

# REPORT OF THE SCIENCE COMMITTEE (SCICOM)

17 and 18 March 2020  
via WebEx





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# 1 Opening and welcome

The SCICOM Chair welcomed participants to the SCICOM March meeting. The meeting arrangement had been changed from an *in situ* three-day meeting to a two-day WebEx meeting in response to the rapid emerging events and guidance related to COVID-19. The WebEx sessions were held:

- Tuesday 17 March: 13.00 to 17.30 CET (with break 15.15 to 15.30)
- Wednesday 18 March: 13.00 to 18.40 CET (with break 15.40 to 16.00)

The Chair thanked the presenters and Secretariat for adapting to the WebEx format at very short notice. The length of items had been shortened, but almost all agenda items were kept.

The SCICOM meeting would be focused on assessing the scope, scale and impact of ICES science in the last year and ways to make it more impactful in future. This would involve taking some important decisions about how we develop and co-ordinate ICES science going forward. Since the last meeting ICES now has a full set of three plans (the Strategic Plan, Science Plan and Advisory Plan) providing a full picture of what we stand for as an organisation.

A warm welcome was extended to the new participants: Johanna Ferretti (SIHD Chair); Mark Payne and Christian Möllmann (SICCME Chairs); Henrik Nygård (national member, Finland); Gudmundur Oskarsson (national member, Iceland); Kajsa Tönnesson (Swedish Alternate); and Johannes Karstensen (German alternate). The new members gave short self-introductions. Other new members will join SCICOM in the future (Lena Bergström as national member for Sweden and Jos Schilder as national member for the Netherlands), but were not able to join this meeting. Apologies had been received from Dariusz Fey for Poland, Jonne Kotta for Estonia and Francis O'Beirn (Ireland; first day only).

SCICOM Chair informed the meeting about practical arrangements adopted by the ICES Secretariat in response to the COVID-19 pandemic. The great majority of expert groups are planning to meet online, and the Secretariat is aiming to support as many remote meetings as possible. The current situation provides an opportunity to develop ways to make remote meetings more effective. Mike Rust had written to all his EG Chairs, and fellow SG chairs, encouraging them to think of good online formats and to share good practice. SCICOM would discuss this topic further under Item 14.3.

SCICOM Chair drew the attention of participants to ICES Code of Conduct (now visible on all Expert Group SharePoint sites) and asked that, if anyone was unable to abide by the code, they should make this clear to the meeting. No person suggested they could not follow the code.

The meeting was informed that Mette Skern-Mauritzen had offered to stand in as Chair in case the SCICOM Chair would run into any technical problems.

Indicative voting tools had been prepared by the Secretariat in advance of the meeting, in case the meeting could not reach consensus on any topics and needed to be able to assess support or lack of support for any proposal. Via the SCICOM SharePoint site SCICOM members had been invited to register as volunteers for the roles in the 2020 ASC Award Selection Group, 2021 ASC Theme and Network session selection group, and act as convenors for the contributed papers session at the ASC 2021.

Anne Christine Brusendorff (ICES General Secretary) welcomed all SCICOM members to the WebEx meeting, noting that the background for the WebEx is serious with the pandemic in Denmark and all other ICES member countries. The Secretariat will be closed for external visitors until the end of June to take care of ICES community and our Secretariat team. Emergency plans



have been instigated to facilitate ICES work, and this WebEx is a grand example of the implications of our measures in this emergency plan. Thanks were extended to all participants linking up to the meeting and to the science team for their preparations. The General Secretary wished a successful meeting to all participants.

## 2 Agenda and timetable

SCICOM Chair with reference to Document 2-1, the revised SCICOM WebEx Agenda, reminded the meeting that all items had been reduced in length and that social arrangements had been cancelled!

Instead of the usual group photo of all participants, SCICOM Chair suggested that it would be fun if everyone could take a selfie in their home offices around the world and post them on the SCICOM SharePoint site, to allow us to create a compilation photo of all our members.

## 3 Follow-up on actions from the Science Committee meeting at ASC 2019 and decisions on SCICOM and ICES Resolutions Forum

SCICOM Chair drew everyone's attention to Document 3.1, Minutes of September 2019 SCICOM meeting, 3.2, Actions completed from September 2019, and 3.3, Summary of decisions made via SCICOM Forum and ICES Resolutions Forum. All actions in Document 3.2, Actions and decisions from the SCICOM September 2019 meeting, had been completed prior to the meeting, and the SCICOM Chair thanked all contributors. There were no comments to the documents.

## 4 ICES Science 2019 – a short review and forward look

SCICOM Chair, with reference to Document 4.1 and 4.2, provided a summary of ICES science-related activity, outputs and impacts in 2019, and highlighted issues relevant to the work of the Science Committee and the wider leadership of ICES scientific work.

Progress has been made mapping expert group ToR to the Science Plan priorities as well as establishing new groups to fill some of the gaps. The new Scientific Report series has increased the visibility of expert group work, giving much greater prominence to ICES science.

Another area of good developments is through the work of the Communications team, a clear process has been established, communicated and implemented to collate science highlights to feature in "news and events". 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. To help engage more participants in expert groups, we have continued to develop materials to highlight the benefits of joining ICES expert groups.

Looking forward, SCICOM Chair brought to the attention of the meeting the broad objectives for 2020 and 2021:

- Project and promote the full swathe of ICES marine science internationally
- Provide clear and accessible paths for engagement with ICES, especially focusing on the next generation and their development / training
- Continue to strengthen links between science, data and advice
- Further develop systems to provide access to information, especially essential data for monitoring progress, output and impact of our community
- Increase harmonisation of practices where possible, so people are encouraged to move flexibly and easily among groups and roles

## 5 ICES Advice 2019 – a short review and forward look

Mark Dickey-Collas (ACOM Chair), with reference to Document 5.1, gave an update on the outputs and challenges for ICES advice in 2019.

ICES is a knowledge provider to decision-makers. The main requesters of ICES Advice were presented: DG MARE, DG Environment, OSPAR, HELCOM, NEAFC, and NASCO. There are also MoUs with Iceland, Norway and ICES is close to having an agreement with the UK, and ICES has been mentioned in their fisheries bill as the sole provider of international advice for their fishing.

ICES is innovating and at the front of the pack globally when it comes to ensuring transparent and credible evidence and advice. ICES is recognised by FAO as a Regional Fisheries Body and ICES has a more transparent process of developing advice than anybody else in the world thanks to initiatives such as the transparent assessment framework (TAF); regional database and estimation system (RDBES); stock assessment graphs; stock information database; vulnerable marine ecosystem portal; survey and data portals; and a well cited and continually evolving data policy. And ICES has governance groups to manage the data processes.

ICES has numerous web services which enable a vast proportion of processes to be enquired through web services, such as Survey databases (catch), mapping and estimation scripts, and inputs, and GIS outputs. Guidelines and protocols are being explored and may be added.

ACOM Chair highlighted some important initiatives for SCICOM to be aware of:

- **ICES Bycatch Roadmap:** ACOM is working to develop a roadmap to deliver bycatch advice to help fulfil the expectations of our advice requesters. It involves actions to more efficiently consolidate data and knowledge, and plan future steps in ICES to address the requirements for the CFP, MSFD, and Habitats Directive, and EU seabird Action Plan relative to incidental bycatch of protected, endangered and threatened species. ACOM Chair thanked Henn Ojaveer for leading and building this initiative.
- **ICES ecosystem advice framework.** Closely linked to quality assurance work and reform of the introduction of advice. The report of the subgroup is building on WKECOFRAME and WKECOFRAME2. The framework agreed by ACOM is to include the ICES approach to various policy objectives and also to include clarity and documentation of the advice process.
- **Scoping with stakeholders & managers.** Advice has been strengthened through scoping workshops: WKIRISH, Baltic Cod, WKRRMAC, Deep Sea Access Regulation, Baltic Mixfish, Baltic Salmon Management Plan, MIXFISH. All of these workshops considered

a range of issues including management objectives, research needs, co-development of methods and communication of advice.

- **Proposal for stakeholder engagement strategy.** ACOM and members of the SIHD community have worked to develop a proposal for a stakeholder engagement strategy. A workshop will be established and will define purposes and objectives for ICES engagement with stakeholders across the network and propose a draft engagement strategy for ICES advice and science.

*Comments:*

Are there sufficient resources in the Secretariat to deal with TAF? General Secretary, Anne Christine Brusendorff, responded that money had been earmarked by Council to develop TAF for a specific period and we had two excellent colleagues developing this. The second phase will aim to ensure that we embed the know-how widely in both the advice and science network, as well as in the Secretariat that supports the assessments. So in this phase, while there is one full-time colleague, the idea is that all of the advice professionals, and the data professionals in the Secretariat will support TAF. In addition, volunteers from the community will provide in kind contributions; all of this will get easier as the code base is built up and new users are able to borrow from the existing assessments and approaches in TAF.

## 6 ICES Annual Science Conference 2020

### 6.1 Initial introduction and actions for the Science Committee to support the 2020 ASC

Anna Davies (Conference Coordinator) gave a brief presentation of current plans for the ICES ASC 2020 taking place at Øksnehallen in Copenhagen Denmark, 7–10 September. SCICOM was informed about the results of the ASC 2019 survey, full survey results are available in SCICOM background documents.

One big change in 2020 is the split of the poster exhibit into two sessions, with a swap on Tuesday night. The poster sessions will run in parallel to the two evening sessions, Pitch Pit and ICES in a Zero Emissions World. This will allow for double the number of posters, reducing the rejection rate. Rejection rate in 2019 was 51%, in 2020 there will be a 113% acceptance rate!

During the poster sessions the “How and Why to Join ICES Booth” will be offered as a response to questions raised at the 2020 WGCHAIRS meeting (about how to attract new participants to expert groups) and will be open for questions, answers and networking. It will be supported by a team of expert group chairs. Support from SG Chairs would also be appreciated. If you are able and willing to network at this booth, please contact [anna.davies@ices.dk](mailto:anna.davies@ices.dk).

There will be a tightly packed programme for Early Career Scientists. Volunteers for the Early Career Scientist mentor programme are asked to contact [anna.davies@ices.dk](mailto:anna.davies@ices.dk).

SCICOM members were asked to use the Volunteer’s Poll on the SCICOM SharePoint site to sign up for one or more of the following groups:

- ASC Group - ASC 2021 (responsible for advising Science Committee on selection of theme and network sessions)
- Award Selection Group - ASC 2020 (ASG, responsible for identifying awardees for best presentation and best poster awards)

- ASC 2021 contributed session (Conveners)

Feedback was received from Silvana Birchenough (EPDSG Chair) based on several years as volunteer mentor, chaperone, etc., that these roles are very rewarding.

**ASC 2021, UK.** At present our UK hosts have not yet managed to secure funding to confirm the ASC 2021. So we have not been able to identify dates or a venue for the conference. However this is being worked on, and will be appraised when further information is available.

## 6.2 Highlighting the “Guidelines for ICES Annual Science Conference”

SCICOM Chair introduced Document 6.2, the Guidelines for ICES Annual Science Conference. With this document all ASC guidance and decisions that are usually addressed by SCICOM can now be found in one location, and will be subject to a regular update cycle- to improve and share approaches as we learn from experience. The guidelines include the purpose and history of the ASC, development and selection of theme and network sessions, identification and selection of keynote speakers, the work of the Award Selection Group and criteria and process for selection of merit awards (for ASC posters and presentations), and the annexes provide template letters and web material for advertising and managing the SCICOM-linked processes during the ASC. If you have suggestions for improvements to the document, please contact the SCICOM Chair.

# 7 Steering groups: reports, priorities and science highlights

## 7.1 Integrated Ecosystem Assessments Steering Group

Mette Skern-Mauritzen (IEASG Chair) with reference to Document 7.1 provided an overview of IEASG activities since September 2019.

Additions to the IEASG community have included two new IEA groups:

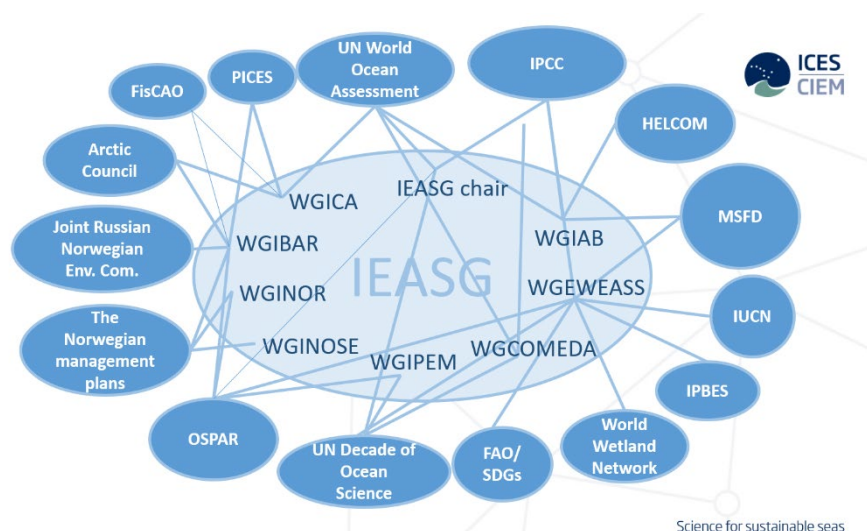
- Working Group on Integrated Assessment of the Azores (WGIAZOR) chaired by Mario Rui Rilho de Pinho (Portugal) and Maria de Fatima Borges (Portugal)
- Working Group on Integrated Ecosystem Assessment of the Greenland Sea (WGIEAGS) chaired by Jesper Boje (Denmark) and Colin Stedmon (Denmark). WGIEAGS has already met in 2020, with 19 participants, and was successful.

Another new working group is the Working Group on Balancing Economic, Social and Ecological Objectives (WGBESEO) – chaired by David Langlet (Sweden), David Goldsborough (Netherlands) and Paulina Ramirez-Monsalve (Denmark). It will partly focus on improving the understanding of societal goals related to the marine environment and providing scientific information to support and understand the balance among these goals.

A new ecosystem overviews workshop has been postponed until spring due to the COVID-19 situation. When the workshop takes place it will seek to further strengthen the methodological and technical basis of Ecosystem Overviews, through proposing ways to link high-priority pressures to ecosystem functions and processes; developing guidelines for assessing and prioritizing

among drivers, stressors and impacts; and adapting best practices to ensure transparency in assessments and communication of uncertainties in Ecosystem Overviews.

An action point from SCICOM 2019 was for “*Pierre Petitgas and Mette Skern-Mauritzen to consider developing a format an event that would increase contact between IEA groups and other, and provide a platform for initiating integrative science*”. To find out if the IEASG EGs are sufficiently connected to processes/fora outside ICES, that IEA groups should contribute to and benefit from, a survey was conducted and a visual overview was presented:



It was mentioned that not all those persons and entities that were surveyed had responded; and there could be even more connections. For instance the Global Observing System was not included, but should probably be there. However, in conclusion, the survey as completed provided strong evidence that ICES IEA work is well integrated with the European and global processes and no further actions were required.

The IEASG Chair has been involved in the ICES subgroup on adapting ICES Advice Framework to Ecosystem Advice. As a part of their process the subgroup have been through all the steps of the advice process to see how each step should be adapted to improve ecosystem advice. Compared to fisheries advice, ecosystem advice production is not as formalised and is supported by fewer expert groups despite being resource intensive. Two of the main concerns are:

- There is a lack of capacity in the relevant ICES expert groups, and often they can only scratch the surface of the topics needed to develop ecosystem advice;
- There is a lack of understanding of societal needs and stakeholder interactions. This makes it hard to identify priorities and needs.

It was stated that WGBESEO might generate some results that would start to address these concerns. There was also stated a further need to include stakeholders' perspectives. This will require more resources, and a process should be planned for further action that will also avoid stakeholder fatigue.

The IEASG Chair presented her main priorities for 2020, which include:

- Co-chair WKTRANSPARENT;
- Leading an IEASG meeting, as planned to take place during ASC 2020 in Copenhagen, Denmark;
- Follow up on the Arctic fisheries viewpoint;
- Contribute to the development of the ecosystem advice framework;
- Ensure a good handover of IEASG to the new SG Chair starting 2021;

- Work to address the two concerns presented above.

**Action:** The IEASG Chair invited SCICOM members to join a subgroup on capacity in IEA expert groups and understanding societal needs and stakeholder interactions. The subgroup would aim to report back to the SCICOM September meeting.

*Comments:*

Societal needs. Silvana Birchenough suggested thinking about this in a broader sense – it might be an idea to run a two-way questionnaire and establish a workshop. EPDSG would be interested in contributing to such an initiative. IEASG Chair agreed to discuss this in more detail.

## 7.2 Fisheries Resources Steering Group

Patrick Lynch (Chair of FRSG) with reference to Document 7.2, presented an update on activities of the Fisheries Resources Steering Group.

The functioning, role, and contributions of the FRSG continue to evolve. FRSG has been successful in facilitating coordination of ICES stock assessment-related expert groups. The SG is potentially taking on an additional responsibility in coordinating the benchmark process. FRSG has been active in contributing to scientific advancement through publishing peer-reviewed articles, coordinating sessions at the ASC, standalone workshops, and prioritizing strategic directions for ICES.

FRSG Chair presented a list of research priorities and needs, and a list of strategic directions, which tie well with the ICES Science Plan (both lists are available at: <https://community.ices.dk/Committees/FRSG/SitePages/HomePage.aspx>)

*Comments:*

SCICOM chair emphasised the importance of bringing these research needs forward to be distributed efficiently in our system. We need to find ways to cascade the information and incorporate the identified research priorities in the ToR of relevant groups. Patrick Lynch noted that research needs can be consulted at the website, but this process needs further development.

Henn Ojaveer, ACOM vice-chair, noted that Fisheries Overviews were identified as one of the potential research needs. Henn invited Patrick Lynch to join a dedicated subgroup on Fisheries Overviews within ACOM. Patrick Lynch accepted to be included.

**Action:** ACOM Chair will have offline discussions with FRSG Chair on a mechanism to turn the research priorities identified by FRSG into terms of reference for the expert groups.

## 7.3 Ecosystem Processes and Dynamics Steering Group

Silvana Birchenough (Chair of EPDSG) with reference to Document 7.3, gave an overview of progress within the Ecosystem Processes and Dynamics Steering Group. SG and expert group ToR are on track. EPDSG Chair highlighted in particular: facilitation of discussions on new and emerging scientific topics; close cooperation with the ICES communications and publications team to disseminate recent outputs/ publications developed by expert groups and to capture relevant papers in the ICES database; continuous cooperation and interactions between EPDSG and HAPISG; ongoing collaborations between ICES and PICES, including joint expert groups and a joint theme session planned at the ICES ASC 2020.

EPDSG Chair is representing ICES at a number of meetings, including the CIESM congress in 2019 and forthcoming Regional Arctic Ocean Decade Workshops - UN Decade of Ocean Science for Sustainable Development (2021–2030).

*Comments:*

SCICOM Chair appreciated the efforts to build collaborations and emphasised the importance of the continued and fruitful cooperation with PICES.

**Action:** EPDSG Chair will initiate offline discussions on topics of ASG-EPD interest with Mike Rust (ASG Chair).

**Action:** EPDSG Chair will liaise with Henn Ojaveer (ACOM Vice-Chair) regarding a potential viewpoint paper.

## 7.4 Aquaculture Steering Group

Mike Rust (ASG Chair) with reference to Document 7.4, presented an overview of activities of Aquaculture Steering Group since September 2019.

ASG is still in the process of trying to define what ICES aquaculture advice would look like and also who are the clients. Activities performed so far include an initial meeting held at ASC 2019 to form a core group and agree on the directions for future work (Mike Rust, Janet Whaley, Henn Ojaveer, Eugene Nixon, Anne Cooper and Malene Eilersen) and there have been periodic web meetings since. A network of national aquaculture (regulatory) experts has been established and their job will be to support the core group. Finally, a survey has been sent to stakeholder groups to solicit feedback on the potential contents of Aquaculture Overviews. The survey will officially close on 30 March 2020 (but could be ongoing).

**Action:** SCICOM members are requested to forward the stakeholder survey on the potential contents of Aquaculture Overviews to relevant people their countries and agencies, and they are welcome to respond even after the current deadline of 30 March 2020.

Activities planned for 2020 include finishing the survey and considering the feedback on the intended contents of Aquaculture Overviews. The next step is to agree on the content and scope of Aquaculture Overviews based on the outcomes of the stakeholder survey and to decide on the first ecoregion to include in an Aquaculture Overview (the Norwegian Sea is a likely possibility) and to identify the responsible scientist(s). A dedicated workshop to address this will be held in late 2020 or early 2021.

ASG is working with the Chairs of the Workshop on Emerging Mollusc Pathogens (WKEMOP – Chaired by Janet Whaley and Ryan Carnegie) on the production of a Viewpoint. Other expert groups have expressed interest in producing Viewpoints but are not as far along.

Setting a foundation for requested advice, the Working Group on Environmental Interactions of Aquaculture (WGEIA) is finishing up an analysis of environmental laws governing aquaculture across ICES countries.

**Action:** SCICOM members are asked to help suggest aquaculture representatives from Spain, Faroe Islands and the Netherlands who would be able to contribute to the analysis of environmental laws governing aquaculture across ICES countries.

WGEIA is now starting to compare risk assessment approaches used by different ICES countries to inform management of aquaculture. Risk assessment will likely become one key approach for ICES to apply when responding to advice requests in the future. There is also expected to be a need for ICES training in risk assessment methods in a year or two.

The ASG Chair drew attention to a science highlight from The Working Group on Scenario Planning on Aquaculture (WGSPA). WGSPA has “in review” a paper on blue growth targets and seafood demand estimates for the ICES region. The bottom line is that blue growth targets for increased seafood production from aquaculture are well below projected demand for the region. In other words, even if all European and North American domestic targets are met, the North Atlantic will not be able to meet its own seafood needs and will continue to have to increase imports from other regions.

The ASG Chair highlighted potential new expert groups that he was considering as an addition to those already established in ASG:

- Vulnerabilities and resilience of aquaculture to climate change
- Aquaculture Oceanography and Modelling
- Operationalizing Economic and Social Trade-off Analysis
- Implementation of an Ecosystem Approach to Aquaculture
- Aquaculture Marine Spatial Analysis
- Engineering and Technical Needs in Aquaculture

**Action:** SCICOM members are asked to comment on the Aquaculture SG list of potential new expert groups and to advise on possible chairs for these groups.

ASG Chair has also been considering how we can communicate and work more effectively using virtual tools?

- ASG is developing a plan and best practices for virtual meetings. A web meeting is planned to develop a path forward.
- ASG is planning to establish a webinar series. Likely there will be one webinar per month rotating among the chairs to introduce the activities of their WGs.

## 7.5 Human Activities, Pressures and Impacts Steering Group

Sarah Bailey (HAPISG Chair), with reference to Document 7.5, gave an update from the Human Activities, Pressures and Impacts Steering Group. The group currently includes 27 working groups and 3 workshops that cover a very wide range of topics. HAPISG expert group chairs were well represented at WGCHAIRS, and all new chairs should be encouraged to participate in this meeting.

Efforts are underway to identify additional viewpoints and science highlights from HAPI expert groups as well as developing ‘In Other Words’ with Communications. The Biofouling Viewpoint was delivered to International Maritime Organization; it was well received and the International Maritime Organization has formed a correspondence group that will take the viewpoint into account.

The HAPISG Chair is working with the ACOM/SCICOM Chairs to formalize participation of expert groups (WGSHIP, WGBOSV) at the International Maritime Organization.

WGSHIP held a very successful meeting in November with 20 participants. They are very ambitious and they are working on a viewpoint with a short deadline (by May). A second chair has been recruited, Ida-Maja Hassellöv (Sweden). This group has brought new experts to ICES.

In March WGMS and MCWG found that meeting together was very productive and as a result, they decided to merge in the future, and this will help solve the problem of low attendance in MCWG. HAPISG Chair will work with the chairs to propose a new resolution.



Most of the Science highlights come in the form of journal publications. HAPISG would like to encourage HAPISG EGs to come up with other types of highlights.

WGBOSV and WGITMO are supporting a Theme Session at the IUCN World Congress 2020, *Stopping the Tide: Best practices and solutions to tackle marine invasive alien species* (14 June 2020, Marseille, France). For the ASC there are five sessions proposed by the HAPISG expert groups and HAPISG is planning to run a steering group meeting during the ASC 2020.

*Comments:*

The ACOM Chair thanked Sarah Bailey for great oversight and dedication, and engaging incredibly effectively with the advisory groups that HAPISG has inherited.

## **7.6 Ecosystem Observation Steering Group, including WKREO report-back**

Sven Kupschus (EOSG Chair), with reference to Document 7.6, presented an overview of activities of Ecosystem Observation Steering Group since September 2019, including an update from WKREO.

EOSG Chair reported that most of the data has been made available for the stock assessment groups, and even with COVID-19 in progress the EOSG expert groups are trying to move forward.

EOSG has been quite good at providing science highlights. There has been follow-up on the science highlight series “Maintaining the continuity of long term data sets: challenges and solutions”, and there are still a number of topics to take forward.

EOSG has adopted a further governance group (SCRDB) from FRSG to add to WGSMA and WGDG. The governance groups form the link between the strategic perspective (DIG) and the data collector needs (EOSG,) with many of the EOSG expert groups contributing to the groups as well as DIG.

WKFAST and WGFTFB have cancelled their 2020 joint symposium meeting in Bergen due to COVID-19, and both groups are looking into WebEx meetings to schedule for ‘special requests’, recommendations and governance tasks which have been more heavily emphasised in recent years.

The Secretariat (Julie Kellner and Alondra Rodriguez) have been active and proactive in organising everyone involved in EOSG. Together with the EOSG Chair they have streamlined the resolutions process while keeping it transparent.

Communication within the SG (between individual expert groups) is improving through cross group workshops, but at the more general SG level remains very difficult to manage (strategic planning, ACOM request, Science Highlights, emails from SG chair). EOSG Chair is trying to encourage people to step in as new SG chair.

More work is needed on prioritizing the ToR. Expert group ToR are mapped against the Science Plan headings at the time of inception. The Science and Advisory Plans provide no information on prioritisation between either the plans or the topics within plans. It is therefore not possible to prioritise the information or data needs.

EOSG this year organised a Workshop on the Realigning of the Ecosystem Observation Steering Group (WKREO) to consider the flow of information from evidence to advice. Information flow was very much dependent on the knowledge and dedication of individuals involved in the pro-

cess. WKREO participants covered the whole range of ICES activities and monitoring components (data collection, beam trawl, etc.). This knowledge was used to examine the current information flows from data to advice, seen from the data collection and data user perspective. This allowed WKREO to figure out why the misalignment is occurring and to do a full network analysis.

WKREO has provided some clear guidance for improving communication in EOSG. In addition, the interactions of the workshop with the wider ICES network have shown that such activities themselves are beneficial to EOSG and the expert group chairs need to be given more opportunity and incentives, something that is very difficult given the current and increasing group size.

EOSG Chair, with reference to Document 7.6-2, presented a proposal, based on WKREO work, to split EOSG into one regionally focused and one methodologically (cross-regional) focused Steering Group with cross-leaved interactions at the data collection level greatly reducing the number of expert groups that need to interact on a specific topic, while greatly enhancing the within steering group similarities and synergies which allow the SG to act more effectively. The proposals in this document were discussed alongside other considerations relating to the formation of a new steering group, under agenda item 12.

## 8 Operational Groups: reports and priorities

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

Nils Olav Handegard (SIPG Chair) and Ruth Anderson (ICES Editor), with reference to Document 8.1, presented an update on the work of the Science Impact and Publication Group. This focused on a project to improve the ICES library system, an update on the project to expand TIMES and an update on the progress with the ICES Bibliographical database.

#### *Comments:*

Neil Holdsworth commented that many of the presented issues related to the library may relate to process and implementation, and not to an actual deficit or technical issue in the library system itself. Nils Olav highlighted that improving the current library system is one of the three potential ways forward. Further technical expertise is needed to properly assess which is the most cost-effective. Jens Rasmussen (DIG Chair) volunteered contacts and information related to a recent library transition at his institution.

Anne-Christine Brusendorff (General Secretary) stressed that the library evaluation should consider human and financial resources to set up and maintain any new library system.

Johannes Karstensen (Alternate member, Germany) asked whether it would be possible to upload the TIMES publications to the Ocean Best Practice (OBP) repository, and suggested setting up a system so that ICES can officially endorse documents within the OBP repository. The advantage would be an increased visibility. Neil responded that ICES already contribute some documents to the OBP repositories, but an earlier analysis (conducted with the previous ICES Editor) indicated that it was not recommended for all ICES publications due to differences in the publication models.

Sven Kupschus (EOSG Chair) commented that he was happy with the transition of the SISPs into TIMES. The TIMES process is being adapted to preserve the role the EOSG Chair plays in these publications.

## 8.2 Training Group (TG)

Jan Jaap Poos (Chair of Training Group), with reference to Document 8.2-1, gave an update from Training Group including an overview of courses held in 2019, new courses offered for 2020 and courses in the pipeline for 2021.

In 2019, ICES Training offered seven training courses on a range of topics, held at ICES HQ and abroad. Reports from each course are available online (<https://www.ices.dk/news-and-events/Training/Pages/Previous-reports.aspx>).

The first course for 2020 on “Data-limited stock assessment methods and reference point estimation” was successfully conducted in January.

The next course on “Spatial models in marine science using INLA and inlaburu” has been cancelled for 2020 due to the COVID-19 situation. It will now be held in 2021.

The training courses are being promoted through different ICES channels. National representatives to SCICOM and ACOM are also encouraged to disseminate information about ICES training courses in their own organisations.

EU projects turn to ICES for co-sponsoring courses and can currently request these courses in the same way as other requesters. A draft of scenarios for future contributions of projects to ICES training is included in the SCICOM meeting documents, as Document 8.2-2.

Suggestions for new training courses can be requested by contacting the Training Group and the Training Coordinator. The following suggestions for new training courses came up during the meeting:

- Risk assessment in aquaculture (Mike Rust, Chair of ASG).
- Turning Science into Advice, bringing ACOM and SCICOM together (Silvana Birchenough, Chair of EPDSG).
- Design and statistical design (Silvana Birchenough, Chair of EPDSG).
- Stakeholder and industry work (Silvana Birchenough, Chair of EPDSG).
- Online training about running an online course

Exploring the possibilities for online training will be important for ICES if it is to minimise the CO<sub>2</sub> footprint for ICES Training Courses. Developing ICES Training Courses online will, however, require more time and resources.

Chair of Training Group informed the meeting that ICES Training Courses are staying budget neutral for 2019.

The TG await further information and updates from the Council initiative on education for the future of ICES, as described in Document 8.2-3, but are ready to engage. ICES Council want to develop a strategy that will build capacity (through graduate- and post-graduate education) for meeting future ICES science-based advisory needs. This strategy will involve coordination among North American and European Universities to develop multidisciplinary, multi-institutional coursework, research opportunities and scientific personnel exchanges. Council have defined education as the long-term process (graduate or post graduate education) that prepares future experts through Masters’ and Ph.D. coursework and research and training as the short-term process of developing skills within the existing pool of experts through short courses, such as those provided by ICES under the guidance of the Training Group. A workshop (WKED) has been scheduled to take place at the ICES Secretariat in Copenhagen during the week of June 15, 2020 to develop an education strategy. Educators from approximately 15 institutions of higher learning throughout the ICES area have expressed interest and TORs are currently being drafted.

Consultation with the Training Group and the Advisory leadership will be integral to this process. Input from SCICOM is also encouraged.

### **8.3 Data and Information Group**

Jens Rasmussen (DIG Chair), with reference to Document 8.3, presented an update from DIG. DIG, with ICES Data Centre, has been working on CoreTrustSeal accreditation. There is now a full draft response to all 16 requirements of the accreditation process, and this is currently being reviewed. Over 30 different workflows have been examined and fully catalogued in the database. This is the first fully cohesive compatible documentation of all the workflows that are going on in ICES, and this will assist some of the governance groups to understand exactly which parts of the workflow are connected to their systems and data exercises. It will also identify gaps where there might be a shortage in documentation, critical personnel, etc. All the documentation prepared as a part of this accreditation exercise will also become a valuable resource for ICES as a whole.

The current governance groups in operation include RDB/RDBES (SC-RDB), DATRAS (WGDG), SmartDots (WGSMART), TAF (WGTAFGOV, new group) and Spatial Fisheries Data (WGS-FDGOV, new group). DIG has attended their meetings to support best practice in data management and to clarify any questions there may be within these new groups. Key work areas are to identify the key objectives as to why are we working with these data, who is responsible for what part of the process, what is the process, what resources are available to work on this and to maintain it and what comes next in terms of how it develops (including taking in recommendations from other expert groups). It is also important to look at aspects of the Data Centre's practical work on developing applications, to look at how you can develop guidance and potentially also training.

DIG has reviewed ICES data policy. In preparation for the accreditation exercise it was necessary to standardise who can access the data and under what machine readable license. DIG is looking at this from the perspective that there is a policy on what ICES will do with data that's coming into ICES and the license which applies when somebody pulls data from a system. This covers what are they able to do with these data supplied by ICES on behalf of member countries. There will not be one license and one policy because there are many different types of data in the system. DIG are currently compiling a record of the existing license models, and recording whether the data are already open source or if they are more restrictive data types requiring different licenses.

The DIG meeting scheduled for the end of May might be postponed or held via WebEx due to COVID-19. DIG is also planning to meet at the ASC in September.

## 9 Furthering influence and effectiveness of steering groups

### 9.1 Appointment and turnover of steering group chairs: future approaches for increasing continuity of support for expert groups and reducing risks

SCICOM Chair, with reference to Document 9.1, presented a proposal to adopt a 3 + 3 year approach for steering group chair terms (as already applies for the SCICOM and ACOM chairs), but with both terms requiring election or approval by the full committees. The background to the proposal is to avoid a high numbers of steering group chairs being replaced in a single year. This year, for example, three of six steering group chairs are being replaced, as is the SCICOM Chair. This is not desirable for business continuity. Had the ASG Chair not continued for an additional year, four of six steering group chairs would have had to be replaced during 2020.

Even if a 3+3 term system were introduced, the immediate (2020) introduction of the proposed system would not resolve the issue of high turnover in a single year because the change of four chairs may be repeated in 2023/24. This meant that a transition process would also be required, and some options, as described in Document 9.1, were presented.

SCICOM voting members were asked to cast an indicative vote for / against a proposal to establish a subgroup to further develop the proposal in Document 9.1 taking into account the modifications described in email discussions, on the WebEx chat and looking to the ICES Rules of Procedure. The indicative vote resulted in 18 for, none against and 3 abstain.

**Action:** A subgroup was established to develop a revised proposal for approval on the SCICOM Forum before 1 May. The following subgroup members volunteered via WebEx chat: Mette Skern-Mauritzen, Silvana Birchenough, and Alan Haynie.

### 9.2 Recruitment of chairs for Ecosystem Observation, Ecosystem Processes and Dynamics and Integrated Ecosystem Assessment Steering Groups

SCICOM Chair outlined the provisional process for recruitment of new Steering Group chairs:

- Delegates, Science Committee members and Advisory Committee members - via the call for nominations - will be asked to identify and/ or respond to requests for support from suitable candidates and to nominate them (the call for nominations was originally proposed for April 2020, but will now be delayed, at least for EOSG and the new Technology and Data Science Steering Group, as a result of decisions on term length and the format of the new group that are being taken after the SCICOM meeting. The current expectation is to call for nominations, for the majority (and ideally all) of the SG chair roles during May 2020)
- Nomination will be encouraged only in the case that potential candidates have already confirmed they wish to be considered for the role

- In (provisionally) June or July 2020, candidates will be offered the opportunity to share their CV with the Committees and present their vision for the steering groups they would like to lead
- Election of new Steering Group chairs will follow, by secret ballot

For the recruitment process to run smoothly, SCICOM needs to provide clear recommendations in terms of the Chair tenures and the composition and role of the Steering groups. These would need to be available before the call for new Steering Group chairs was opened.

## 10 Opening (Day 2)

SCICOM Chair opened Day 2 of the meeting and started by thanking the volunteers coming forward for the roles related to the ASC. For the Award Selection Group additional volunteers were asked to come forward to help cover the five theme sessions in parallel, and ACOM Chair was asked to appoint an ACOM representative to join the group. Volunteers for the ASC Early Career Scientists events would be sought via the WGCHAIRS and SCICOM fora.

## 11 Strategic Initiatives: review of activities and plans

### 11.1 Strategic Initiative on Climate Change

Mark Payne (SICCME Chair), with reference to Document 11.1-1, gave an update from SICCME. Myron Peck (Germany) and John Pinnegar (UK) finished their terms as ICES SICCME Chairs in December 2019, and Christian Möllmann (Germany) and Mark Payne (Denmark) are the new Chairs. In addition, PICES S-CCME Chair, Shin Ichi-Ito (Japan) term has expired and he has been replaced by Xinguan Shan (China). Jackie King (Canada) continues as a co-chair.

SICCME experts are contributing to the upcoming IPCC report (John Pinnegar, Kirstin Holsman, Shin-ichi Ito, Mette Skern-Mauritzen, and Christian Möllmann). The cut-off date for submission of articles is 1 July 2020 and the cut-off date for acceptance is 1 May 2021.

Two EU H2020 projects are wrapping up (ClimeFish and CERES), and a new EU H2020 Project FutureMARES, coordinated by Myron Peck, is being funded. It is a four year project involving 32 partners and 15 nations. The project will advance knowledge of climate change impacts on marine and transitional waters, and the effectiveness of nature-based solutions. The kick-off meeting will take place in September 2020.

Furthermore, SICCME aims to lend its community of experts to support ICES and PICES activities in relation to the UNESCO Decade of Ocean Science for Sustainable Development.

In addition to continuing and extending existing work, two new ToR are proposed by SICCME: (g) provide knowledge to the scientific community, and h) identify scientific priorities. ToR explicitly mention supporting of the transfer of climate-related and relevant knowledge to advisory processes as envisioned in the “Workshop on pathways to climate related advice” currently in development.

**Decision:** SCICOM approved the new draft resolutions for SICCME (Document 11.1-2).

*Comments:*

What is the connection between EU projects and ICES? The ICES advisory side is working with SICCME to ensure that the knowledge gathered during the CERES and Climefish projects can flow into the next generation of ecosystem overviews.

## 11.2 Strategic Initiative on the Human Dimension

Alan Haynie and Johanna Ferretti (SIHD Chairs) with reference to Document 11.2-1, gave an update from SIHD, including recent and upcoming activities.

Jörn Schmidt and Eva-Lotta Sundblad completed their terms as SIHD Chairs at the end of 2019. They were both recognized for their important contributions at the 2019 ASC. Johanna Ferretti (Germany) has joined Alan Haynie (USA) as a current SIHD Chair.

There have been a lot of human dimension related activities in- and outside ICES. The SIHD network encompasses an increasing number of researchers, with now over 80 members, including members of several ICES expert groups.

ICES SIHD relevant expert groups include WGMARS, WGSEDA, WGIMM, WGRMES, WGHIST, WGECON, WGSOCIAL and new group WGBESEO, which expands the work of WKSIED-BESIO (Balancing Economic, Social, and Institutional Objectives in Integrated Assessments), which was held November 2017. The Workshop on Challenges, Opportunities, Needs and Successes for including human dimensions in IEAs ([WKCONSERVE](#) report [here](#)) was held in October 2019 in Copenhagen and brought diverse players to the table, matchmaking the established IEA expert groups with social scientists and economists from outside ICES network and developing a roadmap for the inclusion of social and economic data and analyses in each IEA. WGSOCIAL and WGECON were planning to meeting back to back in June, and this meeting will now be happening remotely.

The goals of the SIHD Roadmap in 2020 include promoting discussion that leads to ICES becoming a more active and influential contributor to social science, and providing ICES with the capacity to provide more comprehensive advice to its clients in the long-term. There is a need for more discussion and interaction on the Roadmap with the broader ICES community.

The following SIHD needs were highlighted:

- More involvement in stakeholder interaction
- Better integration with aquaculture activities
- Assessment of benefits of different scales of social science work

The SIHD ToR support the ICES Strategic, Science and Advisory Plans and cover: coordination, social science research, communication, outreach and stakeholder engagement.

**Decision:** SCICOM approved the new draft resolution for SIHD (Document 11.2-2).

*Comments*

Who are the stakeholders identified? Response: both resource users and policy makers, people who use ICES outputs. In terms of aquaculture integration, SIHD people are not well engaged in aquaculture. Mike Rust would be really interested in looking into aquaculture versus fisheries issues in the domain of SIHD.

## 12 Profiling data and technology in ICES

### 12.1 Introduction

The SCICOM Chair introduced this item and stated that the purpose was to discuss the strength and projection of data science and technology in ICES, and the extent to which we are able to meet our commitments in the Science Plan. He highlighted the need to consider the perspectives of the DTech subgroup, DIG, the EOSG report and other reports when assessing the case for a new steering group. The SCICOM chair raised the rationale for the timing of this item and explained that there was a rather narrow window to advertise new steering group chair posts and that by progressing a decision we would be able to make the specifications for the advertised role(s) as clear as possible. He asked SCICOM to focus on how to move this item forward and to consider whether any proposal that emerges has a more positive effect on delivery of the ICES Strategic, Science and Advisory Plans than the status quo, while also considering whether the benefits outweigh the costs of taking a decision.

### 12.2 Report back from the SCICOM subgroup on Data and Technology (DTech)

Pierre Petitgas (Subgroup Chair and French SCICOM member), with reference to Document 12.2, presented the report from the SCICOM subgroup on Data and Technology (DTech) formed at the SCICOM ASC meeting last September. Subgroup members were Silvana Birchenough, Jörn Schmidt, Jens Rasmussen, Neil Holdsworth, Wojciech Wawrzynski, Nils Olav Handegard, and Pierre Petitgas.

The objective of the group was to look at what ICES is seeking to profile within data and technology more strongly and identify mechanisms to support that. Based on the data life cycle (create, store, use, share, archive, (destroy)), the group made the decision to concentrate on technologies that create new data, new uses of data and new ways of sharing data. The group identified both hardware and software technologies of prime interest in marine science (e.g. imaging, acoustics, omics, sensors, new platforms, machine learning).

A lot of ICES groups are involved and concerned with technology and they are dispersed among steering groups. The DTech subgroup created an overview of expert groups concerned with technology based on an analysis of their terms of reference. They defined three categories: (1) groups focused on technology, (2) groups using emerging technology, (3) groups focused on data- and provided examples of groups in each category. This categorisation raised the question of how to group groups working on technology and how to consider/enhance these questions or to address topics that are dispersed across steering groups.

Actions that could be taken to increase the uptake in ICES of emerging technologies were identified as: sessions or pitches at the ASC, workshops on application of particular technologies across portfolios of ICES expert groups, ICES training or hackathons, and ICES publications (in existing series and as viewpoints).

Two suggestions were put forward for how to coordinate data and technology work that crosses expert groups in ICES:



**Option 1:** A steering group dealing with particular expert groups and specific ToR of many other expert groups, in particular for those groups that are users, and that use technology in their context.

**Option 2:** A task force including SG Chairs and the Data Centre to deal with the fact that interests in technology are dispersed across ICES

## 12.3 Profiling data and data science in ICES, a DIG perspective

Jens Rasmussen (DIG Chair), with reference to Document 12.3, presented a DIG perspective on profiling data and data science in ICES. ICES, as an organisation, can be divided into four layers: advice, science, information and technology. The ICES Strategic Plan, Science Plan and Advisory Plans now encapsulate all these layers. Depicting ICES as an organisation by layers is also known as enterprise architecture and each one of these layers has its own sets of challenges and opportunities. There are broad principles for connecting layers relevant to business needs with technologies underneath. But when we start looking at technology implementation (and sometimes data implementation) with the same delivery model, the same organisation and the same goals as before, we need to consider that the connections may look quite different, because there is a need to integrate technologies throughout.

From DIG's perspective, ICES needs to attract data and technology professionals into the organisation to meet new challenges, embrace new methods and analytics, and to help ICES stay relevant.

Data and technology are inherently broad topics across geographical and specialist areas. By nature they are more collaborative and more integrated, which means they are also more effective in supporting science and advice. There is a lot that expert groups can learn from each other by engaging in dialogue and having some degree of coordination.

Practical considerations for DIG:

- DIG is an operational group that advises ICES on data governance, strategic challenges and opportunities, best practice for data management, guidelines etc.
- DIG works in a similar way to expert groups with a broad membership with intersessional work and increasing workload. DIG works to maintain contact with governance expert groups to ensure that best practices for data management are maintained within those groups.
- It is a challenge for DIG to be visible enough, and DIG has sought to overcome this by engaging with WGCHAIRS and ASC events. DIG ask that future challenges and opportunities should be addressed as a shared task.

Overall DIG supports the creation of a Data and Technology Steering Group because this would help promote and coordinate best practice in data management, attract data and technology professionals to ICES, encourage better reuse of quality assured data and support governance groups. A Steering Group can also address data and technology challenges from an implementation perspective. It is also important that expert groups can communicate broadly across all other expert groups regardless of Steering Group affiliation. Finally, DIG could be an expert group under a new Steering Group, or remain an operational group, but this should not impact on the decision about a new Steering Group as either arrangement can be handled in practice.

## 12.4 Steering Group structures to support profiling of technology and data science

Simon Jennings (SCICOM Chair), with reference to Document 12.4, described an approach to better profiling technology and data science in ICES. The case focused on projecting externally and very strongly our work on data and technology, consistent with commitments in the Science Plan. SCICOM chair presented the drivers for a new steering group, which included the benefit of having the groups addressing TAF governance, other aspects of data governance, and the former PGDATA (now WGQUALITY) in one group and benefitting from dedicated leadership and representation at a steering group level. It would also raise the visibility of DIG. Such a change would also deal with the size of EOSG as a steering group, as several of the expert groups focusing on technology and data science are currently in EOSG. Technology and data science are relevant for all the ICES community, although much of the current focus and discussion has been linked to surveys. While surveys are an important part of ICES work, the potential impact of technology across the board is a very important one. Examples were provided in Document 12.4 of new technologies that create a real risk that ICES approaches and science could be seen as redundant, and as an organisation we have to guard against this. This new steering group should be forward looking and emphasise where we want to be in the future as an organisation. There is little doubt from the formation of ASG and FRSG that these changes in structures really can drive a new perspective and attract new people into ICES.

DTech has identified expert groups relevant to data science and technology. Document 7.6-2, which was submitted as a response to Document 12.4, proposed ToR for a Technological and Methodological Observation SG. In response to the two papers, a new one pager was tabled as a background document (Document 12.5-2) that tried to combine the need to project technology and data science for ICES (from Document 12.4) with the higher level goals in Document 7.6-2. A new SG should help with resolving challenges for EOSG, but must also serve technology and data science needs for ICES community as a whole.

Having described the content of Document 7.6-2 the SCICOM Chair posed the following considerations for SCICOM: 1) Is there a sufficiently structured and well supported proposal to move the process forward and expect commitment from ICES community? 2) Does the proposal have a more positive effect on delivery and impact of ICES Strategic, Science and Advisory Plans than the status quo? 3) If yes to both of the above, are the benefits of trying to reach a decision at this meeting (with respect to time lines for ICES plans, change of SG and SCICOM chairs and advertising EOSG chair post) outweighed by the disadvantages of trying to reach a decision? Finally, he suggested that the question to ask when making a decision to create new Steering Group is “can we move to a better position than the status quo?” and not whether the plans for the new Steering Group are perfect. Delays in making a decision may hamper delivery of the Science Plan, delay the appointment of a new SG chair and fail to make the outside world aware of ICES focus on data and technology.

## 12.5 Discussion and next steps

### *Comments:*

- Clarification was requested from DTech on what is meant by a task force and the difference between a task force and a strategic initiative. The idea of the task force is to track data and technology external to ICES, coordinate and to try and implement this in ICES, as well as steering the data science in ICES. A steering group only works with expert groups, so a task force would be able to work across groups more broadly.

- Concern for inventing new kinds of ambiguous and flexible organisms within ICES and that a task force does not deal with expert groups and the size of EOSG in terms of group numbers.
- A suggestion was raised to be clear about objectives of a steering group vs a more broad initiative, such as a strategic initiative or task force.
- There is a trade-off between organising the technology groups in one unit to promote them and dispersing them to encourage implementation.
- The example of SIHD was presented as a strategic initiative with groups associated, and this model may work for a data and technology strategic initiative.
- WKREO focused on information flows, and was broader than just survey considerations. The WKREO chair expressed concerns that the approach in Document 12.5-2 may have unwanted effects on the choice of expert groups that may move from EOSG

There was a recognition that no-one was really arguing for the status quo, just that the model to take forward the work on technology and data science was not fully determined (and was then further discussed)

- From ACOM perspective there is urgency as they need a solution for data and technology that will move ICES forward. SCICOM needs to deal with this with a sense of urgency.
- General discussion about the need to take a decision that recognises the timing of EOSG chair and DIG chair replacement.
- General discussion about the need for more time to look into the specifics of the role of a new steering group in the DTech sub-group, but culminating in general agreement on the need for a new steering group.

**Action:** SCICOM agreed, by consensus, to form a new steering group on the understanding that DTech would finalise terms of reference for the new steering group for review and approval on the forum. DTech will invite EOSG chair, an ACOM member and all other interested steering group chairs to work on this. (Broad consensus for the formation of a steering group was confirmed by an indicative online vote to assess support for a new steering group addressing the broad area of data and technology with specific terms of reference to be proposed by DTech and seeking to accommodate a range of views on the rationale for, and purpose of, such a steering group. Seventeen voting members (77%) approved of creating a new steering group, one member (5%) did not approve of forming a new steering group and four members abstained (18%).

## 13 Science Highlights and Science Promotion

### 13.1 Publication channels for ICES science

Ruth Anderson (ICES Editor) presented a brief overview and short summary of ICES publication channels, with reference to Document 13.1. Currently four peer-reviewed series exist which are subject to the in-house editorial publication process.

Cooperative Research Reports (CRRs) are the most popular and well-known series from the four in-house publications, covering a broad range of topics within marine sciences. With regards to their size and style, CRRs are closer to a book than a journal article format. In 2019, four CRRs were published, two were cancelled as they exceeded the two-year deadline for publication (re-submission in process). At the moment, eight CRRs are in progress.

ICES Techniques in Marine Environmental Sciences (TIMES) are practical manuals (ca. 10–30 pages) – in 2019, two TIMES were published (below the target). A series of measures are being implemented to increase the number of TIMES publications. Two TIMES are in-progress and there are several further inquiries for publishing, which is expected to result in an increase of TIMES publications in 2020. One submission was cancelled because it exceeded the page limits (resubmission in progress).

ID leaflets are published by invitation. Series editors, Antonina dos Santos and Lidia Yebra, have managed to revive the ID leaflets for Plankton successfully. One ID leaflet was published in 2019 after an 11 year lapse, three are about to be published and ca. six are in progress. In 2019, two ID leaflets for Diseases and Parasites in Fish and Shellfish were published (slightly below target) - an increase is expected in 2020.

Celine Byrne (ICES Communications Officer) gave an overview and summary on communications outlets with the goal of promoting ICES work and science with reference to Document 13.1. The aim is to maintain a regular stream of articles through the website and social media. Communications helps expert groups by promoting their work, letting the ICES community know about their existence and helping expert groups by providing input from the ICES community after their meetings. This year WGCHAIRS participants were asked to include communications in their meeting plans. There are recent improvements in the visibility of expert group work as expert groups are sharing more with Communications regarding content to be posted on the various communications platforms. Two ICES rolling series are starting in 2020 as part of the “Science Highlights” series: “Biodiversity” and “In other words”. Communications operate on three social media platforms (Facebook, LinkedIn, and Twitter) - Twitter reaching the largest audience. ASC is being heavily promoted on social media this year. Social media is also a good place to promote ICES people and their work.

#### *Comments:*

Johanna Ferretti (SIHD Chair) asked if there was information available about where and in what context publications are being used (compared to conventional papers). Ruth Anderson informed Johanna that the number of publication views can be accessed, but the purposes they are being used for are outside of Publication’s reach. However, a doubling of views occurred last year. Furthermore, the measures that were implemented to increase publications visibility seem to work successfully. Several SCICOM members expressed their positive feedback on the work of both Communications and Publications, and their prompt and effective attitude to their work.

## **13.2 Science highlights**

“Science Highlights” was not presented, but was marginally touched upon by Celine Byrne (Communications Officer) during “Publication channels for ICES science”. The summary here is based on the intended presentation material that was prepared for SCICOM.

The Science Highlights is a topically focused publication series (3-4 per year). The participation of 5+ expert groups is required, focusing on a particular theme in a short format (one paragraph and 1-2 images per group). The upcoming series is the “The changing Arctic” (April 2020) and “The future of aquaculture” (mid-2020). New series theme suggestions are welcomed. Two new series are being launched in 2020, “Biodiversity” (a showcase of species that ICES study) and “In other words” (revival of an old series clarifying terms and phrases used in the ICES community).

### **13.3 New website structure & design features**

Terhi Minkkinen (ICES Communications Officer) gave an overview of the new website structure and design features, with reference to Document 13.3. The current website has been in use for approximately seven years. There was a need for restructuring and modernization of the website as the increased content over the years has resulted in a less intuitive structure and difficulties with navigation.

The main top menus on the ICES front page will now be direct entries to the core activities of ICES (Science, Data, and Advice). Additionally, a new section “Join Us” and “About ICES” will also be part of the main top menus. The “Join Us” menu is completely new with the content mainly focusing on why it is useful for anyone to join ICES community. The new look of the front page was presented, where thumbnail images will appear next to “Latest News” items. The front page will additionally include direct links to “Latest Advice” and “Scientific Reports”. Under Science, “Science priorities” will have its own submenu. The Data section has been mostly untouched as it functions almost as an independent website. There is a section for upcoming events that will focus on symposia, training courses, and workshops. The library, meeting calendar and improvements regarding the search function have not been included in this project due to lack of time and project funding, but are expected to be developed in the future as follow-up projects. The new structure and design elements are planned to go live by the end of April 2020 (note: timeline updated since the SCICOM meeting).

### **13.4 ICES Resolutions. Streamlining the process from authorship to archival**

Neil Holdsworth (ICES Head of Data and Information) presented an overview of the ICES Resolutions project. The project is carried out mainly due to the lack of consistency in the current system and difficulties in finding the desired information. Until now resolution information was only available in paper form. The current project incorporates several improvements to the resolution form – e.g. redundancy has been reduced by consolidating a number of boxes. Boxes are being used to clearly identify links to ICES expert groups, steering groups, geographic focus, etc. Furthermore, ToR information is grouped in one section. New sections help to identify relationships, required expertise, and deliverables. These improvements will lead to a searchable interface for groups, meetings, and resolutions. Julie Kellner made a draft based on what the SG chairs would find useful to work with – in response, different dashboards are being developed. It will enable the system to provide information on what the expert groups are doing, where they come from, etc. A skeleton version of the online resolution forms is expected around April 2020. Despite the COVID-19 pandemic the project is on track.

## **14 Strengthening the ICES community**

### **14.1 Reporting back from WGCHAIRS 2020**

Silvana Birchenough (EPDSG Chair) gave a short update on the contents of the 2020 WGCHAIRS meeting, and reported it was a positive and well-attended event.

*Comment:*

Does an option exist for Chairs to bring up what would they like to add to the meeting? Silvana Birchenough confirmed that Chairs can comment on the agenda of the meeting and can add topics. The Chairs Forum also exists for commenting.

## 14.2 Engaging oceanographers in ICES

Johannes Karstensen (Subgroup Chair and SCICOM Alternate, Germany), with reference to Document 14.2 “Report from SCICOM Subgroup on Oceanography in ICES”, presented on the groups’ initiative to engage oceanographers. SCICOM was asked to comment on the progress of the group and approve the proposed strategies and initiatives.

*Comments:*

Sven Kupschus and Silvana Birchenough both consider that oceanography is an important discipline, and that the overlap between oceanography and ecology is an important work area for ICES science and advisory objectives. They wish to contribute to the group. Manuel Hidalgo thinks the contribution of other SG will be very valuable to the group, especially for the mapping of opportunities.

Neil Holdsworth finds the work of the group very valuable for the Data Centre. ICES has a large oceanography database, and the Data Centre has been involved in projects closely linked to the oceanographic community. It would be good to create a closer link again to the ICES community. He suggested adding Hjalte Parner to the group.

Mark Payne offered a SICCME contribution to the group.

Rafael González-Quirós mentioned that at the last ASC there was a session on interactions between biology and oceanography. However, most presentations were by biologists working with oceanographic databases. It’s hard to bring the physical oceanographers into the ICES community.

**Decision:** SCICOM confirmed that they support the proposals of the group and their continued work.

## 14.3 Guidelines for ICES groups volume 2020-1

SCICOM Chair briefly presented volume 2020-1 of the [Guidelines for ICES Expert Groups](#)

## 14.4 Serving our expert groups: materials and actions to support and highlight the benefit of joining expert groups

SCICOM Chair briefly presented material and actions to highlight the benefits of joining ICES Expert Groups.

## 15 Science Cooperation

### 15.1 ICES contributions to the Decade of Ocean Science and other UN and international processes, and their implications for ICES science and member countries

### 15.2 PICES co-operation and the engagement of ICES scientists

Anne Christine Brusendorff (General Secretary), with reference to Document 15.1, reported on Outcomes from Bureau, including UN Observer Status, and ICES – PICES Cooperation.

There is ongoing and profound cooperation between ICES and PICES, reaching back to the MoU in 1988. ICES – PICES will plan for the ICES-PICES Early career scientist conference in 2022 and Canada has volunteered to host it as part of their UNDOS contribution

At the PICES annual meeting held in October 2019, ICES and PICES staff discussed the ICES-PICES cooperation, specifically looking at how we, as two major scientific organisations, can relate our scientific activities to societal needs and demands. This related to 3 specific areas: Arctic (2018 CAO Agreement); UN BBNJ and UN Decade of Ocean Science 2021-2030.

ICES is seeking to relate the work that we are carrying out to the Central Arctic Ocean Agreement. ICES is also seeking to obtain observer status and in that way contribute to the work linked to the agreement. It is important to follow the work of the CAO Agreement because ICES is giving scientific advice on several stocks in areas of the Central Arctic Ocean and we want to avoid two different scientific bodies dealing with the same stocks and coming to different conclusions. There is an overlapping area between the CAO Agreement and the NEAFC Regulatory Area. ICES is the scientific advisor, due to the NEAFC convention. NEAFC has now asked ICES on a recurrent basis to provide scientific advice on the status of that NEAFC Regulatory Area

Through the development of Ecosystem Overviews we are aiming to see if we can get a full coverage of the sub-arctic waters adjacent to the central arctic waters. This work is carried out by the IEA groups (WGICA, WGIBAR, and WGINOR). Work ongoing includes looking into collaborations with Russian colleagues to cover the Laptev and Kara Sea, a possible Ecosystem Overview involving ICES and NAFO in Northwest Atlantic (Davis Strait and Baffin Bay), and a possible joint working group for the Pacific Arctic with ICES/PICES, and possibly with NAFO.

ICES has science to help our member countries to state what is needed in relation to Biodiversity Beyond National Jurisdiction (BBNJ). It is important for ICES to help our member countries communicate that we are doing a lot of scientific work in ABNJ. Topics covered by BBNJ include marine genetic resources; area-based management tools, incl. (MPAs); EIAs, capacity building and transfer of marine technology. ICES is trying to make sure that science is considered as part of the BBNJ process within UN and beyond.

ICES has great examples of giving scientific advice on data limited topics, ecosystem overviews in ABNJ, identifying vulnerable ecosystems, and on areas where fisheries are being closed down. The ICES communications team is working with the community to compile information and this has been condensed into a fact sheet on the work being done in ABNJ and on BBNJ.

The first global meeting related to the UN Decade of Ocean Science (UNDOS) 2021–2030 was arranged last year in Copenhagen. In January this year there was a regional workshop in Halifax dealing with the North Atlantic. ICES can continue to link the work that we are doing to the 6

societal outcomes on the UNDOS, and understanding how we as a scientific organisation can contribute to the next steps.

There is a draft implementation plan for the UNDOS being drawn up – this should be open for public review at some point. ICES expects that the Implementation Plan will need to be supported by comprehensive initiatives. ICES and ICES/PICES activities could contribute to the Implementation Plan. Once ICES has more information about the Implementation Plan, the General Secretary will reach out to steering group chairs to decide how to collaborate on the Implementation Plan.

The General Secretary explained that she had received positive feedback from PICES on the possibility of having a joint ICES-PICES annual meeting/annual science conference in 2022 in Canada. This will be an opportunity to showcase how ICES and PICES, as two large marine science organisations covering the North Atlantic and North Pacific, are contributing to regional initiatives and how this contributes to UNDOS.

We want to work together to ensure that we can support, contribute and display the various ICES activities related to all of these international activities. The ICES science highlights provided to UNDOS regional Halifax workshop were a very good example. There is a lot of ongoing work to collate information on our work related to the Arctic. The collation of work related to ABNJ is a good example of what can be done, and we are following up and trying to develop similar examples in other areas to spread information about activities carried out in ICES

*Comments:*

In summary there was general enthusiasm for the work on the Arctic and UNDOS, and agreement that steering group chairs would like to get involved with providing contributions.

### **15.3 ICES engagement in external projects and their benefits for member countries, including strategic funding considerations**

Wojciech Wawrzynski (Head of Science Support), with reference to Document 15.2, reported that ICES is reactive to scientific funding policies; with ICES delegates and Bureau having continuous discussions to make sure that ICES gets involved in international research and support projects in an optimal way. ICES projects mainly come from the EU Framework Programmes.

Horizon Europe (FP9) will succeed Horizon 2020 (FP8) at the beginning of 2021. Following political agreement, the Commission has begun a strategic planning process. The result of the process will be set out in a multiannual strategic plan to prepare the content in the work programmes and calls for proposal for the first 4 years of Horizon Europe.

The plan is to set aside ca 10% of the FP9 budget into 5 thematic ‘missions’ - sections of Horizon Europe, very ambitious and big task-oriented) have been proposed in the draft programme:

- Cancer,
- Climate-neutral cities,
- Climate adaptation,
- Healthy soils and food,
- Healthy Oceans, Seas, Coastal and Inland Waters

For the next long-term EU budget 2021–2027, the Commission is proposing €6.14 billion under



a simpler, more flexible fund for European fisheries and the maritime economy. The new European Maritime and Fisheries Fund is part of the multiannual financial framework 2021-2027, the new EU long-term budget that enters into force in January 2021.

Earlier this year it was decided that ICES can contribute, support, or lead projects that are not just focused on scientific research but also on coordination, and training. This allows for more flexibility in our approach to projects and negotiations

The European Commission, government of Canada/US and also governments from South Africa, Brazil, and Cape Verde are involved in the All Atlantic Research Alliance and held the first All Atlantic forum in Brussels this year. This reinforced the commitment to sustain the alliance and several of the H2020 projects are contributing to those All Atlantic mechanisms. ICES is already involved in some of these projects – like Mission Atlantic which will kick off this year.

ICES is focusing on youth and hoping to collaborate with All Atlantic youth ambassadors, who are reaching out to local communities and reaching out to the media. This is aligned with ICES priority for Early Career Scientist support. ICES are looking into getting All Atlantic youth involved with the ASC next year and the ICES/PICES Early Career Scientist Conference in 2022.

ICES projects were presented in a table overview with list of all projects ICES is involved in, and relevance to ICES Science Plan, and Advisory Plan. ICES is currently involved in 23 projects and sub-contracts. For the information of new SCICOM members, Wojciech Wawrzynski remarked that there are an impressive number of H2020 applications that ICES is involved in.

The Head of Science Support thanked the ICES Secretariat Team for supporting projects and the Science team for contributing to the project overview document, as well as colleagues contributing to negotiating terms and coordinating applications.

*Comments:*

- In response to questions about the All Atlantic Youth Community the Head of Science Support explained that ICES was working on our Early Career Scientist programme at the ASC and ICES co-sponsored symposia, and was working together with the All Atlantic Youth Community. He was hoping to have more of these kinds of activities with Mission Atlantic projects and other upcoming projects
- ASG Chair participated at the All Atlantic research meeting and confirmed that the ambassadors seem to be much younger than we consider ECS. We need to be aware that the group is different from the ECS in ICES, and All Atlantic Youth might have different targets.

## 15.4 ICES co-sponsored symposia, including review and approval of draft resolutions for symposia

Malene Eilersen (Science Programme Supporting Officer) presented the 2019 Symposium Report and the effects of the COVID-19 pandemic on planned Symposia in 2020. The three draft resolutions for co-sponsored symposia in 2021 were presented, but were not approved at the meeting pending review of suggestions from participants. Suggestions were made to make the Baltic Sea Science Congress symposium more international by adding more international conveners. Concerns about the timing of the 4th Decadal Variability symposium being close to the 2021 ASC was also raised, as were the need to focus funding support more strongly on Early Career Scientists.

**Decision:** SCICOM decided to move the approval of 2021 symposia to the Resolution Approval Forum.

**Action:** SCICOM at its September 2020 meeting should review the new process for calling for symposia. If we end up with a number of rejections, we are under-using the budget.

## 16 Linking science and advice

### 16.1 ICES Advisory Plan

Mark Dickey-Collas (ACOM Chair) presented the ICES Advisory Plan launched in December 2019, and gave a quick overview, including the objectives and the structure of the plan in three parts (context of ICES advice; what we do and how we work, and the six priority areas for development - with associated tasks). The priority areas are assuring quality, incorporating innovation, highlighting benefits, sharing evidence, evolving advice and identifying needs. The Advisory Plan provides insight to support ecosystem-based decision-making for our seas and oceans and covers how we address Ecosystem and Fisheries Overviews, Aquaculture Overviews, Fishing Opportunities and Special Requests. It is based on the framework of the ICES advisory process (request formulation, knowledge synthesis, peer review, advice production) and ICES adds value by maintaining credibility, relevancy and legitimacy in ICES Advice.

### 16.2 Ecosystem, fisheries and aquaculture overviews, planning for 2020 and beyond, and opportunities to participate

Henn Ojaveer (ACOM Vice-Chair), with reference to document 16.2, gave an update on the Ecosystem, Fisheries and Aquaculture Overviews, and associated activities that took place in 2019 or were planned for 2020.

WKEO3 identified eight high-priority topics related to Ecosystem Overviews for implementation in the short- and medium term. On two of these topics inputs were requested from SCICOM and discussions should be initiated on how to provide them:

- productivity changes;
- quantification of links and impacts.

In 2020, two new Ecosystem Overviews will be initiated (Arctic Ocean and Greenland Sea) and there are two updates to existing overviews (Norwegian Sea and Celtic Seas).

In 2020, there will be four new Fisheries Overviews (Faroes, Greenland Sea, Azores, and Oceanic Northeast Atlantic), and three sets of mixed fisheries advice (Bay of Biscay and Iberian Coast, Greater North Sea, and Celtic Sea).

The process of establishing ICES Aquaculture Overviews was initiated in 2019. Based on initial discussions, the view is that Aquaculture Overviews should describe the distribution, ecosystem interactions, benefits, impacts and potential of aquaculture production at a regional scale, bearing in mind data and information availability. The relevant competence is available in expert groups under the Aquaculture Steering Group (ASG). The first overview is expected to be for the Norwegian Sea ecoregion and it is expected to be released in late 2021.

Henn Ojaveer presented the current status of ICES viewpoints are emphasised that viewpoints are also ICES Advice and should be treated as such:

No.	TOPIC	CONTACT	STATUS
1.	Consequences of large fish stocks	Anna Rindorf	Advanced manuscript
2.	Future fish production in the Arctic	Hein Rune Skjoldal	Background document to be delivered in spring 2020
3.	Parasites and diseases in aquaculture	Janet Whaley	Under planning
4.	Marine litter	Andy Booth	Background document to be delivered early 2021
5.	Biological effects of contaminants	Ketil Hylland	Background document to be delivered by summer 2020
6.	Ship scrubbers	Ida-Maja Hassellöv	Background document to be delivered in summer 2020
7.	Implications of the growing interest in deep sea mining, including legislation, environmental and geological issues	Sarah Bailey	Discussions ongoing, no conclusion as yet

*Comments:*

Question was raised about how to keep these products up to date when the situation changes (i.e. with seals, cod, etc.). Henn Ojaveer commented that data at hand are updated every year. However there are no fixed update cycles for the whole text and it depends on the capacity of the IEA expert groups. The focus is now on covering all ICES areas with these products rather than higher frequencies of updating.

Participants also asked whether the coverage of the aquaculture stakeholder survey would be sufficient. Henn Ojaveer replied that ACOM and SCICOM provided a list of national contacts, but there was scope to engage more national and international stakeholders and the Aquaculture expert groups had provided input. All stakeholders identified were contacted for the survey.

## 16.3 Special advice requests being addressed by ICES

Mark Dickey-Collas (ACOM Chair), with reference to Document 5, presented this item and explained that special requests are one-off requests to ICES for advice from governments and intergovernmental organisations. ICES provided advice in response to 27 special requests in 2019. While the number of special requests has been approximately at the same level in recent years, the diversity and complexity of the requests are increasing. Examples are the requests to evaluate management strategies, where both the technical complexity of the analyses and the number of management scenarios to be reviewed are increasing.

*Comments:*

Participants noted that none of the requests were related to climate change (the last one being FISHDISH) and that the community would welcome it if requesters would send ICES requests within this area.

## 17 Annual Science Conference 2020 and 2021

SCICOM Chair thanked the volunteers that had come forward to help with the ASC roles.

### 17.1 Appointment of Award Selection Group for ASC 2020

**Decision:** Brian MacKenzie (Chair, Denmark), Silvana Birchenough (EPDSG Chair), Mette Skern-Mauritzen (IEASG Chair), Mike Rust (ASG Chair), Steven Degraer (Belgium); Henrik Nygård (Finland), Jörn Schmidt (Germany), Gudmundur Oskarsson (Iceland), Francis O'Beirn (Ireland), Antonina Santos (Portugal), Svetlana Kasatkina (Russian Federation), Lidia Yebra (Spain), Corinne Pomerleau (Canada), and an ACOM member (TBA) were appointed for the 2020 ASC Award Selection Group.

### 17.2 Appointment of 2021 ASC Group

**Decision:** Peter Wright (Chair, United Kingdom), Sarah Bailey (HAPISG Chair), Silvana Birchenough (EPDSG Chair), Mike Rust (ASG Chair), Steven Degraer (Belgium), Ellen Kenchington (Canada), Pierre Petitgas (France), Jörn Schmidt (Germany), Mark Dickey-Collas (ACOM Chair), and Corinne Pomerleau (Canada) were appointed for the 2021 ASC Group doing the pre-selection of 2021 theme and network session proposals for final decision of SCICOM.

#### Conveners for ASC 2021 Contributed Papers Session

Sarah Bailey, HAPISG Chair  
Ellen Kenchington, Canada  
Antonina Santos, Portugal  
Kevin Friedland, USA

## 18 National priorities for contributing to ICES science in 2020, and opportunities to engage new scientists in the ICES community

SCICOM Chair invited national members to present short summaries on how their national priorities for 2020 align with ICES Science Plan and opportunities within new ICES expert groups.

The national summaries are included in Annex 2.

## 19 Summary of meeting actions and arrangements for follow-up WebEx (if required), and dates for next full SCICOM meetings

### **SCICOM meeting alongside ASC 2020 in Copenhagen, Denmark**

Sunday, 6 September (09:00–18:00)

Friday, 11 September (09:00–18:00)

The dates for the SCICOM meeting in 2021 will be announced as soon as available.

### **Closing**

SCICOM Chair thanked Mette Skern-Mauritzen for offering to stand in as meeting chair in the event of lost connections. Thanks were extended to all members of SCICOM for adapting to the new meeting format, for their participation and engagement, and special thanks were expressed to the Chairs of the Strategic Initiatives, Steering Groups and Operational Groups. Good progress had been made during the WebEx meeting, including the taking of some important decisions that will set a path for the future work of SCICOM. Special thanks were also extended to the Secretariat for their enormous support and work behind the scenes to move the meeting to an online format, and for meeting preparations and support of the ICES science community in general.

In closing, the SCICOM Chair shared some thoughts on the future for SCICOM and ICES:

- 1) ICES can still grow and gain more influence by increasing the breadth of topics addressed and opportunities that are offered. The resource ceiling for ICES is not really fixed, as we have effectively demonstrated with the formation of new steering groups and expert groups that have attracted many new people to ICES;
- 2) It is essential to promote and make available our work; this is the basis for engaging new people and growing and diversifying our community, and it leads directly to an increase in the scope, scale and impact of our science. The ICES Communications and Publication teams and the Data Centre are improving access to information and data all the time. But it is vital that SCICOM and all ICES groups make sure these groups are fed continuously with information and data from our community!
- 3) It is essential to collaborate as openly and effectively as possible across Science, Data and Advice;
- 4) It is essential to keep engaging new people, exploring new topics and developing new formats for meetings and events. We are not only aiming to do what we already do more effectively, but to identify and tackle new scientific challenges. ICES has to keep evolving to stay relevant!

## Annex 1: List of participants

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## Annex 2: National priorities for contributing to ICES science in 2020

This Annex comprises unedited summaries of national priorities as reported to SCICOM.

### Belgium (Steven Degraer)

Belgian priorities for contributing to ICES science in 2020, and opportunities to engage new scientists in the ICES community

#### 1) Scientific emphasis of Belgium's national contributions to ICES in 2020

In 2020, Belgium has 84 scientists participating in 57 expert groups across all priorities of the ICES Science plan. We are chairing or co-chairing 6 working groups under three of the six SCICOM Steering Committees: the Working Group on Electrical Trawling (EOSG/WGELECTRA), the Working Group for the Celtic Seas Ecoregion (FRSG/WGCSE), the Marine Chemistry Working Group (HAPISG/MCWG), the Working Group on Fisheries Benthic Impact and Trade-offs (HAPISG/WGFBIT), the Working Group on Marine Benthic and Renewable Energy Developments (HAPISG/WGMBRED) and the Working Group on Methods for Estimating Discard Survival (HAPISG/WGMEDS). We also chair or co-chair several workshops (WKWET, WKTRADE2, ...). Our scientists come from a range of 9 institutions, including Federal and regional research institutes, universities, government institutes and agencies (ILVO, RBINS, UGhent, VLIZ, KUL, UA, ULg, INBO, FPS Mobility). ILVO and RBINS account for 70% of the Belgian researchers involved in ICES. Since 2018, Belgium organizes an annual colloquium gathering all ICES experts and interested people, and focusing on the priorities of the new ICES Science Plan (see below - description of the BICEpS initiative).

#### 2) Focus on newly established new expert groups

About the involvement of Belgium in recently established groups, we have experts involved in shipping, aquaculture related activities, cumulative effects, wind farms and in economic science (this much based on the interest of the Belgian scientific community) but not (yet) in small pelagic fish and social science. Our experts are active in the Working Group on Shipping Impacts in the Marine Environment (WGSHIP), in the Working Group on Open Ocean Aquaculture (WGOOA), in the Working Group on Open Ocean Aquaculture (WGAGFA), the Working Group on Cumulative Effects Assessment Approaches in Management (WGCEAM), in the Working Group on Offshore Wind Development and Fisheries (WGOWDF), the Working Group on Economics (WGECON). Fostering new group attendance and promoting a higher engagement in ICES topics towards marine science students and university researchers (KULeuven, UA, UGent, ULB, ULg, UMons and VUB universities) is also one of the missions of the BICEpS initiative (see below).

#### 3) BICEpS initiative - Towards a higher engagement on ICES topics

Since 2017, the Belgian delegates to the Council and the representatives in SCICOM and ACOM meet at least once a year to check the adequacy of our representation in SCICOM and ACOM, to revise the participation of Belgian experts in the various expert groups and to elaborate a common Belgian position when so requested by the Secretariat. This group concluded that the important and often voluntary dedication of about 80 Belgian scientists to the work of ICES deserves more visibility among the scientific community itself and to decision-makers. In June 2018,

the group established a Steering Committee composed of official ICES delegates and communicators with the objective to address this lack of visibility and for the promotion of ICES in Belgium. This joint initiative of RBINS and ILVO was named “BICEpS – Reinforcing Belgian ICES people”. It benefits from the support of RBINS offering its secretariat, and of ICES Secretariat hosting the BICEpS web page at <http://ices.dk/community/groups/Pages/BICEpS.aspx>. BICEpS initial aim was to reinforce Belgian ICES people to offer this community an opportunity to get to know each other’s better, improve the collaborations and share of information among its members, and to promote ICES to the wider scientific community in Belgium. The demarche leading to the creation of the BICEpS initiative and the definition of action points by the community during a World-Café discussion is covered in BICEpS 2018 Annual report. Since then, we have created a mailing list and a newsletter for the active dissemination of new calls for nomination and ICES news and we published a first version of the compilation of mini CV’s of our members. We use the hashtag #ICESbelgium in the social media.

The annual BICEpS colloquium in 2019 addressed three priorities of the ICES Science Plan (Ecosystem science, Seafood production, conservation and management science). Next edition of the colloquium (hosted by RBINS) will cover the four remaining themes of the Science Plan (Impacts of human activities, Observation and exploration, Emerging techniques and technologies, Sea and Society).

In 2020, BICEpS Steering committee worked on the definition of a vision and a mission for the initiative. Vision: BICEpS envisages, through the ICES network, (1) to be the marine science broker in Belgium (2) to support ICES as a world-leading marine science organization on and beyond fisheries. Mission: BICEpS will, through the ICES network, (1) contribute to sustainable seas, (2) unite Belgian marine scientists, (3) catalyse “extended collaborations” and (4) strategically position Belgian marine sciences. Actions: BICEpS will promote ICES activities to Belgian marine scientists and voice the BICEpS community to ICES by e.g. organizing an interactive annual colloquium, promoting the Belgian membership in ICES expert groups, communicating about ICES to Belgian scientists and vice versa. We are also investigating the opportunities to raise funding to host the ICES Annual Science Conference during the UN Decade of Ocean Science for Sustainable Development and the possibilities to launch a mentoring programme for early career marine scientists.

## **Canada (Ellen Kenchington)**

Fisheries and Oceans Canada (DFO) is the lead federal ministry responsible for engaging with the International Council for Exploration of the Sea (ICES) for Canada. Canada, and in particular DFO’s Ecosystem and Oceans Science (EOS) sector, has a long history of active participation in ICES working groups and committees and has demonstrated leadership in many scientific projects, training courses, and other initiatives. ICES has provided invaluable opportunities for many Canadian science professionals to gain essential knowledge and expertise in their field of study, to expand their professional networks, to leverage funding, and/or to collaborate on scientific research and monitoring projects.

Many of the priorities outlined in the ICES Strategic and Science Plans are aligned with DFO’s domestic science activities. Further, ICES actively collaborates in international science initiatives of interest to DFO including research and monitoring, data sharing and open access efforts, and advisory activities that support, for example, the implementation of the Galway Statement on Atlantic Ocean Cooperation, the work of regional fisheries management organisations, and more recently, the UN Decade of Ocean Science for Sustainable Development.

There are approximately 200 Canadian members participating in 57 different ICES working groups and committees, representing more than 20 different organisations (e.g. federal departments, universities, ENGOs) as well as independent consultants. Of these working groups, DFO EOS staff hold 131 positions across 48 different working groups and 50% of our participants are women. As expected given the geographic focus of ICES, representation is higher in regions along the Atlantic coast of Canada, however there are also some participants in the Pacific and Central, Arctic, and National Capital regions.

In terms of the newer ICES groups that have been established, DFO and NOAA have collaborated in establishing 3 new working groups focused on North American issues:

WGNAM (Northwest Atlantic Mackerel; co-chairs Kiersten Curti (USA) and Stephane Plourde (Canada);

WGNAEO - Working Group on Northwest Atlantic Ecosystem Observations, co-chairs Philip Politis (USA), and Don Clark (Canada); and

WGOWDF - Working Group on Offshore Wind Development and Fisheries.

Canada chairs the Human Activities, Pressures, and Impacts Steering Group (HAPSIG) which oversees the prevalence and effects of shipping, noise, renewable energy, amongst others. Further we have three members, through PICES (WG-43), on the new Joint ICES/PICES Working Group on Small Pelagic Fish.

DFO is currently reviewing its approach to engaging with ICES with the overall objective to be more strategic and mutually beneficial in our participation. A major initiative is to make our independent fisheries surveys data available to ICES on the DATRAS database. We hope to have data from at least two DFO administrative regions available in 2020, with other regions following. This will ensure that Canadian data is FAIR and will increase the scientific capabilities of the ICES expert groups to mutual benefit. Canada is pleased to be the host country for the upcoming joint ICES-PICES Early Career Scientist Conference that will be held in 2022 (more details to come).

## **Estonia (Jonne Kotta)**

In Estonia basic and applied marine research is mostly carried out at the Estonian Marine Institute, University of Tartu, the Department of Marine Systems, Tallinn Technical University and the Estonian University of Life Sciences. The lead scientists of the above institutions have been engaged in the ICES scientific actions; however, the current engagement can be improved through targeted research programmes that clearly link the activities of projects to those of different ICES working groups. Without clear funding schemes that link their everyday job/projects and ICES mission, it is becoming more challenging to engage those scientists in the ICES actions as they fail to see very clear benefits. At the moment different research groups are working in parallel and due to the lack of resources results are only poorly integrated/communicated to the ICES work. Among specific ICES workgroups our scientists contribute more actively to The Working Group Marine Planning and Coastal Zone Management (WGMPCZM), The Working Group on Cumulative Effects Assessments in Management (WGCEAM), The Working Group of Marine Benthos and Renewable Energy Developments (WGMBRED) and The Working Group on Economics (WGECON).

## **Finland (Henrik Nygård)**

From Finland we are participating in ~50 working groups and in total ~80 experts are involved in the ICES work. Most experts are affiliated with the Nature Resource Institute and Finnish

Environment Institute, but also universities and other research institutes are represented. Naturally most of the work we are involved in relates to the Baltic Sea and HELCOM work, but that does not mean that we restrict our activity to the Baltic Sea. Overall our national interests are quite well in line with the ICES Science Plan, but I have not been able to get information on specific national priorities towards ICES. At least to some extent, it is up to the individual scientists to decide how much they can contribute. Development of web-based meetings is supported, as travel money to the working group meetings has become more difficult to secure.

## **Germany (Jörn Schmidt)**

German priorities for contributing to ICES science in 2020, and opportunities to engage new scientists in the ICES community

In 2019 Germany had about 230 scientists contributing to about 80 expert groups and about 20 Workshops with chairs of 12 EGs and 8 WKs and one co-chair of the Strategic initiative on the Human Dimension. The scientists come from a broad range of over 25 institutions, including government institutes, agencies, university, research institutes, consultancies and NGOs.

The large participation from scientists enables Germany to actively contribute to all priority areas of the Science Plan. Currently Germany is leading the effort on engaging oceanographers in ICES and has led the establishment of new groups.

Germany provides chairs to the newly established Working Group on Cumulative Effects Assessment Approaches in Management (WGCEAM), the Working Group on Offshore Wind Development and Fisheries (WGOWDF), the Joint ICES/PICES Working Group on Small Pelagic Fish (WGSPF) and the Working Group on Open Ocean Aquaculture (WGOOA) and contributes to new aquaculture groups, social and economic groups and the Working Group on Shipping Impacts in the Marine Environment (WGSHP).

ICES science priority areas align well with national marine strategies as outlined in the strategies of the German Marine Research Consortium (Konsortium Deutsche Meeresforschung, KDM) and the German Marine Research Alliance (Deutsche Allianz für Meeresforschung, DAM) as well as the research programme “MARE:N – Coastal, Marine and Polar Research for Sustainability” from the Federal Ministry of Education and Research. Germany is also actively involved in international processes linked to ICES work like the World Ocean Assessment and the UN Decade of Ocean Science for Sustainable Development.

Germany has put aside budget to support the participation of early career scientists in expert groups, the ASC and training courses, and also to support scientists from Universities and non-government research institutes to take on leading roles in expert groups and committees.

## **Iceland (Gudmundur J. Oskarsson)**

The Marine and Freshwater Research Institute (MFRI) in Iceland is the governmental institute that is primarily engaged with ICES. Currently around 56 Icelandic scientists are participating in ~48 ICES Working Groups, where 43 of the scientist are employed at MFRI and others at the University of Iceland, other institutes or companies. The scientific emphasis on contributions to ICES is through involvement in assessment working groups (~21 scientist in 6 WGs) but also in various science groups, including groups related to fishery, acoustic surveys, marine ecology, integrated assessment, technology, physical oceanography, chemical oceanography, zooplankton, phytoplankton and marine mammals. Currently, Iceland chairs two WGs.

With respect to the ICES Science Plan areas where new expert groups have been established in the last 2 years or so, the focus varies in Iceland. Involvement in the EGs focusing on shipping,

social and economic sciences, and wind farms has been neglectable so far. A wide expertise on social and economic sciences in relation to fishery exists in Iceland, including at the University of Iceland, and more involvement is therefore possible. Aquaculture is, however, increasing in Icelandic waters and as such Icelandic participation in those EGs is likely to increase in the future. Small pelagic fish has then been of scientific interest for decades in Iceland and will continue to be so. It involves participation in ICES EGs in this research field.

## **Ireland (Francis O'Beirn)**

*Ireland - National priorities for contributing to ICES science in 2020, and opportunities to engage new scientists in the ICES community (very short spoken synopses, but fuller submissions for the minutes are encouraged)*

Ireland recognizes and strongly supports the stated scientific priorities identified in the ICES Science Plan and new Advisory Plan. This is reflected in its representation at Council, SCICO and ACOM, in addition to participation in large range of expert groups. Coordination of Ireland's engagement with ICES is carried out by the Marine Institute which is reflected in the membership of the ICES coordination and oversight committees.

In the last 5 years, there have been approximately 120 Irish scientists and/or policy representatives participating in 95 ICES Committees or Expert Groups. While the majority of participants are from the Marine Institute, members and participants may also be invited from other sources if their expertise fits with the goals of the relevant group. These 'sources' may be State Agencies, Government Departments, Academia as well as industry and/or NGO representatives. To date, specific focus has on groups that are aligned with Ireland's strategic maritime goals. As previously indicated, Ireland's engagement focuses on groups that support the ICES priority areas of: (1) ecosystem science, e.g., Ecosystem overviews and Fisheries overviews, e.g., Celtic Seas, 4) seafood production, e.g. aquaculture, (2) impacts of human activities, (3) observation and exploration and, (5) conservation and management science. There continues to be, a heavy focus on participation in groups that fulfil advisory functions to client organisations, e.g., EU Commission, OSPAR. Expert groups with terms of reference which support implementation of relevant legislation (MSFD) will also be strongly supported.

Funding is provided by the members own organisation but may be provided to a participant if the outputs of the group in question are relevant to specific national scientific, advisory or policy goals and if the participant can bring a high level of expertise to that role. Participation by individuals to attend expert groups with purely academic goals, while facilitated from an administrative perspective, are generally self-funded.

Ireland will continue supporting ICES. As indicated, it will prioritise support to expert groups and initiatives with direct relevance to national goals

## **Latvia (Maris Plikshs)**

There are two research institutions carrying out marine research in the Baltic Sea and Gulf of Riga: Institute of Food Safety, Animal health and Environment (BIOR) and Latvian Institute of Aquatic Ecology (LIAE). BIOR research mainly directed to fish ecology and resource assessment while LIAE research is dedicated to basic and applied research of ecology and environmental problems.

The most relevant Latvia contribution to ICES is participation of national specialists in ICES working group, workshops and Annual Science Conference. However, participation is mainly restricted to working groups dealing with relevant issues for the Baltic Sea and thus following

working groups are attended annually: WGBFAS, WGIAB, WGBIFS, WGEEL, WGBAST, WGRFS, WGSFD, WGITMO, WGBYC, WGMME and some others. BIOR participation in ICES WG is not limited by national financing, but rather not enough specialists as the main emphasis is on assessment data collection. Annually around 9-10 BIOR scientists participating in ICES working groups. It also should be mentioned that is up to individual scientists to decide on participation according to their interests, availability and possible contribution.

LIAE participation in ICES WG are only available from running projects as this institute is responsible for national environmental monitoring and more related to HELCOM activities.

The scientific emphasis of Latvia is on main Baltic fish stock assessment and ecosystem research in order to understand fish stock dynamic due to environmental variability and food web change.

Latvia marine science recent priorities according to ICES Science plan remains similar to previous years and include:

- a) Observation and exploration. Latvia participate in International trawl surveys (2 surveys annually) and acoustic surveys (3 surveys annually) in the Baltic Sea according to WGBIFS assignments. The obtained data are submitted to ICES databases. During surveys oceanography, zooplankton, ichthyoplankton, nektobenthos, fish feeding data also are obtained regularly.
- b) Impact of human activities. Under this task our priorities are assessment and fisheries management of invasive round goby in national waters and seal/fisheries interactions in the coastal zone in order to develop conflict mitigation measures.
- c) Ecosystem science that includes assessment and evaluation of protected and functionally significant areas in national waters.

At least to some extent, it is up to the individual scientists to decide how they much they can contribute.

## **Lithuania (Artūras Razinkovas-Baziukas)**

During the last year, there was a significant increase in the presence of Lithuanian scientists at ICES organized meetings; WG meetings relevant to the implementation of the Data Collection Programme were prioritized. During the meetings with stakeholders (ministry officials, fishermen associations) a special interest in the advice for management of coastal fishery stocks as smelt, flounder and freshwater struggler species (pikeperch, perch, bream) was expressed. The scientific ICES priorities were largely incorporated into the research priorities of Klaipeda University, which positioning as the core institution dealing with marine research in Lithuania.

## **The Netherlands (Jos Schilder)**

For 2020, the foreseen Dutch contribution to scientific ICES work encompasses the involvement of well over 100 scientists from 20 different organisations. Over 80 working groups, meetings and managerial committees are covered throughout the year. Most scientists are based at Wageningen Marine Research, a multi-disciplinary research institute also catering for all biological EU DCF work on behalf of the Dutch Ministry for Agriculture, Nature and Food Safety. In quantitative terms, the contributions to ICES have been relatively stable over the last years, while expanding contributions into some of the areas of the Science plan. Longstanding pillars under the Dutch contributions relate to ecosystem science, conservation and management as well as observation and exploration. The Netherlands participated in the development of the strategic initiative on the Human Dimension and participated in groups around the development of new monitoring techniques.

Research in the Netherlands is likely to be mainly focused around impacts of climate change and sea level rise, effects of wind farms on the ecosystem and ecosystem services provided, the potential of multifunctional use of wind farm area's (e.g. combined with aquaculture), and sustainable use of the maritime area in general. In this light special attention is needed for cumulative effects of human activities on the ecosystem and its carrying capacity, ecosystem-approaches to management and assessment of status, and identifying feasible, practicable definitions of the good environmental status that we aim to achieve through the EU-marine strategy framework directive. The degree to which these activities can also be embedded in an ICES context is, however, dependent on the presence of financing which currently cannot be fully foreseen.

## Norway (Nils Olav Handegard)

Norway contributes to ICES advisory and science processes across a wide range of expert groups and science priorities and see ICES as a key organisation in fulfilling its advisory and knowledge needs.

Norway contributes to **Ecosystem science** through a range of expert groups, and Norway contributes with several chair positions. Norway has been actively involved in the Integrated Assessment Groups and is working across several groups to develop this. Particularly the development of future scenarios to underpin long term management. This is also linked to the **Sea and society**, where the work is linked to assessment and management.

Norway has nominated contributors to the new groups under **Impacts of human activities**, including WGSHP with expertise on underwater noise impacts.

**Observation and exploration** are supported through commitments to survey groups coordinating international surveys in Norwegian and adjacent waters.

**Emerging techniques and technologies** are fields that are gaining a lot of attention, and Norway is engaged in several groups that are working towards these goals. Norway is chairing the WGM-LEARN and have been involved in other groups focussing on new technology, e.g. WGFAST.

**Seafood production** is important to Norway, and several Norwegian institutions are contributing towards this priority. Norway is committed to the fisheries assessment and science groups. Norway is engaged in most groups under the Aquaculture steering group, and these groups range from the ecological impacts of Aquaculture to technical challenges and specific system design requirements. These efforts are closely linked to **conservation and management science** to ensure efficient implementation.

## Poland (Dariusz Fey)

Currently, approximately 50 Polish scientists participate in ICES committees and working groups. Although most of them (~60%) are from the National Marine Fisheries Research Institute in Gdynia (NMFRI), participation by members of institutions from other areas than fisheries is relatively high, i.e., University of Gdansk (~15%), Polish Academy of Sciences (~15%), and others (~10%). However, this number rather reflects members than the number of active participants, which is much lower. The main reason for occasional or irregular member participation in working group activities is the difficulty of covering the costs of travel to meetings. This is especially true for members from institutions other than NMFRI. It should also be noted that the level of involvement in working group activities usually depends on the personal interests of the individual scientists rather than on the interests of a given institution. Some exception to this rule are working groups involved directly in advisory activities.



In general, the ICES Strategic and Science Plan and the seven scientific priorities reflect Polish national interests. The main specific issues that are frequently raised by the Polish fisheries sector and governmental institutions are the poor condition of the Baltic cod stock (i.e., the “thin cod” problem), and the ecological state of the marine environment in coastal areas, including the problem of the disappearance of many commercial fish species. Newly established ICES working groups reflect the increasing interest in Poland in recent years in marine aquaculture, social and economic sciences, and problems associated with wind farm development. At present, Polish participation in these new groups is low, but it can be expected to increase over time along with growing interest in the topics addressed by these groups.

## **Portugal (Antonina dos Santos)**

National priorities for contributing to ICES science in 2020, and opportunities to engage new scientists in the ICES community

Portugal has an active participation in ICES with more than 100 scientists participating in Expert Groups (including Workshops, Benchmarks and Advisory Groups) and regularly presenting diverse work and organizing sessions at the Annual Science Conference. The Portuguese scientists involved in ICES work represent all the national institutions developing marine research. IPMA, the national institute dedicated to research at Sea, provides the large majority of researchers in the Expert Groups and it represents Portugal in the Council, Advisory and Science Committees, therefore IPMA workers have a good knowledge on how ICES work.

IPMA with the support of ICES local community organized the ICES Science Day that took place in 7th June 2019 at the IPMA auditorium in IPMA-Algés building to disseminate the ICES Science plan, explain how this organization works and discuss the benefits of greater participation in the ICES Community by researchers from the Portuguese Academy. Finally, it was important to identify which financial and/or other mechanisms could ensure a broader participation of Portuguese researchers in this transatlantic organization.

The ICES Science Day was attended by more than 100 national researchers and stakeholders with interest in marine sciences in Portugal. Researchers from the main research centers in the country and higher education institutions that are dedicated to the subjects of marine sciences, were present, made their active contribution to the discussion of various subjects, and expressed great interest in a more active collaboration in ICES work through the WG. The importance of creating a financing mechanism that would allow Portuguese scientists to participate more in ICES working meetings was considered, which would help to further consolidate Portugal's position in this organization and, at the same time, would benefit national research from partnerships and networking of experts in the near future.

We have created a mailing list that is being used, since then, to share information on ICES activities, as the Annual Science Conference. We have produced a report summarizing the main discussions and pursued with contacts with Portuguese government bodies to discuss proposals to funding Portuguese researcher's participation in ICES activities.

Another of the benefits coming from the ICES Science Day is the collaboration and contribution given to discuss the scope, impact, and efficiency of ICES science through innovation, integration, and increased interdisciplinary provided by the Portuguese Association of Oceanography through Antonina dos Santos as member of the SCICOM subgroup for Oceanography in ICES.

## **Russian Federation (Svetlana Kasatkina)**

The most important form of the Russian contribution to the Science Plan areas and cooperation with ICES is the participation of national specialists in ICES working group, workshops and Annual Conference. Russia focuses its activity on participating in twelve working groups, submitting the results of national researches carried out in accordance with the themes of these WG. The mentioned Groups include: WGIPS, WGOH, WGBIFS, WGBFAS, WGNAS, AFWG, WGDEEP, NWWG, WGWIDE, WGBAST, WGIBAR and other. Russia participates in international trawl and acoustic surveys in the ICES areas with the submission of data to the ICES databases. The scientific emphasis of Russian activity is on the methodology of stock assessment and benchmark management, understanding impact of climate change and variability of environmental conditions on the state of ecosystem and fish stocks, developing integrated fisheries management based on the ecosystem approach.

## **Spain (Rafael González-Quirós)**

Spain is an active member of ICES with more than 80 scientists contributing to 25 Working Groups, 5 Workshops and 11 Advice Drafting Groups within the last year. The Instituto Español de Oceanografía (IEO) officially represents Spain in ICES and it has the highest engagement among Spanish institutions in ICES activities, followed by AZTI and CSIC. The IEO is responsible for most stock assessment activities on Atlantic European stocks with Spanish quota and it carries out the marine environment monitoring in the frame of the MSFD. Dissemination of ICES Science by IEO consists on presenting diverse works and publications, organizing sessions at the Annual Science Conference and other ICES sponsored venues, co-chairing WG and WK, as well as through active collaborations with PICES and Mediterranean countries. IEO has also contributed to the last report of the World Ocean Assessment, IPCC, and UN Decade for Oceans Science. Further engagement of researchers from academia in ICES is encouraged and mostly driven by personal interests and contacts of WG members involved in fisheries, aquaculture and marine environment status assessment.

## **Sweden (Kajsa Tønnesen)**

Sweden supports the ambitious ICES Science plan “Marine ecosystem and sustainability science for the 2020s and beyond”, and the science priorities within it.

Our priorities are on developing and operationalizing ecosystem-based management (including ecological and socio-economic aspects), and on improving understanding of marine ecosystem structure, function and dynamics as well as its interactions with the physical and chemical environment. We also prioritise the development of integrated monitoring and data collection to support observations on physical, chemical, and biological properties of marine environments.

Today, nearly 150 Swedish experts participate in different ICES working groups. Most of these experts come from the Swedish University of Agricultural Science, but we are working on engaging experts from other Swedish universities. Swedish experts co-chair different working groups, e.g. the new group WGSHP, WGINOSE, WGBESIO, WGIAB, WGMPCZM.

Formas (Swedish research council for sustainable development) intends to explore the possibility of supporting researchers to participate more in international scientific bodies such as ICES, IPCC, IPBES). This will also be a proposal to the government as contribution for the UN decade.

The Swedish agency for marine and water management (SwAM) will in 2020 support new experts in different WG.

The Swedish Institute for the Marine Environment (SIME) has an assignment from SwAM to engage new experts (especially social scientist). The institute has an assignment to communicate how researchers, experts and Sweden can benefit and contribute more to the work within ICES. Last year SIME together with SwAM organised a “national ICES day” and we will organise a similar meeting later this year.

## **United Kingdom (Peter Wright)**

### **1) Scientific emphasis of your national contributions**

The UK contributes across all priorities of the ICES science plan. Seafood production is clearly very important to the UK with considerable focus on the science related to fish stock assessments in UK waters, including mixed fisheries. Aquaculture is important to the UK and particularly Scotland, although commitments include some long developed collaborations outside of ICES. The conservation and management science and impacts of human activities are becoming more important as involvement has increased in expert groups and workshops related to MSFD, marine renewables, and spatial data. ICES work of direct relevance to OSPAR is very important to the UK. Ecosystem science is well supported with UK chairs of many groups from government laboratories. In addition, this priority is well served by many scientists from research laboratories and Universities. Observation and exploration is generally well supported, including through DIG and WGSDAA. In terms of emerging techniques and technology there have been national initiatives to support e-DNA and the use of machine learning but applications of these approaches are generally at an early stage. Integrated ecosystem assessments are supported by CEFAS, the Scottish Association for Marine Science and Marine Scotland Science in the sea and society priority. Much of the involvement of social scientists in this priority come from academia and SEAFISH (a Non-Departmental Public Body that promotes seafood), although CEFAS social scientists also contribute.

### **2) Focus on newly established new expert groups**

The UK has put forward nominations for WGSHP because of interest in noise (MSFD D11). Marine renewables are very important to the UK and so there is considerable involvement in experts relating to these new developments. As mentioned above, there is UK involvement in social and economic sciences, particularly from SEAFISH. The UK is also very supportive of the cumulative effects working group (WGCEAM).

## **USA (Kevin Friedland)**

### **Notes on the USA short statement about scientific emphasis**

The scientific emphasis of the national contribution of the USA is broadly distributed over the science priorities of ICES. As reflected in the resolutions of the steering groups, the USA has stood up chairs within the resolutions of all six steering group content areas. In all resolutions, at least three groups have USA chairs and two SGs, Human Activities, Pressures and Impacts and Integrated Ecosystem Assessments, have at least five chairs. Many of the WG and Workshops will benefit from the participation of USA experts and utilize a USA venue.

What might be helpful to understand some of the new directions of USA engagement in the ICES Science Plan is to consider three of the newer expert groups. The first is the Working Group on Northwest Atlantic Mackerel Ecology and Assessment (WGNAM) to be co-chaired by Kiersten Curti (USA) and Stephane Plourde (Canada). Perhaps the most significant aspect of this WG is that it represents an expansion of our request of fisheries advice from ICES. Over the years, the only direct fisheries assessment and management advice affecting a US resource species has been for Atlantic salmon. The USA is a signatory to NASCO, which engages ICES for assessment and

management advice for salmon in the North Atlantic. This may indicate an expanding role for ICES in developing fisheries assessment in the Northwest Atlantic and the USA in particular. This WG will address nearly all the science priorities of ICES, but in particular Seafood production and Conservation and management science.

The second WG I would draw attention to is the Working Group on Offshore Wind Development and Fisheries (WGOWDF) to be chaired by Andy Lipsky (USA), Andrew Gill (UK), and Antje Gimpel (Germany). Wind energy development is posed to have a significant impact on the ecology and management of the coastal waters of the USA, see this Bureau of Ocean Energy Management website for an overview.

<https://www.boem.gov/renewable-energy/renewable-energy-program-overview>

Though most of the planning and initial development is on the east coast of the US, there is significant planning activity on the west coast as well. Furthermore, though offshore wind energy generation is established in Europe, we are aware of planning to greatly expand the footprint of wind generation fields in European waters. Wind energy development has the potential to engage all aspects of the ICES science plan and priorities. Such large scale construction has the potential to change the physics of marine ecosystems, the productivity of lower trophic level organisms, yield of resource species, fisheries access and efficiency, the patterns of commercial and recreational use, and the viability of communities. We expect this WG to be widely subscribed and present the opportunity to foster collaborative work between laboratories worldwide.

Finally, I draw attention to the Working Group on Northwest Atlantic Ecosystem Observations (WGNAEO) to be chaired by Philip Politis (USA) and Don Clark (Canada). The USA and Canada conduct similar resource and ecosystem surveys, but plainly put, they are not matching surveys. This WG is intended to begin a process of making these surveys more complementary. The immediate goal is to have surveys that better facilitate the assessment of transboundary species, hence, the modifications to the surveys will be to make abundance estimates more scalable to the biological extent of the species. More forward looking will be the efforts to make ecosystem surveys complimentary. So where the WG addresses science priorities related to Seafood production and Conservation and management science in making abundance estimate more responsive to the distribution of species, the modification in ecosystem surveys will speak to priorities related to Ecosystem science, Impacts of human activities, and Observation and exploration. In particular, a homogenization of surveys will allow for better assessment of species movement in response to climate change. This WG may also touch on Emerging techniques and technologies as new survey methods start to gain wider application, for example AUVs and other automated techniques.

One idea on further ICES engagement might be to explore work with regional science organizations. RARGOM, the Regional Association for Research on the Gulf of Maine, provides regional scientific exchange and to a smaller degree working group activity to address science issues specific to the Gulf of Maine (<http://www.rargom.org/>). A recent science meeting adopted a theme related to phenology, which spawned an intersessional working group that performed a review and meta-analysis of the topic. A product of this working group was a paper in Fisheries Oceanography entitled "It's about time: A synthesis of changing phenology in the Gulf of Maine ecosystem":

<https://onlinelibrary.wiley.com/doi/abs/10.1111/fog.12429>

The paper should have relevance outside the Gulf of Maine. ICES works very effectively with other international partners like PICES; working with groups like RARGOM may offer the opportunity to more effectively communicate the similarities and difference between local and

global scale issues. It may also provide the inspiration for the development of more local scale scientific exchange within the ICES arena.

## Annex 3: List of SCICOM actions and decisions

Action/Decision	Section	Deadline	Responsible
Action: The IEASG Chair invited SCICOM members to join a subgroup on capacity in IEA expert groups and understanding societal needs and stakeholder interactions. The subgroup would aim to report back to the SCICOM September meeting.	7.1 Integrated Ecosystem Assessments Steering Group	01-08-2020	IEASG Chair, SCICOM members
Action: ACOM Chair will have offline discussions with FRSG Chair on a mechanism to turn the research priorities identified by FRSG into terms of reference for the expert groups.	7.2 Fisheries Resources Steering Group	01-06-2020	ACOM Chair, FRSG Chair
Action: EPDSG Chair will initiate offline discussions on topics of ASG-EPD interest with Mike Rust (ASG Chair). Action: EPDSG Chair will liaise with Henn Ojaveer (ACOM Vice-Chair) regarding a potential viewpoint paper.	7.3 Ecosystem Processes and Dynamics Steering Group	01-06-2020	EPDSG Chair, ASG Chair
Action: SCICOM members are requested to forward the stakeholder survey on the potential contents of Aquaculture Overviews to relevant people their countries and agencies, and they are welcome to respond even after the current deadline of 30 March 2020.	7.4 Aquaculture Steering Group	01-05-2020	SCICOM members
Action: SCICOM members are asked to help suggest aquaculture representatives from Spain, Faroe Islands and the Netherlands who would be able to contribute to the analysis of environmental laws governing aquaculture across ICES countries.	7.4 Aquaculture Steering Group	01-05-2020	SCICOM members
Action: SCICOM members are asked to comment on the Aquaculture SG list of potential new expert groups and to advise on possible chairs for these groups.	7.4 Aquaculture Steering Group	01-06-2020	SCICOM members
Action: A subgroup was established to develop a revised proposal for approval on the SCICOM Forum before 1 May. The following subgroup members volunteered via WebEx chat: Mette Skern-Mauritzen, Silvana Birchenough, and Alan Haynie.	9.1 Appointment and turnover of steering group chairs: future approaches for increasing continuity of support for expert groups and reducing risks	01-05-2020	IEASG Chair; EPDSG Chair, SIHD Chair (Alan Haynie)
Decision: SCICOM approved the new draft resolutions for SICCME (Document 11.1-2).	11.1 Strategic Initiative on Climate Change	NA	
Decision: SCICOM approved the new draft resolution for SIHD (Document 11.2-2).	11.2 Strategic Initiative on the Human Dimension	NA	
Decision/Action: SCICOM agreed, by consensus, to form a new steering group on the understanding that DTech would finalise terms of reference for the new steering group for review and approval on the forum. DTech will invite EOSG chair, an ACOM member and all other interested steering group chairs to work on	12 Profiling data and technology in ICES 12.5 Discussion and next steps	01-06-2020	Pierre Petitgas

Action/Decision	Section	Deadline	Responsible
this. (Broad consensus for the formation of a steering group was confirmed by an indicative online vote to assess support for a new steering group addressing the broad area of data and technology with specific terms of reference to be pro-posed by DTech and seeking to accommodate a range of views on the rationale for, and pur-pose of, such a steering group. Seventeen voting members (77%) approved of creating a new steering group, one member (5%) did not approve of forming a new steering group and four members abstained (18%).			
Decision: SCICOM confirmed that they support the proposals of the group and their continued work.	14.2 Engaging oceanographers in ICES	NA	Johannes Karstensen
Decision: SCICOM decided to move the approval of 2021 symposia to the Resolution Approval Forum.	15.4 ICES co-sponsored symposia, including review and approval of draft resolutions for symposia	08-04-2020	Secretariat
Action: SCICOM at its September 2020 meeting should review the new process for calling for symposia. If we end up with a number of rejections, we are under-using the budget.	15.4 ICES co-sponsored symposia, including review and approval of draft resolutions for symposia	12-09-2020	SCICOM Chair
Decision: Brian MacKenzie (Chair, Denmark), Silvana Birchenough (EPDSG Chair), Mette Skern-Mauritzen (IEASG Chair), Mike Rust (ASG Chair), Steven Degraer (Belgium); Henrik Nygård (Finland), Jörn Schmidt (Germany), Gudmundur Oskarsson (Iceland), Francis O'Beirn (Ireland), Antonina Santos (Portugal), Svetlana Kasatkina (Russian Federation), Lidia Yebra (Spain), Corinne Pomerleau (Canada), and an ACOM member (TBA) were appointed for the 2020 ASC Award Selection Group.	17.1 Appointment of Award Selection Group for ASC 2020	NA	NA
Decision: Peter Wright (Chair, United Kingdom), Sarah Bailey (HAPISG Chair), Silvana Birchenough (EPDSG Chair), Mike Rust (ASG Chair), Steven Degraer (Belgium), Ellen Kenchington (Canada), Pierre Petitgas (France), Jörn Schmidt (Germany), Mark Dickey-Collas (ACOM Chair), and Corinne Pomerleau (Canada) were appointed for the 2021 ASC Group doing the pre-selection of 2021 theme and network session proposals for final decision of SCICOM.	17.2 Appointment of 2021 ASC Group	NA	NA