not clearly reflect the actual amount of work put into each ToR.

These topics are very diverse and the challenge is to find cross-cutting issues that can gather the interest of the whole SSG so that it is perceived as a community, rather than just an administrative body through which the EGs report. This has proved a challenge over the last year, as was clearly illustrated through poor attendance at the SSGHIE meeting during the ASC and at WebEx meetings earlier in the year. However, topical e-mail discussions and communication works well, but it is nevertheless troubling that so few chairs find it valuable to attend the SSG meetings.

3.3.2 Roadmap for 2011

Implementation of Science Plan

- Re-map EG activities (TORs and reports) in relation to the themes and sub-themes of the Science Plan using the approach developed by SCICOM to monitor the work of the EGs
- Stimulate theme sessions and workshops on science plan thematic areas.
- Stimulate the field of sustainability of aquaculture in ICES. There have been problems with attendance in WGEIM and SSGHIE has initiated a process to review and revitalize the topic. The ASC 2012 in Bergen where aquaculture will have a more prominent role will be used as a catalyst to stimulate more activity in this field.
- Stimulate work on poorly covered Science Plan topics, e.g.: 1.3, 2.3 and 2.5 through SSGHIE and collaboration with other SSG
- Develop a strategic plan for SSGHIE similar to that developed by SSGESST

Modus operandi

- Continue short reporting meetings at ASC for all SSGHIE chairs. The meeting will be open to the public
- Continue the topical theme sessions at ASC in 2012.
- Intercessional meetings of SSGHIE will in 2012 be conducted by videoconferencing.

3.3.3 Cross-cutting issues (with other SSG, SI and ACOM)

- Developing the scientific basis for Coastal and Marine Spatial Planning by giving support and advice for the ACOM/SCICOM Strategic Initiative on Area-Based Science and Management.
- The socio-economic impacts of aquaculture are an emerging issue identified by SCICOM. A new SG (SGSA) was set up in 2010 to investigate the topic and give advice on how to proceed. SGSA reported in 2011 and suggested extending its work to 2012 which has been supported by SSGHIE
- Stimulate and support for cooperation between EGs within ICES and between EGs and relevant organizations outside ICES (Eg. PICES, European Aquaculture Society).

3.3.4 Recommendations from the Chair

Stronger and closer collaboration with other SGs on cross-cutting issues and poorly covered topics

Continue the topical SSG theme sessions at the ASC that was initiated in 2011

WebEx meetings between the SG Chairs to discuss common issues and prepare for the ASC

Implement the Multiannual ToRs discussed at SCICOM in 2011

Work to give the SGs greater degree of SGs autonomy to evaluate and approve the specific TORs and details of their respective EGs thereby omitting the need for having each detail in EGs TOR approved by both SCICOM and Council.

3.4 SCICOM Steering Group on Regional Sea Programmes (SSGRSP, Yvonne Walther, Sweden)

3.4.1 Vision/objective

The vision of SSGRSP is to identify applications of science with a regional context. The major issue is to create guidelines for ICES Integrated Ecosystem Assessments (IEA) and provide means to perform IEAs at regional level.

Currently SSGRSP is hosting four Regional IEAS through different Expert groups. Other groups deal with issues of regional interest such as integrating economic tools in Stock assessment and Ecosystem Health.

SSGRSP strives to have meetings that are of interest not only to the Expert Group members but also informative and inspiring to external visitors. The two meetings at the ICES ASC in Gdańsk were divided into three parts: reporting, inspiration and envisioning new progress. The inspirational talk this year was given by Jason Link of NEFSC, US; *“Conducting Integrated Ecosystem Assessments: Lessons (Being) Learned from the Northeast US Continental Shelf”*. This was very well received especially by the Expert group chairs. For the first time all Expert Groups were represented and gave presentations from the activities of the past year.

3.4.2 Expert Groups

Table 7. Table of expert groups(acronym, Name, Starting year , Contribution to the Science Plan).

Acronym	Name	Year established	Contribution to Science Plan	Notes
WGNARS	Working Group on the Northwest Atlantic Regional Sea	2010	311, 322, 343 161	
WGIAB	ICES/HELCOM Working Group on Integrated Assessments of the Baltic Sea	1996	311, 313, 322, 334,342, 161	
WGINOSE	Working Group on Integrated Assessments of the North Sea	2011	313,322, 161	
WGEAWESS	Working Group on Ecosystem Assessment of Western European Shelf Seas	2011	311,321,322	
WGLMEBP	Working Group on Large Marine Ecosystem Programme Best Practices	2010	311,313, 321	
SGIMM	Study Group on Integration of Economics, Stock Assessment and Fisheries Management	2011	344	
SGEH	Study Group for the development of Integrated Monitoring and Assessment of Ecosystem Health in the Baltic Sea	2003	241, 313	Dissolved in 2011
WKBEMIA	Workshop on Benchmarking Integrated Ecosystem Assessments	2012	–	

3.4.3 Road map 2011/12

Our vision from last year was to double the participation in the meeting which was fulfilled. The aim is to continue to increase visibility of SSGRSP work in ICES, but also towards other affiliated organizations, and continue to increase the interest of the work of SSGRSP.

SSGRSP will continue developing the IEAS and further connect the Expert Groups together and start creating guidelines for the IEAs. In 2012 the process to create advice from IEAs will start which is further described under “Issues for attention of ACOM”.

In 2012 a new expert group SGSPATIAL will start to analyse the spatial distribution of the populations in relation to abiotic conditions and other biotic components, this will include development of spatial indicators that may be used to describe the state of exploited species and ecosystems and their interactions in the Baltic Sea.

Due to the focus on the integrated advice process, SSGRSP decided to postpone the benchmarking workshop WKBEMIA by one year, mainly because of the workload on the people involved.

3.4.4 Cross cutting issues

SSGRSP whole concept builds on cross cutting benefits. The steering group originated from the Baltic Committee (see ICES Insight September 2011 “The square peg in a round peg society”). Achievements in one regional group are supposed to be made available to other areas if applicable. For this purpose SSGRSP have regular WebEx meetings apart from the ASC meetings.

A specific issue this year was how to continue the SGEH as their work after three years is coming to an end. It was decided in cooperation with the WGIAB to try to start a new Workshop that would create worked up examples of ecosystem health issues with a focus on the biological effect of contaminants. The new group shall be more closely linked to the Integrated Ecosystem Assessment in the Baltic. This idea was also welcomed by the other expert groups that see this as a process to incorporate ecosystem health issues in all areas conducting IEAs. The new group on Ecosystem health will be communicating with WKIMON and SGBEC.

3.4.5 Issues for attention of ACOM

SSGRSP have a joint discussion with ACOM how to use the Integrated Ecosystem progress in advice.

An initial step involved continuing the work of Ecosystem descriptions as formerly handled by WGRED. The current issue is how to make an Ecosystem overview that is comprehensive but not too long and identifies issues of unwanted changes in the ecosystem to underpin Integrated Ecosystem Advice. The first step is to create a new template to synthesise a specific ecosystem, and then use it for the case study of the Baltic Sea. While integrated ecosystem assessment groups have a wide knowledge across the ecosystem in question, the challenge is how to conduct ecosystem overviews in regions where we do not perform IEAs.

Next step is to run a workshop on integrated advice in the Baltic, to take place before WGBFAS, and provide guidance on integrated advice next year. Creating integrated advice is a long and complex process, initially in cooperation with relevant Expert Groups (WGIAB, WGBFAS) and ACOM.

3.4.6 Recommendations and aspirations from the Chair

SSGRSP would benefit from including more Regions and Integrated Ecosystem Assessments. There is a wide knowledge to be shared among the groups.

Ideally new groups should form to perform IEAs in areas relevant to ICES advice to, at a longer perspective, create Integrated Ecosystem Assessments and coherent Ad-

vice in all Regional Seas. In the near future a minimum number of regional scientists are needed to conduct ecosystem overviews. This will need a broader involvement of other ICES EGs, to promote and support the IEA concept. SSGRSP would appreciate help (e.g. from SCICOM) to identify expert who could be candidates to conduct ecosystem overviews in areas not currently included in SSGRSP.

3.5 SCICOM Steering Group on Ecosystem Surveys, Science and Technology (SSGESST, Bill Karp, USA)

3.5.1 Vision/Objective

Facilitate Implementation of the ICES Science Plan by:

- Developing, maintaining, standardizing, consolidating and advancing assessment surveys as necessary and appropriate;
- Encouraging and supporting creativity and innovation which focuses on applications of advanced technologies for observing, monitoring and surveying marine ecosystems;
- Improving and advancing existing survey capabilities to develop and implement integrated surveys and monitoring systems in support of the EAM;
- Evaluating and mitigating the impacts of fishing on marine ecosystems through innovative conservation engineering, with a particular focus on bycatch reduction and development of fishing and survey gears which minimize fuel consumption and habitat damage; and
- Encouraging cooperation and collaboration with the fishing industry and other stakeholders in addressing these objectives

3.5.2 SSGESST Expert Groups

Table 8. Table of expert groups (Acronym, Name, Chair, Start year, contribution to science plan high-level topics).

ACRONYM	NAME	CHAIR(S)	Start Year	SP	NOTES
WGFAST	Working Group on Fisheries Acoustic Science and Technology	N.O.Handegard, Norway	1984	1.2, 1.3, 1.6, 1.7, 2.1, 3.1, 3.2, 3.3	
WGFTFB	ICES-FAO Working Group on Fishing Technology and Fish Behaviour	M. Pol, USA, F. Chopin (FAO)	1983	1.6, 1.7, 2.1, 3.1	
WGISUR	Working Group on Integrating Surveys for the Ecosystem Approach	D. Reid, Ireland	2010	1.7	Established as TGISUR in 2009
WGMEGS	The Working Group on Mackerel and Horse Mackerel Egg Surveys	C. van Damme, the Netherlands and F. Burns, UK	1985	1.1, 1.2, 1.3, 1.7, 3.1	New co-chairs for 2012
WGEGGS	Working Group on North Sea Cod and Plaice Egg Surveys in the North Sea	C. van Damme, Netherlands	2001	1.1,1.2, 1.3,1.7, 2.1	

WGACEGG	Working Group on Acoustic and Egg Surveys for Sardine and Anchovy in ICES Areas VIII and IX	Jacques Massé, France	2005	1.1,1.2, 1.3, 1.7, 3.1	
WGIPS	Working Group for International Pelagic Surveys	K-J. Stæhr, Denmark	2009	1.1 1.2, 1.3,1.7, 3.1	Will combine with WGNAPES in 2012
WGNAPES	Working Group on Northeast Atlantic Pelagic Ecosystem Surveys	C. O'Donnell, Ireland	1985	1.1, 1.2, 1.3, 1.7, 3.1	Will combine with WGIPS in 2012
WGRS	Working Group on Redfish Surveys	B. Planque, Norway and K. Kristinsson, Iceland	2010	1.1, 1.2, 1.3, 1.7, 3.1	Replaced PGRS
WGNEACS	Working Group for North-east Atlantic Continental Slope Survey	E. H. Halfredson, Norway	2007	1.1, 1.2, 1.3, 1.7, 2.1	
IBTSWG	The International Bottom Trawl Survey Working Group	F. Velasco, Spain	1994	1.1, 1.2, 1.3, 1.7, 2.1	
WGBEAM	Working Group on Beam Trawl Surveys	B. Harley, UK	1990s	1.1, 1.2, 1.3, 1.4, 1.7, 3.1	New chair for 2011
WGBIFS	Baltic International Fish Survey Working Group	O. Kaljuste, Sweden	2002	1.1, 1.2, 1.3, 1.4, 1.7, 3.1	New chair for 2012
WGISDAA	Working Group on Improving use of Survey Data for Assessment and Advice	C. Lordan, Ireland and S. Smith, Canada	2012	1.1, 1.2, 1.3, 1.4, 1.7, 3.1	New EG for 2012
SGNEPS	Study Group on Nephrops Surveys	C.. Lordan, Ireland	2009	1.7, 3.1	New chair for 2012
SGSIPS	Study Group on Standards in Ichthyoplankton Surveys	C. van Damme, Netherlands	2009	1.2, 1.3, 1.7, 2.1	Dissolves in 2012
SGCAL	Study Group on Calibration of Acoustic Instruments in Fisheries Science	D. Demer, USA	2010	1.2, 1.3, 1.6, 1.7, 2.1, 3.1, 3.2, 3.3	Dissolves in 2012
SGTCOD	Study Group on Turned 90° Codend Selectivity, focusing on Baltic Cod Selectivity	B. Hermann, Denmark and W. Moderhak, Poland	2009	2.1	Should dissolve in 2012
SSELECTRA	Study Group on Electrical Trawling	B. van Marlen, Netherlands and B. Verschuen, Belgium	2011	1.7, 2.1, 3.1	3 year term
WKSEINE	Workshop on seine net selectivity	D. Rihan, Ireland and B. O'Neill, UK	2011	2.1	One time event for 2011

WKACUGEO	Joint AcousMed project / ICES WGACEGG Workshop on Geostatistics	M.Giannoulaki, Greece, and P.Petitgas, France	2010	1.2, 1.3, 1.7, 3.1	Held in 2011, single event
WKFATHOM	Workshop on Egg staging, Fecundity and Atresia in Horse mackerel and Mackerel	C. van Damme, Netherlands	2012	1.2, 1.3, 1.7, 3.1	Planned for 2012, replaces WKHMES
WKMSPA	Workshop on Survey Design and Mackerel and Horse Mackerel Spawning Strategy	C.van Damme, the Netherlands and F. Burns, UK-Scotland	2012		Single Event
WKTSLUES	Workshop on implementing a new TS relationship for blue whiting abundance estimates	C. O'Donnell, Ireland	2012		Single Event
WKIDCL	Workshop on the identification of clupeoid larvae	C. van Damme, the Netherlands, and M. Kloppmann, Germany	2012	1.2, 1.3, 1.7, 2.1	Single event in 2013
JFATB	Joint WGFAST/WGFTFB Workshop on Fish Behavior and Survey Methods	E. Jones, New Zealand, J. Parrish, USA, and A. De Robertis, USA	1980s	1.3, 1.7, 2.1, 3.1	Met in 2011, again in 2014

3.5.3 Roadmap for 2011

SSGESST will complete a Survey Strategic plan (Strategic Perspective on Survey Expert Groups) and follow up on recommendations within the plan. Plan will be completed through e-mail and WebEx by early 2012 (report back at SCICOM Midterm). Next steps will include:

- Evaluation of survey design trade-offs for multiple-objective surveys, and evaluation of the implications of changes in survey design and methodology on assessment outputs (from survey EG strategic plan). Strategy will depend on whether related theme session for 2012 is accepted. Will involve developing ToRs for WGISDAA and/or well-focused workshops
- Establishing a group of Survey EG chairs to develop a plan for survey/survey EG review and propose action items for SSGESST in 2012/13. Should also involve ACOM and STECF

The Survey EGs will meet as scheduled to plan fieldwork and address issues associated with methodology

Several workshops and study groups will meet to address specific methodological issues such as ichthyoplankton identification, target strength estimation, and statistical methods for designing surveys and interpreting results

SGSIPS will provide recommendations for consolidation of ichthyoplankton EGs

WGFAST will focus on several topics in 2012, including:

- Acoustic and complementary methods for benthic and pelagic observations,

- Methods and standards for creating and validating indicators and metrics derived from acoustic and complementary methods,
- Observing systems integrating acoustic and complementary technologies,
- Acoustic properties of marine organisms - models and measures of target strength for classifying and enumerating living marine resources,
- Behavioural metrics, indices and indicators of the status of fish populations derived from acoustic information,
- Emerging technologies, methodologies and protocols for single, multispecies and ecosystem surveys,
- The impact of the use of active acoustics for studying marine ecosystems compared with other natural and anthropogenic sources.

WGFTFB will focus on several topics in 2012, including:

- Incorporation of fishing technology issues/expertise into management advice,
- Provision of advice on gear technology and performance relative to trawl fisheries for redfish,
- Review selectivity and catch comparison data from small and larger vessels and identify likely causes of differences in selectivity,
- Review current technological developments and initiatives in gear technology and provide examples of successful developments,
- Consider contributions of fishers and scientists in the process of collaboration and identify conditions allowing rapid uptake of new technology without the risk of introducing new adverse ecosystem effects,
- Investigation of relationships among vessel characteristics and gear specifications in commercial fisheries, with a focus on European fisheries.
- Evaluation of future applications of artificial light in fishing gear design and operations.

WGISUR will meet in January 2012 to: ecosystem survey data tasks table, and the feedback from the survey EGs on the options within their surveys.

- On this basis define the requirements for ideal fishery ecosystem surveys and develop descriptions of such surveys;
- Provide guidance on the adaptation of existing surveys to provide an approach to ideal fishery ecosystem surveys;
- Report on any implications from this exercise for the planning of future surveys.

WGISDAA will meet in January 2012 to:

- Develop a framework and methodology for the analysis of fishery-independent survey information for stock assessment and advisory purposes;
- Explore and suggest refinements to current survey designs that will improve the quality of data used to support assessment and advisory processes;
- Investigate methods of combining and or improving indices across multiple surveys and other ways of consolidating survey-derived data;

- Develop methods for use of survey derived indices and other survey data products as a basis for scientific

3.5.4 Cross-cutting issues (with other SSG, SI)

SSGESST EGs support many activities of the other SSGs and the SIs. These include:

- Provision of extensive information on distribution, abundance, life history and environmental parameter; biodiversity
- Development of advanced observation and sampling technologies
- Development of improved fishing gears and evaluation of the ecosystem, impact of fishing

Linkage, and the need for ongoing communication with SSGEF, SSGHIE, SSGE, SSGRSP, SIASM, SISAM and SIBAS is clearly apparent.

3.5.5 Issues to the attention of ACOM

The need for improved communication and coordination with ACOM has become increasingly apparent. The following specific examples have been identified:

- Interaction with WGFTFB relative to advice provided directly to ACOM and to other entities
- The role of survey EGs in supporting stock assessment and other ACOM information needs, and improving feedback from ACOM to the EGs
- Development of the survey strategic plan and implementation of plan recommendations (see below). In particular, development of a process for review of surveys and survey expert groups to address issues e) and f) in the next section.

3.5.6 Recommendations/Aspirations from the Chair

The draft document “Strategic Perspective on Survey Expert Groups” should provide useful guidance on the organizational structure of the SSG and the roles, responsibilities and interconnections among the various SSGESST EGs. It will be particularly important to engage the EG chairs in the process of completing the document and developing a plan for implementing its recommendations. Key strategic issues identified in the draft are:

- a) Integration of surveys for the ecosystem approach
- b) Evaluation of survey design trade-offs for multiple-objective surveys
- c) Evaluation of the implications of changes in survey design and methodology on assessment outputs
- d) Encouraging technological innovation
- e) Survey Relevance, consistency, standardization and quality control
- f) Assuring responsiveness to ACOM EGs, STECF and other clients
- g) Encouraging survey-related scientific research

Since SSGESST EGs support many of the scientific and advisory functions of ICES it will also be important to seek broader input during this planning process

4 Reports of SCICOM Operational Groups

4.1 ICES WGDIM Working Group on Data and Information Management (Helge Sagen, Norway; Ingeborg de Boois, Netherlands)

The mission statement of the SCICOM Operational Group, Working Group on Data and Information Management (WGDIM) is "To provide ICES with advice on all aspects of data management including data policy, data strategy, data quality, technical issues and user-oriented guidance."

In 2011, WGDIM focused on the following:

- Reviewing strategic documents related to data and information management
- Feedback to ICES Data Centre, and information exchange with the ICES Data Centre
- Results of the offspring groups (SGVMS, DUAP)
- Internal review of WGDIM

4.1.1 Strategic documents

The strategic documents reviewed are the ICES Data strategy, ICES Data policy and ICES User engagement plan. It was decided that the user engagement plan in its current format is not relevant any more, as the idea of the user engagement plan originated from the time before WGDIM had its position in the ICES community. The data strategy was updated in 2010 but not implemented. WGDIM made minor changes and will stimulate ICES to implement the strategy. The ICES Data Policy was also reviewed and WGDIM decided to work intercessionally on this document in order to finalize an updated version at WGDIM 2012.

4.1.2 WGDIM in relation to ICES Data Centre

The achievements of the ICES Data Centre in the last year are:

- The progress made on the incorporation of ichthyoplankton data in the ICES Data Centre databases;
- the improvement made on the version control of data and data products;
- the spatial facility (geo.ices.dk), presented at WGDIM and launched in September 2011

To increase insight into the functioning of the ICES Data Centre, it is recommended that the annual report created by the Data Centre is shared with WGDIM.

As the ICES Data Centre's role becomes more significant so will the number of requests for hosting new datasets and/or new data products. WGDIM developed a protocol for new data services to support the ICES Data Centre in the handling of requests. The protocol is in line with the current workflow, but more explicitly defined.

4.1.3 Offspring groups

4.1.3.1 Current offspring groups

The progress of the current WGDIM offspring groups was evaluated.

4.1.3.1.1 Study Group on VMS Data

The Terms of Reference were modified for a variety of reasons, such as additional information on the legal status of VMS data. WGDIM is aware that the availability and processing of VMS data is influenced by a number of legal regulations. The DCF 2008 gives guidance on the topic. The relevant documents have been made available to SGVMS 2011 and to WGDIM.

4.1.3.1.2 DATRAS User Advisory Panel

DUAP (DATRAS User Advisory Panel): over the last year some important topics have been discussed on the DUAP SharePoint, and is a useful discussion panel for data 'uploaders'. By providing standard information on the SharePoint and by advertising the SharePoint in the download site, it is expected that more end-users will be able to find the discussion forum. DUAP is an easy facility for ICES Data Centre to review the DATRAS discussions.

4.1.3.2 Workshop on Quality Flagging

WGDIM has identified data quality flagging as a complex issue that requires more attention, and so it is recommended that a workshop on quality flagging be organized. The workshop should include the ICES Data Centre, active WGs in the fisheries, biological (plankton), physical oceanography and chemistry areas, HELCOM, OSPAR, and the European Commission. There is a strong wish for participants from all over the ICES area.

4.1.4 Internal review

WGDIM carried out an internal review on its role as an operational group, from which future developments and challenges were defined. It was recognized that the change in role of WGDIM to that of an operational group, may pose challenges in terms of its visibility and engaging with other working groups. However, a number of initiatives have already been identified which would greatly improve the interaction between WGDIM and other working groups without eroding the role of the ICES Data Centre. In particular, these initiatives were (1) to propose regular theme sessions in data-related subjects at the annual science conferences, and (2) to propose increased visibility of data projects in the next revision of the ICES website structure.

Data management is a constantly evolving discipline, and it was recognized that the working group could benefit from increasing its intersessional communication. As a result, the group will seek to establish a LinkedIn group for increased knowledge exchange. It is envisaged that the group will be established as an internal communication tool for working group members at first, but with the option of including other ICES working groups or the ICES Secretariat where necessary, and if proven effective, perhaps to open to the wider community.

4.2 ICES Training Programme (Steven Cadrin, USA)

The ICES Training Programme was initiated in 2009 and offers training courses by high-profile scientists and instructors. The objective of ICES involvement in training is quality assurance in the advisory process as it is imperative that scientists who do work related to the advisory process, have the necessary skills. This training programme, therefore, helps build capacity in ICES and especially helps to support the scientists involved in the advisory process. In this regard, ICES has an obligation to ensure that training is available as needed.

In the first two years of its existence, the training programme has been successful in meeting the objectives. 14 courses have been offered on a wide diversity of skills, including stock assessment (introductory and advanced), ecosystem modelling, model building, management strategy evaluation, Bayesian inference, fisheries advice, trawl survey design and evaluation, and integrated ecosystem assessment. Each course is taught within the context of the ICES science and advisory system to demonstrate best practices as well as state-of-the-art technical skills. Nearly 400 students have attended ICES courses from over 30 countries. Most students have been from ICES member countries but many students from other countries have participated and several instructors and cooperating organizations have contributed expertise. A survey of 84 students indicates that approximately half (48%) have been involved in ICES since taking the course, most (83%) now have a better understanding of ICES science and advice, most (73%) thought the course improved their ability to contribute to ICES work, and nearly all (94%) found the course useful for their work. The success of the training programme is largely attributable to the efforts of Secretariat staff for administrative support, the quality of instructors, and the hard work of students. The many successfully completed training courses developed and run under ICES training programme demonstrate that the investment in training from ICES has been productive.

The Training Group proposes eleven courses for 2012 on stakeholders training, introductory and advanced stock assessment, Bayesian Inference, scientific communication, chairmanship skills, climate studies, geostatistics and vessel monitoring systems.

The Training Group has been developing a new business plan at the request of SCICOM. Two options were presented to SCICOM, and the following was supported:

- 500 euros for ICES member country or sponsoring organization (as is currently the case)
- 750 euros for affiliate institutes (50% increase)
- 1000 euros for non-member countries (100% increase)

This would reduce the subsidy required to continue the programme but it would not make it self-funded. If ICES funds are not available to supplement student fees, course fees will be increased for all students. The ICES Training Group is also pursuing external funding through partnerships with the UN, World Bank, Large Marine Ecosystems Program and the Marie Curie Training Network. The Training Group invites suggestions from SCICOM and ACOM members for new course topics in 2013.

4.3 Publications and Communications Group (PUBCOM, Pierre Pepin, Canada)

PUBCOM has been empowered to deal with non-strategic without requiring SCICOM approval. As a result, operational matters can be dealt more easily but major changes in emphasis have to be decided on through the Committees. Advising both the Science and Advisory Committees on matters related to the strategic approach for the communication of ICES work remains at the forefront of the Group's concerns and activities.

4.3.1 ICES Communications Strategy

Implementation of the ICES Communications Strategy remains a major task for the Group. A key element of the strategy involves the need to identify the outcomes from Expert Group activities, which can then be used to develop information pieces for distribution to the marine science community or to a broader audience. This has proven to be a challenge, even within the Committees, because the incremental progress achieved in the annual review of activities makes it difficult for EG Chairs to recognize key findings that may be of concern or interest to the greater community. PUBCOM felt that too much emphasis has been placed on administrative accounting of major outcomes. It recommended that a simple approach of adding one or two bullet items to Executive Summaries, in which EGs identify any element of the work that they would consider of interest to colleagues or experts within their field, should serve as a starting point for amassing a substantial body of information from which items could be recognized for development aimed at broader dissemination (e.g. through *ICES News*, *ICES Insight*, news releases, etc.). It is essential, however, that Executive Summaries follow the guidelines developed by the Group and which appear in the EG Chair Handbook. Development of articles appealing to a less specialized audience, whether other scientists or the general public, would be the responsibility of the Secretariat's Communications Department, in consultation with the researchers involved in the outcome.

Maintaining a broad number of avenues for dissemination of scientific information, using both formal (e.g. journals, report series) and interpretative (e.g. *ICES News*, *ICES Insight*, *ICES Inside Out*, ICES website, social media) approaches, requires clear priorities and innovation. Renewal of the ICES website should remain an item of high priority. The site should be highly functional and capable of meeting the varied demands of the ICES community, and include ease of navigation and archiving of the diverse sources of information that have been developed through ICES activities. Completing the long standing goal of digitizing the *ICES Marine Science Symposia* series, including the *Rapports et Procès-Verbaux des Réunions du Conseil*, and making these volumes freely accessible online through the ICES website will contribute significantly to making the outcome of ICES-sponsored activities more accessible.

Media are constantly evolving, and the growing demand for information requires that ICES remains adaptable. Development of interpretive articles aimed at the dissemination of ICES outcomes is an essential element of the Communication Strategy. From baseline information, easily modified exposés and editorials will be essential to address the needs of the varied clients of ICES. Therefore, developing approaches aimed at ensuring that the findings of Expert Groups become part of the regular information flow to the Secretariat should be a priority. In the same manner, proactive actions aimed at appropriate Public Media outlets should be viewed as a critical element in the implementation of the Communication Strategy. ICES should also recognize that young scientists entering the organization use a wide range of communication tools (e.g. blogs, social media [e.g. LinkedIn, Facebook]) that should be considered in future developments of the Communication Strategy.

Because Expert Groups are being encouraged to aim the outcomes of their work toward the broad scientific literature rather than through internal reports, it is important to ensure that the role of ICES in fostering scientific excellence is acknowledged, while ensuring that the distinction between scientific outcomes and the provision of advice is unambiguous.

4.3.2 Publication activities

4.3.2.1 ICES Publications

After a high degree of activity in 2009–2010, the number of publications in the three technical series (*Cooperative Research Reports*, *Techniques in Marine Environmental Science*, and *Identification Leaflets for Diseases*) decreased substantially in 2010–2011. Some of the decrease can be attributed to normal delays in finalizing submissions to the series Editors. PUBCOM notes, however, that an increasing proportion of resolutions are not being completed on time by the responsible authors or Expert Groups. Following SCICOM's decision of 2010, resolutions older than 2 years are considered lapsed and require a new submission, including justification that the information to be published continues to be timely and relevant, if the material is to be published. Four resolutions adopted in 2008 have lapsed, and a large number of resolutions adopted in 2009 are "missing in action" and may be considered lapsed. Often, the issue appears to be one in which there is a lack of communication by those responsible for the documents with the series Editor concerning the status of their submission. Unfortunately, this also gives the impression that there may be significant defaults in the expected outcomes from some EGs.

4.3.2.2 ICES Journal of Marine Science

The *Journal* is in good shape. A new Editor-in-Chief has been identified, there is no backlog of unpublished manuscripts, the submission rate is being maintained, the rejection rate is consistent with that of other high-quality publications, and the *Journal* is maintaining its position and influence in the fisheries and marine science community. Some symposia issues are contributing disproportionately to the *Journal's* Impact Factor, highlighting the need to ensure that the allocation of special issues is carried out judiciously and closely tied with critical elements of the Science Strategy. As a result, PUBCOM has recommended major changes to the information required from potential conveners to ensure that a strong publication plan is part of the scientific objectives of symposia that seek allocation of a special issue for their proceedings. This will require more proactivity by symposium conveners to ensure good submission rates of high-quality manuscripts, clearer definition of timelines for the submission and review process, as well as early identification of suitable Guest Editors. Other avenues to improve the influence of the *Journal* may include use of editorials and theme sections in regular issues, and an assessment of nature of manuscripts with small numbers of citations to determine if the mission statement of the *Journal* needs reassessment.

4.3.3 Membership review

Because of the changing nature of communications needs, a review of the Group's membership aimed to build on existing strengths while adding expertise in areas in which the Group has limited expertise (e.g. public relations, social media, etc.). The Group also noted the significant demands on representatives from the two Committees. As a result, the Group proposed to SCICOM that renewal should aim to have representatives and alternates from each of the Committees along with five members "at-large" to represent the ICES community and ensure a breadth of expertise, and a Chair. The proposal was accepted and the outgoing and incoming Chairs will put together a proposed membership list for Committee approval.

4.4 ASC 2011, Gdansk, Poland (Head of Science Programme)

The main venue was the Gdańsk Music and Congress Centre. Four extra (convertible) meeting rooms in Hotel Gdańsk were booked for business meetings and side meetings during the whole conference week, allowing for flexible room allocation.

Opening Session and Plenary sessions: The Secretary of State, Kazimierz Plocke from the Ministry of Agriculture and Rural Development attended the Opening Ceremony, together with the Deputy President of Gdańsk Wiesław Bielawski and the Deputy Marshal of Pomeranian Voivodeship, Wiesław Byczkowski. The 2011 Prix d'Excellence Award was presented to Carlos Duarte of Spain, and Mike Sissenwine received the 2011 Outstanding Achievement Award. Professor Jan Marcin Węśławski, University of Sopot, gave the open lecture on "Practitioners Faster than Scientists – Marine Nature Conservation". On Tuesday morning James E. Cloern, the US Geological Survey, gave the first plenary lecture on "Phytoplankton as indicators of ecosystem response to global change at the land-sea interface". Wednesday's plenary lecture on "Ecosystem-based management for the Baltic Sea – historical development and future challenges" was given by Ragnar Elmgren, recently retired from the Department of Systems Ecology at Stockholm University.

Poster Session: The Poster session was held on Tuesday evening in the Upper Foyer and was well attended. The discussions went on even after the official closing time at 20:00 hrs. There were 106 posters on display.

Evening Session: The Pecha Kucha Presentation Competition on Wednesday evening was a great success. Thirteen presenters took to the stage. For the future, such events could become a routine exercise on communication and other science skills.

In total we had 287 presentations this year. Many were uploaded beforehand on a special SharePoint site provided for presenters. Not all 106 poster presenters used the opportunity to present some slides in the theme session. It was the first year they were offered this possibility. Presenters were asked to register to the ASC before 1 July 2011 and it turned out that most of them did. With this early commitment, we were able to finalise the timetables earlier than in previous years.

23 early career scientists received travel funds this year. The funds varied from EUR 300 to EUR 680 depending on if the candidate had raised other, own travel funds.

The Best Presentation and Best Poster ICES Merit Awards were presented at the closing ceremony. In addition, three new awards were provided to Early Career Scientists. The presenters had indicated on the abstract submission form, if they were eligible for these two new awards.

The conference programme and the handbook were printed in August. After recommendation of SCICOM in May 2011, part of the conference handbook (book of abstracts) and the conference DVD were replaced by USB sticks.

5 Reports of the SCICOM Strategic Initiatives

5.1 ICES/PICES Strategic Initiative on Climate Change effects on Marine Ecosystems (SICCME; Brian MacKenzie, Denmark, and Anne Hollowed, USA, PICES)

The Strategic Initiative on Climate Change effects on Marine Ecosystems is designed to enable ICES and PICES to become the *leading international organizations providing science and advice related to the effects of climate change and variability on marine resources and ecosystems*.

Both ICES and PICES have several strategic research plans and documents related to understanding and investigating the impacts of climate change on marine ecosystems, and want to strengthen collaborative ties with each other. This initiative will address both issues.

5.1.1 Background

ICES and PICES have been investigating climate change impacts on marine ecosystems in the north Atlantic and Pacific for several years. However the two communities recognize that their efforts could benefit from increased collaboration and interaction. The ICES SSICC (Strategic Initiative on Climate Change) ended in December 2010 and the ICES/PICES WGFCCIFS, which developed in parallel, will end December 2011. Both PICES and ICES recognize that great strides in new science have emerged from climate change collaborative work between both organizations. Therefore, they requested the formation of a science plan that outlines a structure for continued collaborations focused on climate change. Within ICES, our plan would be consistent with a Strategic Initiative. To avoid confusion with the previous ICES SICC, we will refer to this proposal as the ICES-PICES Strategic Initiative on Climate Change effects on Marine Ecosystems (SICCME). The preparatory work for the initiative has been conducted primarily by a small group of ICES and PICES colleagues (ICES: Manuel Barange, Jürgen Alheit, Harald Loeng, Brian MacKenzie; PICES: Anne Hollowed, Suam Kim).

5.1.2 Activities 2011

Most of 2011 has been dedicated to:

- preparation of Science and Implementation Plans of SICCME;
- discussion, presentation and approval of the plans within the ICES and PICES communities.

An initial draft of the Science Plan was developed in early 2011 and presented to SCICOM at its May meeting, where it was given preliminary approval. In the following months until the ICES ASC, the Science Plan was used to develop an Implementation Plan describing the types of activities that would be carried out to move the science forward. The Implementation Plan was circulated to SCICOM members before the ASC and presented at SCICOM's meeting at the ASC together with a resolution for establishing SICCME. The resolution was approved by SCICOM and will be presented to PICES for approval at its October meeting.

The work of SICCME will be coordinated by a core group of scientists from both ICES and PICES co-chaired by Anne Hollowed (USA; PICES) and Brian MacKenzie (Denmark; ICES). The core group will consist of the following members, in addition to the co-chairs: ICES: Jürgen Alheit, Manuel Barange, Harald Loeng, Jonathan Hare; PICES: Suam Kim, Shin-Ichi Ito, + 2-3 others).

This group will meet regularly in the next 3 years according to the preliminary schedule:

- ICES-PICES symposium on Effects of Climate Change on the World's Oceans Symposium in Yeosu, Korea in May 2012.
- ICES ASC (Bergen) in 2012
- PICES ASC (Hiroshima) in 2012
- ICES and PICES ASC conferences in 2013.
- Additional communication will occur intersessionally via email, Skype, etc.

5.1.3 SICCME Visions, Goals, Objective and Scientific Questions

The Science and Implementation Plans describe the vision, goals, objectives and key questions of SICCME, which are presented below:

5.1.4 Vision

ICES and PICES will become the leading international organization providing science and advice related to the effects of climate change and variability on marine resources and ecosystems.

ICES and PICES will develop the scientific basis for evaluating the vulnerability, status and sustainability of marine systems under changing climate conditions. Collaborative research within ICES and PICES will facilitate the development, maintenance and evolution of a network of regional interdisciplinary research teams that will share research approaches on a global scale to foster laboratory, field and modeling activities that will provide data at the spatial and temporal scales needed to monitor, assess and project climate change impacts on marine ecosystems.

5.1.5 Goals

Never in the history of PICES or ICES has there been a more serious need for cooperation on a marine science issue of global significance. ICES and PICES must *respond to the need for credible, objective and innovative science advice on the impacts of climate change on marine ecosystems*. This advice will foster management and policies that will preserve these resources and habitats for the benefit of future generations. To achieve this overarching goal, the following actions should be addressed.

- 1) Define the research activities needed to understand, assess and project climate change impacts on marine ecosystems with sufficient spatial and temporal resolution to plan strategies for sustaining the delivery of ecosystem goods and services and the preservation of biodiversity. When possible predictions should include quantifying estimations of uncertainty.
- 2) Define and quantify the vulnerability of marine ecosystems to climate change, including the cumulative impacts and synergetic effects of climate and marine resource use.
- 3) Build global ocean prediction frameworks, through international collaborations and research, building on ICES and PICES monitoring programs.

As the leading northern hemisphere international organizations, ICES and PICES will direct the ICES-PICES SICCME to draw on the network of marine scientific expertise to make a valuable contribution to advancing science towards resolving these challenges.

5.1.6 Objectives

The success of this strategic initiative rests on:

- 1) Advancing the scientific capacity on the three main challenges identified above by engaging the PICES and ICES scientific community in focused workshops, theme/topic sessions and symposia that target key uncertainties and technical barriers that impact the predictive skill of ocean models used to project the impacts of climate change.
- 2) Effectively communicating this capacity to clients, Member Countries, stakeholders and the broader scientific community.
- 3) Facilitating an international effort to design data collection networks at the spatial and temporal scales needed to monitor, assess and project climate change impacts on marine ecosystems.
- 4) Facilitating international collaboration to design and implement comparative analysis of marine ecosystem responses to climate change through modelling and coordinated process studies.

5.1.7 Key questions

The overarching goal of the initiative will be to answer the following linked questions.

- 1) How will the physical, chemical and biological components of regional marine ecosystems of the northern hemisphere change under future climate scenarios?
- 2) How will marine biodiversity change (and thus biodiversity conservation objectives) as a result of pressures on the physiology, behavior and ecology of individuals, populations and ecosystems within the PICES and ICES regions.
- 3) How will the demand for, and delivery of, ecosystem services change in response to anthropogenic and climate change driven changes to ecosystems?
- 4) How will societies that depend on ecosystems services respond to climate-driven changes in ecosystem services, and which responses are consistent with an ecosystem approach to management?
- 5) What are the most significant key sources of uncertainty in projections of climate-ecosystem projections? Is it possible to design monitoring, process-oriented or laboratory studies to reduce this uncertainty?
- 6) What research is needed to understand the interactive nature of climate and resource exploitation on marine ecosystem functioning?

These visions, goals, objectives and scientific questions will require substantial effort from a large number of scientists over many years. The SICCME is therefore intended to be multi-year initiative and is initially planned to be implemented in three phases:

Phase 1: 2012-2014

Phase 2: 2015-2017

Phase 3: 2018-2020

The main type of activities within SICCME will be:

- 1) Synthesis of existing knowledge.

- 2) Advancing science and methodology.
- 3) Communication and integration of science through international symposiums, theme sessions and workshops.
- 4) Capacity building and training.

Activities 1-3 will be conducted during all phases, and activity 4 will be concentrated primarily in Phase 3.

The plan includes a suite of linked intersessional workshops, international symposiums, and topic/theme sessions that will engage the collective knowledge and expertise of ICES and PICES scientists.

5.2 SCICOM/ACOM Strategic Initiative on Area-based Science and Management (SIASM; Erik Olsen, Norway, and Eugene Nixon, Ireland)

In June SIASM held a STIG-MSP meeting with 12 participants at ICES HQ, Copenhagen, reported in August (ICES CM 2011 / SSGHIE:16), with main issues being:

- Two papers on MSP to be developed by STIGs are delayed but planned to be at manuscript stage by Nov 2011
- The MSP field is in rapid development both scientifically and in terms of developing actual plans.
- The ICES Spatial Facility (run by the ICES Data Centre) was presented (and has at the time of writing been officially launched)
- Review recommendations in the WGMPCZM report (amongst other a proposal for an MSP session at ASC in 2012.)
- Plan for a followup WS of the Lisbon 2010 WKCMSMSP. The new WS is planned as a joint ICES, HELCOM and OSPAR WS (proposal in SSGHIE package for 2011). The aim of the new WS is to: demonstrate how ICES, OSPAR and HELCOM can contribute to MSP; test out how the ICES Spatial facility can be used to support actual MSP developments; share knowledge and develop networks between scientist and practitioners. The WS is intended to be carried out on a case-study for the Kattegatt area using HARMONY data where the participants take on predefined roles (a kind of role-playing game).
- An exit strategy for the SIASM. Many of the issues SIASM was developed to handle now have been taken onboard WKCMSMSP, other EGs and the ICES Spatial Facility. Following the Nov-2011 WS the chairs will discuss an exit strategy and report back to SCICOM and ACOM

Following the STIG meeting the planning of the WS has progressed. Ministerie van Infrastructuur en Milieu in the Netherlands (L. Abspoel) has taken a lead in developing the simulation game and has offered funding for preparing and leading the game.

The ICES initiative on MSP has gathered some attention and the co-chairs have been asked to hold presentations at several meetings in 2011: a Polish meeting "Planning for Biodiversity" and a Nordic MSP WS in the Faeroe Islands, both in November 2011.

5.3 Strategic Initiative on Biodiversity Science and Advice (SIBAS; Simon Jennings, UK, and Mark Tasker, UK)

Biodiversity can be defined as the variety, quantity and distribution of life. It is fundamental to the function and resilience of ecosystems and the goods and services they provide. There are a growing number of political commitments to conserving biodiversity and managing impacts on it. All science and advisory activity in ICES relates to biodiversity issues but most ICES activity is not brigaded as 'biodiversity'. This initiative seeks to build on ICES existing capacity to further develop the profile, relevance, influence and use of biodiversity science and advice. The initiative has the following specific objectives.

- 1) Ensure that ICES develops and promotes a niche that links marine biodiversity science and advice
- 2) Position ICES to ensure that it is regarded as an effective and reliable source of biodiversity advice in the ICES Area, with relevance to wider seas
- 3) Ensure that ICES understands its customer's needs and can link effectively with partners and others holding biodiversity information
- 4) Catalyse new research on marine biodiversity that increases profile and relevance of ICES
- 5) Improve the capacity of ICES to provide rigorous, consistent and legitimate advice relating to biodiversity
- 6) Ensure that ICES is proactive in identifying science and advisory needs relating to biodiversity through monitoring policy development and co-ordinating its expert groups

During the year to September 2011, the initiative was led by Simon Jennings and Mark Tasker (as SCICOM and ACOM representatives), Paul Snelgrove and Jake Rice. From the end of the Annual Science Conference in 2011, the initiative will be led by Henn Ojaveer, Estonia (representing SCICOM), and Han Lindeboom, the Netherlands (representing ACOM), and ultimately be supported by a group of up to ten individuals that includes, amongst others, the former leadership group.

The main activity of SIBAS during this period was to plan and organise a workshop on 'Workshop on Marine Biodiversity (WKMARBIO): furthering ICES engagement in biodiversity issues'. This complemented the biodiversity-related science tasks that had been assigned to Expert Groups in 2011 (please see previous report). The report of WKMARBIO is available at <http://www.ices.dk/reports/SSGSUE/2011/WKMARBIO11.pdf>

The objective of the workshop was to catalyse and then formalise a process to help ICES achieve the following:

- To understand and support the biodiversity data, information and advisory needs of organisations with national, regional and global remits;
- To steer the scientific work of expert groups in ICES to contribute to a wider biodiversity agenda, with an emphasis on the conduct of science that meets tactical and strategic needs;
- To support marine assessment, indicator development, and target setting;
- To help ICES develop and provide advice that makes any tradeoffs between conservation and sustainable use visible and explicit.

Progress towards meeting these aims was supported by perspectives from plenary speakers representing a broad range of policy and science interests, plenary discussions, a review of responses to questionnaires submitted in advance of the meeting and discussions in three subgroups that focused on: 'data and assessment', 'indicators and reference points' and 'science priorities'. We were pleased to welcome 38 participants from 14 countries including representatives of global, regional and national organisations with responsibility for the development and/or implementation of biodiversity policy to ICES (CBD, FAO, EU, OSPAR, HELCOM) as well as biodiversity scientists and scientific advisors.

As a consequence of the workshop, we have developed work plans for the relevant expert groups in 2012 and are progressing a closer working arrangement between ICES and CBD. The work of WKMARBIO has also been presented to relevant Science Steering Groups and Expert Groups in ICES.

The new leaders of SIBAS are developing a 3 year programme for the period from May 2012. This will have two components: 'Science' and 'Advice'.

The 'Science' component will include two main activities (1) building ICES links with the international project that is intended to succeed CoML (Life in a Changing Ocean, LiCO) and (2) encouraging and supporting expert groups to conduct and publicise research on key biodiversity topics.

The 'Advice' component will focus on (1) ensuring that ICES is pro-active in providing biodiversity advice to support emerging policy needs, in the first instance by developing and making available advice that is not formally requested and (2) building a closer working relationship with CBD to include consideration of making experts available and providing background papers to support their meetings.

5.4 Strategic Initiative for Stock Assessment Methods (SISAM; Mark Dickey-Collas, the Netherlands, and Steve Cadrin, USA)

After a slow start, SISAM made great progress in 2011 with the steering group having 7 virtual meetings. The steering group defined the objects of the strategic initiative, discussed membership, liaised with the ICES Methods Working Group (WGMG) and ICES PUBCOM, developed a time line for the deliverables and began the preparation for the World Symposium on Stock Assessment Methods. SCICOM agreed the new resolutions for the initiative and the symposium in 2013. Currently the steering group is made up of Mark Dickey-Collas (NL), Steve Cadrin (USA), Doug Butterworth (SA), Richard Methot (USA), Carmen Fernandez (E) and Jean-Jacques Maguire (ACOM) with Poul Degnbøl (ICES) also sitting in on meetings. Three additional non-ICES scientists will be invited to join the group before 2012. The group was greatly saddened by the departure of Benoit Mesnil, one of its active members, during the year.

5.4.1 Objectives

The SISAM is designed to assure that ICES scientists can apply the best methods when developing management advice. Other RFMOs (Regional Fisheries Management Organisations) and national fishery organisations have a similar goal, so success of SISAM will have benefits for the entire international fishery science community. SISAM will contribute to the improved application of assessment methods, but it must be recognized that "best methods" is not a static definition. Rather, the set of available methods will continue to evolve and improve in response to lessons learned in their current application. SISAM needs to do more than define the current state-of-the-science, it should help chart the future course of this scientific

enterprise. Long-term success in application of the best methods is an iterative, multi-step process. These steps should involve:

- 1) identification of the current set of available methods;
- 2) guidance in the selection of the most appropriate methods for a particular application;
- 3) education and access to expert information regarding method usage;
- 4) encouragement for further testing and development of methods to more closely align with particular management needs and to take advantage of advances in statistical theory, computing power, and new knowledge.

SISAM can contribute to this process by directly advancing steps 1 and 2 and serving as a valuable catalyst for steps 3 and 4. SISAM proposes to accomplish this by producing a technical report, sponsoring an international symposium on fishery assessment methods, and publishing key papers in the ICES Journal of Marine Science. SISAM will seek to encompass approaches that range from quantitative procedures applicable in data-poor situations, through tactical assessment approaches that typify assessment advice today, to multi-species and environmentally-linked models that are at the forefront of research today. Within this range, the principal focus will be on the tactical assessment approaches, with briefer consideration to the data-poor and advanced model categories.

5.4.2 Technical Report

The proposed technical report will combine the developed model categorization scheme and the overview of recent model usage by a wide range of RFMO and national organizations. It will provide a structured organization of these models to guide ICES Working Groups in their search for appropriate models for each situation. This will be prepared prior to the symposium, to act as a resource to guide discussion and stimulate the workshops. It is proposed that later, the report will be published as an ICES Cooperative Research Report (CRR), which will also include the results from the symposium workshops.

The ICES WKADSAM workshop in 2010 started the process of identification of available methods by bringing together ICES and international assessment experts to describe state-of-the-science assessment models. The SISAM effort will build upon this foundation of model descriptions provided by WKADSAM and through further discussions with the ICES Working Group on Methods of Fish Stock Assessments (WGMG). SISAM proposes to reach out to RFMOs and national fishery organizations to request information on the methods used to conduct assessments over the past 5 years. NAFO has already been involved in SISAM. This request will need to involve some degree of information about data used because today's generalized integrated analysis models can be applied across a wide range of data types, so information on data used is valuable to refine the information on model usage. Preliminary information has already been obtained for assessments conducted in the U.S.A. Because many methods are essentially similar and differ only in name and details of the particular application, SISAM with WGMG will also develop a categorization system for fishery assessment models. This system will allow for clear delineation of major categories of models, and identification of the models available within each category. The draft report with the summary of model usage and the categorization system would be prepared for availability by the time of the proposed symposium. The final categorization scheme will be agreed by the end of 2011.

5.4.3 The SISAM Symposium

The symposium is designed to explore the merits of available assessment methods for providing management advice relevant to ICES and RFMOs. Proposed sessions are:

- 1) the application of a particular assessment method.
- 2) the exploration of model performance across a range of data factors, for example, the ability of an age-structured model to detect dome-shaped selectivity.
- 3) the exploration of the performance of alternative models to provide comparable advice for a particular data set.
- 4) outreach the non-fishery modelling community to explore alternative approaches beyond the current scope of operational assessment models.

The SISAM Steering Committee will facilitate the comparison studies by assembling data sets during early 2012 that are comparable to some standard ICES assessment situations and some problematic assessment situations.

In addition to the plenary symposium, part of the symposium will be devoted to concurrent workshop sessions. It is proposed to ask WGMG to help prepare 10–12 data sets in 2012 to facilitate the workshops. These 10–12 datasets will probably include both assembled and simulated datasets. Here some model experts will set up extended demonstrations and Q&A sessions. Others will engage in hands-on comparisons between modelling approaches using the provided data sets. These workshop sessions will provide an important education component to the SISAM effort, and SISAM proposes to include the workshops findings in the CRR.

Publishable highlights of the symposium will be published in the ICES Journal of Marine Science, as a collected series of papers.

6 Conclusions

As noted in the above report, SCICOM continues to implement the ICES Science Plan with a number of traditional and innovative tools:

- Expert Groups and Strategic Initiatives
- Operational groups
- Open discussions and debates at the annual ICES ASC
- Meetings and common initiatives with ACOM (e.g. MSFD SG)
- Training initiatives (including business plans to develop these further)

In addition to these, SCICOM has providing guidance on a number of significant developments and innovations in the implementation of the science plan, worth reporting in the concluding remarks of this annual report:

1. Multi-annual management of SCICOM Expert Groups – SCICOM, in consultation with all the science EGs, agreed to move towards introducing multi-annual Terms of Reference (ToR) for all expert groups, and a fixed (but renewable) 3-y appointment. The objectives of this change are as follows:

- To reduce the burden of annual reporting on EGs, and provide the groups with a long-perspective to focus their activity.
- To ensure that ToR are more strategic, with clear and focused outcomes that demonstrate advance and innovation.
- To ensure ICES recognises and values the work of its EGs through an objective self-evaluation that facilitates the uptake of their outcomes.
- To facilitate the identification, uptake and follow up of EG outputs directly into the ICES advisory activities, through a more dynamic, objective-driven management system.
- To re-balance the interactions between EGs and SCICOM in favour of science strategy issues at the onset and completion of multi-annual ToR.
- To make the EG portfolio more responsive to future changes in the ICES Science Plan, as well as other scientific priorities.

The changes, which will come into place in 2012, will work as follows:

- SCICOM EGs would be appointed for a fixed 3-year period, coinciding with the term of its Chair. ToRs would be identified for the entire duration of this term, except for specific ad hoc requests that may be put forward by member states.
- A full report from the EG would only be required at the end of their 3-year term. Reporting for the first two years may be reduced to a brief progress update towards completion of the ToRs.
- At the end of the term the EG would be asked to complete a self-assessment of their outcomes and outputs, which would be logged at the ICES Secretariat through a database system for further use in the website, publications and for internal discussions and well as in the interaction with stakeholders.
- EGs that require more than one term would request an extension at the same time as they complete their self-assessment, justifying the reasons for the extension, and suggesting a new set of ToRs.

2. ICES/ PICES and ICES/ FAO cooperation – The ICES Science Plan specifically called for enhanced research coordination, collaboration and capacity, recognizing the needs associated with a changing environment for ocean and coastal management. SCICOM has followed this call with a renewed and targeted approach. In 2011 PICES and FAO have been particularly targeted for cooperation:

- ICES and PICES have established a number of cooperative arrangements that include co-sponsored symposia, working groups, sessions in each others' Annual Science Conferences and capacity building exercises. These are largely developed in response to the drive and synergy of scientists in the networks, and in the absence of a formal plan for cooperation. Over 2010/11 a P/ICES Study Group on Strategy Planning has been developing a framework for these cooperative activities to be developed, implemented, steered and managed. The framework is now agreed, and will guide scientists and officers from both organisation in the development of this ongoing and expanding cooperation. The most immediate and significant cooperation emanating from this has been the Strategic Initiative on Climate Change impacts on marine Ecosystems (SSICCME), reported earlier in this document.
- At the initiative of Bureau and SCICOM, ICES and FAO have agreed to an addendum to the 1996 Memorandum of Understanding, to identify the areas where both organisations recognise the value of a reinvigorated cooperation, including: Capacity building, Stock Assessment Methods (SISAM), the implementation of EBM, Conservation Engineering/Fishing Behaviour, Climate Change (SSICCME) and Data Management.

3. A new strategy for coordinating ICES observations – In 2010 ICES closed down its GOOS-WG because of the poor attendance to its meetings. A perceived lack of momentum in the international GOOS contributed to this. As these decisions were taken, IOC initiated a process to revitalize GOOS. Following a symposium in 2009 on ocean observations (OceanObs '09), a task team (which included ICES) was appointed to develop a new Framework for Ocean Observations. This Framework was delivered, and the IOC embraced it with a new resolution on ocean observations. Resolution XXVI-8 supported GOOS as a holistic system encompassing global, regional and coastal observations and products. It indicated that GOOS should integrate all available observational data, and asked GOOS to align itself to the new Framework for Ocean Observing. As a result of these developments a new GOOS Steering Committee is being appointed to lead a reinvigorating international agenda on ocean observations. Aware of these developments, SCICOM has agreed to organise a Workshop to Define the Ocean Observing Needs for ICES (WKOOI). This is expected to result in a better coordination between observations and data collection in ICES, better aligned to international agendas.

4. Ecosystem Modelling – Over the last 20 years the coupling of biological and physical models has improved our understanding of the dynamics of marine species and the ecosystems in which they live. Some of these models, in particular 3-d biophysical individual-based models (IBMs), have been part of the ICES portfolio for a long time, partially through WGPBI. In parallel to the development of IBMs, a number of spatially-explicit food web models, with diverse frameworks and emphases, have been developed under the generic term of “end-to-end” models. This new generation of integrated modelling initially attracted the interest of the academic scientific community, but recently has attracted marine resources managers and applied scientists. One appealing aspect of these coupled models is that they integrate across

various parts of the ecosystem and have the potential to incorporate human and environmental drivers in a single framework. SCICOM identified a gap in our science portfolio in this science area, which has developed largely outside the traditional ICES community. Working with members of the network and academia SCICOM has agreed to dissolve the existing WGPBI and create a new Working Group on Integrated Physical-biological and Ecosystem Modelling (WGIPEM), which would take a broader view of ecosystem modelling.

Annex 1: 2011 List of ICES SCICOM Expert Groups that were dissolved, established, changed committee or were renamed

Type of Action	Name	Chair – Outgoing	Chair – Incoming
<i>Established</i>			
<i>SCICOM Steering/Operational Groups/Strategic Initiatives</i>			
SCICOM	ICES-PICES Strategic Initiative on Climate Change Impacts on Marine Ecosystems (SSICME)		Anne Hollowed (USA, PICES) and Brian MacKenzie (Denmark, ICES)
ACOM/SCICOM	Strategic Initiative on Stock Assessment Methods (SISAM)		Mark Dickey-Collas* (the Netherlands) and Steve Cadrin* (USA)
<i>Change of Chairs</i>			
<i>SCICOM Steering/Operational Groups/Strategic Initiatives</i>			
SCICOM	Steering Group on Ecosystem Functions (SSGEF)	Pierre Petitgas (France)	Graham Pierce (UK)
SCICOM	ICES Publications and Communications Groups	Pierre Pepin (Canada)	Mark Dickey-Collas (the Netherlands)
ACOM/SCICOM	ACOM/SCICOM Strategic Initiative on Biodiversity Science and Advice (SIBAS)	Simon Jennings (UK) and Mark Tasker (UK)	Henn Ojaveer (Estonia) and Han Lindeboom (the Netherlands)
<i>Established</i>			
<i>Expert Groups</i>			
SSGSUE	Working Group on Integrative, Physical-biological, and Ecosystem Modelling (WGIPEM)		Myron Peck, Germany, and Miguel Bernal, Spain
SSGRSP	Study Group on Spatial Analyses for the Baltic Sea (SGSPATIAL)		Michele Casini, Sweden, and NN (to be confirmed)
<i>Change of Chairs</i>			
<i>Expert Groups</i>			
SSGSUE	Working Group on Marine Habitat Mapping (WGMHM)	Jacques Populus, France	Pål Buhl Mortensen, Norway
SSGESST	Baltic International Fish Survey Working Group (WGBIFS)	Henrik Degel, Denmark	Olavi Kaljuste, Sweden
SSGESST	Working Group on Mackerel and Horse Mackerel Egg Surveys (WGMEGS)	Jens Ulleweit, Germany	Cindy van Damme, the Netherlands and Finlay Burns, UK
SSGEF	Working Group on Oceanic Hydrography (WGOH)	Glenn Nolan, Ireland and Hedinn Valdimarsson, Iceland	Stephen Dye, UK, and Kjell Arne Mork, Norway
SSGEF	Working Group on Zooplankton Ecology (WGZE)	Mark Benfield, USA	Piotr Margonski, Poland

Type of Action	Name	Chair – Outgoing	Chair – Incoming
SSGEF	Working Group on Crangon fisheries and life history (WGCRAN)	Ingrid Tulp, the Netherlands	Marc Hufnagl, Germany
SSGEF	Working Group on the Science Requirements to Support Conservation, Restoration and Management of Diadromous Species (WGRECORDS)	Ted Potter, UK	Niall O'Maoileidigh, Ireland, and Atso Romakkaniemi, Finland
SSGEF	Study Group on Integrated Morphological and Molecular Taxonomy (SGIMT)	Steve Hay, UK	Ann Bucklin, USA
SSGRSP	ICES/HELCOM Working Group on Integrated Assessments of the Baltic Sea (WGIAB)	Anna Gårdmark, Sweden (Co-Chair), Thorsten Blenckner, Sweden (Co-Chair)	Lena Bergström, Sweden (Co-Chair), Maciej Tomczak, Sweden (Co-Chair)
SSGRSP	Study Group on Integration of Economics, Stock Assessment and Fisheries Management (SGIMM)		Eric Thunberg, USA (Co-Chair)
SSGHIE	Working Group on the Application of Genetics in Fisheries and Mariculture (WGAGFM)	Geir Dahle, Norway	Dorthe Bekkevold, Denmark
SSGHIE	ICES-IOC Working Group on Harmful Algal Bloom Dynamics (WGHABD)	Joe Silke, Ireland	Bengt Karlson, Sweden
<i>EGs merged</i>	<i>Expert Groups</i>		
SSGESST	Working Group on Northeast Atlantic Pelagic Ecosystem Surveys (WGNAPES) was merged with Working Group of International Pelagic Surveys (WGIPS)		
<i>Dissolved</i>	<i>Expert Groups</i>		
SSGESST	Study Group on combining gear parameters into effort and capacity metrics (SGEM)	David Reid, Ireland & Norman Graham, Ireland	
SSGSUE	Working Group on Quantifying All Fishing Mortality (WGQAF)	Philip MacMullen, UK	
SSGEF	Working Group on Modelling of Physical-Biological Interactions (WGPBI)	Elizabeth North, USA, and Uffe Thygesen, Denmark	
SSGEF	Study Group on International Post-Evaluation on Eels (SGIPEE)	Laurent Beaulaton, France	
SSGEF	Study Group on data requirements and assessment needs for Baltic Sea trout (SGBALANST)	Erik Degerman, Sweden	
SSGEF	Study Group on Salmon Stock Assessment and Forecasting (SGSSAFE)	Gerald Chaput, Canada	
SSGEF	Study Group on Effectiveness of Recovery Actions for Atlantic Salmon (SGERAAS)	Tim Sheehan, USA, and Jamie Gibson, Canada	
SSGRSP	Study Group for the Development of Integrated Monitoring and Assessment of Ecosystem Health in the Baltic Sea (SGEH)	Kari Lehtonen, Finland	
SSGHIE	Joint PICES/ICES Working Group on Forecasting Climate Change Impacts on Fish and Shellfish (WGFCCIFS)	Anne Hollowed, USA, and Harald Loeng, Norway	

Type of Action	Name	Chair – Outgoing	Chair – Incoming
<i>New Workshops</i>			
SSGESST	Workshop on Survey Design and Mackerel and Horse Mackerel Spawning Strategy (WKMSPA)		Cindy van Damme, the Netherlands, and Finlay Burns, UK
SSGESST	Workshop on implementing a new TS relationship for blue whiting abundance estimates (WKTSBLUES)		Ciaran O'Donnell, Ireland
SSGESST	Workshop on the identification of clupeoid larvae (WKIDCL)		Cindy van Damme, the Netherlands and Matthias Kloppmann, Germany
SSGSUE	Workshop on the value of Coastal Habitats for Exploited Species (WKVHES)		Rom Lipcius, USA, NN, IMARES, the Netherlands (TBC), and Per Moksness, Sweden.
SSGEF	Workshop to Define the Ocean Observing Needs for ICES (WKOOI)		Jon Hare, USA
SSGHIE	ICES/IOC/PICES workshop on "HABs in a Changing World" (WKHABCW)		Bengt Karlson, Sweden, and Mark Wells, USA
SSGHIE	(SIASM/STIG-MSP) Workshop on 'The Science for area-based management: Coastal and Marine Spatial Planning in practice' (WKMCMSPP)		Erik Olsen, Norway, and Eugene Nixon, Ireland
SSGHIE	Joint DFO, KnowSeas and ICES Workshop: Quality assurance of scientific and integrated management processes for use in marine planning and coastal zone management (WKQAMSP)		Roland Cormier, Canada, and Andreas Kannen, Germany
SSGHIE	Workshop on Wave and Tidal Energy Test Sites (WKWTETS)		Michael Bell, UK