



# GUIDELINES FOR ICES GROUPS

Version 2019-2



Science for sustainable seas  
[www.ices.dk](http://www.ices.dk)

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## 1 Foreword

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These guidelines were developed for anyone involved in ICES work, with a focus on the members and chairs of expert groups, operational groups, strategic initiatives, advice drafting groups, the Advisory Committee and the Science Committee. The guidelines describe how to establish, run and report on the work of an expert group, the roles of members and chairs of all ICES groups and the code of conduct for scientists contributing to ICES.

ICES endeavours to update the guidance biannually to accommodate the most recent decisions by governance bodies, ICES system updates, and feedback from the network on material to include. If you identify material that would improve this guidance or find any errors, please contact ICES Secretariat ([science@ices.dk](mailto:science@ices.dk)).

## 2 Introduction

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### 2.1 The International Council for the Exploration of the Sea

The International Council for the Exploration of the Sea (ICES) is an intergovernmental science organization that coordinates and promotes marine research in the North Atlantic and its adjacent seas. ICES unites a community of more than 5000 marine scientists from over 300 institutes in 20 member countries and beyond.

ICES vision is “to be a world-leading marine science organization, meeting societal needs for impartial evidence on the state and sustainable use of our seas and oceans” and the mission is “to advance and share scientific understanding of marine ecosystems and the services they provide and to use this knowledge to generate state-of-the-art advice for meeting conservation, management, and sustainability goals.” The majority of work in support of this vision and mission is conducted in around 150 expert groups (EG). Scientists, working in these expert groups, develop, gather and analyse information relating to marine ecosystems, identify new avenues of research, fill gaps in existing knowledge and develop analyses that underpin advice on the state and sustainable use of the oceans. Their work is facilitated and informed by outputs from ICES co-sponsored science symposia and an Annual Science Conference (ASC). Over 1500 different scientists participate in ICES expert groups every year, many attending two or more groups.

The work of expert groups is supported and supplemented by other ICES groups and committees, and ICES Secretariat (Box 1). This guidance focuses on all these groups, with the exception of our governing body, ICES Council.

### 2.2 Types of ICES groups and their working relationships

Expert groups are groups of scientists who collaborate during scheduled meetings, and often intersessionally, to develop science and the basis for ICES advice. Expert groups are at the heart of ICES and play a critical role generating the science and analyses that further understanding of marine ecosystems and support advice on the state and sustainable use of our seas and oceans. Expert groups welcome members from all ICES Member Countries, with scientists from other countries welcomed by invitation. ICES Secretariat provides each expert group with logistical and technical support to facilitate effective meeting planning, reporting, and external communication.

Expert groups address a series of pre-agreed tasks known as Terms of Reference (ToR). Expert group chairs have an important role to guide and encourage members of the

expert group in their scientific work to make sure members are aware of their role and responsibilities and to lead the development and submission of reports following expert group meetings.

The work of many expert groups is developed into ICES advice. The development of advice is managed by ICES Advisory Services. Professional officers from the Advisory Support department in the Secretariat will liaise with expert groups to support their work. ICES advice helps decision-makers to make informed choices on the sustainable use of our seas and oceans, with a focus on the management of the North Atlantic Ocean and adjacent seas. Advice is provided in response to requests from ICES Member Countries, the European Commission, regional fisheries management organizations, and the Regional Sea Conventions; making ICES the primary source of advice on fishing opportunities and marine ecosystems to the governments and international regulatory bodies that manage the North Atlantic Ocean and adjacent seas. ICES always seeks to use the best available science when developing its advice.

All ICES expert groups are established, dissolved, and guided by the Science Committee (SCICOM) and the Advisory Committee (ACOM). SCICOM oversees all aspects of ICES scientific work while ACOM is responsible for advice and relationships with the recipients of advice. Each committee is made up of nominees from each of the ICES Member Countries. In addition, Greenland and The Faroe Islands have observers in ACOM. Interactions between these committees and expert groups are supported by six steering groups. Each steering group addresses a broad and enduring area of science and advice and “parents” a number of expert groups. Steering groups are responsible for guiding and supporting expert groups, helping to ensure their work is effectively coordinated, conducted, and reported. The steering groups are:

[Ecosystem Processes and Dynamics Steering Group](#)

[Human Activities, Pressures and Impacts Steering Group](#)

[Ecosystem Observation Steering Group](#)

[Aquaculture Steering Group](#)

[Fisheries Resources Steering Group](#)

[Integrated Ecosystem Assessments Steering Group](#)

Each steering group is led by a chair. Each chair is jointly elected and appointed by SCICOM and ACOM and becomes a member of SCICOM (if not already a member of SCICOM in a national capacity). The chair of the Fisheries Resources Steering Group also becomes a non-voting member of ACOM (if not already a member of ACOM in a national capacity). Chairs of all expert groups parented by a given steering group are members of that steering group.

The steering group chair works with expert group chairs to ensure that expert group work supports and meets ICES science objectives and advisory needs. The steering group chair will also help expert groups to formulate and prepare their ToR, coordinate work between expert groups, and report on outputs and highlights of the expert group to SCICOM, ACOM, and more widely across ICES network and international scientific community.

All interactions between expert groups, steering groups, SCICOM, and ACOM are facilitated by ICES Secretariat, with staff assigned to support these interactions. The Secretariat also supports the development and approval of ToR and ensures ToR and expert group reports are correctly formatted and accessible to ICES network. Every

expert group has an assigned professional officer and supporting officer who is responsible for day-to-day communication with the expert group. Depending on the tasks of the expert group, ICES professional officers may need to provide technical support.

The term expert group is a generic term for working groups and workshops. Science-focused working groups usually plan meetings over a three-year cycle, publishing interim reports in years one and two and a final report in year three. At the end of the cycle, the working group may establish another three-year plan or dissolve. Advice-focused working groups run for many years. They have annual ToR reflecting annual advisory requests and produce a full report each year. Workshops are usually single events, to tackle a particular science or advisory issue. The work of a workshop is finalized by issuing a full report. In some instances, workshops will seek support to continue related work over the long term by proposing the formation of a working group.

SCICOM and ACOM also guide the work of other types of groups that may interact with expert groups.

SCICOM oversees three operational groups: the Data and Information Group (DIG), which supports coordination and interaction between ICES Data Centre and expert groups, the Science Impact and Publication Group (SIPG), which assesses and reports on the impact of ICES science and reviews and approves material for publication, and the Training Group (TG), which organizes ICES Training Programme. SCICOM also establishes temporary groups to plan the Annual Science Conference (ASC) and to identify candidates for awards at the ASC. Further, to develop some high priority, dynamic, and topical science areas, often those involving collaboration outside ICES Member Countries, SCICOM may establish “strategic initiatives”. There are currently two strategic initiatives: one focuses on [climate change impacts on marine ecosystems](#) and the other, links between [society and the sea](#). SCICOM and ACOM provide regular reports to the Council on progress with the science and advisory-related tasks that are delegated to them.

ACOM oversees around 35 advice drafting groups (ADG) which use the outputs from expert groups (working groups or workshops) to prepare draft advice for final approval by ACOM. Advice drafting groups are effectively subgroups of ACOM, with an annual work plan defined by ACOM and a chair appointed by ACOM. The advice drafting groups are managed on an annual cycle by ACOM, and membership may change from year to year. Expert group chairs are invited to attend relevant advice drafting groups. The advice generated by the advice drafting group is finalized and approved by ACOM.

ICES also works closely with Regional Coordination Groups (RCG) and the chairs of these groups will often interact with the chairs of ICES expert groups. The RCG are groups set up and managed by the European Commission to support the Data Collection Framework. These guidelines do not apply to the work of RCG.

All SCICOM and ACOM work is overseen by the principal decision and policy-making body of ICES: the Council. ICES Council consists of the President and two Delegates from each of ICES Member Countries. Delegates elect the President, First Vice-President, and five additional vice-presidents to form the Bureau, which is the Council’s executive committee. The Bureau is responsible for carrying out the Council’s decisions, preparing and convening Council meetings, formulating ICES budgets, appointing committee chairs and key Secretariat staff, and performing other tasks as assigned by the Council. The Bureau also acts as the operational link between Council and ICES committees.

A finance committee consisting of five Delegates from Council provides oversight on the Council's fiscal matters. Delegates also appoint a General Secretary, who serves as the Council's Chief Executive Officer and is charged with managing ICES Secretariat facilities and staff, finances, meetings, reports, publications, and communications. Council and Bureau may establish working groups directly to support their work.

### **Box 1. Summary of the names and functions of ICES groups**

#### **Expert groups**

Expert groups (EG) are groups of scientists who collaborate during scheduled meetings, and often intersessionally, to advance understanding of marine systems by tackling fundamental and applied scientific questions and developing analyses that underpin state-of-the-art advice on meeting conservation, management, and sustainability goals. The questions they address are defined by terms of reference that are reviewed and signed off by the science and advisory committees. Expert groups publish their work in the series "ICES Scientific Reports".

#### **Steering groups**

Steering groups (SG) address broad and enduring areas of science and advice and "parent" a number of expert groups. They are responsible for guiding and supporting expert groups and helping to ensure their work is effectively coordinated, conducted and reported.

#### **Operational groups**

These groups develop ICES capability in areas beyond the remit of expert groups. Currently ICES has three operational groups: Data and Information Group (DIG), Science Impact and Publication Group (SIPG) and Training Group (TG).

##### *Data and Information Group*

The Data and Information Group (DIG) is an operational group reporting to the Science Committee that advises on all aspects of data management, including data policy, data strategy, data quality, technical issues, and user-oriented guidance. Their work is closely coordinated with the ICES Data Centre and helps to ensure that expert groups have access to data and the support for data handling that is essential to their work.

##### *Science Impact and Publication Group*

The Science Impact and Publication Group (SIPG) is an operational group reporting to the Science Committee that coordinates and supports the publication and dissemination of research conducted under the auspices of ICES. The group is responsible for guiding, monitoring, and sharing ICES publication output and increasing the reach and impact of ICES publications.

##### *Training Group*

The Training Group (TG) is an operational group reporting to the Science Committee that develops the structure and content of ICES training programme and then guides and supports the provision of training.

**Box 1. Summary of the names and functions of ICES groups (continued)****Strategic initiatives**

Strategic initiatives (SI) report to the science committee and develop and co-ordinate cross-cutting science that impacts and interacts with the science of many expert groups. They also focus on building science collaborations outside ICES member countries.

**Science Committee**

The Science Committee (SCICOM) is the main scientific body in ICES and is ultimately responsible for implementing and monitoring the progress of the science plan with the support of ICES network. Through effective planning of the work of ICES groups the science committee strives to ensure there are effective working relationships between all parties contributing to implementation of the science plan. The science committee reports to ICES governing body, the Council. All ICES member countries are represented on the Science Committee.

**Advisory Committee**

The Advisory Committee (ACOM) is responsible for providing scientific advice to competent authorities in support of the sustainable management of marine resources and ecosystems throughout the North Atlantic Ocean and for guiding the development of science in support of advice. The Advisory Committee must access and evaluate the best available science to meet client needs for impartial evidence on the state and sustainable use of our seas and oceans. The Advisory Committee reports to ICES governing body, the Council. All ICES member countries are represented on the Advisory Committee.

**ICES Secretariat**

The secretariat provides secretarial, administrative, logistical, scientific, and data handling support to the preceding groups and ICES community in general. This facilitates effective planning of meetings, reporting and external communication.

### 3 Guidelines for expert groups

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ICES coordinates an annual cycle of planning, establishing, and running expert group work, including meetings and related activities. This section provides information on the establishment, work planning, and management of expert groups.

ICES maintains an introductory presentation for new expert group chairs, available [here](#). This provides a general introduction to ICES and highlights the most important points in these guidelines. The presentation can also be used by expert group chairs to introduce their new members to ICES.

All references to expert groups in these guidelines apply to both working groups and workshops, unless stated otherwise. There are differences in the membership requirements for working groups and workshops as detailed in Section 3.5.

#### 3.1 Establishing expert groups and planning their work (resolutions)

Resolutions allow ICES to maintain oversight and coordination of science and advisory work. Resolutions are developed by the expert group chairs working with the steering group chair and ICES Secretariat. A resolution, known as a category 2 resolution, is required to establish an expert group and plan expert group activity. This is because completion of the activity will rely on the support and funding of ICES Member Countries. The resolution describes the proposed work of the expert group as a series of terms of reference. Resolutions are also used for purposes other than founding or dissolving expert groups, including the authorisation of support for ICES publications and symposia (Section 3.3).

Category 2 resolutions are reviewed and adopted (approved) by SCICOM, ACOM, or both committees, on a resolutions forum hosted by ICES. The committee or committees responsible for reviewing and adopting a given resolution will depend on whether the resolution includes terms of reference that relate to science, the underpinnings of requested advice or both. If all terms of reference in a given resolution are 'advice' then sign-off is completed by ACOM. If all terms of reference in a resolution are science then sign-off is completed by SCICOM. If the terms of reference in a resolution are allocated to both 'science' and 'advice' then sign-off is completed by both ACOM and SCICOM. Once a resolution is approved, the activities of the expert group can begin.

As well as describing the terms of reference (ToR) for the expert group, category 2 resolutions define dates and venues of expert group meetings and the chairs of the expert group (see [Annexes 2, 3, and 4](#)). The resolution thus provides the information needed by Delegates to nominate suitable members for the expert group. For joint activities with other organizations, that take the form of joint working groups or workshops, details of a relevant contact person in the other organization are added to the resolution.

Resolutions can be developed and adopted throughout the year to address emerging needs, but most resolutions are reviewed and approved shortly after the ICES Annual Science Conference. Review and adoption of resolutions takes place on the (Share-Point-based) ICES Resolutions Forum. Draft resolutions are made available via Share-Point (see Section 3.6.5) in a timely manner to facilitate discussion and approval.

All draft resolutions are put forward by at least one steering group. The majority of resolutions originate from suggestions and draft resolutions formulated by expert groups and from the requirements of the advisory work plan. The development of the latter is overseen by ACOM and the terms of reference that go into the draft resolutions

for expert groups originate from client requests, including the [Administrative Agreements or Memorandum of Understanding](#) between clients and ICES, from ACOM, or from suggestions by expert groups.

The establishment of a new expert group is usually catalysed by discussions in SCICOM and/or ACOM as members become aware of emerging science or advisory needs relevant to ICES Member Countries that are not covered by existing expert groups. The establishment of groups may also be proposed from anywhere in the ICES community, to respond to emerging issues and scientific developments. To establish a new expert group, the relevant steering group chair will work with the SCICOM and ACOM chairs and a candidate chair(s) for the new expert group to define the initial set of ToR and to prepare a category 2 resolution. If the category 2 resolution is approved the expert group can begin its work.

### 3.1.1 Developing web material for Expert Groups

All chairs of expert groups will be asked by the ICES secretariat to provide a draft text describing their expert group and its work. This is reviewed, edited and presented on the relevant expert group page on ICES website.

Expert group texts of less than 200 words should clearly and simply describe the purpose of the group, the approaches taken by the group, the expected outcomes of their work and its implications.

Texts should be accessible to ICES website users and scientists in general and readers should not have to rely on specialist knowledge of the work conducted by the expert group to interpret the texts. Thus the texts should not include technical jargon or acronyms without explanation.

Texts should not require frequent updating (please do not include dates or meeting information as these are already made available in the resolution and the website text should not focus on one timed action or event). Texts should not state or imply that an expert group gives advice or an opinion on behalf of ICES.

To ensure that the texts for expert groups on the website are relatively consistent in style, all texts should include the following components:

1. Purpose: Beginning 'The [full name expert group] [acronym] conducts/ assesses .... (one sentence, maximum 40 words)
2. Approaches/ methods/ activities: Describing what the expert group does .... (one of two sentences, maximum 80 words combined)
3. Context/ implications: Placing the purpose of the expert group and the outputs generated in context (two sentences, maximum 80 words combined)

On the webpage, the component texts will be merged to provide one continuous paragraph.

#### Examples

1. The Working Group on Integrated Morphological and Molecular Taxonomy (WGIMT) develop and promotes new tools for species-level taxonomic analysis of the pelagic ecosystem.
2. They develop methods for species recognition and discrimination, focusing on identification of marine metazoan zooplankton, including cryptic species, and the determination of phylogenetic relationships between them. Further, the group seeks to assess

and predict how these characteristics affect food webs, trophic relationships and the transfers and cycles of nutrients, chemical elements, energy, and biological production.

3. Their work supports the analysis, recognition and understanding of patterns and changes in community structure, species diversity, species phenology and productivity.

1. The Working Group on Ecosystem Effects of Fishing Activities (WGECO) assess the effects of fishing on ecosystem components and attributes and the consequences for fisheries and the environment.

2. They develop models and indicators to understand and report on fishing effects and the state of the environment and to assess the ecosystem consequences of alternate management actions.

3. Their work improves our understanding of fisheries interactions with the environment and is used to underpin advice on the effects of fishing on the marine environment and the implementation of the ecosystem approach.

### **3.1.2 Role of expert groups in the provision of ICES advice**

Many expert groups conduct studies and analyses that provide the scientific basis for ICES advice. To create formal ICES advice, an advice drafting group prepares a draft advice based on the studies and analyses of the expert group/s. This draft advice is finalized and adopted by ACOM. Once adopted, the draft advice can be referred to as ICES advice (Box 2).

Given the existence of a formal process for generating ICES advice, expert groups cannot give ICES advice directly and do not have any mandate to do so. To emphasize the role of expert groups in relation to the production of ICES advice, every expert group report includes a statement to indicate that the expert group report “does not necessarily represent the views of the Council”. Thus none of the content in an expert group report is, or should be referred to, as ICES advice.

To avoid any misunderstandings about the relationship between the outputs of expert group reports and ICES advice, either on the part of expert group members, or on the part of those reading expert group reports, the terms of reference for an expert group should not be phrased in a way that states or implies that the expert group is giving advice or is responsible for giving advice. In the case of joint expert groups with other organizations the same considerations apply, and it is a requirement of ICES engagement in a joint expert group that any joint report from a group with a stated ICES affiliation should also include the statement, “The document is a report of an expert group under the auspices of the International Council for the Exploration of the Sea and does not necessarily represent the views of the Council.” This requirement applies when the report is published by ICES, jointly with a partner organization, or solely by the partner organization.

Scientists and group chairs in ICES will sometimes be approached by, or interact with, people working for organisations that request advice from ICES. It is important to note that if you engage with these people on topics related to the provision of ICES advice or data services that you inform the ACOM leadership (chair, vice-chair or head of ICES Advisory Services) and note that you cannot make any direct commitments to advise or provide advice on behalf of ICES.

ICES seeks to facilitate the uptake and translation of science into the advisory process. This is because a key criterion for ICES advice is that it should be based on the best available science. For expert group chairs and members who would like to see the science they are developing used in ICES advisory system, or consider that the science they have developed is already sufficiently mature to be used to support advice, Annex 9 provides guidance on how to proceed. The guidance is primarily for those expert groups that rarely receive advice-related terms of reference.

#### **Box 2. What is ICES advice?**

Advice can be broadly defined as “guidance, options, recommendations or assessments developed following a scientific method to address a specified question” but within ICES, the term “advice” is only applied when the advice has been formulated through ICES advisory processes (expert groups, advice drafting group, peer-review, and approval by the ACOM). ICES aims to produce advice based on the best available science, characterized by quality assurance, developed in a transparent process, unbiased, independent, and is recognized by all relevant parties as applicable to management. ICES provides advice on request to governmental and intergovernmental organisations from, or with links to, ICES Member Countries and not to non-governmental organizations or private companies, for example.

ICES also generates viewpoints. These are not developed in response to requests for advice but are used to develop and illustrate ICES capacity to provide scientific advice on new or emerging topics with relevance to the vision and mission of ICES. Topics to be addressed as viewpoints are defined by ACOM and SCICOM based on their own deliberations, proposals from the community, and availability of resources. Viewpoints are developed by an advice drafting group, based on background documents prepared by expert groups and peer reviewed. Viewpoints are finally signed off by ACOM if they meet the standards expected of ICES advice.

## **3.2 Management of expert groups**

### **3.2.1 Working groups and workshops**

Working groups focusing on science topics are usually established for a 3 year period, but groups focusing on advisory-related topics and the provision of data and other analyses to support the development of advice may meet for many years, reflecting the enduring needs for the advisory work they support.

In the case of the fixed-term working groups, terms of reference are set for the duration of their work (usually 3 years). During their tenure, working groups deliver specific activities and products as specified in their terms of reference (e.g. peer-reviewed publications, technical reports, coordinated datasets, model inputs, or advisory products). Reports or e-evaluations of progress are provided annually to update steering group chairs, SCICOM and ACOM on progress. At the end of the three years a final report is due. At their last meeting, all working groups are expected to review their work and submit a short self-evaluation within 10 days of the end of the meeting. At this point, these working groups are invited to request a new term, propose a new expert group (either a working group or perhaps a workshop), or propose that their working group

is dissolved. The steering group chairs help to guide working groups with this process, and table requests to SCICOM and ACOM on behalf of working groups.

For working groups that continue to meet over many years the terms of reference are reviewed and updated every year. After the annual resolution is approved, the working groups deliver specific activities and products specified in their terms of reference.

Workshops are established for a one-year period and the terms of reference apply to a single year. At the end of the workshop, a final report is due. Workshops may be arranged as a series of workshops developing a single topic, but each workshop requires a separate category 2 resolution.

Details of expert group reporting are provided in Section 3.7.

### 3.2.2 Preparing Terms of Reference (ToR)

It is important for scientific progress and impact, in ICES network and beyond, that the purpose and nature of work being progressed by the expert groups is visible and clear. It is also important for our network, and for the countries and projects resourcing ICES, that an effective coordinated work programme is developed with no gaps and inefficiencies. This is easiest to achieve when everyone in the network clearly understands the scope, scale, and impact of the work being done.

The Terms of Reference (ToR) of expert groups (as well as steering groups and strategic initiatives) provide an essential year-on-year description of ICES work programme. A “shop window” display of ICES work, they are widely shared when we advertise or report on work in the network.

For these reasons, ToR should have stand-alone meaning, with the scientific or advisory topic or subject clearly stated and action and outcome expressed with a verb.

It is recommended that all ToR:

- Can be understood when read in isolation;
- Are focused on a stated topic or subject;
- Include an action expressed with a verb;
- Indicate the purpose and expected outcome of the action.

The following provide some examples of recommended phrasings for ToR, but these are not exhaustive given the range of topics that expert groups address:

- A ToR leading to a review paper or review section in the report would read “Review and report on xxxx”;
- A ToR requesting the development of new methods and leading to a paper or a section in the report would read “Develop and report on methods to xxxx”;
- A ToR requiring an analysis to develop a new indicator and to make available code to generate this indicator would read “Develop an indicator to xxxx, report on the theoretical and empirical justification for this indicator and lodge commented code to generate the indicator on GitHub”.

Typically, each ToR should be 100–200 characters including spaces, with ToR exceeding 300 characters to be avoided. Loosely describing relationships between one ToR

and another should be avoided (e.g. avoid wordings like ‘Following on from this, we will xxxx’ or ‘Continue to develop this to xxxx’ ) and either the topic should be repeated or any cross-reference should be specific (e.g. Use the methods for xxxx generated in ToR ‘c’ to xxxx’)

Good examples of handling interrelated ToR would be:

- “Further develop, update and publish the guidelines on [repeat subject of previous ToR]”;
- “Evaluate and report on the effects of environmental variation on the robustness of methods developed to [repeat subject of previous ToR]”.

For tasks involving data collation, preparation, or preparation of guidelines, ICES encourages the subsequent recipient or holder of these data to be identified in the ToR.

For example:

- “Collate data to allow the analysis of xxxx, and make this available to xxxx via xxxx”

ToR must not state or imply that an expert group is providing ICES advice (Section 3.1). This is to avoid any confusion between ICES advice requested by a client (and processed through an advice drafting group with ACOM sign-off) and any material appearing in an expert group report.

Expert groups are also asked to provide “Supporting information” for their ToR within the resolution. The “Supporting information” is an important element of the resolution as it provides the information needed to help ACOM members, SCICOM members, and/or Delegates to reach an informed decision on the merits of a resolution.

The “Supporting information” should be written as a stand-alone text, to the extent possible, and should emphasize, as a minimum, the driver and rationale for the ToR, the purpose of the ToR, and the expected benefits and recipient once the science described in the ToR is complete. As a guide, the “Supporting information” for each ToR would be 50–100 words, with a word count exceeding 200 to be avoided.

The number of ToR listed in a resolution should be realistic and practical given the number of meetings, capacity for intersessional work and the impacts of any other planned activities of the expert group. Typically, the work of an expert group should be described with four to six ToR. Larger numbers of ToR require clear justification. The production of regular products (e.g. by assessment or survey groups) is a case where more ToR would be justified.

Providing clear and well-justified ToR is essential if ICES science and advice are to be developed, conducted, and reported in a coordinated way. For this reason, expert group chairs are encouraged to discuss the development of ToR with their steering group chair, SCICOM chair, ACOM chair or vice-chair, as well as other experienced expert group chairs and members of their expert groups.

To maintain oversight of the relationship between expert groups’ work and ICES Science Plan, the Secretariat will request that ToR are linked to coded sections of the science plan using [numeric codes](#) that the Secretariat provide.

### 3.2.3 Prioritizing Terms of Reference

The number and complexity of ToR addressed in expert groups will need to be balanced with the human and time resources available. Achieving an appropriate balance will help to generate higher quality science and advice and avoid groups struggling to complete their work. Expert groups should be ambitious but realistic as they develop their resolutions.

For expert groups supporting requests for advice from ICES clients, the ToR to support these requests should always receive the highest priority. The chair should prioritize the ToR linked to advisory requests in consultation with the Fisheries Resources Steering Group chair, other members of the ACOM leadership and the Secretariat. For expert groups not routinely receiving advisory requests, the relevant steering group chair, ACOM leadership or the Secretariat should give as much prior warning of the request as possible and discuss expectations with the chair who, in turn, should discuss these expectations with expert group members. For all expert groups handling advice, consultation with the ACOM leadership and the Secretariat is essential to ensure the request from the client is fully understood before the resolution is approved and the expert group starts work.

For expert groups addressing ToR that lead to science outputs but not to advice, prioritization of ToR should be based on the need to address the science priorities identified in ICES [Strategic Plan](#) and [Science Plan](#). When prioritizing ToR, the expert group chair should interact closely with the steering group chair to ensure that the activities of different expert groups are complementary and not replicative.

As they develop ToR, expert group chairs should work with steering group chairs to identify any additional expertise they need to meet their ToR, and invite the relevant scientists to participate in the expert group, subject to the protocols outlined in Section 3.5.

To manage ICES work efficiently, expert groups should not pass proposals for ToR to other expert groups directly but highlight them for steering group chairs or propose them through the recommendations process (Section 3.8).

## 3.3 Resolution categories

Category 2 resolutions are used to define the ToR, dates and venue for an expert group meeting or establishment of a new expert group (see also Section 3.1. and [annexes 2, 3 and 4](#)).

Resolutions must also be developed to seek approval for:

- **Publication of material at ICES expense.** ICES *Cooperative Research Report* (CRR) or ICES *Techniques in Marine Environmental Sciences* (TIMES) series (category 1 resolution; see [Annex 1](#));
- **Formation and work planning of expert groups, steering groups, strategic initiatives and operational groups** (category 2 resolution; see [annexes 2, 3 and 4](#));
- **Symposia.** Symposia to be organized under the auspices of ICES, or to be co-sponsored by ICES (category 3 resolution; see [Annex 5](#));
- **Secretariat support.** Resolutions involving new Secretariat action/extraordinary funding (category 4 resolution; see [Annex 6](#)).

Category 1 and 3 resolutions are reviewed and approved by SCICOM; category 2 resolutions by ACOM and/or SCICOM; and category 4 resolutions by Council.

### 3.3.1 Publication of material at ICES expense (category 1)

Publication by ICES of material produced by expert groups or any other groups must be requested with a resolution. Please note that identifying a desire to publish an ICES report in the ToR of an expert group resolution is not enough to ensure that ICES will publish an output; a separate draft category 1 resolution must be submitted and approved, so that ICES can consider and allocate resources.

A category 1 resolution is required for publication in ICES *Cooperative Research Report* series or ICES *Techniques in Marine Environmental Sciences* series. The draft resolution must include the names of editors and other details that may have resource implications, for example number of pages, and provision of accompanying files or data.

An example of a draft resolution for a publication in ICES *Cooperative Research Report* series is provided in [Annex 1](#).

The process for handling resolutions for publications is summarized [here](#).

### 3.3.2 Formation and work planning of expert groups, steering groups, strategic initiatives and operational groups (category 2)

Category 2 resolutions are used to form and plan the work of expert groups, steering groups, strategic initiatives, and operational groups. Resolutions are completed and approved annually by SCICOM, ACOM or SCICOM and ACOM together.

The ToR for the work of steering groups comprise shared ToR that define their common objectives as well as ToR specific to each steering group. Approaches for defining ToR and providing supporting information follow those for expert groups.

### 3.3.3 Symposia to be organized under the auspices of ICES, or co-sponsored by ICES (category 3)

Requests for ICES symposium sponsorship may originate from any part of ICES network or may be proposals from other organizations (e.g. PICES, IOC, FAO, EC, EEA, HELCOM, NASCO, NEAFC, or OSPAR). Requests from research institutes that are not in an ICES Member Country may also be considered. Written requests should be submitted through members of SCICOM and the Head of Science Support. SCICOM reviews symposium resolutions on an annual basis at the March SCICOM meeting. Requests must be made sufficiently far in advance that at least one year elapses between any SCICOM decision and the opening of the symposium.

Symposium sponsorship by ICES implies:

- endorsement by ICES of the objectives and scientific excellence of the planned symposium;

and may imply, if stated, the following:

- financial assistance;
- an opportunity to use ICES *Journal of Marine Science* as an outlet for the publication of the proceedings.

The following criteria/guidelines apply:

- The topic should match ICES science or advisory priorities;
- High quality scientific outcomes are expected;
- The scientific credibility of the conveners is well established;

- There is sufficient time and space before the event to accommodate ICES, especially to include ICES scientists in the scientific steering committee;
- A sound financial basis is expected;
- ICES sponsorship is of mutual importance for ICES and for the requesting partner.

The draft resolution requesting the Symposium (see [Annex 5](#)), should include a draft budget.

#### **3.3.4 Activities requiring extraordinary funding (category 4)**

There may be activities outside the scope of expert groups and symposia that can only be carried out if funding beyond the contributions made by member countries is available. In such cases, reallocation of ICES residual or other funds may be proposed. Examples include support to publish unexpectedly large numbers of CRR or costs for redevelopment of ICES website.

### **3.4 Role of expert group chairs**

Expert group chairs play a central role in generating ICES science and the basis for advice, engaging the scientists in ICES work, and ensuring outputs from expert groups are timely and clearly presented. Expert group chairs should be appointed based on merit, leadership ability, and excellence in the management and conduct of scientific work.

Expert group chairs also play an essential role in highlighting new areas of science, new techniques, and ensuring ICES science and advice is responsive to the needs of clients and the marine science community. Delegates from ICES member and affiliate countries are responsible for ensuring that individuals accepting the roles of expert group chairs will be able to meet the time and financial commitments required to carry out the responsibilities of the role.

In some cases, expert groups have more than one chair. All the following references to chairs also apply when two or more chairs take responsibility for guiding the expert group. If there are two or more chairs it is important that they plan the division of responsibilities in a way that ensures that all the tasks needed to ensure the functioning of the expert group are completed.

The main roles of expert group chairs are to:

- Engage with the steering group chair, SCICOM chair and/ or ACOM leadership and ICES Secretariat to formulate, prioritize and prepare ToR and resolutions and to ensure that expert group ToR and intended expert group outputs support and meet the science objectives (as articulated in the science plan) and advisory needs of ICES.
- Plan and chair the work of the expert group in accordance with the agreed ToR. This involves planning, announcing and chairing of expert group meeting(s) and the preparation of an agenda and work schedule in consultation with members.
- Ensure that ICES Code of Conduct (Section 4) and the requirements for membership of expert groups (Section 3.5) are understood and followed by the chair and expert group members.

- Identify shortfalls in skills and knowledge needed to meet the ToR of the expert group and to work with the network including Delegates to rectify these shortfalls.
- Encourage working practices in the expert group which ensure science and analyses generated by the expert group are receiving adequate quality control consistent with scientific norms.
- Identify gaps and overlaps in the work of expert group, and work with members to propose consolidation or rationalization and increase efficiency of working.
- Oversee and contribute to the preparation of the expert group report and ensure that it is submitted to the secretariat on time and according to the schedule outlined in the resolution.
- Define the lists of editors and authors to be included on the report (Section 3.7.2)
- Work with the Secretariat to finalize formatting of expert group reports and respond promptly to secretariat requests for input.
- For fixed-term working groups to provide interim and final evaluations of the expert group to the relevant steering group chair and secretariat within 10 days of meetings
- Report details of peer-review publications produced by the expert group to the ICES Editor and report science highlights to the Communications Officer and relevant steering group chair (Guidance: see Annex 7).
- Ensure peer reviewed and other publications facilitated by the expert group include an acknowledgement of ICES role (Guidance: see Annex 8)
- Review deliverables from the expert group and provide feedback to members on ways to develop and improve their work.
- Provide feedback to steering group chairs and/or ACOM and/or SCICOM leadership on emerging research priorities and implementation of ICES strategy.
- Represent the expert group at meetings of the relevant steering group and at other meetings for expert group chairs (e.g. WGCHAIRS).
- Identify and provide any important [recommendations](#) that influence work in other parts of the network (Section 3.8).
- Promptly share any concerns about the work or functioning of the expert group with the relevant steering group chair and ACOM and/or SCICOM leadership to facilitate quick resolution.

Chairs of expert groups that provide input to advice should also be available to attend relevant advice drafting groups.

### 3.5 Expert group membership

The Secretariat maintains records of expert group membership and provides lists of members to each expert group chair. The Secretariat will keep the chair updated on any change in membership notified by Delegates. This membership list is normally

issued in December/January, shortly after membership listings have been received from Delegates.

### 3.5.1 Workshops

A workshop is effectively a public meeting. Participants must be identified with the Secretariat prior to the workshop. Workshop participation is at national expense with the exception of workshops supporting requests for advice and for which the requester of the advice (client) has agreed to cover the costs of the workshop.

Since workshops are effectively public meetings, there are very rare occasions when they will be oversubscribed in relation to the physical size of the room allocated for the workshop. If a workshop is oversubscribed, the ACOM or SCICOM leadership and Secretariat, with the workshop chairs, reserve the right to select the experts who will attend the workshop in-person. To allow experts to know that they will be attending a workshop before making travel arrangements, the names of selected participants at the in-person meeting should be announced three weeks before the workshop at the very latest. If the workshop is oversubscribed or expected to be oversubscribed, the Secretariat will inform participants as soon as they are aware, but it is always advised that travel is not booked before in-person attendance is confirmed. The selection of experts to attend the in-person workshop should be based on the relevance of their expertise in relation to the stated workshop objectives and should seek to achieve national and regional balance among member countries. Persons who have registered to attend the workshop, but are not selected to attend, should inform ICES Secretariat if they wish to observe the workshop remotely (e.g. via WebEx). Workshop chairs will endeavour to allow remote attendees to input to the workshop, to the extent that software, facilities and the workshop schedule allow.

### 3.5.2 Working Groups

Working group participation is more formalized than workshop participation and is at national expense. Membership of working groups is decided in the following ways:

- Each Member Country may appoint “experts and advisers” as it may determine to assist in the work of the Council (Convention Article 6) ICES CM 2011 Del-06.5). Members appointed by national Delegates are referred to as members.

Chairs of those working groups that are not classified as predominantly contributing to the provision of advice (these are expert groups that were directly managed by ACOM prior to 1 January 2019, the Secretariat maintains a list, see Annex 10) may appoint experts who can contribute to the work of the group. Persons appointed by the chair are referred to as chair-invited members. Reports providing the latest information on chair-invited experts can be accessed by ICES Delegates [here](#) and via the Delegates Dashboard.

- Chairs of those working groups that are classified as predominantly contributing to the provision of advice (these are expert groups that were directly managed by ACOM prior to 1 January 2019, the Secretariat maintains a list, see Annex 10) can appoint experts in consultation with the national Delegates of the expert’s country. In so agreeing, Council recognizes that (a) no obligation would be placed on ICES or on national Delegates to fund such participation, and (b) if a chair wishes to appoint an expert from a non-member country, a Delegate of an ICES member country could sponsor that expert. Nominations by chairs of experts from outside ICES Member

Countries or from international organizations should be agreed with the Secretariat ([ICES CM 2013 Del-11.3](#)). Persons appointed by the chair are referred to as chair-invited members. These chair-invited members will serve for one meeting (and be associated with the working group for the calendar year that includes the meeting)

- For fixed-term working groups, national nominations and chair-invited membership will continue for the duration of the current term as defined in the resolution (usually 3 years).
- Employees of ICES Member Countries' government agencies that apply ICES advice may attend ICES working groups as observers. Employees of a client may attend, as an observer, ICES working groups addressing issues of relevance to the ICES response to requests from the client. In special cases, observers carrying out research into fisheries management and ICES processes may apply to the ACOM chair to observe individual working groups that were directly managed by ACOM prior to 1 January 2019 (the ICES Secretariat maintains a list, see Annex 10). The decision of the ACOM chair must then be relayed to ACOM and Council. Any objection raised by ACOM or Council will immediately invalidate the observer status of the researcher. No other observers are allowed in working groups that are classified as predominantly contributing to the provision of advice (Annex 10) ([ICES CM 2013 Del-11.3](#)).
- Chairs of those working groups that are not classified as predominantly contributing to the provision of advice (any groups not listed in Annex 10) are generally open to observers. The decision to accept an observer at is made by the chair(s) of the expert group and the chair of SCICOM in consultation with the secretariat.
- Guidelines for participation and conduct of observers of the advisory process are outlined on [ICES website](#).

### 3.5.3 Appointment of chair

Chairs of expert groups are identified in the resolution for the expert group and are therefore appointed by SCICOM and/or ACOM as part of the approval of the resolution for the expert group.

An expert group can propose its own chair by including this recommendation in the draft resolution. SCICOM and/or ACOM will usually respect expert group recommendations.

The tenure of expert group chairs should be reviewed by the expert group every three years. In no circumstances may the tenure of a chair exceed six years. The chair must be a member of the expert group. If a chair-invited member is recommended as chair of an expert group, that person must be advised to seek formal nomination to the group by the relevant national Delegate. Expert group chairs should be appointed based on merit, leadership ability, and scientific excellence.

Agreement by individuals to accept the role of expert group chair implies an investment of time on the part of the individual to carry out the duties of the chair, and that the individual can access funds to cover travel and subsistence to attend expert group meeting. Chairs should also aim to participate in the annual meeting of chairs (WGCHAIRS: an annual meeting where chairs of the expert groups meet to discuss and resolve issues of common interest and to plan and coordinate their work). Dele-

gates from ICES member and affiliate countries are responsible for ensuring that individuals accepting the role of expert group chair can meet time and financial commitments required to carry out the responsibilities of the position.

If a chair is to be appointed from a non-member country, the chair must demonstrate that he/she can secure the funding and time to fulfil this commitment. The appointment of a chair from a non-member country should be accompanied by the appointment of a chair from a member country. Delegates from ICES member and affiliate countries are responsible for ensuring that people accepting the role of chair have the necessary funding and time to fulfil this role.

#### **3.5.4 Unresponsive chairs**

Very occasionally, an appointed expert group chair may stop responding to expert group related correspondence from the Secretariat, steering group chairs, ACOM or SCICOM leadership, or expert group members.

If a chair becomes unresponsive, this must be addressed promptly to ensure continued functioning of the expert group.

If the unresponsive chair is identified by a person not already working in ICES Secretariat (e.g. by a steering group chair, expert group member) then the Secretariat should be informed immediately and they will work with the steering group chair and all other relevant parties to take actions to resolve the situation.

### **3.6 Expert group meetings**

The main work by an expert group is usually conducted at the meetings planned and approved in the resolution. Effective planning of each meeting helps to ensure the work described in the ToR is completed and increases the engagement of expert group members. Some expert groups will also conduct significant work outside the meeting cycle, especially preparation of data and writing of papers, and expert group chairs are also encouraged to plan this well in advance to ensure that members are available and can commit the necessary time to address the ToR.

#### **3.6.1 Before the meeting**

The Secretariat will provide a copy of the resolution covering the meeting, as well as other information to help the chair to plan and run the meeting. This information will identify a Secretariat contact that will support the meeting (a “supporting officer”). If any changes to a resolution are required (such as changes in dates and venue for the meeting) a request to make the change must be addressed to the supporting officer and must be accompanied by a clear explanation of the rationale for the change. The request should be made well in advance of any planned meeting, recognizing that expert group members may book travel and accommodation several weeks or months in advance. An ICES calendar listing the dates for all expert group meetings is available on [ICES website](#).

The chair should send an email to all members of the expert group well in advance of the meeting, and copied to the supporting officer, to inform members about:

- the meeting date and venue
- Terms of Reference
- agenda including start time

- work schedule and assignments/meeting timetable
- instructions/requests for information and data
- preliminary analyses to be assembled and brought to the meeting
- the expectation that members can follow the ICES Code of Conduct
- any other relevant information, including ICES Privacy Policy

The email should be sent as soon as possible after the chair has received a copy of the adopted resolution. This email may be accompanied by any special guidance or instructions on the work of the expert group from the chair of the parent steering group or ACOM leadership.

Stock assessment expert groups should prepare, process, and summarize as many data as possible before the expert group meeting to allow meeting time to be focused on analyses, discussion, and report preparation. Draft assessments and possible catch forecasts for the stock concerned should be ready before the meeting begins to allow a proper discussion and audit of the work. To facilitate this, a stock coordinator and a stock assessor are appointed for each stock and should ensure that the preparatory work is done before the expert group meeting. The stock coordinator oversees the collation of all available data and facilitates a quality assured availability of data to the stock assessor. The stock assessor is the main person responsible for running the stock assessment, production of the diagnostics and outputs for the expert group to evaluate. During the expert group meeting, the stock coordinator leads the coordination of the process from assessment to advice drafting for the particular stock, in collaboration with the expert group chair. If suitable facilities are available at the meeting venue then remote participation of members by web-conferencing is encouraged. The chair of the expert group should inform the supporting officer if remote attendance is planned.

Formal contacts with other international and intergovernmental organizations with regard to the activities of an expert group must first be sanctioned by ICES General Secretary. Applications for funding based on work conducted by ICES, or co-operative ICES activities, should not be directed to funding agencies before seeking the advice of the General Secretary.

When scientists register for an expert group, ICES will collect personal data from these people, and also from nominating delegates in the case of appointed members. These data generally include the participant's name, contact information and employer. Personal information collected is used for administrative purposes and retrospective analyses of group attendance by ICES.

Handling of these personal data is covered by the ICES [Privacy Statement](#), which states that by participating in an ICES meeting a scientist agrees that ICES may use the provided personal information to:

- contact you – either in response to a query or with correspondences, questionnaires, confirmations, and alerts pertaining to your participation
- coordinate your meeting participation
- undertake statistical analysis, which includes sharing your participation history with ICES member countries
- create a meeting participants list (including your name, email, institution, and country) which will be shared with meeting participants and may be published publicly online in the meeting report

### 3.6.2 During the meeting

Chairs should ensure that the workload during a meeting is appropriately and equitably distributed among the meeting participants, and that sufficient time is allocated for planning, overseeing and reviewing the work of members, organizing plenary discussions, summarizing and drawing conclusions.

At the beginning of each meeting, the chairs should draw attention to the ICES Code of Conduct (Section 4) and ask members to state immediately if they have any Conflicts of Interest that prevent them from acting with scientific independence, integrity, and impartiality, and second, if there is any other reason they cannot abide by the Code of Conduct. Chairs should also note that the Code of Conduct covers their own role at the meeting. Practical guidance on highlighting the main requirements of the Code of Conduct is also provided in Section 4. Chairs should also agree with meeting participants their expectations about what may or may not be shared externally during the meeting (e.g. via email and/or social media). Any communication with the press should always be coordinated through ICES Communications Team ([communications@ices.dk](mailto:communications@ices.dk)). ICES encourages openness and transparency in the scientific process. However, in some cases, confidentiality must be respected and results will be embargoed until formally reviewed and published on ICES website.

For meetings at ICES Headquarters, an instruction leaflet on how to use the computer system, details on how to connect your laptop to the secretariat's computer network, and general facilities information will be provided on arrival. Information about the Secretariat staff responsible for your meeting will also be provided at this time. Some or all of these staff may be present at your opening session to introduce themselves and to explain procedures. The expert group chair should inform all expert group members that personal folders on the SharePoint site, as well as the version history of all documents, may be deleted when the report of the meeting has been finalized and that personal folders on the SharePoint site should not be regarded as a permanent repository for working documents.

All participants are expected to share responsibility for the contents of the expert group report. Ideally, this means that the full draft report should be adopted in a plenary session before the end of the meeting. As a minimum all text that may be contentious within the group and/or will be an essential input to an advice drafting group should be reviewed in a plenary session and adopted before the end of the meeting.

For fixed-term working groups, time should be allocated to discuss the content of, and ideally to complete, the short interim e-evaluation or final evaluation for the working group. If a final evaluation includes a recommendation for the continuation of the same or a closely-related follow-on group then it is also recommended to draft a resolution at the meeting while members are present.

### 3.6.3 Decision-making in expert groups

ICES expert groups are not bound by specific rules describing their configuration, including numbers of participants. They are thus open for participation to any number of representatives from a specific group, organization, or ICES member country. The understanding is that expert groups will base their work on evidence and argument to reach consensus. In this context consensus is a fuzzy concept, the Merriam-Webster and Oxford dictionaries define it as "general agreement". The interpretation commonly used in this context is that consensus consists of accepting the conclusions even if they do not entirely reflect everyone's views. The chair of the expert group has been delegated by Council to be in charge of the process of achieving consensus and is ultimately

responsible for bringing together conclusions of the meeting to be expressed in the report.

The process for arriving at meeting conclusions should be hierarchical. Each subsequent step in the hierarchy should only be considered if every attempt at completing the previous step has been exhausted

- 1) The expert group should develop consensus text with agreed conclusions.
- 2) If consensus cannot be reached, the expert group report should present the different opinions regarding specific issues with supporting arguments, pros and cons. In the case of ToR linked to requests for advice, this text should convey transparently to the advice drafting group the range of opinions and the rationale used to support them.
- 3) As a last resort, in the very unusual situation where an expert group cannot follow step 2, the expert group chair should decide the text to be included in the report. In addition, those who disagree with the text decided by the expert group chair may prepare a text succinctly stating the substance of the disagreement. This text should be referenced in the appropriate section of the expert group report and included as an annex.

Ideally any contentious issues should be brought up and resolved during the meeting and not afterwards. However, if a contentious issue is raised after the meeting, but before the report is finalized, then the process for resolution should follow steps 1–3 above. If steps 2 and 3 are reached then the expert group chair is also encouraged to discuss options for resolving the concerns of the expert group with the steering group chair and/or ACOM chair and/or SCICOM chair depending on the focus and significance of the issue to be resolved.

#### **3.6.4 Meetings by correspondence**

In the case of meetings by correspondence, the ToR are fulfilled without any physical meeting. Meetings by correspondence normally place a much greater burden on the chair who is responsible for encouraging and collating input from the expert group. Ongoing advances in communications technologies have significantly facilitated the way groups may interact “by correspondence”. Holding meetings using these technologies, such as web conferencing (WebEx or Skype for Business) is encouraged. Chairs are welcome to seek advice on running meetings by correspondence from the supporting officer. Processes for planning the remote meeting(s), decision-making and report production should follow the guidance above.

#### **3.6.5 Online tools**

Several online tools are available to support and organize the work of expert groups.

##### **3.6.5.1 SharePoint**

A SharePoint site is offered to all expert groups to provide a tool for sharing information and documents. SharePoint is a content management system with integrated search functionality that allows users to work in a web-based collaborative environment. Members of the expert group will receive a username and password for the site. Forgotten passwords can be reset on ICES [website](#).

The expert group chair should be aware, and inform all expert group members, that personal folders on the SharePoint site and the version history of all documents are

usually deleted when the report of the meeting has been finalized and should not be treated as permanent repositories.

#### **3.6.5.2 WebEx and Skype for Business**

ICES uses WebEx or Skype for Business as a PC-based web conferencing facility. No special software is needed to use these tools, only an Internet (or phone) connection.

#### **3.6.5.3 GitHub**

GitHub is a convenient website that expert groups can use to store analytical scripts. It is an open system that tracks changes and invites collaboration. Documents, spreadsheets, and larger data files are best stored on the SharePoint, but GitHub is ideal for scripts and source code that the expert group uses in their analysis. Expert group sites are listed [here](#). Chairs should send an email to [github@ices.dk](mailto:github@ices.dk) to create a new site. ICES GitHub guidelines can be found [here](#). Expert group chairs may recommend a certain GitHub workflow for that group.

#### **3.6.5.4 Transparent Assessment Framework (TAF)**

TAF ([taf.ices.dk](http://taf.ices.dk)) makes ICES stock assessments open and reproducible. Professional officers in ICES Secretariat will assist stock assessors to write their assessments as a series of R scripts that run on TAF. Stock assessment scripts are gradually being migrated from SharePoint to TAF. Chairs of stock assessment expert groups will be contacted by the Secretariat to help coordinate the migration of stock assessments into TAF. Expert group chairs are encouraged to learn enough about TAF to answer questions that experts in their group will have.

### **3.7 Reporting**

#### **3.7.1 General**

All expert group reports should be as concise as possible, while at the same time providing accurate and complete descriptions of data, assumptions made, methods and analytical procedures used, inputs to relevant analyses, results, conclusions, and recommendations.

Expert groups meeting since 1 January 2019 have published their reports in a series “ICES Scientific Reports” with ISSN, DOI and a specified citation format. Reports in this series must include significant science and analytical content and not just descriptions of expert group process. For this reason, fixed-term working groups have the option to undertake an interim e-evaluation (not published as part of the report series), rather than to publish a report, if they do not have science content to publish in the initial years of work. However, all fixed-term working groups must publish their final report in “ICES Scientific Reports” series. Note that any fixed-term working group addressing an advice-related ToR in any interim year must publish a report including, at least, the output linked to this ToR (as this will form the background to the advice).

The interim e-evaluation is completed by fixed-term working groups in interim years, whether or not a report is also published. A final e-evaluation is also required at the end of the term of any fixed-term working group as this is used to assess whether the group is dissolved or continued.

Expert group chairs should aim to reserve at least 1–2 days shortly after a meeting to finalize the expert group report and e-evaluation. When expert groups meet at ICES

Headquarters, the chair is encouraged to stay for at least 1–2 days immediately after the expert group meeting to finalize the expert group report.

A very small number of expert groups in the ICES system undertake activities other than science (e.g. WGCHAIRS focuses on supporting expert groups chairs to manage their groups and does not undertake science and WGDIAAD co-ordinates work on diadromous fishes to support the Fisheries Resources Steering Group). These groups do not use the “ICES Scientific Reports” template and submit a report using the template for business meetings. Supporting officers will let you know when this business template should be used.

All expert group reports should be uploaded to SharePoint (see Section 3.6.5) or sent electronically to the Secretariat. The deadline for submitting the report is stated in the resolution. If there are any delays in report writing that could mean the deadline will not be met, then the supporting officer and relevant steering group chair should be informed as soon as possible to help resolve this delay.

All working papers, data and work sheets, computer code and output, and any other material used, considered, and/or produced by a group during its meeting and deemed necessary for future use or reference should be deposited on the relevant ICES SharePoint (see Section 3.6.5) site. Such documents must not be deposited in personal folders.

The Secretariat will inform the expert group chair and all nominated group members, as well as the parent and any reference committees, when the expert group report is published. The Secretariat also circulates a copy of the executive summary of the report at this time.

### **3.7.2 Expert group report template**

ICES Secretariat will provide the expert group chair with the report template and guidelines on how they are used. This information will also be available on SharePoint. The template encourages a uniform design and structure of ICES expert group reports in the “ICES Scientific Reports” series.

Responsibility for listing editorship and authorship of expert group reports will rest with expert group chairs. But unless specific requests regarding the sequencing of author names are agreed by the expert group and then passed to the ICES Secretariat by the expert group chairs the following (default) arrangements apply:

- Chair(s) are named as editors and are responsible for editing the report
- Expert group members are named as authors if they participate in meeting(s) of the expert group leading to the report and/ or make a contribution to background analyses or review in person or remotely and/ or are responsible for contributing to the report.
- All authors are assumed to agree to the content of the report (refer to “Guidelines for ICES groups” for the steps to take if this is not the case)
- Sequencing of editor list is alphabetical by surname
- Sequencing of author list is alphabetical by surname

### **3.7.3 Writing the report summary**

Collectively, ICES expert groups produce many valuable reports each year. Some of these are very long (up to 1000 pp.). As much of the target audience will not have time

to read the whole of each document, it is *imperative* that reports start with a clear, succinct, and factual executive summary that presents the key issues addressed in the main report. Each expert group should therefore write an executive summary to be included at the very start of each expert group report.

Executive summaries should not usually exceed 350 words, unless the report is very complicated and lengthy, when up to 500 words (1 page) is acceptable.

Executive summaries *should* include:

- the objectives of the expert group (in brief);
- the main messages from the work conducted:
  - what was achieved;
  - progress towards overall objectives;
  - implications of the findings;
  - limitations of the findings, especially uncertainties;
  - future perspectives resulting from the findings;
- key recommendations for future work and, where necessary, the time frame for action or decision and the groups to be engaged;
- an emphasis on key results and science highlights.

Executive summaries *should not* include:

- details of the times and dates and attendance at meetings;
- vague statements;
- self-congratulation;
- point-form lists without adequate context;
- full terms of reference pasted in from the resolution;
- chronological descriptions of the action being summarized;
- jargon and acronyms (write for the general reader and use full titles and wording);
- lists of the complete membership of the expert group or the name of the rapporteur;
- lengthy descriptions of methodology;
- lengthy background introductions to the meeting.

If there are science highlights arising from the work of any expert group, then these should be highlighted in the executive summary and brought to the attention of ICES Communications and the chair of the parent steering group. Guidelines for developing and submitting science highlights are provided in Annex 7.

#### **3.7.4 Dissemination of expert group reports**

Following completion of the expert group report, the Secretariat informs the expert group that the report is published on the [ICES website](#) and groups are encouraged to share the link with interested parties.

Since expert groups do not and may not provide ICES advice on behalf of the Council (Section 3.1.3), the information, results of analyses, or conclusions contained in the reports of expert groups supporting advice requests cannot be assumed to represent the final advice prepared by the advice drafting group and signed off as advice by ACOM.

Perspectives on other topics addressed by expert groups are not ICES advice and should only be described as outputs of the expert groups. In drafting executive summaries in particular, care should be taken to use language that does not to give the impression that the expert group report could be treated as advice.

As described in Section 3.1.3 the status of expert group reports is explained in the following statement that is always included in the report “The document is a report of an expert group under the auspices of the International Council for the Exploration of the Sea and does not necessarily represent the views of the Council.”

### **3.7.5 Archiving and documentation of work referred to in ICES advice or other official ICES documents, and which is not included in expert group reports or otherwise published.**

There may be cases where documentation, which is not part of an expert group report or otherwise published, needs to be used as the basis for advice or referred to in official ICES documents. In the interest of transparency such documentation must be made publicly available.

There are two categories of documentation to consider: 1) work done in the expert group but not included in the report as agreed by the expert group; 2) work done outside expert groups and not published.

In relation to the first category, a description of the work should be published as an annex to the relevant expert group report.

In relation to the second category, the work should be published as an [ad-hoc report](#). These reports will be authored.

If the author of the work does not want it published as described above, because it is to be published in another way, then the work cannot be used, or referred to, before it is published.

## **3.8 Recommendations**

Recommendations are requested from expert groups to ensure that other expert groups, steering group chairs, ICES Secretariat, ICES Data Centre, ACOM, and SCICOM are aware of information from the expert group that influences work in other parts of the network. Expert group chairs should upload recommendations [online](#) using the recommendations database.

Recommendations and their implications should be carefully considered by the expert group before submission and should relate to issues that the ICES network has the capacity to address (i.e. consider if there is a mechanism by which the network can take action). Expert groups should list no more than five recommendations that they deem to be of high priority. Each year, ICES Secretariat extracts all recommendations for systematic review, by the ACOM and SCICOM chairs and the Secretariat in the first instance. Please apply the following guidelines when developing and writing recommendations:

- Recommendations should have stand-alone meaning as they will be read in isolation during review
- Recommendations should always include a clear action that other expert groups, ICES Secretariat, ICES Data Centre, ACOM, or SCICOM can consider. For example:

- To establish an expert group (these also require draft resolutions, which must be submitted as a separate document to the Secretariat via the relevant Steering Group chair);
  - To propose a ToR and/ or action for another ICES expert group (draft the ToR and/ or action and name the receiving expert group and state whether they have been consulted and the outcome- as recommendations will only be progressed when the submitter states that such consultation has taken place);
  - To propose generic issues to be addressed by e.g. ACOM or SCICOM.
- Spell out any acronyms used.
  - Make it clear that it is the expert group (not ICES) presenting the recommendation.

Recommendations can be addressed to one or more of the following: other expert groups, ICES Secretariat, ICES Data Centre, ACOM, or SCICOM (to include material for the attention of operational groups as well) or an RCG (any recommendation directed to an RCG will simply be passed to PGDATA). Recommendations can also be addressed specifically to the North Atlantic Salmon Conservation Organization (NASCO), because there is a specific request from NASCO to receive recommendations. Recommendations not clearly addressed to one or more of these bodies are not processed.

Recommendations for other expert groups must be discussed with the chair of the receiving expert group before they are added to the database, both to assess the feasibility of following the recommendation and to avoid surprises at the time of review. It can be indicated in the recommendations database whether this discussion has taken place and the recommendation text should indicate what the outcome of the discussion was. If there is no indication that the necessary discussion has taken place then the recommendation will not be progressed.

If an expert group identifies another issue of high importance or urgency that cannot be addressed through the recommendations process then it should be raised directly with the relevant steering group chair.

Recommendations are processed annually by a group including the secretariat, ACOM chair and SCICOM chair. Those recommendations that lead to actions are redirected to the appropriate group by the Secretariat.

Please do not:

- Address recommendations to “ICES” or “ICES Member Countries”;
- Include recommendations in the database that are directed to the originating expert group. These recommendations are an internal matter for the expert group and can be proposed as ToR in the draft resolution for the following year.
- Include recommendations giving advice.
- Include recommendations for other expert groups that have not been discussed, in advance, with those groups.
- Request funding or ask that other funding agencies should support expert group work, such recommendations are not processed.

## 4 ICES Code of Conduct and Conflicts of Interest

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### 4.1 Background

Given ICES role as a knowledge provider, it is essential that experts contributing to ICES science and advice maintain scientific independence, integrity, and impartiality. It is also essential that their behaviours and actions minimize any risk of actual, potential or perceived Conflicts of Interest (CoI). A CoI arises when there is an actual, potential or perceived possibility that a scientist or adviser makes a contribution to ICES work that is not based on a systematic scientific review of the available information and evidence. An actual, potential, or perceived CoI arises because the decision or outcome of a process may be influenced, or is perceived to be influenced, by self-interest, professional-interest, external pressures and other factors.

ICES has the ambition to be an inclusive organization. This implies that experts are primarily judged by their expertise, behaviours, and contributions, not their affiliations. Experts with a potential or perceived CoI can be included, provided they follow the Code of Conduct (below) and show through their behaviours and contributions to be fully capable of managing the CoI.

To ensure credibility, salience, legitimacy, transparency, and accountability in ICES work, to avoid CoI, and to safeguard the reputation of ICES as an impartial knowledge provider, all contributors to ICES work are required to abide by ICES Code of Conduct below.

The ICES Code of Conduct provides guidance on identifying and handling actual, potential or perceived Conflicts of Interest, defines the standard for behaviours of ICES experts contributing to ICES science and advice and sets the responsibilities of those contributing to ICES work.

### 4.2 Roles of delegates and chairs

The national Delegates and chairs (in the case of “chair-invited experts”) are the gatekeepers of the system when nominating experts. It is their responsibility to ensure active adherence to ICES Code of Conduct. This implies that they are responsible for ensuring:

- All experts contributing to ICES work are aware of ICES Code of Conduct.
- Actual, potential, or perceived Conflicts of Interest are identified and assessed prior to nominating experts.
- Experts are only nominated or invited if the nominating delegate or inviting chair are confident that the experts have provided adequate evidence that they can and will abide by this Code of Conduct.

### 4.3 Relevance of the Code of Conduct

The Code of Conduct applies to all scientists participating in ICES expert groups, Review and advice drafting groups and ACOM and SCICOM meetings. Occasionally, ICES may run meetings which are intended to solicit stakeholder views. For these meetings, explicitly identified by the Secretariat and in advance of the meeting, participants will be asked to represent specific professional interests.

#### 4.4 Code of Conduct

1. The purpose of this code is to ensure transparency and accountability in ICES work and to safeguard the reputation of ICES as an impartial knowledge provider
2. The Code of Conduct applies to all contributors to ICES work and all contributors to ICES work must abide by the Code of Conduct.
- 3 All contributors to ICES work are expected to conduct themselves in a manner consistent with scientific independence, integrity, and impartiality and to declare any Conflicts of Interest.
4. All contributors to ICES work must actively support ICES vision and mission.
5. All participants at the meeting, including the chair, are required to declare any Conflicts of Interest and their commitment to abide by the Code of Conduct before their work commences. It is the responsibility of the chair to ensure these declarations are made.
6. In cases of uncertainty as to whether an action or activity constitutes an actual, potential, or perceived Conflict of Interest, it is expected that all persons engaged in ICES work will err on the side of caution and identify, disclose, and manage the actual, potential or perceived Conflict of Interest. In situations of actual, potential, or perceived Conflict of Interest, all those involved in the discussions are expected to actively seek feedback from one-another, in an open and transparent discussion and in line with the expectations outlined in this Code of Conduct.
7. In cases of actual, potential, or perceived Conflict of Interest an expert can still contribute to ICES work if the national Delegate and chair involved are satisfied that the independence and objectivity of work to be carried out are not at risk, or will not be perceived to be at risk, and that long-term confidence in the impartiality, vision and mission of ICES will not be diminished.
8. In cases when there is an actual, potential or perceived Conflict of Interest of the chair, the chair can still contribute to ICES work if the National Delegate and Secretariat are satisfied that the independence and objectivity of work to be carried out are not at risk, or will not be perceived to be at risk, and that long-term confidence in the impartiality, vision and mission of ICES will not be diminished.
9. Chairs should ensure that the full range of available data, evidence, and scientific opinions are considered in their groups and that any differences are identified and explored before reaching conclusions.
10. All contributors to ICES work should present and review data, scientific evidence, theory, or interpretation honestly and accurately and no contributor to ICES work should knowingly mislead, or allow others to be misled, about scientific matters.

#### 4.5 Action in case of a perceived or actual breach of the Code of Conduct

1. The expert involved must seek feedback, from the meeting chair and participants, on how to resolve the breach and ensure the Code of Conduct is followed.
2. If the discussion (1) does not resolve the issue, the chair should consult the Secretariat before making a decision on the participation of the expert, either excluding the expert for the entire meeting or for the period during which the issue leading to the perceived or actual breach is being addressed. In this case, the Secretariat will inform and if necessary consult ICES Bureau about the decision within 24 hours. Council acts as the final arbiter in the case of ongoing dispute.

3. To record perceived or actual breaches of the Code of Conduct and to ensure that the Code is being applied in a consistent and transparent manner, the Secretariat will provide Council with an annual report listing breaches and the actions taken to address them.

#### 4.6 Adoption and review of the Code of Conduct

The Code of Conduct in Sections 4.4. and 4.5. was adopted by ICES Council on 17 October 2018. The Code of Conduct will be evaluated after 3-years. To inform this evaluation, expert group chairs are encouraged to provide ongoing feedback to the ACOM and SCICOM chairs on their experience with applying the Code of Conduct and proposals for improvement. Specific breaches of the Code of Conduct should always be reported to the ACOM chair, SCICOM chair and secretariat as outlined in Section 4.

#### 4.7 Practical application of the Code of Conduct in meetings

The Code of Conduct is a relatively long document. While all people participating in ICES work are expected to read it and act on it, meeting chairs will have to strike a balance between drawing attention to the code and timely management of the introduction to a meeting. But, at the **start of each meeting**, group members should always be given an opportunity to declare any conflicts of interest and to indicate their willingness to abide by the code.

In case of doubt, then the following words would provide an appropriate introduction to the code at the start of a meeting.

*"Before we begin our work, I am drawing your attention to the ICES Code of Conduct. This code applies to all of us in this group as well as to me/us as chair/s.*

*The code exists to ensure transparency and accountability in ICES work, to guarantee the impartiality of our work and protect ICES reputation as an impartial knowledge provider. The full code should be read in the "Guidelines for ICES groups".*

*The code requires that all of us should conduct ourselves, throughout this meeting and in relation to issues addressed at this meeting, in a manner consistent with scientific independence, integrity, and impartiality.*

*The code also requires that we should also declare any Conflicts of Interest that may prevent us from acting with scientific independence, integrity, and impartiality.*

*As chair/s, I/we am/are therefore asking you to state immediately if, first, you have any Conflicts of Interest that prevent you from acting with scientific independence, integrity, and impartiality, and second, if you cannot abide by the Code of Conduct."*

In the event that members (or the chair):

- (1) declare a conflict of interest, or
- (2) state they cannot abide by the Code of Conduct,

then the following actions should be taken:

- (1) refer to item 7 and 8 in the Code of Conduct to decide how to proceed
- (2) the member or chair should not participate in ICES work

Breaches of the Code of Conduct should always be reported to the ACOM chair, SCICOM chair and secretariat.

To minimise the risk of breaches it is important that expert group chairs should only invite members to expert groups if they are confident that the invitees can, and will, abide by the Code of Conduct.

## 5 Guidelines for the Advisory Committee (ACOM)

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### 5.1 Responsibilities of ACOM

In ICES, ACOM has sole responsibility for generating and signing-off scientific advice in support of the management of coastal and ocean resources and ecosystems. Its tasks are to oversee ICES advisory services, set the strategic direction and provide leadership in all areas linked to the provision and development of advice.

ACOM's main responsibilities are to:

- Design strategies and processes for preparation of advice,
- Manage advisory processes,
- Create and deliver advice,
- Interact with SCICOM to identify science priorities in support of ICES advisory services.

ACOM has the authority to establish and dissolve expert groups as well as advice drafting groups, benchmark groups/processes, scoping workshops and review groups, and to add advisory ToR to existing expert groups in consultation with the Fisheries Resources Steering Group chair and the Secretariat.

### 5.2 Membership and chair of ACOM

ACOM has one member per country appointed by the respective national Delegates, as well as a chair and vice-chairs. The SCICOM chair and the chair of the Fisheries Resources Steering Group are *ex-officio* non-voting ACOM members. National Delegates can appoint alternates to their ACOM member.

The ACOM chair is appointed by Council following a recruitment process managed by the Secretariat. Vice-chairs are nominated by ACOM and appointed by Council. The Fisheries Resources Steering Group chair is elected by ACOM and SCICOM.

The ACOM chair and vice-chairs constitute the ACOM Leadership. The FRSG chair works pro-actively with the ACOM leadership group to guide and support expert groups and identify advisory priorities.

### 5.3 Role of ACOM members

Members and alternates of ACOM are expected to use their expertise in ensuring that ICES advice is based on best-available science, ensuring that the advice is relevant, timely, unbiased, independent, peer-reviewed and transparent.

1. Collectively, ACOM members:

- a) ensure that ICES Advisory Services responds to current needs of ICES clients;
- b) ensure that ICES Advisory Services develops to meet strategic needs of both ICES and its clients;
- c) support the development and implementation of mutually agreed frameworks for advice between ICES and its clients;
- d) agree on an annual plan for ICES advisory activities;

- e) help to develop Terms of Reference and scientific ideas of relevance for ICES Advisory Service for ICES expert groups;
- f) ensure procedures/best practices / guidelines of relevance for ICES Advisory Services are developed.

In addition, ACOM will

- g) help SCICOM to define and to develop a science programme to underpin current and emerging needs for advice;
- h) identify shortfalls in skills and knowledge needed in support of ICES Advisory Service and to work with ICES community to develop the required skills and knowledge.

## 2. Individually, ACOM members:

- a) participate in all aspects of ACOM activities;
- b) chair advice drafting groups as agreed by ACOM;
- c) take a strategic view of direction of ICES advice, provide an oversight of the ICES advisory process, agree /modify guidelines, provide input to strategic and immediate planning of advisory process;
- d) communicate frequently and actively with national Delegates and SCICOM members on advisory matters relevant to their work with ICES;
- e) maintain and further strengthen links between ICES Secretariat, science, data, and advice;
- f) encourage experts to take part in ICES activities, particularly advisory work by highlighting the benefits and importance;
- g) ensure adherence to procedures, best practices and guidelines.

In addition, ACOM members may:

- h) review outputs from the expert groups and other structures in the network, identify gaps in scope and impact of work, or shortfalls in skills and knowledge, and advise on ways to fill these gaps and to improve our advice;
- i) provide feedback to ACOM on science work needed for advice and the development of methods.

## 3. ACOM members also play a role individually in their home countries through:

- a) coordination of Member Country advisory role;
- b) promote and support effective communication between ACOM and the ICES Clients and national administrations/ bodies, including representing ICES advisory service nationally;
- c) inform relevant national science communities about ICES advisory work;
- d) managing national involvement in ACOM work, ensuring range of science/knowledge covered;
- e) ensuring relevant expertise supplied to advice drafting groups allocated to the country in addition to those of national interest;
- f) ensuring that nominated advice drafting group members understand their role;

- g) working with national SCICOM Member to support national participants in expert groups supporting ICES Advisory Services.

#### 5.4 Role of ACOM Leadership

The ACOM Chair's main roles are to work in close cooperation with the vice-chairs, the Head of ICES Advisory Support and the Fisheries Resources Steering Group chair to:

- a) Chair ACOM and the ACOM Leadership meetings,
- b) Oversee the delivery of ICES advice,
- c) Ensure that ICES continues to respond to advisory requests,
- d) Develop ICES advice to meet the demands of evolving maritime policies,
- e) Implement advisory elements of ICES Strategic Plan,
- f) Engage with ICES community on all matters of relevance for ICES Advisory Services,
- g) Cooperate closely with all parts of ICES organization including participation in the Coordination Group, Bureau meetings, and SCICOM meetings.
- h) Maintain and develop contacts with established and new clients to ICES advice,
- i) Engage with stakeholders,
- j) Present ICES advice to stakeholders,
- k) Promote communication of ICES process, products, and work.

The roles of the ACOM vice-chairs are to:

- a) Oversee advisory processes addressing recurrent and special requests,
- b) Chair advice drafting groups, review groups and ACOM web-conferences,
- c) Present advice to advice recipients and observers,
- d) Contribute to development of ICES advisory approaches,
- e) Participate in ACOM leadership meetings, ACOM meetings, and meetings with recipients and observers.

## 6 Guidelines for the Science Committee (SCICOM) and steering group chairs

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The Science Committee (SCICOM) is the consultative committee of ICES as specified in the [Rules of Procedure](#). SCICOM shall *inter alia* oversee the scientific interests of the Council and its scientific work as well as the programmes of research organized or coordinated by the Council through expert groups. The broad objectives of SCICOM are:

- a) To keep ICES science programme dynamic, internationally relevant, and impactful;
- b) To engage scientists in ICES Member Countries and beyond by planning an annual cycle of meetings and workshops as well as the Annual Science Conference;
- c) To ensure seamless links between ICES science, data, and advice.

## 6.1 Responsibilities of SCICOM

SCICOM is empowered to speak on behalf of ICES on science priorities and strategies, and on the state of knowledge of topical marine issues. The empowerment is provided by national representation from member countries on SCICOM.

SCICOM has the authority to establish and dissolve expert groups and subordinate governance bodies (strategic initiatives, operational groups) as deemed necessary to deliver ICES Science Plan.

The following functions are the responsibility of SCICOM:

- a) Working with ACOM to identify science priorities
- b) Strategic science planning
- c) Implementation of the science plan
- d) Management of science activities to support ICES vision and mission
- e) Implementation of cross-cutting science activities through partnerships
- f) Nurturing scientific disciplines and methods
- g) Overseeing and guiding the Annual Science Conference and co-sponsored symposia
- h) Overseeing and guiding operational groups focused on data, training and publication

## 6.2 Membership and chair of SCICOM

SCICOM has one voting member per ICES member country and alternates nominated by the national Delegates. The six steering group chairs are voting members and the ACOM chair, General Secretary and Head of Science Support are *ex-officio* members. If needed, up to five members-at-large may be appointed by the Committee. The members-at-large are to fill gaps in disciplinary expertise, or other gaps that SCICOM need to fill to fulfil its mandate. In practice, most members-at-large are the operational group chairs.

The chair is a full-time position and the chair is appointed by Council following a recruitment process managed by the Secretariat. Emphasis will be placed on selecting a chair with leadership, communication, scientific, and managerial skills. There is an option to appoint vice-chair(s), who (if required), would be elected by SCICOM members. In practice, steering group chairs currently fulfil the roles of vice-chairs.

## 6.3 Role of SCICOM members

Members of SCICOM are expected to use their expertise in the practice and management/coordination of marine science, including national, international and subject-specific expertise, and to draw on their networks:

- a) To actively participate in SCICOM and to effectively represent SCICOM and ICES science within ICES network and beyond;
- b) To help SCICOM to define and to develop a science programme that is dynamic, inclusive, internationally relevant and impactful; underpinning current and emerging needs for advice and shaping the medium and long-term direction of marine science;

- c) To help develop and sustain effective and mutually beneficial collaborations with other international organizations working on marine science and management;
- d) To contribute to planning an annual cycle of meetings and workshops, as well as the Annual Science Conference, to support ICES mission;
- e) To help develop Terms of Reference and scientific ideas for ICES expert, steering and operational groups and to participate in meetings or calls to discuss/approve their resolutions;
- f) To communicate frequently and actively with national Delegates and ACOM members on science matters relevant to their work with ICES;
- g) To communicate with the science community in the member country, raise awareness of their activity within SCICOM and identify opportunities for international collaboration through ICES;
- h) To identify shortfalls in skills and knowledge needed to achieve ICES objectives and to work within or through SCICOM, ACOM, steering groups, operational groups and strategic initiatives to develop the required skills and knowledge;
- i) To contribute to updating communications and web materials relating to ICES science and scientists to increase awareness, visibility and impact of our science and scientists;
- j) To maintain and further strengthen links between the Secretariat, science, data, and advice;
- k) To identify science relevant for ICES advisory services and to contribute to the uptake of the science into advice by planning, supporting and participating in processes to facilitate uptake;

And, to contribute to the role of SCICOM in some of the following ways:

- l) By promoting and supporting effective communication between SCICOM and the international marine science community, including speaking on behalf of ICES on our science priorities and achievements;
- m) By encouraging scientists to take part in ICES activities and highlighting the benefits;
- n) By working with other SCICOM members to identify where multidisciplinary and cross-cutting issues can add value to marine science;
- o) By reviewing scientific outputs from the expert group and other structures in the network, identifying gaps in scope and impact of work, or shortfalls in skills and knowledge, and advising on ways to fill these gaps and improve our knowledge;
- p) By providing feedback to SCICOM on research priorities and the conduct of science-related activity identified in ICES strategic plan;
- q) By guiding and informing the work of SCICOM operational groups and strategic initiatives and proposing consolidation, rationalization, or forming of SCICOM structures to best support the SCICOM role and ensure visibility of ICES science;
- r) By encouraging colleagues and/or taking roles as steering group chairs or in SCICOM operational groups, strategic initiatives and ad-hoc groups to further the work of ICES.

## 6.4 Steering groups

Interaction between SCICOM, ACOM, and the expert groups is supported by steering groups. Each steering group addresses a broad and enduring area of science and advice and “parents” a number of expert groups.

There are six steering groups:

[Ecosystem Processes and Dynamics Steering Group](#)

[Human Activities, Pressures and Impacts Steering Group](#)

[Ecosystem Observation Steering Group](#)

[Aquaculture Steering Group](#)

[Fisheries Resources Steering Group](#)

[Integrated Ecosystem Assessments Steering Group](#)

Each chair is elected and appointed by SCICOM and ACOM and becomes a member of SCICOM (if not already a member of SCICOM in a national capacity). The chair of the Fisheries Resources Steering Group also becomes a non-voting *ex-officio* member of ACOM (if not already a member of ACOM in a national capacity). Chairs of all expert groups parented by a given steering group are members of that steering group.

Nominations for steering group chair candidates are sought from among SCICOM, ACOM, Delegates and the members of the steering group. Candidates for the position of steering group chair do not have to be SCICOM or ACOM members and are often expert group chairs from within a given steering group. If an elected steering group chair is not already a SCICOM member, he/ she becomes *ex officio* member of SCICOM. If the chair of the Fisheries Resources Steering Group is not already an ACOM member, he/ she becomes *ex officio* non-voting member of ACOM. If an elected steering group chair is a SCICOM member, then a new SCICOM member for the relevant country is appointed by the relevant national Delegate. If an elected steering group chair is an ACOM member, then a new ACOM member for the relevant country is appointed by the relevant national Delegate. A steering group chair has one three-year term, which can be extended by one year with the approval of ACOM and SCICOM.

## 6.5 Role of steering group chairs

Steering group chairs are voting members of SCICOM and, in addition to their roles as SCICOM members, they:

- a) Engage with and work with chairs of expert groups to ensure that expert group work supports and meets the science objectives and advisory needs of ICES;
- b) Help expert groups formulate and prepare their draft terms of reference and resolutions;
- c) Review and report on the science being undertaken within expert groups to SCICOM and ACOM, with a focus on identifying science highlights and priorities and demonstrating the impact of their science;
- d) Review scientific products/deliverables of the expert groups and provide feedback on ways to improve the impact and influence of their work;
- e) Provide feedback to SCICOM on research priorities and implementation of ICES strategy;

- f) Identify shortfalls in skills and knowledge needed to achieve ICES objectives within the steering groups area and work within the steering group and through SCICOM, ACOM and operational groups to develop capability;
- g) Identify gaps and overlaps in the work of expert groups, and propose consolidation, rationalization or forming of new expert groups to SCICOM and ACOM as appropriate;
- h) Help expert group chairs to adopt working practices, which ensure scientific information generated by expert groups is receiving adequate quality control consistent with scientific norms;
- i) Facilitate active horizontal and vertical communication, collaboration and co-ordination between expert groups and all other relevant ICES groups and identify, in cooperation with expert group chairs, opportunities for internal and external collaboration;
- j) Represent the steering group at SCICOM meetings (and ACOM meetings in the case of the Fisheries Resources Steering Group chair), at SCICOM/ACOM leadership meetings and at the ASC.

## 6.6 Strategic initiatives

Strategic initiatives can be established by SCICOM. Strategic initiatives are intended to introduce innovative and interdisciplinary thinking to ICES on topics that are cross-cutting and require input from partners outside the existing ICES network. Their work helps to increase the profile and relevance of ICES in a rapidly changing scientific and policy landscape. Strategic initiatives are always time-bound and have clear objectives that are reviewed by SCICOM. Council may also establish strategic initiatives that are referred to as Council strategic initiatives. Council strategic initiatives are managed by Council and not by SCICOM.

To encourage wide engagement and interaction, strategic initiatives can appoint up to four chairs. At least two chairs should come from ICES Member Countries and be active in ICES networks. At least one chair of the strategic initiative should usually be a SCICOM member and should provide regular reports to SCICOM on objectives and outputs of the strategic initiative. This allows SCICOM to help guide the work of the strategic initiative and to assess benefits to ICES. In the event that two or more chairs of the strategic initiative are members of SCICOM one of the chairs should undertake to represent the strategic initiative at any given meeting. If no existing national SCICOM member is a co-chair of a given strategic initiative, or if there is a national SCICOM member who is a co-chair of the given strategic initiative but cannot attend a given SCICOM meeting, then SCICOM may identify a single co-chair of the strategic initiative as a non-voting member of SCICOM for the duration of the meeting. This non-voting member of SCICOM is funded to attend the SCICOM spring meeting. This approach helps to ensure that the strategic initiative is represented by at least one member who can report to SCICOM. The co-chairs of the strategic initiative are responsible for deciding who to propose to SCICOM as the single non-voting member. Any strategic initiative co-chairs who are not SCICOM members, or have not been identified as non-voting members, are invited to attend SCICOM meetings as observers, but are not funded to attend these meetings.

## 6.7 SCICOM operational groups (OG)

SCICOM oversees three operational groups: Data and Information Group (DIG), Science Impact and Publication Group (SIPG), and the Training Group (TG). It forms temporary groups such as the Annual Science Conference Group to address specific short-term (typically less than one year) tasks. SCICOM also provides three members for the Awards Committee, a body established and chaired by Council but also reporting to SCICOM.

### 6.7.1 Data and Information Group (DIG)

The Data and Information Group provides ICES with advice on all aspects of data management including data policy, data strategy, data quality, technical issues and user-oriented guidance. DIG provides feedback and guidance to ICES Data Centre on topics such as existing data products, current developments in data management and potential new data products. DIG acts as a coordinating body between the Data Centre, ACOM, and SCICOM on issues related to the national data centres and data policies, data handling and storage, metadata, and the use of IT in the Data Centre.

DIG members are nominated by Delegates (managed as part of the process for handling EG nominations) with the intention of developing a group that provides broad representation by the national data centres and disciplines. A representative of ACOM, the Head of Data Centre and the Head of Science Support are *ex-officio* members of the Data and Information Group. DIG meets annually with the Data Centre in Copenhagen. In addition, a subset of members of the DIG meet during the ASC. DIG reports to the full meetings of ACOM and SCICOM. DIG Group may invite additional expertise to address requirements at an individual meeting. The chair of DIG is elected by SCICOM for three years, with the option of a maximum one-year extension. Candidates for the chair are usually based on a recommendation from the group.

### 6.7.2 Science Impact and Publication Group (SIPG)

The Science Impact and Publication Group monitors ICES publication output and provides advice to SCICOM, ACOM, the Secretariat and network on increasing the reach and impact of ICES publications and science, including expert group reports. It also develops and recommends policies governing scientific publications as requested by SCICOM, reviews and provides guidance (to SCICOM, ACOM, the Secretariat, and network) on the evolution of science publication and communication and the opportunities and risks it presents for ICES and reviews and provides recommendations on category 1 resolutions for ICES publications prior to SCICOM meetings and intersessionally.

Science Impact and Publication Group members are appointed by SCICOM following a call on the Forum. Members are selected for their expertise in assessing scientific impact, analysis of publication and citation metrics, editorial experience and interest in developing ICES scientific impact. ICES Editor (a post in the Secretariat, not the Editor of ICES Journal of Marine Science) and the Head of Science Support are *ex-officio* members of SIPG. SIPG reports to all full meetings of SCICOM. Membership terms are 3 years in the first instance with the possibility of renewal for a maximum of a further 3 years. SIPG may invite additional expertise to address requirements at an individual meeting, by requesting a membership of one calendar year. The chair is elected by SCICOM for three years, with the option of a maximum one-year extension. Candidates for the chair are usually based on a recommendation from the group.

#### **6.7.2.1 Series Editors**

The SCICOM chair and General Secretary are responsible for appointing Series Editors for ICES Publications. This task is not within the remit of the Science Impact and Publication Group. For the appointment of Series Editors, a recruitment panel, consisting of the Head of Science Support and ICES Editor will compile and evaluate applications/appointments, and re-appointments, supported by relevant colleagues in the Secretariat, and make a recommendation to the SCICOM chair and the General Secretary for approval.

The Series Editor contracts are awarded for a three-year period. For all reappointments it will be possible for successful applicants to be reappointed twice, but following that period they will need to re-apply through an open and competitive recruitment procedure.

#### **6.7.3 Training Group (TG)**

The Training Group oversees ICES Training Programme and guides the development of the training provided by ICES. This involves identifying and developing courses with instructors, running an annual programme of courses, soliciting feedback on those courses and ensuring that training supports demands for expertise in science and advisory processes.

Training Group members are appointed by SCICOM. ICES Conference and Training Coordinator and the Head of Science Support are *ex-officio* members of Training Group. Members are selected for their interest and expertise in education and training and technical knowledge of the development of training methods and courses. Membership terms are 3 years in the first instance with the possibility of further 3-year terms. The chair of Training Group is elected by SCICOM for three years, with the option of a maximum one-year extension. Candidates for the chair are usually based on a recommendation from the group.

#### **6.7.4 Annual Science Conference Group (ASCG)**

The Annual Science Conference Group is established at the spring SCICOM meeting, approximately 18 months in advance of each ASC. The group guides the selection of theme and network sessions for the ASC and keynote speakers based on the votes and rankings provided by SCICOM members, as well as advising on formats and logistics for the ASC. More information on these processes is provided in the "Guidelines for ICES Annual Science Conference"

Members are a subset of SCICOM members selected to provide broad coverage of the scientific topics that may be addressed at the ASC. The Head of Science Support is an *ex officio* member of the group. The chair is always the SCICOM member who represents the country hosting the ASC.

#### **6.7.5 Awards Committee (AC)**

The Awards Committee is established and chaired by Council but also reports to SCICOM. SCICOM appoints three members of the Awards Committee from among SCICOM members for a maximum of two three-year terms. Council appoints the chair and one member from among Council members.

### 6.7.6 Overview of steering group and operational group member and chair selection

Group <sup>1)</sup>	SIPG	TG	DIG	ASCG	AC	SG
Member	Appointed by SCICOM	Appointed by SCICOM	Based on representation by national data centres and good coverage of disciplines subject to SCICOM approval.	Appointed by SCICOM	Three members appointed by SCICOM (chair and one member from Council)	All chairs of expert groups parented by the SG
Chair	Chair appointed by SCICOM (Term 3+1yr)	Chair appointed by SCICOM (Term 3+1yr)	Chair nominated by DIG, subject to SCICOM approval (Term 3 + 1yr)	Chair is the SCICOM member from the ASC host country (Term 18 mo)	Chair appointed by Council (Term 3 + 3yr)	Chair appointed by ACOM and SCICOM (Term 3+1yr)

<sup>1)</sup> SIPG: Science Impact and Publication Group, TG: Training Group, DIG: Data and Information Group, ASCG: Annual Science Conference Group, AC: Awards Committee, SG: steering group, SCICOM: Science Committee, ACOM: Advisory Committee

## 6.8 SCICOM Report

SCICOM produces an annual report for Council to describe the scope, scale, and impact of ICES science and plans for future science delivery. The review of scope, scale, and impact describes the delivery of science and supporting activity in the SCICOM steering groups, expert groups, strategic initiatives and operational groups and outcomes of the Annual Science Conference. The report is made available on ICES website.

## Annex 1: Example of draft resolution for an ICES publication (category 1)

Please use the example below to formulate your draft resolutions.

A report on **Cephalopod Species in Europe**, edited by members of WGCEPH and other colleagues (Graham Pierce, Patrizia Jereb, Louise Allcock, Uwe Piatkowski, Eugenia Lefkaditou, and Lee Hastie), and comprising descriptions of the distribution, identification, life history, ecology and fisheries of those cephalopod species of commercial interest, will be published in ICES Cooperative Research Report series. The estimated number of pages is 200.

The editors agree to submit the final draft of the proposed publication by 31 December 2013.

### Supporting information

Priority:	The proposed Cooperative Research Report presents a review and synthesis of knowledge, including recent research results, on the taxonomic status, identification, geographic distribution, life history, ecology and exploitation of European cephalopod stocks, covering 17 species of current or potential fishery interest. It complements a subject-based CRR on cephalopods published in 2010. The report aims to disperse the findings of the EU-funded CEPSTOCK project, extensively and comprehensively updated, to the wider community.
Scientific justification:	<ul style="list-style-type: none"> <li>• Cephalopods support important large- and small-scale fisheries in the ICES area. However, they remain essentially outside the scope of the European Community's Common Fisheries Policy and understanding of their stock dynamics, particularly in European coastal waters, remains variable. The forthcoming WKCCA addresses these issues and the proposed report is therefore timely.</li> <li>• The availability of syntheses of baseline knowledge of less well-known species such as cephalopods is currently very relevant to IEA and in relation to the MSFD.</li> </ul> <p><u>historical note</u> : completion of this report was a Term of Reference for WGCEP during several years (2006 -08) but following concerns that the material was out of date and would be superseded by the (recently published) updated FAO guides, a new round of review and writing was instigated in 2009, and the bulk of the work passed to the current group of editors. Fully revised species accounts (all 17) were sent to reviewers during 2013 and the process is therefore expected to be completed during the present calendar year.</p>
Linkages to the Advisory Committee:	This report arises from the science side (through WGCEP and (historically) LRC). As illustrated by the forthcoming WKCCA, cephalopods are increasing of interest in relation to fisheries advice and in any case are important ecosystem components relevant to IEA.
Linkages to other committees or groups:	It is expected that the CRR will be of interest to a range of end-users both within ICES and outside, reflecting the increasing interest in fisheries (and more recently culture) of cephalopods in Europe. The availability of syntheses of baseline knowledge of less well-known species is currently very relevant to IEA and in relation to the MSFD.
Linkages to other organizations:	In addition to their links with WGCEP, five of the six editors are current or former members of the Cephalopod International Advisory Council.
Draft outline of publication:	Where possible, provide a thematic overview of the proposed publication e.g. draft table of contents or overview of possible sections.
Resource requirements:	Colour illustrations of the species are included
Participants:	Members of editors aim to complete revisions following referee comments and final compilation of the bibliography during the remainder of 2013.

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Secretariat facilities:	About one month of the services of Secretariat Professional and General Staff will be required
Financial:	Associated publication costs.
Promotion:	Detail future relevant events, meetings, or fora where ICES and the authors could promote the final publication. Include any additional promotional ideas from the authors.

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## Annex 2: Example of an expert group meeting resolution (category 2)

Please use the example below to formulate your draft resolutions for next year's meeting.

The **Working Group on Fishing Behaviour** (WGFB), chaired by Anders Inglis, Sweden, will meet in Bruges, Belgium, 10–14 April 2011 to:

- a) Review and report on recent research into unaccounted mortality in commercial fisheries;
- b) Review and report on ongoing work for reducing unintended effects on the seabed and associated communities of fishing operations and gears, including ghost fishing.

WGXXX will report by DATE for the attention of the XXXXX Committee.

### Supporting information

Priority	The current activities of this Group will lead ICES into issues related to the ecosystem affects of fisheries, especially with regard to the application of the Precautionary Approach. Consequently, these activities are considered to have a very high priority.
Scientific justification	<p>Term of Reference a)</p> <p>Several countries are conducting or have recently completed significant studies in this area and the subject would benefit from a review of progress and an evaluation of the results obtained. The last review of significant studies occurred in 1996 by ICES Study Group on Unaccounted Mortality. A review of more recent work will determine the need for revision and update on planning and methodology for studying this subject.</p> <p>Term of Reference b)</p> <p>All fishing activities have influences that extend beyond removing target species. The approach recommended by FAO is that responsible fisheries technology should achieve management objectives with a minimum of side effects and that they should be subject to ongoing review. WGFTFB members and others are currently undertaking a range of research programmes to provide the means to minimize side effects.</p>
Resource requirements	The research programmes which provide the main input to this group are already underway, and resources are already committed. The additional resource required to undertake additional activities in the framework of this group is negligible.
Participants	The Group is normally attended by some 20–25 members and guests.
Secretariat facilities	None.
Financial	No financial implications.
Linkages to Advisory Committee	There are no obvious direct linkages with the Advisory Committee.
Linkages to other committees or groups	There is a very close working relationship with all the groups of the Fisheries Technology Committee. It is also very relevant to the Working Group on Ecosystem Effects of Fisheries.
Linkages to other organizations	The work of this group is closely aligned with similar work in FAO and in the Census of Marine Life Programme.

## Annex 3: Example of a resolution to establish a new expert group (category 2)

Please use the example below to formulate your draft resolutions for the establishment of a new expert group.

The **Working Group on Fishing Behaviour (WGFB)**, chaired by Anders Inglis, Sweden, **will be established** and will meet in Bruges, Belgium, 10–14 April 2007 to:

- a) Review and report on recent research into unaccounted mortality in commercial fisheries;
- b) Review and report on ongoing work for reducing unintended effects on the seabed and associated communities of fishing operations and gears, including ghost fishing.

WGXXX will report by DATE for the attention of the XXXXX Committee.

### Supporting information

Priority	The current activities of this Group will lead ICES into issues related to the ecosystem affects of fisheries, especially with regard to the application of the Precautionary Approach. Consequently, these activities are considered to have a very high priority.
Scientific justification	<p>Term of Reference a)</p> <p>Several countries are conducting or have recently completed significant studies in this area and the subject would benefit from a review of progress and an evaluation of the results obtained. The last review of significant studies occurred in 1996 by ICES Study Group on Unaccounted Mortality. A review of more recent work will determine the need for revision and update on planning and methodology for studying this subject.</p> <p>Term of Reference b)</p> <p>All fishing activities have influences that extend beyond removing target species. The approach recommended by FAO is that responsible fisheries technology should achieve management objectives with a minimum of side effects and that they should be subject to ongoing review. WGFTFB members and others are currently undertaking a range of research programmes to provide the means to minimize side effects.</p>
Resource requirements	The research programmes which provide the main input to this group are already underway, and resources are already committed. The additional resource required to undertake additional activities in the framework of this group is negligible.
Participants	The Group is normally attended by some 20–25 members and guests.
Secretariat facilities	None.
Financial	No financial implications.
Linkages to Advisory Committee	There are no obvious direct linkages with the Advisory Committee.
Linkages to other committees or groups	There is a very close working relationship with all the groups of the Fisheries Technology Committee. It is also very relevant to the Working Group on Ecosystem Effects of Fisheries.
Linkages to other organizations	The work of this group is closely aligned with similar work in FAO and in the Census of Marine Life Programme.

## Annex 4: Example of a draft resolution for a working group with multi-annual ToR (category 2)

A **Working Group on Whatever Business (WGWB)**, chaired by Name, Country, will meet in Town, Country, Date Year, to work on ToRs and generate deliverables as listed in the Table below.

WGWB will report on the activities of 20YY (the first year) by Date Month Year to XXSG.

### ToR descriptors<sup>1</sup>

ToR	Description	Background	Science Plan topics addressed	Duration	Expected Deliverables
	This should capture the objectives of the ToR	Provide very brief justification, e.g. advisory need, links to Science Plan and other WGs	Use codes	1, 2 or 3 years	Specify what is to be provided, when and to whom
a	e.g. Review and report on the science of offshore wind farms effects on the benthic system in the North Atlantic	a) Science Requirements b) Advisory Requirements c) Requirements from other expert groups	1.3, 2.4	e.g. year 1	Review paper
b					
c					
d					

### Summary of the Work Plan

Year 1	
Year 2	
Year 3	

### Supporting information

Priority	The current activities of this Group will .....
Resource requirements	The research programmes which provide the main input to this group are already underway, and resources are already committed. The additional resource required to undertake additional activities in the framework of this group is negligible.
Participants	The Group is normally attended by some 20–25 members and guests.
Secretariat facilities	None.
Financial	No financial implications.

<sup>1</sup> Avoid generic terms such as “Discuss” or “Consider”. Aim at drafting specific and clear ToR, the delivery of which can be assessed.

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Linkages to ACOM and groups under ACOM	There are no obvious direct linkages.
Linkages to other committees or groups	There is a very close working relationship with all the groups of XXXSG. It is also very relevant to the Working Group on XXX.
Linkages to other organizations	

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## Annex 5: Example of a draft resolution to hold an ICES-sponsored symposium (category 3)

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Please use the template below to formulate your draft resolutions.

A **symposium on “Full title of the symposium”** will be held during [dates], at [place name and country] with [names and nationalities] as conveners.

A Scientific Steering Group and/or an Organizing Committee will be established with members nominated by ICES in order to assist the conveners in planning the symposium.

### Supporting information

Priority:	Specify why the symposium is of high priority for ICES.
Scientific justification:	Specify the relevance of the topic for ICES Science Plan and Strategic Plan. Indicate if and how the topic will reinforce existing relationships with other organizations and institutions. Not to exceed half a page of text.
Resource requirements:	Organizing a symposium entails significant resource requirements, which are largely met by the imposition of a Conference Fee. Indicate where and why additional support is needed.
Participants:	Indicate the number (ranges) of participants from ICES member and other countries that can be anticipated.
Secretariat facilities:	The ICES Secretariat may be involved in providing general professional and secretarial support, and the Secretariat may provide direct assistance during the Symposium. Indicate where secretariat involvement will be expected.
Financial:	Specify if co-funding is expected from ICES. Note that ICES contributes to co-funds early career scientists (maximum total of 10,000 euro) and may consider travel and subsistence for keynote speakers and ICES representatives in the symposium organizing committee.
Linkages to the Advisory Committee:	Specify here if the symposium topic is directly related to the remit of ICES advisory services and if members of the ICES Advisory Committee may contribute to the symposium.
Linkages to other committees or groups:	Specify here if the symposium topic is directly related to the remit of one or several ICES expert groups and if members of the expert groups may contribute to the symposium.
Linkages to other organizations:	Mention here the organizations in question and the contact person(s), if applicable
Publication of proceedings	Indicate if conveners intend to use ICES Journal of Marine Science for the proceedings. If known, mention whom you propose to be the guest editor(s). Contact Ruth Andersen, ICES Editor, for further information before completing this section.

## Annex 6: Example of a draft resolution requiring Secretariat action (category 4)

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### Please use the example below to formulate your draft resolutions.

The General Secretary will write to CORE (Consortium for Oceanographic Research and Education) offering ICES co-sponsorship of the Census of Marine Life Workshop on the History of Marine Animal Populations

### Supporting information

Priority:	High strategic priority for wider core role of ICES.
Scientific justification:	<p>The Census of Marine Life, a programme sponsored by the Sloan Foundation, USA, aims to improve our understanding of the abundance, distribution, and trophic relationships of global living marine resources. The programme hopes to estimate the abundance and distribution of fish, cephalopods, siphonophores, and other key planktonic and benthic species, using existing regional and global survey programmes, and possibly, new programmes. Key elements will include the development of new remote sensing, acoustic, and sampling techniques, as well as the use of historical data. The programme will establish a baseline of data for comparison with future long-term changes in the oceans and will use historical data to assess how the oceans have changed to the present.</p> <p>In addition to regional pilot projects, a specific meeting on the use of historical data, H-MAP (the History of Marine Animal Populations), will be held in February 2000. The principle aim is to increase our understanding of marine ecosystem dynamics through interdisciplinary studies of historical records of exploitation of marine animals since human predation became important. The workshop will establish a research agenda and organizational structure for H-MAP. ICES could make a major contribution to the historical aspect by identifying available historical data and how they should be assembled and used as a benchmark for assessing the difference between historical times and the present.</p>
Resource requirements:	<ol style="list-style-type: none"> <li>1. Time for national scientists from regional laboratories (travel will likely be paid);</li> <li>2. Meeting facilities in Denmark.</li> </ol>
Participants:	N/A.
Secretariat facilities:	ICES Secretariat will be required to notify participants of the meeting and produce the report. Significant involvement concerning exploitation of ICES fishery databases may evolve. ICES Professional staff should be directly involved in the programme.
Financial:	No other financial implications.
Linkages to the Advisory Committee:	In the long term, links to the ecosystem elements of ACOM.
Linkages to other committees or groups:	Living Resources Committee, the sponsor of this resolution. Fisheries Technology, Marine Habitat, and Oceanography Committees may become involved as contact escalates.
Linkages to other organizations:	Significant global biological and oceanographic linkages, and with the academic world.

## Annex 7: Science highlights in ICES

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Coordination, leadership, and facilitation of science are central to realizing ICES vision: to be a world-leading marine science organization, effectively meeting societal needs for impartial evidence on the state and sustainable use of our seas and oceans.

Science highlights are used to draw attention to the most impactful and societally relevant science from our ICES network. Highlights serve to raise awareness of the breadth and impact of our scientific activity and expertise and to demonstrate the importance of our science for understanding marine ecosystems and securing their sustainable use.

### What are science highlights?

Science highlights are concise and accessible written summaries of the most novel, important and impactful ICES science. Highlights are used to draw attention to the most impactful and societally relevant science from our ICES network. They serve to raise awareness of the breadth and impact of our scientific activity and expertise and to demonstrate the importance of our science for understanding marine ecosystems and securing their sustainable use.

Highlights will be used to promote ICES science on the web and in printed and spoken communication targeted to the network and beyond. Additionally, highlights may be used by the ICES Communications Team and by communications teams in national laboratories to develop stories, news releases, and social media posts. They are a way to get recognition for your science, network, and expert group, and reach a wider audience for your work.

### Submitting science highlights

Science highlights are newsworthy because they are based on a very recent or forthcoming finding and supported with accessible images and a short biography of the scientist(s) conducting the work. A table and examples of potential types of ICES-relevant science that can be developed into science highlights is provided at the end of this Annex.

Submissions of science highlights are welcomed from any scientist in the ICES network who wishes to report new and impactful work conducted by ICES scientists and groups. The template for submission (included for information at the end of this Annex) and any related documents (such as publications, images and figures) can be uploaded to the [ICES Science Highlights SharePoint page](#). Since ICES is renowned for generating authoritative and impartial science, highlights should not compromise or unreasonably sensationalise the underlying science.

Submitted highlights are treated as suggestions for potential ICES news and/or social media posts. If the ICES communications team decides to develop a suggested highlight for promotion, they will contact the submitter to develop stories, news releases, and tweets. If requested, we can also collaborate with your home institution's communications team to coordinate a joint science highlight press release.

For additional information or questions about science highlights, contact ICES communications at [communications@ices.dk](mailto:communications@ices.dk).

## Types of ICES-relevant science that can be developed into science highlights

TYPE	ADDITIONAL INFORMATION AND EXAMPLES
Forthcoming papers, books, or other scientific output	<ul style="list-style-type: none"> <li>Whenever possible, please contact ICES immediately after the draft has been accepted so we can develop a science highlight to disseminate in tandem with the publication date.</li> <li>In addition to traditional journal articles, reports, or books, we are also interested in highlighting the publication of new data sets, methods, and models that will be publically disseminated.</li> </ul>
Emerging technology being developed and advanced by ICES expert groups	<p>Example article: At the forefront of fisheries acoustics</p> <ul style="list-style-type: none"> <li><a href="https://www.ices.dk/news-and-events/news-archive/news/Pages/At-the-forefront-of-fisheries-acoustics.aspx">https://www.ices.dk/news-and-events/news-archive/news/Pages/At-the-forefront-of-fisheries-acoustics.aspx</a></li> </ul> <p>Example article: Age reading just got smarter</p> <ul style="list-style-type: none"> <li><a href="https://www.ices.dk/news-and-events/news-archive/news/Pages/Age-reading-just-got-smarter.aspx">https://www.ices.dk/news-and-events/news-archive/news/Pages/Age-reading-just-got-smarter.aspx</a></li> </ul> <p>Example article: Tutoring computers</p> <ul style="list-style-type: none"> <li><a href="https://www.ices.dk/news-and-events/news-archive/news/Pages/Tutoring-computers.aspx">https://www.ices.dk/news-and-events/news-archive/news/Pages/Tutoring-computers.aspx</a></li> </ul>
Trends and shifts in ocean conditions and marine populations that have been identified by ICES expert groups	<p>Example article: Barents capelin bounce back – and other highlights</p> <ul style="list-style-type: none"> <li><a href="https://www.ices.dk/news-and-events/news-archive/news/Pages/Barents-capelin-bounce-back-%E2%80%93-and-other-highlights.aspx">https://www.ices.dk/news-and-events/news-archive/news/Pages/Barents-capelin-bounce-back-%E2%80%93-and-other-highlights.aspx</a></li> </ul> <p>Example article: Ocean climate highlights</p> <ul style="list-style-type: none"> <li><a href="https://www.ices.dk/news-and-events/news-archive/news/Pages/Ocean-climate-highlights.aspx">https://www.ices.dk/news-and-events/news-archive/news/Pages/Ocean-climate-highlights.aspx</a></li> </ul> <p>Example article: Charting the current climate</p> <ul style="list-style-type: none"> <li><a href="http://www.ices.dk/news-and-events/news-archive/news/Pages/Charting%20the%20current%20climate.aspx">http://www.ices.dk/news-and-events/news-archive/news/Pages/Charting%20the%20current%20climate.aspx</a></li> </ul>
Current and future challenges to marine management that are being addressed by ICES expert groups	<p>Example article: Managing deep-sea ecosystems</p> <ul style="list-style-type: none"> <li><a href="https://www.ices.dk/news-and-events/news-archive/news/Pages/Managing-deep-sea-ecosystems.aspx">https://www.ices.dk/news-and-events/news-archive/news/Pages/Managing-deep-sea-ecosystems.aspx</a></li> </ul> <p>Example article: Hazard awareness: managing oil spill risk in the Baltic Sea</p> <ul style="list-style-type: none"> <li><a href="http://www.ices.dk/news-and-events/news-archive/news/Pages/Feature-article-%E2%80%93-hazard-awareness--managing-risk-of-oil-spills-in-the-Baltic-Sea.aspx">http://www.ices.dk/news-and-events/news-archive/news/Pages/Feature-article-%E2%80%93-hazard-awareness--managing-risk-of-oil-spills-in-the-Baltic-Sea.aspx</a></li> </ul>
Upcoming or recent research cruises and expeditions relevant to advancements in ICES science and advice	<ul style="list-style-type: none"> <li>We are also interested in trips where researcher(s) will be providing updates while in the field (e.g., blogging, real-time data collection and dissemination).</li> </ul> <p>Example article: Sailing towards a better understanding of ballast water management</p> <ul style="list-style-type: none"> <li><a href="http://ices.dk/news-and-events/news-archive/news/Pages/Sailing-towards-a-better-understanding-of-ballast-water-management.aspx">http://ices.dk/news-and-events/news-archive/news/Pages/Sailing-towards-a-better-understanding-of-ballast-water-management.aspx</a></li> </ul>

TYPE	ADDITIONAL INFORMATION AND EXAMPLES
Upcoming keynote talks on projects and science related to your ICES work	<ul style="list-style-type: none"> <li>This is an optimal time to write about your work and highlight the science in your upcoming keynote talk at international conferences.</li> </ul>
Activities that broaden participation in ICES science and advice	<ul style="list-style-type: none"> <li>This may include activities such as early career training opportunities and broader inclusion of socio-economics in ICES analyses.</li> </ul>
	<p>Example article: Combining indigenous and scientific knowledge in Arctic assessments</p>
	<ul style="list-style-type: none"> <li><a href="https://www.ices.dk/news-and-events/news-archived/news/Pages/Combining-indigenous-and-scientific-knowledge-in-Arctic-assessments.aspx">https://www.ices.dk/news-and-events/news-archived/news/Pages/Combining-indigenous-and-scientific-knowledge-in-Arctic-assessments.aspx</a></li> </ul>
	<p>Example article: Social systems and ecosystem services databases launched</p>
	<ul style="list-style-type: none"> <li><a href="https://www.ices.dk/news-and-events/news-archived/news/Pages/Social-systems-and-ecosystem-services-databases-launched.aspx">https://www.ices.dk/news-and-events/news-archived/news/Pages/Social-systems-and-ecosystem-services-databases-launched.aspx</a></li> </ul>
Anniversary dates (e.g., 5 or 10 years) of long-term data sets	<ul style="list-style-type: none"> <li>We are interested in highlighting long-term data sets that have provided important contributions to the development of ICES science and advice.</li> </ul>

The following template may be used for submitting science highlights to the [ICES Science Highlights SharePoint page](#).

YOUR NAME:	
Your email:	
Your home institution and country:	
Name of ICES expert group(s) associated with this highlight:	
<p>Provide below a short summary paragraph (typically 200-300 words) describing your science highlight.</p> <p>Some questions to address in your summary:</p> <p>What question/challenge/problem was (or will) be addressed?</p> <p>What was discovered/achieved/solved?</p> <p>What is the expected significance/impact of the discovery/achievement/solution?</p> <p>What will follow?</p>	
<p>Provide below a 1-2 sentence explanation of how this work is related to your expert group(s) (e.g., a direct product of the expert group, information that has been key to supporting the expert group analyses, etc.)</p>	

<p>Check the relevant science priorities from the ICES science plan:</p>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Ecosystem Science</li> <li><input type="checkbox"/> Impacts of human activities</li> <li><input type="checkbox"/> Observation and exploration</li> <li><input type="checkbox"/> Emerging techniques and technologies</li> <li><input type="checkbox"/> Seafood production</li> <li><input type="checkbox"/> Conservation and management science</li> <li><input type="checkbox"/> Sea and society</li> </ul>
<p>Please list any related documents and references such as DOIs for publications, web links, images, etc. When possible, please upload these supporting documents to the SharePoint folder along with this template.</p>	
<p>List the name(s) and email(s) of any additional expert group members and/or other key people that we may want to contact regarding this science highlight suggestion. Additionally, if you also plan to work with your institution's communications team on this science highlight, please let us know here.</p>	

## Annex 8: Acknowledging ICES in publications

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To allow the Science Publication and Impact Group, SCICOM, and the Secretariat to track ICES outputs and impacts it is helpful if an ICES acknowledgement is added to the acknowledgements section in papers, reports, and books.

The following generic acknowledgement should be used when ICES facilitates or supports the scientific work and/or resulting publication. The most important requirement is to name the “International Council for the Exploration of the Sea” in full as well as referring to “ICES”.

“The authors thank the [XXX Group] of the International Council for the Exploration of the Sea (ICES) for facilitating this research”

This generic acknowledgement should be treated as a minimum requirement when part or all of a published work is developed in an ICES expert group, but authors may wish to add to this acknowledgement to recognize the work of specific individuals or other services, support, or data provided by ICES. In the case that a group is co-sponsored by another organisation (e.g. PICES) this organisation should be mentioned alongside ICES in the text above.

When published analyses draw extensively on the work of Expert groups that have generated and processed data it is important that their contributions to the work are also recognized. Specific citations for ICES datasets are already linked to data and data products available through [ICES data portal](#). These should always be used in publications, in addition to the generic acknowledgement above if the work uses ICES data and is also facilitated by an ICES expert group.

## Annex 9: Guidance for ICES expert groups seeking to use their science as an input to ICES advice

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### Introduction

A key criterion for ICES advice is that it should be based on the best available science. For this reason, ICES wants to facilitate the uptake and translation of science into the advisory process.

This guidance is for expert group chairs and members who would like to see the science they are developing used in ICES advisory system or consider that the science they have developed is sufficiently mature to be used to support advice. It is written primarily for expert groups that rarely receive advice-related terms of reference.

This guidance was developed following a review of the factors affecting the influence of science conducted in a range of expert groups on ICES advisory process. Perhaps the most important lesson from this review was that successful uptake relies on a pull from the needs and priorities of the advisory system and a push from the expert group to raise awareness of their science among advisers and to develop it in ways that meet advisory norms for quality, repeatability and fitness for purpose.

### Key action for expert group chairs

If the science developed by an ICES expert group is not used in the advisory system and the expert group would like to see it used in this way then the key action for the expert group chair is to:

**Contact the ACOM leadership (cc SCICOM leadership and relevant Steering Group chair) to explore if the science is relevant for ICES advisory services**

If the science is considered relevant the expert group should, in cooperation with the ACOM and SCICOM leadership, set up a plan detailing responsibilities for translating the science into advice, including development of advice-related terms of reference.

### Further guidance

If expert group chairs and members are committed to applying their science in the advisory process, the probability of uptake is increased when the advisory community is willing to accept and assimilate their science. The chance of such acceptance is increased by interaction between the expert group and members of ICES Advisory Committee (ACOM). Increased interaction leads to a better understanding of ACOMs emerging needs and priorities, makes ACOM members aware of the possibilities provided by the available scientific methods or information, and encourages support from the committee that is responsible for signing-off ICES advice. Thus, we recommend that scientists who are seeking to contribute to advisory products make early contact with the ACOM leadership to gauge the role of their science in supporting future advice (cc. SCICOM and Steering Group chair). The ACOM leadership can then assess whether there is a current or future advice need or priority relating to the topic proposed by the expert group and can give them further guidance on developing advice-related terms of reference.

Translation of science into advice requires a significant commitment of time and resources to engage people and groups with expertise in advice generation. However, it

is highly rewarding for the people involved, can create an impactful legacy for the expert group, and make a real difference to the conservation and management of the seas.

It is helpful if people with experience generating advice can actively contribute to the expert group and if the majority of expert group members are motivated in their own right to translate science into advice.

Within ICES, the translation of science into advice has generally been more successful when one person takes clear responsibility for maintaining strong and active links between science and advice. This person may be, but does not have to be, the chair of the expert group. It is also more likely to be successful if the terms of reference of the expert group clearly explain the intention to generate products that can help to meet advisory needs and are developed in consultation with scientists familiar with the advisory system.

When working planning the work of an expert group it is important to allow a reasonable allocation of time and effort for developing existing science to meet advisory needs. The allocation of time and effort to this step of the process is often underestimated, and an appropriate allocation to support translation should be carefully considered with scientists who are familiar with the characteristics of scientific studies and methods that would underpin draft advice that would ultimately meet expectations for sign-off by ACOM (because it is based on the best available science and characterized by quality assurance, developed in a transparent process, unbiased, independent, and recognized by all relevant parties as applicable to management).

The following summary highlights factors that previous analyses have shown to influence the probability of successfully translating science to advice, categorized according to the roles and expertise of people involved in the expert groups and the advisory system, the fitness for purpose of science conducted, the perceived legitimacy of the science, and the analytical approaches applied and their repeatability.

<b>People</b>	Many people with advisory expertise engage with the expert group
	There are positive incentives for a range of experts with advisory expertise to contribute to the expert group and they are motivated to do so
	Expert group members develop high awareness of opportunities to contribute to advice
	Expert groups seek to draw in participants with knowledge of advice development from inside and outside ICES and seek to constructively engage these new contributors
	Expert group members devote a larger proportion of their working time to developing existing science to meet advisory needs
	Expert group terms of reference are reviewed by people with sufficient knowledge to assess the viability of a process leading to advice
	Diverse expertise is engaged in the translation of science to advice, in and outside the expert group (spanning science, advice, advice recipient, knowledge broker and stakeholder)

	There is a clearly defined and known person(s) responsible for taking the science into advice
	ACOM members' have high awareness of the work of the expert group and support the plans of the expert group to translate their science into advice
<b>Analytical approaches</b>	Quality assurance of the science has been conducted
	There is a clearly defined and durable follow-up process to support contributions to advice after terms of reference are fulfilled
<b>Fitness for purpose</b>	Term of reference formulation is effectively and strongly tailored to supporting advice priorities
	Terms of reference focus on the suitability of proposed work to support advice and advisers have been consulted during their development
	The science output is salient to the advisory needs and priorities
<b>Trust and legitimacy</b>	The advisory community have trust in the impartiality and credibility of scientists in the expert group
	The advisory community is willing to accept and assimilate subjects and the scientific evidence base
	The scientific consensus on the science that may form the basis for advice is strong

## Annex 10: Working groups with ACOM affiliation prior to 1 Jan 2019

Acronym	Name	Steering Group
AFWG	Arctic Fisheries Working Group	FRSG
HAWG	Herring Assessment Working Group for the Area South of 62° N	FRSG
JWGBIRD	Joint OSPAR/HELCOM/ICES Working Group on Seabirds	EPDSG
NIPAG	Joint NAFO/ICES Pandalus Assessment Working Group	FRSG
NWWG	North-Western Working Group	FRSG
SCRDB	Steering Committee of the Regional Fisheries Database	FRSG
WGBAST	Assessment Working Group on Baltic Salmon and Trout	FRSG
WGBFAS	Baltic Fisheries Assessment Working Group	FRSG
WGBIE	Working Group for the Bay of Biscay and the Iberian Waters Ecoregion	FRSG
WGBYC	Working Group on Bycatch of Protected Species	HAPISG
WGCSE	Working Group for the Celtic Seas Ecoregion	FRSG
WGDEC	Working Group on Deep-water Ecology	HAPISG
WGDEEP	Working Group on the Biology and Assessment of Deep-sea Fisheries Resources	FRSG
WGECO	Working Group on Ecosystem Effects of Fishing Activities	HAPISG
WGEEL	Joint EIFAAC/ICES/GFCM Working Group on Eels	FRSG
WGEF	Working Group on Elasmobranch Fishes	FRSG
WGHANSA	Working Group on Southern Horse Mackerel, Anchovy, and Sardine	FRSG
WGHARP	ICES/NAFO/NAMMCO Working Group on Harp and Hooded Seals	FRSG from 2020
WGMIXFISH	Working Group on Mixed Fisheries Advice	FRSG
WGMIXFISH-METH	Working Group on Mixed Fisheries Advice Methodology	FRSG
WGMME	Working Group on Marine Mammal Ecology	EPDSG
WGNAS	Working Group on North Atlantic Salmon	FRSG
WGNSSK	Working Group on the Assessment of Demersal Stocks in the North Sea and Skagerrak	FRSG
WGWIDE	Working Group on Widely Distributed Stocks	FRSG