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# BICEpS ANNUAL REPORT

Reinforcing Belgian ICES people

2018





# BICEpS

## ANNUAL REPORT

Reinforcing Belgian ICES People

2018

- BICEpS activities in 2018
- Summary of BICEpS colloquium
- Outcome of the World-Café discussion
- Expectations for the future & Action points

Annexes:

- Belgian ICES members 2018
- BICEpS colloquium: Programme, Abstracts, Participants

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# FOREWORD

The International Council for the Exploration of the Sea (ICES; French: Conseil International pour l'Exploration de la Mer, CIEM) is an intergovernmental marine science organization that brings together the efforts and knowledge of 20 Member States, bordering the North Atlantic and the Arctic Circumpolar Zone, on physical oceanography, marine ecosystems and fisheries management. ICES is a well-known and respected partner in many fields (e.g. as scientific advisor for the European Common Fisheries Policy - calculation of quota advice - or as a reference data centre for the OSPAR and HELCOM conventions). It has clearly committed itself as a provider of scientific guidance for the implementation of the Marine Strategy Framework Directive.

ICES is also the world's oldest intergovernmental science organization. It was established in 1902 by exchange of letters between participating countries and headquartered in Copenhagen. It was later established as a formal convention of the United Nations (signature on 7 September 1964; entry into force on 22 July 1968, following its ratification by the then 17 member nations).

Going back to the history of Belgium's involvement in ICES, it appears that Belgium is a member of the first hour (1903). Between 1954 and 1959, and again between 1965 and 1968, Eugène Leloup (RBINS) served as vice-chairman of the Council of ICES. When the Convention was formalised, Belgium voted the approval law on 18 July 1967. There are two Belgian delegates to the Council: traditionally a scientist from the fisheries research sector (currently M. H. Polet, ILVO) and a scientist from the oceanography sector (currently M. S. Scory, RBINS). Additionally, attention was paid to the appointment of delegates representing the two main linguistic communities of our country.

Nowadays, more than 70 Belgian scientists are directly involved in the work of the 150 bodies and expert groups of ICES, which gather the expertise of more than 1500 scientists yearly, totalling up to 5000 scientists from over 700 marine institutes and organizations over the years. This important and often voluntary dedication of Belgian scientists to the work of ICES deserves more visibility among the Belgian scientific community itself and to policy makers.

Therefore, the Belgian delegates to the ICES decisional bodies gathered on 11 June 2018 to address this lack of visibility. De facto, participants to the meeting accepted to act as the Steering Committee (SC)

for the promotion of ICES in Belgium. The SC discussed opportunities and decided to establish a community of Belgian ICES members, with the support of RBINS offering its secretariat. This community was named "BICEpS" upon proposal by Steven Degraer (SCICOM delegate), BICEpS standing for "reinforcing Belgian ICES people". The committee immediately adopted the proposal as (i) it embraces well the notion of empowerment coming from this somehow original acronym (biceps muscles), (ii) it refers to ICES itself - the lead organisation focusing the efforts of the community, and (iii) it is preceded by a B for Belgium.

This report targets marine scientists, marine managers and policy makers. It presents the demarche leading to the creation of the BICEpS community and activities conducted in 2018. The report contains the list of Belgian ICES members in 2018 with their membership to the different ICES working groups, and the results of the first BICEpS Colloquium organised on 14 November 2018 and hosted by RBINS in Brussels (outcome of a participatory discussion on the future of BICEpS, abstracts of communications presented and list of participants). The abstracts of the colloquium are supplemented by a separate annex published online which assembles the PowerPoint presentations of the colloquium.

On behalf of the BICEpS Steering Committee, I would also like to take this opportunity to thank the ICES Secretariat for providing support to our initiative and for hosting the web platform of our newly born community at <http://ices.dk/community/groups/Pages/BICEps.aspx>, gateway to future BICEpS newsletters, annually updated membership lists and announcement of future BICEpS events. No doubt you will hear of the work of BICEpS in the social media with the hashtag #ICESbelgium. Stay tuned!

I am convinced this initiative will improve visibility of the work done and lead to future collaborations among experts, across institutes and also raise awareness and interest from other Belgian scientists to contribute to the work of ICES.

Serge Scory,

Royal Belgian Institute of Natural Sciences,

Belgian delegate to ICES Council

# INTRODUCTION

The International Council for the Exploration of the Sea (ICES) is a global organization that develops science and advice to support the sustainable use of the seas and oceans. In our changing world, the ICES work answers the needs of managers and society as they are actively seeking credible, salient, and legitimate evidence to help them understand and respond to a broader range of risks and opportunities.

## ICES Vision

To be a world-leading marine science organization, meeting societal needs for impartial evidence on the state and sustainable use of our seas and oceans.

## ICES Mission

To advance and share scientific understanding of marine ecosystems and the services they provide and to use this knowledge to generate state of the art advice for meeting conservation, management and sustainability goals.

The new [marine science plan](#) for the 2020s and beyond embraces seven interrelated scientific priorities:

- Ecosystem science
- Impact of human activities
- Observation and exploration
- Emerging techniques and technologies
- Seafood production
- Conservation and management science



Source: ICES 2019, Strategic Plan. How we work.

This more than centenary intergovernmental scientific organization brings together the efforts of 20 Member States, bordering the North Atlantic, Baltic and the Arctic Circumpolar Zone. Through strategic partnerships, its work extends into the Arctic, the Mediterranean, the Black Sea and the North Pacific.

In 2018, 77 Belgian scientists were directly involved (as designated members or as chair-invited-members) in the work of ICES. [Annex 1](#) details the participation of Belgian experts in up to 55 ICES bodies and working groups (WG) and 6 workshops (WK) organised in 2018. As many experts contribute to the work of multiple working groups, mainly voluntarily, the Belgian contribution totalled up to 146 single participations in 2018.

Considering the lack of visibility of this important involvement of our scientists to the Belgian scientific community and to Belgian policy makers, the BICEpS Steering Committee (SC) decided to establish a community for a better promotion of ICES in Belgium. BICEpS was initially envisaged as a forum where Belgian scientists could be connected to each other, be more transparently informed on the ICES-related work being done by their colleagues, and get updated on the involvement of Belgium in ICES governance and strategic objectives.

## BICEpS general aim

Offer a platform to the Belgian ICES community to get to know each other, to improve collaboration and share information, and to promote ICES to the wider scientific community in Belgium.



# ACTIVITIES IN 2018

The chairs of the BICEpS initiative are Steven Degraer (SCICOM delegate), Hans Polet (Council delegate), Serge Scory (Council delegate) and Els Torreele (ACOM delegate). The BICEpS Steering Committee (SC) is further supplemented with colleagues from RBINS (Kelle Moreau and Marianne Schlessler) and ILVO (Kris Hostens and Sofie Vandendriessche).

The SC had three physical meetings and one Skype meeting on 11/06, 9/11, 22/11/2018 and 1/2/2019. The meetings addressed options to implement BICEpS and steps to assess the readiness of Belgium to host the ICES Annual Science Conference (ASC) in 2020/2022. The SC gave guidance and support for the organisation of a first BICEpS Colloquium in autumn 2018 and drew an action plan based on its outcome. The SC also clarified challenges, risks and opportunities in organizing ASC22 in Belgium.

## I. Organization of BICEpS Colloquium

A mailing list initially composed of the current Belgian ICES members was established in the summer of 2018 to present the approach to the members and announce the autumn event. About 25 experts accepted to play an active role during the colloquium, either for the scientific presentations or for the organisation of the brainstorming discussion. They are hereby all warmly acknowledged.

The first BICEpS colloquium took place on 14 November 2018 in Brussels. The purpose of this first colloquium was: (i) to promote dissemination of the BE contributions to the ASC conference; (ii) to allow BE delegates in the various working groups to provide feedback on their activities (highlights, important decisions, news); (iii) to bring the community physically together; (iv) to discuss participants' needs and (v) to propose future activities for BICEpS.

The colloquium was organised as a kick-off meeting of the BICEpS initiative, with a mix of institute and scientific presentations followed by a participatory discussion to shape the future activities of BICEpS with its members. About half of the Belgian ICES members, plus a few scientists involved nationally in the work of

ICES and representatives of the Belgian Science Policy Office (Belspo) participated in the event.

The morning and early afternoon were devoted to highlights and important decisions from the last Council, SCICOM and ACOM meetings held in October 2018, and included a poster session and presentations of Belgian contributions to and interactions with ICES advisory and scientific working groups. The outcomes of the ICES Annual Science Conference hosted by the University of Hamburg on 24-27 September 2018 were also presented.

In the afternoon, a participatory brainstorming session – organised in a World-Café format – addressed the question "**How to better organize and integrate Belgian ICES contributions**". The process was particularly valuable in building the foundations of future collaboration within the BICEpS community and ensuring that the BICEpS SC adequately addresses the needs expressed during the discussion when planning activities.

The colloquium nicely ended with an informal afternoon tea during which informal discussions and contacts among participants could continue.

As an outcome of the colloquium, a list of action points for BICEpS has been drafted under the title "**Expectations for the future**".

## II. Readiness assessment to host ASC

Upon proposal of the RBINS/OD Nature Director, the SC evaluated the options (venues, cost) to host the ICES Annual Science Conference 2022 in Belgium. In October 2018, after Portugal withdrew its proposal to host ASC20, Belgium announced at the Council meeting its proposal to host ASC22 and a willingness to investigate whether it would be possible to organise the conference earlier, in 2020, in replacement of Portugal.

The BICEpS secretariat investigated several venue options, set up a draft budget and project planning to host ASC20, but had to decide after careful analysis that the remaining time was too short to raise sufficient funding in time and organise ASC20. Thereupon, Belgium had to nullify the 2020 proposal in December 2018.

The work to prepare the organisation of ASC22 in Belgium will continue in 2019. The bottleneck might be the timing by which the new Belgian Federal Government will be in place and able to pledge money for the organization after the spring elections. A fundraiser

approach towards public and private partners is planned for 2019.



**BICEpS 14th annual colloquium** INVITATION  
November 2018

**WEDNESDAY  
14 November 2018**  
Royal Belgian Institute of  
Natural Sciences, Brussels  
Rue Vautierstraat 29

**First BICEpS annual colloquium**  
Programme

9:00	Welcome coffee and posters
9:25	BICEpS: presentation of the initiative ICES Council in a nutshell Current trends in requests to the Advisory Committee The Science Committee, a guarantee for science for sustainable seas ICES Data & Information Services Belgian participation to advisory and scientific expert groups: Latest contributions by expert members to ACOM, EPDSG, EOSG, HAPISG, ASG, IEASG
12:00	Lunch break and posters
13:00	Report from scientific expert groups [continued] World-Café: How to better organize and integrate Belgian ICES contributions? Wrap-up of the day and lessons learned for next edition of BICEpS
15:30	Networking afternoon tea

**BICEpS Colloquium:  
Reinforcing Belgian ICES people**

An opportunity to share Belgian contributions to and experience with ICES as an inspiration for future work

For fisheries and non-fisheries experts

Registration until **6 November**. Contact: [biceps@naturalsciences.be](mailto:biceps@naturalsciences.be)

 **museum**  
Operational Directorate Natural Environment  
OD Nature | OD Natuur | DO Nature

 **ILVO**  
Flanders Research Institute for  
Agriculture, Fisheries and Food

 **ICES  
CIEM**

# SUMMARY OF THE BICEpS COLLOQUIUM

## An opportunity to share Belgian contributions to and experiences with ICES as an inspiration for future work (14 November 2018, RBINS, Brussels)

More than 90 Belgian scientists representing more than 10 institutes and government bodies have actively contributed to ICES during the last 10 years. Some of them have participated in an expert group for a single edition, others are long-lasting members of an expert group, or make sure that Belgium is well-represented at the coordinating ICES levels. Each of these people are well-acquainted with the ICES procedures and participants in their respective fields, and together they ensure the Belgian expertise and data to contribute to the international scenes of both science and the resulting advice.

Fellow-Belgians working in ICES usually meet each other during the Annual Science Conference, often with a surprising “Oh, I didn’t know you are now a member of WGXYZ!”. We realized that we needed to get to know each other better, across institutes and across ICES disciplines. With the support of the Royal Belgian Institute of Natural Sciences (RBINS) and the Research Institute for Agriculture, Fisheries and Food (ILVO), the Belgian ICES community therefore wants to increase the collaboration among its members. A series of initiatives will take place in the future under the acronym BICEpS: Reinforcing Belgian ICES people. The first colloquium

took place in Brussels on 14 November 2018, with about 40 participants of 5 different institutes. Flash presentations gave an overview of current research and data collection that is being conducted under the auspices of ICES. Young presenters stressed how important it is to get inspiration and feedback from experienced members. For research and experimental design, international harmonization promotes efficiency and replication. Other presenters shared their experience on how research is translated into high-level scientific advice. The compilation of abstracts that follows is complemented by a separate **online annex** with the compilation of the posters and PowerPoints presented during the day.

A second part of the colloquium was a ‘World-Café’ discussion targeting suggestions for increased interactions between Belgian ICES people. What are the hurdles and opportunities? How can we intensify the network without adding too much workload? In what way can a Belgian network add to the existing ICES contributions and to our own research? What tools can we use to achieve all that? No need to say that the room was buzzing positively... The results are translated in an action plan for BICEpS. [#ICESbelgium](#)





# WORLD-CAFÉ BRAINSTORMING

## How to better organize and integrate Belgian ICES contributions?

*Moderation by Kelle Moreau (RBINS) and Sofie Vandendriessche (ILVO);  
Co-organisation with Marianne Schlessler (RBINS).*

In the afternoon, the plenary broke up in six small groups to brainstorm on topics in relation to the future of the BICEpS initiative and how to better organize and integrate Belgian ICES contributions.



The World-Café objectives were:

1. to **IDENTIFY** key current and future issues/challenges for the BICEpS Community;
2. to **EXCHANGE** experiences and views on the elements to improve/tackle these issues/challenges;
3. to **RECOMMEND** actions and draft an **ACTION PLAN** to initiate these improvements/changes.

The expected added values for the participants were:

1. a better **UNDERSTANDING** of current issues in terms of research, advice and policy;
2. an opportunity to **MEET, EXCHANGE** and initiate possible **COLLABORATION** among experts and actors from diverse fields;
3. the **SHARING** of diverse viewpoints and expectations among actors to shape the future of BICEpS.

In preparation to this World-Café, the organizing committee identified question themes for an online survey that was sent to all Belgian ICES members. Answers to the survey were collected until 6 November and the results from 27 respondents are presented below as introduction of each question theme.

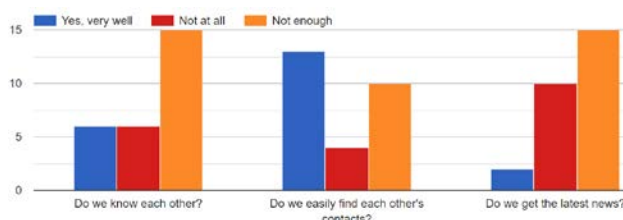
Sofie Vandendriessche and Kelle Moreau acted as co-moderators of the brainstorming session which was co-organised with Marianne Schlessler. Six table facilitators were invited to support the discussions in small groups during the World-Café event itself. They received a guidance document on how to run a World-café table discussion and a short briefing on the day itself. They also had the results of the preparatory survey in hand, which allowed them to feed the discussions with comments expressed in the survey, including the response of participants who could not attend the event itself.

The World-Café session was rather short (100 minutes). There were two table discussion rounds of 25 minutes with 6 tables of 4-6 participants and then a plenary wrap-up discussion of 30 minutes with the table facilitators acting as spokesmen. The results are summarized and illustrated hereunder. The overlap in the views expressed during the different sessions is noticeable.



### A. How well do we know each other?

Facilitator and rapporteur: Els Torreele



Answers from the preparatory online survey (BICEpS, Oct. 2018).

The participants agreed that they don't know well who is doing what and in which ICES Expert group. At the start, they were rather sceptical about such need. However, when going deeper into the discussion, they realised that they would benefit from a better overview for several reasons:

- to broaden and interdisciplinary integrate research (e.g. the *ecosystem approach* needs different fields of expertise to be linked with expertise);
- to help identifying ways of funding (who is doing what);
- to enable networking;
- to be better aware of cutting-edge research and advisory topics.

The group also discussed solutions to the above problem, and proposed the following actions:

A1. Have a calendar (e.g. in the cloud) summarising Belgian participations to ICES meetings.

A2. Conduct a social network analysis to see which working groups are interlinked, and who is attending. Possibilities to search with bibliometrics.

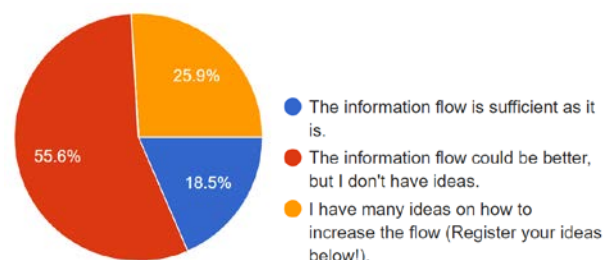
A3. An inter-institute website could be a solution but might be a heavy and technically difficult to accomplish.

A4. Organize a day event like the BICEpS Colloquium, maybe on a two-yearly basis? If we take a broader look at it, there might be a need for funding and to alternate hosts.

A5. Spread the news to all scientists in the network (not sure that we need a newsletter, maybe just spread the information by e-mail).

### B. How is the information flow within the Belgian ICES-community?

Facilitator and rapporteur: Kris Hostens



Answers from the preparatory online survey (BICEpS, Oct. 2018).

Although communication among ICES expert groups is relatively good, the BICEpS community felt that there is room for improvement between Belgian representatives.

The participants detected a lack of communication among Belgian experts originating from the fact that we do not know who is doing what in the ICES community. Even in our respective institutes, we do not always know who is joining which group. From the ICES website, it would be very hard to derive a list of Belgian colleagues involved in the different groups. In that sense, the institute posters presented by ILVO and RBINS were very useful. Participants shared the feeling that there should be a better flow of information between the ICES Secretariat and the Belgian ICES members. For improving the communication between Belgian scientists involved in ICES, the use of a dedicated page on the ICES website as the main hub for communication is preferred over the creation of a separate Belgian platform. The participants were happy about the organisation of this first BICEpS meeting and would find it useful to hold one meeting per year in the future to exchange information.

Kelle Moreau and Sofie Vandendriessche informed the plenary of their participation in the ICES Communication network (not being an official ICES expert group yet).

In addition, the following actions were proposed:

B1. Hold one BICEpS meeting per year.

B2: Create one poster per institute explaining who is doing what.

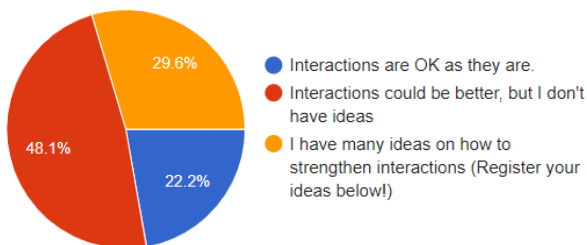
B3. Request for the ICES Secretariat: Publish a list of Belgian ICES members on the main ICES website (no need to create a Belgian ICES platform) (NB: please also refer to action A3 above).

B4. Request for ICES Secretariat: Send summaries of newly published ICES reports and outcomes of working groups to members of all ICES groups, instead of only to those of the involved group.

B5. Also publish relevant information on the involvement of Belgium in ICES on websites in university colleges.

### C. How are interactions between Belgian ICES contributors?

Facilitator and rapporteur: Serge Scory



Answers from the preparatory online survey (BICEpS, Oct. 2018).

The participants acknowledged that interactions were weak until now. In particular, there are few interactions among experts who are not in the loop of expert groups. On the other hand, Belgium is over-represented in some groups.

C1. Prepare a newsletter with contributions on highlights from different expert groups (workload!).

C2. At the level of the ICES Secretariat: when an EG meets, it is great to have an invited speaker coming from another group that is related (like modelers coming to the group working on the stock assessment for that species).

C3. In Belgium, we could define a few case studies relevant for the Belgian situation, for which bringing together experts from different working groups would lead to an interdisciplinary advice. Keep this exercise a light process: question of the sole in the North Sea (modelers + other groups), the recreative fishery together with experts interested in the contaminants.

C4: Organise another workshop in 2019, divided in (i) feedback from the ICES Council, (ii) a larger part on the contribution and communication, (iii) a larger part in the

afternoon on the identification of potential case studies on which we could work together during the next year.

### D. How can we better introduce ICES to the wider Belgian scientific community?

Facilitator and rapporteur: Carl Van Colen

In the preparatory survey, the majority of participants voted for physical contact (such as presence with a booth on science events), while only 3 participants voted for online contact (such as social media or a website). Two suggestions additionally mentioned networking activities (like the BICEpS Colloquium) and the publication of a list of members with a short description of ICES-related expertise per country on the main ICES website.

The participants of the World-Café all felt that it was indeed necessary to better introduce ICES to the wider community. The main reason is the growing demand for advice. Especially *ad hoc* requests that need to be answered quickly require an expansion of the number of involved scientists, so we can keep up an appropriate pace of answering. Simultaneously, we are progressively moving towards an ecosystem-based approach necessitating other types of expertise.

There seems to be gaps in knowledge, such as gaps in the contribution needs of the different ICES working groups. For instance, there are no Belgian members in the Expert Group on plankton while Belgian experts in this field surely exist. We should actively communicate this need, so that the relevant experts know where their contribution to ICES would be most appreciated!

To accomplish this and allow the identification of researchers that are involved in ICES and facilitate contacts between them, Belgian ICES expert members could carry an ICES badge or pin on events and marine science conferences (like the VLIZ Marine Science Day). (see activities suggested points under A, B and C). Interested researchers could then easily approach established members to ask questions, obtain a better overview of the present and required expertise, and eventually propose their participation. A condition is that Belgian members be themselves well informed so that they can act as ambassadors. It would also be good to foresee a presentation on all ICES work at events like the VLIZ Marine Science Day.

The group formulated the following proposals, acknowledging that the responsibility to carry out the



actions should be shared between the many people involved:

D1. Give a presentation on the marine science day on the work carried out by Belgium in ICES and also present where the current gaps are (e.g. there is a lack of Belgian experts working on plankton).

D2. Prepare and share flyers that can be brought by Belgian members to marine science events.

D3. At the level of ICES / BICEpS: Provide all ICES expert members with a permanent ICES badge or button pin so that they can be identified when attending other marine science events.

D4. At the level of ICES: publish a list of members with a short description of ICES-related expertise per country on the ICES website.

#### E. How can we attract new people? How can we promote a longer-term engagement?

Facilitator and rapporteur: Simon Claus

How can we attract new people to the BICEpS community and keep them involved in the various ICES groups in the long run? Participants had the feeling that an event like the BICEpS colloquium was a useful initiative to raise interest and start building the BICEpS community.

The group reflected on a series of issues: (i) the lack of visibility of the work that ICES is doing, specifically in relation to the research groups in Belgium; (ii) the need for funding for participation to ICES meetings (especially for traveling and attend expert groups for which there is no legal obligation); and (iii) the fact that a lot of work is done on a voluntary basis in researcher's spare time.

It was also noted that a potential for further project collaborations and the generation of publications are clear extra incentives for participation of scientists in ICES groups. Some scientists have the feeling that they are "being used" to draft "anonymous" ICES advice while it is important for their academic career to generate publications that they can more clearly refer to in their CVs. An annual BICEpS meeting with a good report can contribute to the sharing of research questions with colleagues, and to the development of inter- and intradisciplinary collaboration.

Invite more Belgian participants by having persons acting as contact point for the dissemination of information in each research institute in Belgium. We could even negotiate with universities to have people sent to ICES working groups.

The following solutions were suggested:

E1. Map who is doing what in Belgium in relation to ICES.

E2. Give courses to other people/students to get them engaged in ICES.

E3. Create a web space for the BICEpS community to present who is doing what

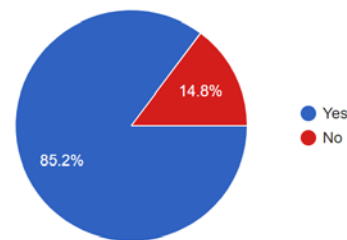
E4. Give presentations at other fora, conferences and meetings.

E5. At the level of ICES: Invite other countries to follow the BICEpS approach to help recruiting more scientists.

#### F. Do we need to profile ourselves as a network?

Facilitator and rapporteur: Bob Rumes

The participants of the group were in favour of having an ICES network in Belgium. This was also the dominant opinion in the preparatory survey.



Answers from the preparatory online survey (BICEpS, Oct. 2018).

However, some caveats were pointed out. The group had a small discussion on profiling and what can be understood under profiling the network. Does this mean profiling "us" as "the Belgian people contributing to ICES"? Or should we develop a network that serves and strengthens the internal knowledge exchange?

Some of the arguments illustrate that we shouldn't take BICEpS too far: (i) it is time consuming; (ii) it is not funded; (iii) it is the role of ICES to transcend the national level and any competition between the two structures should be avoided. The value of having an

informal network where we could inform each other and where there are no real strict deliverables was stressed. Right now, the initiative is rather spontaneous and voluntary, and it should remain like that. If we can identify who works in which group, it would be very good to be able to exchange information and it will provide some transparency. Today many participants learned about colleagues' contributions to working groups that may be relevant for them. For multidisciplinary or ecosystem-based questions, it is also good to have this multidisciplinary view and approach.

In conclusion, yes, we could be a network. But we don't need to have a very loud voice and talk to external people. The initiative should remain directed to people who are in Belgium and are involved in ICES. Let them know that a network exists and how they can contact this network and each other. Most of the ways in which we could profile ourselves as a network have already been discussed earlier (see above). It would be good to involve the other actors that are in Belgium and are also active in ICES. A representation from a few research institutes is indeed missing.

Should we have an annual meeting? This aspect was not ranked very high on the list of the group because of the annual and broad aspect. It is good to share experiences, but it must remain stimulating.

The discussion group proposed some useful actions:

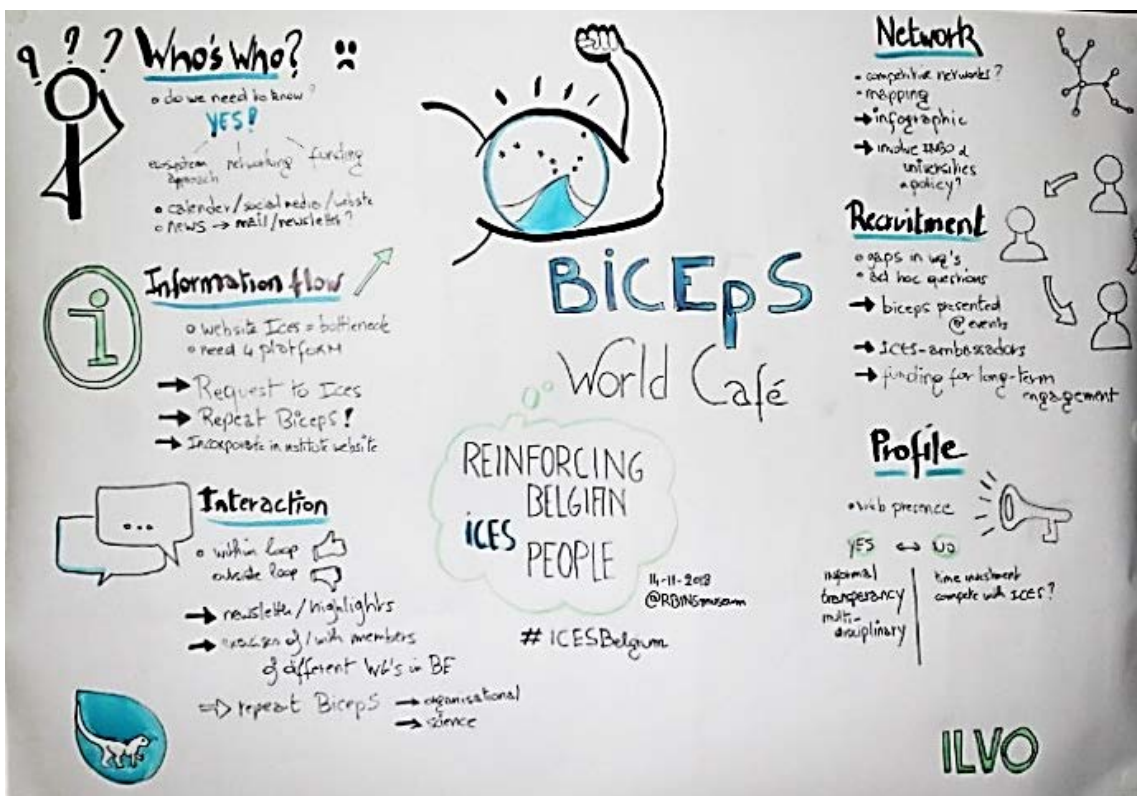
F1. Have an online list indicating who is working on what, where we are active and also where we are NOT active (cf. actions B2 and B3).

F2. If we hold future meetings like the 2018 BICEpS colloquium, the participants prefer having a workshop-like structure where we focus on some specific subjects. Foresee fewer broad lectures and focus on a subject (only one key note lecture) and invite more posters and flash presentations to keep everyone focused and active.

F3. In the future, find a way to involve the other Belgian actors that are also active in ICES.

F4. We should further think about involving policy makers.

In conclusion of the World-Café, it is salient that the views of the six discussion groups were going in the same direction. They could build on the results of the preparatory survey. This face to face discussion was a good opportunity to build up ideas and gain support for action proposed for the future. Some common goals and actions emerged and will feed the action plan (see next chapter).



Live drawing by Sofie Vandendriessche on 14 November 2018, BICEpS World-Café discussi

# EXPECTATIONS FOR THE FUTURE

## Action points and lessons learned

### I. Action points for BICEpS

After the BICEpS Colloquium, the Steering Committee (SC) met on 22 November 2018 for a debriefing and further discussions on the outcome. The SC based its discussion on the outcome of the colloquium, in particular the World-Café discussion, and on the results of an online evaluation survey conducted just after the colloquium.

It was also acknowledged that no dedicated budget is allocated to the activities and the responsibility to carry out the actions should be shared between the many people involved in the network, counting on the voluntary participation and good will of each of us and with the continued support and guidance of BICEpS SC.

The following action points were elaborated for the future activities of the BICEpS community in 2019 and beyond.

#### Objective 1: Actively recruit more experts in Belgium

Proposed action points to counter the shrinking of expert group sizes and expert involvement in ICES:

- 1.1. **Create an enlarged BICEpS mailing list.** Contact persons for the dissemination of information can be found in the bi-annual “Compendium for Coast and Sea”. **Send a first subscription request** with the first newsletter to validate the mailing list creation.
- 1.2. **Improve dissemination of information** when new ICES groups are created. Invite more Belgian participation by having persons acting as contact point for the dissemination of information in each research institute in Belgium. **Publish relevant information on websites and in university colleges** on involvement of Belgium in ICES.

- 1.3. **Clarify who does what in Belgium in relation to ICES.** The list could also indicate where Belgium is active and where Belgian involvement is lacking. Each institute could create a poster explaining the involvement of its researchers.
- 1.4. **Present the BICEpS network at other fora, conferences, meetings, the Think Tank North Sea and to students** in universities to get them engaged in ICES; e.g. give a presentation on the work carried out by Belgium in ICES and present where the current gaps are (e.g. there is a lack of Belgian experts working on plankton in the ICES network). Examples of events: annual VLIZ marine science day, marine biology symposium (MBS Symposium at Ghent University), Liège colloquium.
- 1.5. **Prepare and share flyers** that can be brought by Belgian members to marine science events.

#### Objective 2: Support active participation of Belgium in the work of ICES

On top of the experts’ personal interests and return on time investment, we need to secure financing for Belgian participation in ICES. This can be achieved by (i) making investment in the production of “grey literature” more rewarding to scientists, (ii) gaining more attention and interest from the government and (iii) communicating the scientific relevance of ICES in supporting appropriate policies.

Proposed action points:

- 2.1. **Spread the news to the network.** This can be done by mails and/or through a BICEpS Newsletter with highlighted contributions from different experts and disseminate this to an expanded list of marine scientists in Belgium and policy makers.

- 2.2. **Create a web space for the BICEpS community, preferably hosted by the ICES website** (keep it light). Ask ICES to support Belgium in setting up this common web page to share documents and national information (publicly accessible).
- 2.3. **Harmonise communication on social media** (LinkedIn, Facebook, Twitter). Encourage sharing the hashtag #ICESbelgium when experts attend a working group.
- 2.4. **Organize an annual BICEpS meeting** with a good report. Hosts can change on a rotation basis. Organize it as a workshop where we focus on specific subjects. Foresee fewer broad lectures and focus contributions and communications on a subject (only one key note lecture), invite more posters and flash presentations to keep everyone focused and active. A larger part of the afternoon would be dedicated to the identification of case studies to be further investigated together.
- 2.5. **Involve the other Belgian actors** that are active in ICES and also **involve policy makers**.
- 2.6. **Define a few case studies relevant for the policy in Belgium** for which an advice would bring together people from different expert groups. Keep this exercise a light process: e.g. sole in the North Sea (stock assessors + other groups), lead in the North Sea (recreational fishery representatives together with scientists studying contaminants).
- 2.7. **Increase outreach communication** in the margins of the ASC & annual BICEpS meeting. When experts attend working group meetings, deliver a report, contribute to an ACOM advice, **stress the added value of these efforts in taking appropriate managerial and political decisions**.
- 2.8. **Investigate how to create a calendar in the cloud** summarising Belgian participation to ICES meetings. It was also suggested to conduct a social network analysis to see which working group are interlinked and who is attending (possibilities to search with bibliometrics?).

**Objective 3: Communicate the added value of BICEpS to ICES**

What can BICEpS do for ICES? The following list of possible actions could be better implemented by, and should be conveyed to the wider ICES Community:

- 3.1. **Share BICEpS outcomes** with ICES when attending ACOM, SCICOM, Council meetings (spread the news informally), at the communication session of the ASC, the January meeting of WG Chairs (grouping Expert Group chairs involved in the advisory process).
- 3.2. **Provide all ICES expert members with an identifier** (ICES badge / button pin / lanyard) so that they can be recognised and act as ambassadors when attending other marine science events in Belgium.
- 3.3. To strengthen the network of experts, the ICES Secretariat can publish a **list of members with a short description of ICES-related expertise per country** on its website.
- 3.4. **ICES Secretariat to share summaries of newly published reports** and outcomes of working groups to all ICES groups instead of only to the group that produced a given report.
- 3.5. **Increase synergies and interactions**. When an EG meets, ICES could invite a speaker from another group related to the topic (e.g. modelers joining the group working on the stock assessment for that species).
- 3.6. **Invite other countries to follow the BICEpS approach** to help recruiting more scientists.





## II. Lessons learned & food for thoughts

Our society relies more and more on scientific advice as the use of and pressure on natural resources only seems to increase. In managing our seas and oceans, advice on the sustainable use of fish stocks and marine pollution are the scientific contributions that are best known to the public. Marine scientific advice produced by ICES is, however, much more diverse and this diversity will keep growing with the development of the blue economy and the full application of an ecosystem-based management.

In our region, ICES is the main international contributor to scientific advice on marine issues to decision-makers, especially to the European Commission. This independent advisory and scientific body is not only appreciated for the quality of its advice but also for its independence, its non-competitive culture and the enthusiasm of its scientific community to work together. For that reason, ICES deserves our full support.

Belgium, with its tiny coast and small fishing fleet, supports ICES with no less than 70 scientists contributing to the work of the expert groups on a regular basis. Knowing that 115 marine research teams employing over 1.000 scientists are active in Belgium, our potential to support ICES is much higher than is realised today. Likewise, the potential of ICES to support and inspire Belgian scientist is also underused. This notion has been the basis for establishing the BICEpS community.

In the context of a blue growth economy, I also believe that the marine science community needs to overcome some barriers to continue delivering the best authoritative and impartial scientific advice to decision makers, inform society on the state and use of marine ecosystems and to fully implement the ecosystem approach. Altogether, we should move towards an open science, improve the diffusion of our research efforts, opt for collaborative work, increased networking and sharing of ideas. Interdisciplinary learning, interoperable standards and appropriate application of new technologies in the marine environment will also be critical to produce innovative solutions to marine and maritime challenges. The new ICES Science plan for the period 2019-2024 is a step forward in that direction. With BICEpS, we have the opportunity to take advantage of the common knowledge and experience of the BICEpS community to also advance our understanding of marine issues in Belgium and to foster our contributions to ICES.

I do hope that the relatively small BICEpS community will be joined by more researchers. Their common contribution can make a difference at the ICES community level and BICEpS paves the way for improved collaborations of this network at national level.

The first BICEpS event in 2018 attracted more participants than we had hoped for and delivered realistic recommendations that show us the way forward. The meeting physically seemed to be appreciated by most participants, but the format should evolve towards a more scientific think tank / workshop to work together on a few selected topics while inviting more flash presentations and posters next time. The World-Café format of the discussion was a productive way of gathering ideas and we welcome more ideas anytime during the year. Some suggestions were handed over to be implemented at the level of the ICES Secretariat.

The online evaluation after the event showed that there is a great interest to attend a next edition of the BICEpS event. And even though the activities are just at the start, the initiative has already raised interest supra-nationally and the ICES Secretariat accepted to support hosting a web-platform for the BICEpS community.

In order to keep the momentum going among Belgian scientists, we are happy to announce that the next BICEpS event will be organized in the second half of November in 2019 at ILVO in Oostende. We would like to make this meeting a yearly event. Here and now, we invite other research groups to host this meeting in the future. And of course, we will spread the word in the ICES community and we anticipate that other ICES Member States will follow our initiative. Some already do!

Hans Polet,

Research Institute for Agriculture, Fisheries and Food,

Belgian delegate to ICES Council

## ANNEX 1: BELGIAN ICES MEMBERS 2018

Member	Parent (Group/Committee)	Group/Committee	Function	Institute/Depart Name
Alberto Vieira Borges	HAPISG	MCWG	<i>Chair-invited</i>	University of Liege (ULiège)
Anne Goffart	EPDSG	WGHABD	<i>Member</i>	University of Liege (ULiège)
Annelies De Backer	HAPISG	WGEXT	<i>Member</i>	Institute for Agricultural and Fisheries Research (ILVO)
Annemie Decostere	EOSG	WGELECTRA	<i>Chair-invited</i>	University of Ghent (UGent)
Annemie Zenner	EOSG	WGBIOP	<i>Member</i>	Institute for Agricultural and Fisheries Research (ILVO)
Ann-Katrien Lescauwae	HAPISG	WGHIST	<i>Member</i>	Flanders Marine Institute (VLIZ)
Arne Kinds	EOSG	WGFTFB	<i>Chair-invited</i>	Institute for Agricultural and Fisheries Research (ILVO)
Bart Vanelslander	ACOM	WGBIE	<i>Member</i>	Institute for Agricultural and Fisheries Research (ILVO)
Bart Vanelslander	ACOM	WGCE	<i>Member</i>	Institute for Agricultural and Fisheries Research (ILVO)
Bart Vanelslander	ACOM	WGNSSK	<i>Member</i>	Institute for Agricultural and Fisheries Research (ILVO)
Bart Verschueren	EOSG	WGFTFB	<i>Member</i>	Institute for Agricultural and Fisheries Research (ILVO)
Bart Verschueren	EPDSG	WGCRAN	<i>Chair-invited</i>	Institute for Agricultural and Fisheries Research (ILVO)
Bart Verschueren	HAPISG	WGSFD	<i>Member</i>	Institute for Agricultural and Fisheries Research (ILVO)
Bart Verschueren	SCICOM-ACOM	EOSG	<i>Member</i>	Institute for Agricultural and Fisheries Research (ILVO)
Bavo De Witte	HAPISG	MCWG	<i>Member</i>	Institute for Agricultural and Fisheries Research (ILVO)
Bavo De Witte	HAPISG	WGML	<i>Member</i>	Institute for Agricultural and Fisheries Research (ILVO)
Bavo De Witte	HAPISG	WGMS	<i>Chair-invited</i>	Institute for Agricultural and Fisheries Research (ILVO)
Benigna Van Eynde	EPDSG	WGCRAN	<i>Member</i>	Institute for Agricultural and Fisheries Research (ILVO)
Bob Rumes	ACOM	WGMME	<i>Member</i>	Royal Belgian Institute of Natural Sciences (RBINS)
Bob Rumes	HAPISG	WGMRE	<i>Member</i>	Royal Belgian Institute of Natural Sciences (RBINS)
Brigitte Lauwaert	HAPISG	WGEXT	<i>Member</i>	Royal Belgian Institute of Natural Sciences (RBINS)



Carl Van Colen	EPDSG	BEWG	<i>Member</i>	University of Ghent (UGent)
Christian Van Den Berghe	EOSG	WGFTFB	<i>Member</i>	Institute for Agricultural and Fisheries Research (ILVO)
Claude Belpaire	ACOM	WGEEEL	<i>Member</i>	Instituut voor Natuur- en Bosonderzoek (INBO)
Claude Belpaire	EPDSG	WGDAM	<i>Chair-invited</i>	Instituut voor Natuur- en Bosonderzoek (INBO)
Claude Belpaire	EPDSG	WGDIAD	<i>Chair-invited</i>	Instituut voor Natuur- en Bosonderzoek (INBO)
Daan Delbare	EPDSG	WGCRAN	<i>Chair-invited</i>	Institute for Agricultural and Fisheries Research (ILVO)
Dimitry Van der Zande	EPDSG	WGOOFE	<i>Member</i>	Royal Belgian Institute of Natural Sciences (RBINS)
Ellen Pecceu	EOSG	WKMSIGD	<i>Participant</i>	Institute for Agricultural and Fisheries Research (ILVO)
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Ellen Pecceu	HAPISG	WKCSMP	<i>Participant</i>	Institute for Agricultural and Fisheries Research (ILVO)
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Els Torreele	ACOM	ADGNS	<i>Member</i>	Institute for Agricultural and Fisheries Research (ILVO)
Els Torreele	ACOM	FO Core Group	<i>Member</i>	Institute for Agricultural and Fisheries Research (ILVO)
Els Torreele	ACOM	SCRDB	<i>Member</i>	Institute for Agricultural and Fisheries Research (ILVO)
Els Torreele	ACOM	WKIrish	<i>Participant</i>	Institute for Agricultural and Fisheries Research (ILVO)
Els Torreele	EOSG	PGDATA	<i>Member</i>	Institute for Agricultural and Fisheries Research (ILVO)
Els Torreele	EOSG	WGBIOP	<i>Member</i>	Institute for Agricultural and Fisheries Research (ILVO)
Els Vanderperren	EOSG	WGFTFB	<i>Member</i>	Institute for Agricultural and Fisheries Research (ILVO)
Elvio Amato	HAPISG	WGMS	<i>Chair-invited</i>	University of Antwerp
Emiel Brouckaert	ACOM	WKIrish	<i>Participant</i>	Rederscentrale
Emiel Brouckaert	OtherACOM	MIACO	<i>Member</i>	Rederscentrale
Eric Stienen	ACOM	JWGBIRD	<i>Member</i>	Instituut voor Natuur- en Bosonderzoek (INBO)
Federico Calboli	ASG	WGAGFA	<i>Chair-invited</i>	Ecology, Evolution and Biodiversity Conservation
Filip Volckaert	ACOM	WKBASS	<i>Member</i>	KU Leuven / Laboratory of Aquatic Ecology
Filip Volckaert	ASG	WGAGFA	<i>Member</i>	KU Leuven / Laboratory of Aquatic Ecology
Filip Volckaert	IEASG	WGIPEM	<i>Chair-invited</i>	KU Leuven / Laboratory of Aquatic Ecology
Francis Kerckhof	HAPISG	WGBOSV	<i>Member</i>	Royal Belgian Institute of Natural Sciences/OD Nature

Francis Kerckhof	HAPISG	WGITMO	<i>Member</i>	Royal Belgian Institute of Natural Sciences/OD Nature
Francis Kerckhof	HAPISG	WGMBRED	<i>Member</i>	Royal Belgian Institute of Natural Sciences/OD Nature
Francisco Hernandez	EPDSG	WGBIODIV	<i>Chair-invited</i>	Flanders Marine Institute (VLIZ)
Francisco Souza Dias	SCICOM Operational groups	DIG	<i>Chair-invited</i> <i>Member</i>	Flanders Marine Institute (VLIZ)
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Frankwin van Winsen	EOSG	WGRFS	<i>Member</i>	Institute for Agricultural and Fisheries Research (ILVO)
Frankwin van Winsen	EOSG	WKMLEARN	<i>Participant</i>	Institute for Agricultural and Fisheries Research (ILVO)
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Gert Van Hoey	EPDSG	WGBIODIV	<i>Chair-invited</i>	Institute for Agricultural and Fisheries Research (ILVO)
Gert Van Hoey	HAPISG	WGFBIT	<i>Chair</i>	Institute for Agricultural and Fisheries Research (ILVO)
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Lisa Devriese	HAPISG	WGMS	<i>Member</i>	Flanders Marine Institute (VLIZ)
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Noémi Van Bogaert	HAPISG	WGMEDS	<i>Chair-invited</i>	Institute for Agricultural and Fisheries Research (ILVO)
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Patrick Roose	HAPISG	WGBEC	<i>Member</i>	Royal Belgian Institute of Natural Sciences (RBINS)
Patrick Roose	HAPISG	WGMS	<i>Member</i>	Royal Belgian Institute of Natural Sciences (RBINS)
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Sebastian Uhlmann	EOSG	WGFTFB	<i>Member</i>	Institute for Agricultural and Fisheries Research (ILVO)
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Sofie Nimmegeers	ACOM	WGNSK	<i>Member</i>	Institute for Agricultural and Fisheries Research (ILVO)
Sofie Nimmegeers	ACOM	WKIrish	<i>Participant</i>	Institute for Agricultural and Fisheries Research (ILVO)
Sofie Nimmegeers	EOSG	PGDATA	<i>Member</i>	Institute for Agricultural and Fisheries Research (ILVO)
Sofie Nimmegeers	EOSG	WGCATCH	<i>Member</i>	Institute for Agricultural and Fisheries Research (ILVO)
Sofie Nimmegeers	HAPISG	WGSFD	<i>Member</i>	Institute for Agricultural and Fisheries Research (ILVO)
Sofie Vandemaele	ACOM	WGCSE	<i>Member</i>	Institute for Agricultural and Fisheries Research (ILVO)
Sofie Vandemaele	ACOM	WGNSK	<i>Member</i>	Institute for Agricultural and Fisheries Research (ILVO)
Sofie Vandemaele	HAPISG	WGSAM	<i>Member</i>	Institute for Agricultural and Fisheries Research (ILVO)
Steven Degraer	EPDSG	BEWG	<i>Member</i>	Royal Belgian Institute of Natural Sciences (RBINS)
Steven Degraer	HAPISG	WGMBRED	<i>Member</i>	Royal Belgian Institute of Natural Sciences (RBINS)
Thierry Jauniaux	ACOM	WGMME	<i>Member</i>	University of Liège (ULg)
Thomas Verleye	EOSG	WGRFS	<i>Member</i>	Flanders Marine Institute (VLIZ)
Vera Van Lancker	HAPISG	WGMHM	<i>Member</i>	Royal Belgian Institute of Natural Sciences (RBINS)
Willy Baeyens	HAPISG	MCWG	<i>Member</i>	Vrije Universiteit Brussel (VUB)
Wim Allegaert	ACOM	SCRDB	<i>Member</i>	Institute for Agricultural and Fisheries Research (ILVO)
Wim Allegaert	EOSG	WGBIOP	<i>Participant</i>	Institute for Agricultural and Fisheries Research (ILVO)
Wim Allegaert	SCICOM Operational groups	DIG	<i>Member</i>	Institute for Agricultural and Fisheries Research (ILVO)

**NOTE:** The list is updated annually. Please contact [serge.scory@naturalsciences.be](mailto:serge.scory@naturalsciences.be) and [hans.polet@ilvo.vlaanderen.be](mailto:hans.polet@ilvo.vlaanderen.be) for updates or nomination requests.

# ANNEX 2: PROGRAMME OF BICEpS18

## First BICEpS Colloquium

14/12/2018, RBINS, Brussels

9:00 Welcome coffee, posters and briefing of the World-Café facilitators

9:25 **BICEpS: presentation of the initiative** (1)  
(Serge Scory and Hans Polet, ICES Council representatives)

### Institutional presentations

9:30 **ICES Council in a nutshell and strategic initiatives** (2) (Serge Scory, RBINS, ICES Council representative)

9:40 **Current trends in advice requests from ICES** (3)  
(Els Torrele, ACOM representative)

9:50 **The Science Committee, a guarantee for science for sustainable seas** (4) (Steven Degraer, SCICOM representative) (Presented by Jan Vanaverbeke, RBINS)

10:00 **ICES Data & Information Services** (5)  
(Ruth Lagring, DIG representative)

### Belgian participation to advisory and scientific expert groups:

10:00- 14:00 **Latest contributions by expert members to ACOM, EPDSG, EOSG, HAPISG, ASG, IEASG** (List of communications on the next page)

12:00 - 13:00 Lunch break and time for posters

### World-Café discussion

14:00 **How to better organize and integrate Belgian ICES contributions?**  
Co-moderation by Kelle Moreau (RBINS) and Sofie Vandendriessche (ILVO). Co-organisation by Marianne Schlessler (RBINS).

15:20 **Wrap-up of the day and lessons learned for next edition of BICEpS**  
(Hans Polet, ILVO, ICES Council representative)

15:30 Networking afternoon tea and cakes

## Belgian participation to advisory and scientific expert groups

Latest contributions by expert members to ACOM, EPDSG, EOSG, HAPISG, ASG, IEASG.

### I. Institute posters

(6) OD Nature and ICES: taking responsibility and multi-disciplinary involvement

(7) Fisheries and beyond: ILVO expertise in the ICES network

(8) Flanders Marine Institute (VLIZ) in ICES networks and expert groups: a two-way collaboration.

### II. Flash presentations of scientific posters

(9) Establishing a vitality assessment protocol for rays within the INTERREG 2-SEAS SUMARiS-project. (ACOM/WGEF & HAPISG/WGMEDS). (Noémi Van Bogaert, ILVO)

(10) SmartDots: A flexible open source software tool for age reading of calcified structures of marine species. (EOSG/WGBIOP) (Karen Bekaert *et al.*, ILVO)

(11) ICES support for development of catch sampling programmes. (ACOM + EOSG/WGCATCH). (Sophie Vandemaele, Els Torrele, ILVO)

### III. ACOM Expert Groups

(12) Introduction to ACOM Expert Groups (Els Torrele, ILVO, ACOM representative)

(13) From data to quota: How are the Belgian quota determined? (ACOM/WGCSE + ACOM/WGNSSK) (Bart Vanelslander, Lies Vansteenbrugge, Sofie Nimmegeers, ILVO)

(14) Cause of death of harbour porpoises (*Phocoena phocoena*) found in Belgium between 1990 and 2015 (ACOM/WGMME) (Thierry Jauniaux, ULg, Delrez Natacha, ULg, Jan Haelters, RBINS, Francis Kerckhof, RBINS, Freddy Coignoul, ULg)



#### IV. EPDSG - Ecosystem Processes and Dynamics Steering Group

(15) Introduction to the work of EPDSG (Steven Degraer, RBINS, SCICOM representative) (Presented by **Jan Vanaverbeke**, RBINS)

(16) Benthic biodiversity and ecosystem functioning research at UGent Marbiol: the ICES context (EPDSG/BEWG) (**Carl Van Colen**, UGent)

#### V. ASG - Aquaculture Steering Group

(17) Introduction to the work of ASG (Steven Degraer, RBINS, SCICOM representative) (Presentation by **Kelle Moreau**, RBINS)

(18) Seascape-mediated patterns and processes of population differentiation in European seabass. (ASG/WGAGFA) (**Filip Volckaert**, KUL)

#### VI. HAPISG - Human Activities, Pressures and Impacts Steering Group

(19) Introduction to the work of HAPISG (**Koen Parmentier**, RBINS, chairman of Marine Chemistry WG under HAPISG)

(20) VLIZ contributes to multidisciplinary research on long-term changes in the marine environment (HAPISG/WGHIST) (**Ann-Katrien Lescrauwaet**, VLIZ)

(21) VLIZ as a knowledge broker for the marine expert. The Story of Marine Litter (HAPISG/WGML) (**Lisa Devriese**, VLIZ)

(22) The Marine Chemistry WG: A Mix of Challenges and Opportunities, a Source of Operational Guidelines (HAPISG/WGMC) (**Koen Parmentier**, RBINS)

(23) The Working Group on Marine Benthic and Renewable Energy Developments (HAPISG/WGMBRED) (**Jan Vanaverbeke**, RBINS)

(24) Keeping Blue Energy Green: How ICES helps us keep track of Marine Renewables (HAPISG / WGMRE) (**Bob Rumes**, RBINS)

(25) The seafloor ecosystem in an ICES context. (HAPISG/WGEXT, WGMBRED, WGFBIT, WGMBRED, WGMPCZM) (**Kris Hostens**, Gert Van Hoey, Annelies De Backer, Hans Hillewaert, Ellen Pecceu, Bavo De Witte)

#### VII. EOSG - Ecosystem Observation Steering Group

(26) Introduction to the work of EOSG (**Maarten Soetaert**, ILVO, chairman of Electrical Trawling WG under EOSG)

(27) Work done under the Electrical Trawling Working Group (EOSG/ETWG) (**Maarten Soetaert**, ILVO)

(28) Setting up a recreational fisheries survey in Belgium with the help of ICES Working group for Recreational Fisheries Surveys (WGRFS). (EOSG/WGRFS) (**Frankwin Van Winsen**, ILVO and **Thomas Verleye**, VLIZ)

#### VIII. IEASG - Integrated Ecosystem Assessments Steering Group

(29) Introduction to the work of IEASG (Geneviève Lacroix, RBINS) (Presentation by **Leo Barbut**, RBINS)

(30) How larval traits of six flatfish species impact population connectivity? (IEASG/WGIPEM) (**Leo Barbut**, RBINS)

## ANNEX 3: ABSTRACTS OF BICEpS18

The abstracts of the colloquium are supplemented by a separate [online annex](#) which assembles the PowerPoint presentations of the colloquium.

<http://ices.dk/community/groups/Pages/BICEps.aspx>

### 1. BICEpS: presentation of the initiative

Serge Scory<sup>a</sup> and Hans Polet<sup>b</sup>  
(ICES Council representatives)

Please refer to the introduction of this report for the presentation of demarche which lead to the initiative to create the BICEpS community.

#### Institutional presentations

### 2. ICES Council in a nutshell and strategic initiatives

Serge Scory<sup>a</sup> (ICES Council representatives)

<sup>a</sup> BMDC, Royal Belgian Institute for Natural Sciences (RBINS), Rue Vautierstraat 29, 1000 Brussels, Belgium

The International Council for the Exploration of the Sea was established in 1902 by exchange of letters between participating countries, Belgium joined the year after. In 1964, through an agreed Convention, ICES received a legal foundation and full international status. Belgium officially adhered to the Convention by the Law of 18 July 1967.

The overall duties of ICES are:

- a) to promote and encourage research and investigations for the study of the sea particularly those related to the living resources thereof;
- b) to draw up programmes required for this purpose and to organise, in agreement with the Contracting Parties, such research and investigation as may appear necessary;
- c) to publish or otherwise disseminate the results of research and investigations carried out under its auspices or to encourage the publication thereof.

ICES has currently 20-member countries, each of which mandating two delegates to the Council. Over the last 40 years (at least), Belgium has always been represented by one fishery scientist and one physical

oceanographer, the two original pillars of the science developed by ICES.

The [Council](#) is the principal decision and policy-making body of ICES. It meets physically once per year. The Bureau acts as the Executive Committee of the Council, and the Finance Committee is responsible for overseeing the organization's financial matters. The work of the Council is carried out through the Advisory Committee (ACOM), Science Committee (SCICOM), Data and Information Group (DIG), and the Secretariat. During its last session (Copenhagen, DK, 17–18 October 2018), the Council approved a [new strategic plan](#) that will be briefly reviewed during this presentation.



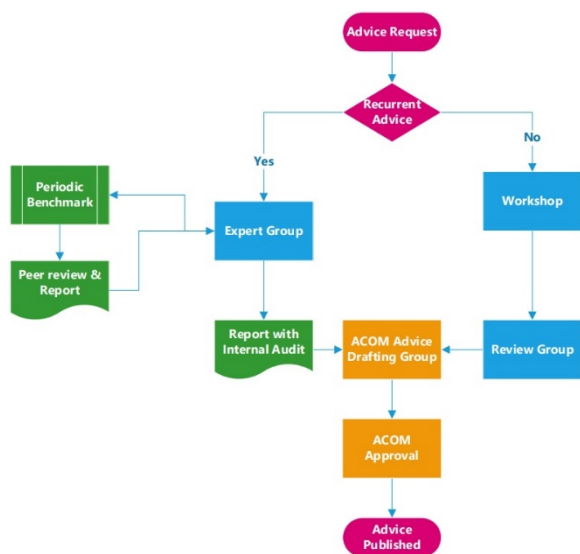
### 3. Current trends in advice requests from ICES

Els Torrele<sup>a</sup> (ACOM representative)

<sup>a</sup> Institute for Agricultural and Fisheries Research (ILVO), Ankerstraat 1, 8400 Oostende, Belgium

The [Advisory Committee](#) (ACOM) translates ICES science into advice on the sustainable use and protection of marine ecosystems. Requests to ICES for advice comes from ICES member countries, international commissions and organizations, and fisheries and ecosystem management bodies. ACOM provides advice ensuring quality, transparency, and legitimacy. All advice produced is based on the precautionary principle and the ecosystem approach. To ensure the advice to be understandable and relevant to society, ACOM works

with different stakeholders. During 2017, over 200 recurrent advice was given and over 30 special requests on impact of fisheries, in-year advice of fishing opportunities,  $F_{msy}$  ranges, MSFD guidance, pressures and impact on seafloor, evaluation of fisheries management strategies, impacts of climate change on stocks, etc. Additionally, 39 Advice Drafting Groups (ADG) and 38 ACOM WebEx took place. The leadership of ACOM consists of a Chair, and three Vice-Chairs. The committee is composed of one representative from each of our member countries.



In the current system, following a reform in 2008, all Expert Groups for which advisory tasks do not consistently dominate their terms of reference (ToR) are supported within a Steering Group structure. But, *de facto*, this means that ACOM parented groups are not. The reorganisation of all ACOM EGs into a SG-structure would contribute to more synergy between EGs addressing science and advisory ToR, highlight fisheries science priorities in SCICOM, and help to improve translation of science into advice; particularly beyond the traditional fisheries advice. This change is planned to start from 2018 onwards.

#### 4. The Science Committee, a guarantee for science for sustainable seas

Steven Degraer <sup>a</sup> (SCICOM representative)

<sup>a</sup> MARECO, Royal Belgian Institute for Natural Sciences (RBINS), Rue Vautierstraat 29, 1000 Brussels, Belgium

The [Sciences Committee](#) (SCICOM) establishes, dissolves and guides Expert Groups (EGs) under its wings. Five SCICOM Steering Group chairs each take the responsibility for their part of the SCICOM EGs.

They facilitate interactions with and among its EGs, setting up EG work plans, and implementing ICES priorities and advisory requests into the EGs' work.

At present, SCICOM builds on a new Science Plan for implementation from 2020 onward. Its ambition is "to generate ecosystem and sustainability science with a high and beneficial impact on society". With the Science Plan, ICES intends to proliferate scientific outputs, engage productive scientists, increase visibility of ICES science, data and advice, better link science and advice, and secure its world-class marine science organisation position.



#### 5. The role of the Data and Information Group (DIG) and the ICES Data Centre

Ruth Lagring <sup>a</sup> (DIG representative)

<sup>a</sup> BMDC, Royal Belgian Institute for Natural Sciences (RBINS), Rue Vautierstraat 1, 1000 Brussels, Belgium

The [Data and Information Group](#) (DIG) is the former "Working Group on Data and Information Management" (WGDIM) and is currently chaired by Jens Rasmussen (UK). The DIG mission is to provide ICES with advice on all aspects of data management including data policy, data strategy, data quality, technical issues and user-oriented guidance: (a) Review priorities on the ICES Data Centre action list; (b) Provide guidance and feedback to the ICES Data Centre; (c) Advise on other data regulations and their impact on ICES Data Strategy, ICES Data Policy; (d) Propose ad-hoc groups (governance, workshops, training, etc.) related to specific topics, and/or datasets, to facilitate

improvements related to data issues to SCICOM, ACOM, SCICOM SSGs and/or EGs, and review the outcome of those ad-hoc groups.



The Data and Information Group receives requests and recommendations from ICES working groups and reports directly to SCICOM and ACOM. Today, DIG counts 40 assigned members (ia. Ruth Lagring and Wim Allegaert) and 7 chair-invited-members (ia. Simon Claus and Peter Pissierssens). The annual plenary meeting takes place in May at the headquarter of ICES, enabling a close interaction with the ICES Data Centre (head: Neil Holdsworth).

DIG supports the ICES Data Centre with feedback and advice on multiple topics, including existing products, current developments, potential new products, and the potential risk of data-duplication resulting from multiple submission roots, and the evaluation of the checklists. To this purpose, during each plenary meeting, the members of the ICES data centre present the progress of their work:

Current tool developments involve the ‘transparent assessment framework’ (TAF) and the Regional Database and Estimation System (RDBES) increasing the exchange of data across multiple platforms. Other examples of existing tools are the metadata catalogue, SmartDots, Stock assessment graphs, data screening tools for DATRAS (Fisheries) and DATSU (Environment).

- a) The data centre manages various large dataset collections related to the marine environment, like Contaminants and Biological Effects, Eggs and Larvae and Fish Trawl Survey.

- b) Via multiple thematic data portals, access is provided to this high variety of data.
- c) To aid in the organization of data, maps and spatial layers are provided to the expert groups for the planning of data collection and the visualization of data. In the frame of regional sea conventions, a selection of map products is provided through the spatial facility.
- d) The update of the ICES vocabulary servers to provide semantic linkage and services is a significant change that will enable open linked data to be provided by ICES and improve the ways in which an ICES data portal update will be developed. Here, DIG will assist by providing use cases that will demonstrate how these new services and concepts can be realised within the ICES community.

Furthermore, the DIG members discuss and review various topics like the ICES guidelines, good data practices, impact of legislative changes (eg. the GDPR), linked data, data identifiers, data Hackathon, ICES data accessibility and visibility, etc. At the end of each meeting, actions are defined that can be dealt with by the addressed members throughout the year.

## Institute posters

### 6. OD Nature and ICES: taking responsibility and multi-disciplinary involvement

Kelle Moreau <sup>a</sup>

<sup>a</sup> OD Nature, Royal Belgian Institute for Natural Sciences (RBINS), Rue Vautierstraat 29, 1000 Brussels, Belgium

The Operational Directorate Natural Environment (OD Nature) is a centre of excellence in fundamental and applied research on biodiversity and ecosystems in support of the protection and sustainable management of the natural environment (marine, freshwater and terrestrial; worldwide).

OD Nature has a long tradition (going back to Professor Gilson, end of the 19th century) and a large and diverse expertise in the marine environment, with its scientists having strong reputations in fields that include ecology, molecular biology, nature conservation and restoration, biodiversity, chemistry, hydrodynamics, modelling, databases and image processing. This expertise is applied in evaluating present (observations)



and future (predictions) ecosystem impacts of a wide array of human activities in the North Sea and beyond in the light of management and policy advice. OD Nature's activities hence serve an improved understanding for a sustainable management of the sea.

To share its expertise, and work towards a coordinated and integrative approach to fundamental and applied research in the marine environment, common standards for the assessment of anthropogenic impact and a uniformed management of the North Sea, OD Nature logically anchors its activities with the International Council for the Exploration of the Sea (ICES), whose vision is "science for sustainable seas". It does so not only by actively participating in a wide range of ICES Working Groups that align with the abovementioned expertise list, but also by taking its responsibility in representing Belgium at the coordinating ICES levels. This poster presents a schematic overview of the OD Nature involvement in ICES, and as such links expertise to activity.

## 7. Fisheries and beyond: ILVO expertise in the ICES network

Sofie Vandendriessche <sup>a</sup>

<sup>a</sup> Institute for Agricultural and Fisheries Research (ILVO), Ankerstraat 1, 8400 Oostende, Belgium

ILVO stands for multidisciplinary, independent research and specialized service provision in all fields related to agriculture, fisheries and food in Flanders. ILVO, an internationally recognized scientific institute, is part of the Government of Flanders.

Since the 1960's, the scientific expertise in marine environmental and fisheries research has grown to international renown, for example with regard to otolith reading, benthos identification, the development of aquaculture systems, authenticity of fisheries products and technological gear development. The common goals: sustainable fisheries and a sustainable aquatic food production, a healthy marine environment and high-quality fisheries products.

The biological fisheries research within ILVO, with data collection, age reading and stock status assessments, is largely dictated by and embedded in the workings of ICES. Additionally, more than 30 ILVO scientists are members and often co-founders of many working groups

<sup>1</sup> All marine and maritime research encompassing ocean and seas, the coastal zone and the tidal systems.

within ICES, going from long-standing working groups such as WGECO (Working Group on the Ecosystem Effects of Fishing Activities) and BEWG (Benthic Ecology Working Group), to more recent working groups such as WGFBIT (Working Group on Fisheries Benthic Impact and Trade-offs) and WGML (Working Group on Marine Litter). Through its involvement in ICES, ILVO contributes to integrated fisheries advice at the European level, to multidisciplinary and cross-border science, and to solutions and adaptation strategies for regional and global oceanic challenges.

## 8. Flanders Marine Institute (VLIZ) in ICES networks and expert groups: a two-way collaboration

Ann-Katrien Lescrauwaet <sup>a</sup>.

<sup>a</sup> Flanders Marine Institute (VLIZ), InnovOcean campus, Wandelaarkaai 7, 8400 Oostende, Belgium

The mission of VLIZ is to strengthen the marine knowledge base and excellence in marine research<sup>1</sup> in Flanders. VLIZ conducts marine research and has a strong reputation in supporting services such as research infrastructure including global and pan-European data systems and standards, science-policy interfaces and scientific advice to a wide range of target groups<sup>2</sup>.

VLIZ participates in the following ICES Working Groups:

- WG Recreational Fisheries Surveys (WGRFS): planning and coordination of data collection for stock assessment purposes;
- *Data and Information* group (*DIG*): advice on all aspects of *data* management including *data* policy, *data* strategy, *data* quality, technical issues and user-oriented guidance;
- WG on Biodiversity Science (WGBIODIV): expertise in areas of marine benthic and pelagic food web components, with a particular focus on the requirements of the Marine Strategy Framework Directive (MSFD);
- WG on Marine Litter (WGML): implementation of monitoring guidelines; use of data to support policy, research and innovation projects;

<sup>2</sup> Target groups are the marine research community, educational institutions, general public, policymakers and industry (blue economy).



- WG on the History of Fish and Fisheries (WGHIST): an inter-disciplinary forum for scientists working on multidecadal to centennial changes in the marine environment;
- WG on Harmful Algal Bloom Dynamics (WGHABD), in close collaboration with IOC-UNESCO.

VLIZ manages the infrastructure that supports the operational data exchange between ICES and EMODnet (e.g. DATRAS surveys). In general, it provides data and information products (e.g. zooplankton indicators) to support ecosystem assessments and the development of assessment criteria and monitoring guidelines. In a sustained partnership with ICES, VLIZ contributes to establishing common standards of ICES (data) policies. VLIZ is committed to promote the ICES guidance and insights through its global, European and local projects and networks, in a two-way collaboration.

## Belgian participation to advisory and scientific expert groups

Latest contributions by expert members to ACOM, EPDSG, EOSG, HAPISG, ASG, IEASG.

### 1. Scientific posters

#### 9. Establishing a vitality assessment protocol for rays within the INTERREG 2-SEAS SUMARiS-project (ACOM/WGEF & HAPISG/WGMEDS)

Noémi Van Bogaert <sup>a</sup>, Sven Sebastian Uhlmann <sup>a</sup>, Els Torrele <sup>a</sup>.

<sup>a</sup> Institute for Agricultural and Fisheries Research (ILVO), Ankerstraat 1, 8400 Oostende, Belgium

The INTERREG - 2 Seas project "SUMARiS" (Sustainable management of rays and skates) project aims to put together the necessary knowledge and evidence in order to implement a species-specific cross-border management strategy for the rays and skates fishery in the 2 seas area (English Channel and North Sea). During the project we will be collaborating with the Working Group on Methods for Estimating Discard Survival (WGMEDS) and the Working group on Elasmobranch Fishes (WGEF), who will be reviewing our protocols and results. ILVO is responsible for Work Package 2 (WP2) of the project, which main goal is to

quantify vitality, injury and survival rates of ray species discarded by English Channel and North Sea active and passive gear fisheries. So far, 31 acclimated thornback ray (*Raja clavata*;  $45 \pm 8$  cm, mean  $\pm$  SD) were scored to establish a suitable protocol for tests on-board commercial vessels for reflexes such as tail grab, startle touch, spiracle, body flex movements and bleeding injuries to the head and body, open wounds and fin damage.

These rays were caught during a scientific survey and were transported to 3600-L tanks connected to a shore-based seawater recirculation system to acclimatize. The mean reflex impairment score was low (0.13), indicating that most rays responded to each stimulated reflex. Additionally, rays were in general in good condition, with bleeding injury covering on average <10% of their body undersides. However, at the end of the monitoring period of 29 days, 55% of the initial test population had died. This high, and protracted mortality might indicate the need for a longer monitoring period and possibly improved holding conditions in independent tanks in the future. Using this protocol which conforms to those applied by Wageningen Marine Research (WMR), CEFAS and IFREMER in previous research will allow us to score commercially caught rays and test whether a low level of impairment and absence of injury corresponds to high survival. The results of this research will contribute to a species-specific and sustainable management strategy for rays.

#### 10. SmartDots: A flexible open source software tool for age reading of calcified structures of marine species (EOSG/WGBIOP)

Karen Bekaert <sup>a</sup>, Kevin De Coster <sup>a</sup>, Wim Allegaert<sup>a</sup>, Julie Olivia Davies <sup>b</sup>, Line Pinna <sup>b</sup>, Carlos Pinto <sup>b</sup>, Neil Holdsworth <sup>b</sup>, Els Torrele <sup>a</sup>.

<sup>a</sup> Institute for Agricultural and Fisheries Research (ILVO), Ankerstraat 1, 8400 Oostende, Belgium

<sup>b</sup> International Council for the Exploration of the Seas (ICES), H. C. Andersens Blvd. 46, 1553 Copenhagen, Denmark

Accurate age determination of fish is essential in fisheries biology for a sustainable management of fish stocks. To be able to perform correct stock assessments, it is imperative to develop reliable age determination methods. Therefore, the ICES Working Group on Biological Parameters (WGBIOP), devoted to the

provision of biological parameters at a stock level, organizes workshops on calcified structures of fish. The objective of these exercises is to estimate precision and bias in the age estimations from readers of different laboratories, to check that this is still within acceptable levels.

To facilitate age readings based on otolith images, a new software tool called SmartDots was developed at ILVO. Subsequently, the SmartDots software was integrated into a complete software platform aiming at managing the data for the international age reading workshops organized by WGBIOP and automatically reporting the results in a standardized way. The platform (<http://smartdots.ices.dk>) was developed in collaboration with ICES and DTU-Aqua.

The SmartDots age readings platform is an open source solution offering different functionalities such as making annotations on images, automatic counting of the annotations and scale detection. The tool offers many advantages. It facilitates the carrying out and reporting of events related to age reading, making it a user-friendly process with an improved management system for otoliths metadata.

## 11. ICES support for development of catch sampling programmes

### (ACOM + EOSG/WGCATCH)

Sophie Vandemaele <sup>a</sup>.

<sup>a</sup> Institute for Agricultural and Fisheries Research (ILVO), Ankerstraat 1, 8400 Oostende, Belgium

According to European legislation, each Member State involved in European fisheries has to collect data on its fisheries and aquaculture. Collected data serve all sorts of purposes for a broad range of stakeholders, with one of the main goals to set the TACs (Total Allowable Catches) and quota each year. The Flanders Research Institute for Agriculture, Fisheries and Food (ILVO) is the coordinator of the Data Collection Framework for Belgium. The Belgian commercial fishing fleet is sampled by seagoing observers, who register and analyse the catch. For several commercial species, information on weight, length, age, sex and maturity is collected on a trip-by-trip basis. In order to ensure the quality of the collected data, ILVO is a member of the ICES (international council for the exploration of the sea) expert group WGCATCH (Working Group on Commercial Catches) for many years now. WGCATCH

supports the development and quality assurance of regional and national catch sampling schemes and estimation procedures that can provide reliable quality input data to stock assessment and advice, while making the most efficient use of sampling resources.

## II. ACOM Expert Groups

### 12. Introductions to ACOM Expert Groups

Els Torreele <sup>a</sup> (ACOM representative)

<sup>a</sup> Institute for Agricultural and Fisheries Research (ILVO), Ankerstraat 1, 8400 Oostende, Belgium

See above presentation of ACOM

### 13. From data to quota: How are the Belgian quota determined?

#### (ACOM/WGCSE + ACOM/WGNSSK)

Bart Vanelslander <sup>a</sup>, Lies Vansteenbrugge <sup>a</sup>,  
Sofie Nimmegeers <sup>a</sup>.

<sup>a</sup> Institute for Agricultural and Fisheries Research (ILVO), Ankerstraat 1, 8400 Oostende, Belgium

The Common Fisheries Policy (CFP) is the EU policy for managing EU fishing fleets and for conserving fish stocks. This management relies on data collected, managed and supplied by EU countries under the Data Collection Framework (DCF).

In Belgium, the ILVO Fisheries Biology unit collects these data. These data include catch composition sampled by observers at sea onboard commercial vessels. ILVO also collects data on fish landings, economic data, aquaculture and the fish processing industry. ILVO also conducts 2 scientific surveys to monitor the abundance of demersal fishes in the Southern North Sea.

ILVO provides these data to several ICES expert groups (*i.a.* WGNSSK and WGCSE) where they are used in stock assessments. ILVO and other ICES scientists compile these data to investigate the size and condition of the fish stocks and their exploitation patterns. This allows them to forecast catches and formulate advice following to the maximum sustainable yield principle.

An ICES Advice Drafting Group further prepares the advice which is approved by the ICES Advisory Committee. The EU Council of Ministers use this advice

to set the Total Allowable Catch (TAC) for each stock. Then the TACs are distributed among the member states (i.e. quota).

#### 14. Causes of death of harbour porpoises (*Phocoena phocoena*) found in Belgium between 1990 and 2015 (ACOM/WGMME)

Thierry Jauniaux <sup>a</sup>, Delrez Natacha <sup>a</sup>, Jan Haelters <sup>b</sup>, Francis Kerckhof <sup>b</sup>, Freddy Coignoul <sup>a</sup>.

<sup>a</sup> Veterinary Sciences Dept, University of Liège Avenue de Cureghem 7A-7D, 4000 Liège, Belgium

<sup>b</sup> Management Unit of the Mathematical Model of the North Sea, Royal Belgian Institute for Natural Sciences (RBINS), 3rd and 23rd Linierregimentsplein, 8400 Oostende, Belgium

Between 1990 and end of 2015, 1161 harbour porpoises (*Phocoena phocoena*) stranded or were bycaught at the Belgian coast or in rivers, or were found dead at sea and in harbours. There was a significant rise in strandings since the end of the 1990s (on average 5 porpoises/year in the 1990s, 90/year during the last 10 years). The aim of the study is to present the main lesions and causes of death of porpoises and their evolution between 1990 and 2015. Porpoises were selected for necropsy and sampling (histopathology, toxicology, microbiology) following a standard procedure. Frequent observations in the 407 porpoises investigated included net marks, sub-cutaneous and muscular bruises, emaciation, pulmonary blood vessel and airways parasitism, pneumonia and lung congestion and edema.

The two main causes of death were bycatch and infectious disease. Bycatch was mainly observed in animals that had washed ashore in March and April and from 20% (1990-2000) to 35% (2000-now) of all animals investigated. Infectious disease (40% of all animals investigated), mainly pneumonia associated with severe parasite infestation, occurred throughout the year. Infection by the bacteria *Brucella ceti* was reported in 8% of the porpoises for which it was investigated. Two other causes of death have recently emerged: (1) severe emaciation combined with lung oedema, in the absence of other lesions, and (2) grey seal predation with typical lacerations of skin and blubber. The two main reasons for the increase in porpoise strandings during the last two decades are linked with the local increase in density and the emergence of new causes of death. Increasing numbers of porpoises lead to increased numbers of stranded animals, with the influence of factors such as

the emerging phenomenon of predation by grey seals (with populations increasing), bycatch and starvation to be assessed.

### III. EPDSG - Ecosystem Processes and Dynamics Steering Group

#### 15. Introduction to the work of EPDSG

Steven Degraer <sup>a</sup> (SCICOM representative), Jan Vanaverbeke <sup>a</sup>, Silvana Birchenough <sup>b</sup>.

<sup>a</sup> MARECO, Royal Belgian Institute for Natural Sciences (RBINS), Rue Vautierstraat 1, 1000 Brussels, Belgium.

<sup>b</sup> Centre for Environment, Fisheries and Aquaculture Science (CEFAS), United Kingdom.

Insights into the drivers and consequences of ecosystem processes and dynamics are required to understand and project the responses of ecosystems to human and environmental pressures. The Ecosystem Processes and Dynamics Steering Group (EPDSG) is responsible for guiding and supporting Expert Groups that study the state and resilience of marine ecosystems and food webs, as well as the life histories, diversity and interactions of component biota. Topics covered include: oceanographic characteristics of marine systems and their influences on population, food web and ecosystem dynamics; origins and transformations of matter in biogeochemical and production cycles; measuring, understanding, reporting and forecasting the dynamics of populations, food webs and ecosystems; life histories, diversity and ecology of microbes, phytoplankton, zooplankton, benthic invertebrates, crustaceans and fish; ecosystem services; ecosystem resilience.

#### 16. Benthic biodiversity and ecosystem functioning research at UGent Marbiol: the ICES context (EPDSG/BEWG)

Carl Van Colen <sup>a</sup>, Mohammed Alsebai <sup>a</sup>, Katherine Brownlie <sup>a</sup>, Jan Vanaverbeke <sup>b</sup>, Ann Vanreusel <sup>a</sup>.

<sup>a</sup> Institute for Agricultural and Fisheries Research (ILVO), Ankerstraat 1, 8400 Oostende, Belgium

<sup>b</sup> MARECO, Royal Belgian Institute for Natural Sciences (RBINS), Rue Vautierstraat 1, 1000 Brussels, Belgium

Long-term monitoring of bio-indicators is essential to report changes and regime shifts in ecosystems. Such changes can result from both global and local drivers,

and their potential interactions. In soft-sediment benthic communities, the relative importance of broad scale phenomena such as severe winters and local drivers such as change in sediment composition for long-term change are not well understood. We studied the temporal changes that occurred in macrobenthic communities between 2002-2013 at different locations in the Belgian part of the North Sea, and aimed to identify the main governing factors of community instability. This work benefitted from discussions within the ICES Benthos Ecology Working Group about long-term data analysis of benthic communities. Temporal dynamics in community structure differed between stations, with changes in sediment composition, suspended matter load and yearly minimum temperature best explaining the variability in the macrobenthos, illustrating the role of both local and global processes in determining community stability.

#### IV. ASG - Aquaculture Steering Group

##### 17. Introduction to the work of the Aquaculture Steering Group

Steven Degraer <sup>a</sup> (SCICOM representative),  
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Aquaculture is making an increasing contribution to global fish and shellfish production and a growing and visible industry in many ICES countries. The Aquaculture Steering Group (ASG) is responsible for guiding and supporting expert groups that are working on science and advisory topics contributing to the sustainable development of aquaculture. Topics covered include: evaluating the social and economic consequences of aquaculture operations; types, transmission and prevalence of diseases affecting cultured species and actions that can be taken to address them; environmental impacts of aquaculture, approaches to monitor and mitigate them and methods of aquaculture risk assessment; carrying capacity and relative efficiencies of alternate aquaculture systems; genetics of cultured species; projecting the future development of aquaculture and its implications for the food system and food security.

##### 18. Seascape-mediated patterns and processes of population differentiation in European seabass

(ASG/WGAGFA)

Filip A. M. Volckaert <sup>a</sup>, Jasmien E. J. Hillen <sup>a</sup>, Pascal I. Hablützel <sup>a,b</sup>, Gregory E. Maes <sup>a,c,k</sup>, Koen Hertzen <sup>c</sup>, Bart Hellemans <sup>a</sup>, Anurag Chaturvedi <sup>a</sup>, Rob Ogden <sup>d</sup>, Martin I. Taylor <sup>e</sup>, Francesco Maroso <sup>f</sup>, Dorothy Verheyden <sup>a</sup>, Giulia Cambiè <sup>g</sup>, Konstantinos Gkagkavouzis <sup>h</sup>, Alexander Triantafyllidis <sup>h</sup>, Sabina De Innocentiis <sup>i</sup>, Ilaria Coscia <sup>j</sup>, Aquatrace Consortium.

<sup>a</sup> Laboratory of Biodiversity and Evolutionary Genomics (LBEG), University of Leuven, Ch. de Bériotstraat 32 box 2439, 3000 Leuven, Belgium

<sup>b</sup> Flanders Marine Institute (VLIZ), InnovOcean campus, Wandelaarkaai 7, 8400 Oostende, Belgium

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<sup>h</sup> Department of Genetics, Development & Molecular Biology, School of Biology, Aristotle University of Thessaloniki, 54124 Thessaloniki, Greece

<sup>i</sup> ISPRA Italian National Institute for Environmental Protection and Research, via Brancati, 48, 00166 Roma, Italy

<sup>j</sup> School of Environment and Life Sciences, Peel Building, University of Salford, Salford M5 4WT, UK

<sup>k</sup> Centre for Sustainable Tropical Fisheries and Aquaculture, Comparative Genomics Centre, College of Science and Engineering, James Cook University, Townsville, 4811 QLD, Australia

Filip Volckaert is member of the ICES WG Application of Genetics in Fisheries and Aquaculture since 1999. Samples of seabass have been collected during a workshop in Algarve and with the help of colleagues from all over the Atlantic and Mediterranean shores. The Aquatrace project was instigated during our annual WG meetings. The results of this project have been used to provide expert advice to ICES WGBASS.

Identifying biologically relevant levels of population structure is imperative for sustainable fisheries management. Increasingly good access to genome-wide variation and architecture have facilitated accurate determination of fine scale genetic population structure. We studied European seabass (*Dicentrarchus labrax* L.),



a commercially exploited and farmed fish with high dispersal capacity. Seabass showed a largely panmictic pattern within the Atlantic Ocean, whereas several genetic clusters were distinguished within the Mediterranean Sea based on 2,549 SNP markers genotyped using ddRAD sequencing. Introgression of Atlantic alleles was detected throughout the western Mediterranean Sea, but introgression of Mediterranean alleles was only found in a restricted area in the Atlantic Ocean. Seascape analysis suggested that genetic population structure is mediated by both dispersal limitation and environmental gradients. The study provides key information for fisheries and conservation management of European seabass.

One sentence: The genetic population structure of European seabass is mediated by both dispersal limitation and environmental gradients, pointing to local adaptation.

## V. HAPISG - Human Activities, Pressures and Impacts Steering Group

### 19. Introduction to the work of HAPISG

Koen Parmentier (Chairman of Marine Chemistry WG under HAPISG)

<sup>a</sup> Management Unit of the Mathematical Model of the North Sea, Royal Belgian Institute for Natural Sciences, 3rd and 23rd Linieregimentsplein, 8400 Oostende 8400 Oostende, Belgium

The Human Activities, Pressures, and Impacts Steering Group is responsible for guiding and supporting Expert Groups that seek to describe the diversity of pressures affecting marine ecosystems and the impacts that follow.

Topics covered include:

- describing and projecting trends in human pressures and impacts on marine ecosystems, including analysis of historical change
- understanding and quantifying multiple impacts of human activity on populations and ecosystems, and proposing options for mitigation
- prevalence and effects of contaminants, invasive species, shipping, noise, renewable

energy, fishing, climate, acidification and habitat loss

- estimating the vulnerability of marine ecosystems to pressures and impacts, including risk assessment and identification of limits and thresholds
- developing indicators of pressure and impact and testing their role in management systems
- assessing human impacts on ecosystem goods and services and developing approaches to mitigate undesirable impacts.

### 20. VLIZ contributes to multidisciplinary research on long-term changes in the marine environment

(HAPISG/WGHIST)

Ann-Katrien Lescrauwaet <sup>a</sup>.

<sup>a</sup> Flanders Marine Institute (VLIZ), InnovOcean campus, Wandelaarkaai 7, 8400 Oostende, Belgium

ICES-WGHIST offers a forum to study social-ecological changes on a multidecadal/centennial scale, in different geographic regions, thematic areas and across disciplines. WGHIST focuses on:

- Improving our knowledge base on long-term changes in marine ecosystems in connection with human communities;
- Using case studies and research projects to demonstrate the value of marine historical ecology to current marine policy and management;
- Increase visibility and accessibility to quality-assured historical metadata for ICES and wider science community;
- Addressing social, cultural and economic dimensions of marine ecosystem products and services through time, contributing to Integrated Ecosystem Assessments;

VLIZ is an active WGHIST member since 2008 (as co-chair 2010-2014), contributing with historical commercial and scientific data on fisheries and fishing communities. VLIZ promotes the multidisciplinary approach to marine historical ecology in its collaborations and research networks. VLIZ/WGHIST closely collaborate with the ICES Data Centre in order to



operationalize historical data for current scientific research and management needs.

## 21. VLIZ as a knowledge broker for the marine expert. The Story of Marine Litter

(HAPISG/WGML)

Lisa Devriese <sup>a</sup> and Hans Pirlet <sup>a</sup>.

<sup>a</sup> Flanders Marine Institute (VLIZ), InnovOcean campus, Wandelaarkaai 7, 8400 Oostende, Belgium

VLIZ has the mission to strengthen the marine knowledge base in Flanders. In this regard, the VLIZ Policy Information division acts as a knowledge broker for coastal and marine professionals, scientists, policymakers, industry as well as experts from the Blue Economy.

In this role, VLIZ has provided information about the national expertise with regard to seafloor litter and microplastics research and has contributed to identification of the needs for environmental monitoring and research for the ICES expert group on marine litter (WGML). Based on the initiatives that have been launched at international fora, VLIZ drafted the drivers and important deadlines, as such establishing the ICES WGML roadmap.

At present, the WGML monitoring guidelines and assessment criteria for microplastics are being implemented in the VLIZ routine monitoring. The ICES data from DOME and DATRAS surveys and the OSPAR intermediate assessments are:

- referred to in VLIZ products such as the Compendium for Coast and Sea and the national marine litter Policy Brief;
- used in discussion platforms and innovation projects with regard to the Blue Economy;
- presented in national working groups related to marine litter and microplastics; and
- consolidated in European policy-oriented projects (*e.g.* AQUA-LIT).

## 22. The Marine Chemistry WG: A Mix of Challenges and Opportunities, a Source of Operational Guidelines

(HAPISG/WGMC)

Koen Parmentier <sup>a</sup>

<sup>a</sup> Management Unit of the Mathematical Model of the North Sea, Royal Belgian Institute for Natural Sciences, 3rd and 23rd Linierregimentsplein, 8400 Oostende 8400 Oostende, Belgium

The field of interest of MCWG spreads very wide, from chemical oceanography (nutrients, chlorophyll), Ocean Acidification, metals and organic contaminants, in water, sediment and biota all over the food web. It faces the challenges of legacy pollution and the vast amount of newly produced chemicals. MCWG supports and updates OSPAR Monitoring Guidelines, answers on specific scientific questions, and harmonizes with EU legislation (WFD, MSFD). New monitoring approaches like Passive Sampling are discussed, and the Group was at the cradle of a European initiative on Quality Assurance of Marine Monitoring Data, so successful it crystalized to a self-supporting entity (Quasimeme). All effects of man on the Marine Environment are welcomed, and the different host institutes show on a yearly basis their newest state-of-the-art achievements.

## 23. The Working Group on Marine Benthic and Renewable Energy Developments

(HAPISG/WGMBRED)

Jan Vanaverbeke <sup>a</sup>

<sup>a</sup> MARECO, Royal Belgian Institute for Natural Sciences (RBINS), Rue Vautierstraat 1, 1000 Brussels, Belgium

The Working Group on Marine Benthic and Renewable Energy Developments (WGMBRED) was established in 2013 following an ICES workshop “Effects of offshore wind farms on marine benthos in 2012. The workshop aimed at increasing scientific exchange of offshore wind farm benthos research, discussing the most up to date results and facilitating a closer international collaboration throughout the North Atlantic region. This first activity led to the establishment of WGMBRED. Since then, the working

group has a regular attendance by nine countries and 15–23 experts at each meeting.

The focus of WGM BRED was on (1) improving monitoring programmes following the introduction of marine renewable energy devices by investigating relevant spatial and temporal scales, (2) furthering hypothesis-based research by mapping the cause-effect relationships underlying potential changes in the environment following the introduction of marine renewable devices and (3) fostering joint research by facilitating joint applications for research funding.

## 24. Keeping Blue Energy Green: How ICES helps us keep track of Marine Renewables

(HAPISG/WGMRE)

Bob Rumes <sup>a</sup>.

<sup>a</sup> MARECO, Royal Belgian Institute for Natural Sciences (RBINS), Rue Vautierstraat 1, 1000 Brussels, Belgium

In order to avoid catastrophic climate change, the EU has obliged its member states to increase production of electricity from renewable energy sources. For countries bordering the North Sea, offshore wind energy is expected to make important contribution to this goal. Over the last 15 years offshore wind in the North Sea has grown from a few test turbines to a total installed capacity of 15.8 GW or the equivalent of 16 nuclear power plants. If the objectives of the Paris Climate Agreement are to be met, up to 180GW of offshore wind should be operational in the North Sea by 2050. These are to be complemented with tidal and wave energy projects. There are growing concerns that such a large scale marine renewable energy development will have important impacts on the environment.

OD nature participates in several ICES working groups (WGMRE, WGMME, WGM BRED) to gain up-to-date information on both the state of marine renewable development, consenting and marine environmental research, to disseminate the results of our national environmental monitoring programme for marine renewables and to coordinate research efforts and possible mitigation measures.

## 25. The seafloor ecosystem in an ICES context

(HAPISG/WGEXT, WGM BRED, WGFBIT, WGM BRED, WGMPCZM)

Kris Hostens <sup>a</sup>, Gert Van Hoey <sup>a</sup>, Annelies De Backer <sup>a</sup>, Hans Hillewaert <sup>a</sup>, Ellen Pecceu <sup>a</sup>, Bavo De Witte <sup>a</sup>.

<sup>a</sup> Institute for Agricultural and Fisheries Research (ILVO), Ankerstraat 1, 8400 Oostende, Belgium

“How much of specific habitats do we need to protect in order to preserve proper functioning of the benthic (seafloor) ecosystem, and what intensity of an activity (*e.g.* fisheries, aggregate extraction, dredging) is acceptable?” Such a question can only be answered by collaborating on a regional level and by embedding it in international legislation (Marine Strategy Framework Directive, Marine Spatial Planning Directive). ICES plays a central role in guiding the development of standardized methods to assess sea floor status (*e.g.* MSFD D1 habitat/D6 benthic descriptor) and to investigate the cause-effect relations of human induced changes to the ecosystem. Such work is tackled in several ICES working groups, in which team members of the aquatic environment and quality group of ILVO actively participate. This team has a long-standing history in sea floor monitoring and policy advice for the Belgian Part of the North Sea.

In WGEXT, the working group on aggregate extraction, we contribute to the harmonization of the aggregate extraction monitoring and assessment, with our focus on applying novel methods such as omics and SPI for the monitoring.

In BEWG, the benthos ecology working group, we integrate long-term series or spatial surveys (*e.g.* NSBP 2000) on an international scale. We also published advice on status assessment approaches (Van Hoey *et al.*, 2010, Zettler *et al.*, 2013), habitat modelling (Reis *et al.*, 2015), climate change and benthos (Birchenough *et al.*, 2015). Currently, the group has initiatives running to improve our knowledge on benthic functioning, to explore the link between benthos and ecosystem service, and to optimize benthic spatial monitoring designs and model functional properties of the benthic system across areas (BPC, Biological traits).

Recently, the working group on fisheries benthic impact and trade-offs (WGFBIT) started to further

develop the regional framework to assess the status of the seafloor in relation to bottom fishing disturbances.

The Working Group on Marine Benthic and Renewable Energy Developments (WGMBRED) focusses on the induced changes to the benthic ecosystem by the wind farms construction. The focus lays on cause-effect relationships resulting from the construction and operation of offshore renewable energy installations on the structure and functioning of the sea-bottom ecosystem.

The Working Group Marine Planning and Coastal Zone Management (WGMPZM) links our work for a sustainable management of human activities with marine spatial planning work and ICES advice.

Through our research and our work in these ICES Working Groups, we contribute to EU policy with regard to ecosystem health, functioning and services of the sea-bottom ecosystem.

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## VI. EOSG - Ecosystem Observation Steering Group

### 26. Introduction to the work of EOSG

Maarten Soetaert <sup>a</sup>

<sup>a</sup> Institute for Agricultural and Fisheries Research (ILVO), Ankerstraat 1, 8400 Oostende, Belgium

The Ecosystem Observation Steering Group is responsible for guiding and supporting Expert Groups that are meeting immediate data demands and contributing to the running and further development of effectively co-ordinated, integrated, quality assured and cost-effective monitoring in the ICES region and beyond.

Topics covered include:

- Evaluating and optimising survey design to meet the needs of member countries and support advisory requests;
- Design, planning and co-ordination of egg and larval, acoustic and trawl surveys;
- Identifying and evaluating new technologies for observation and monitoring;
- Advising on the design, deployment and efficiency of sampling methods and gears and the use of resulting data for assessment and advice;
- Aging and estimating life history parameters of sampled fauna;
- Developing monitoring to meet emerging data, science and advisory needs, with a focus on integrated ecosystem assessment and ecosystem-based management.

### 27. Work done under the Electrical Trawling Working Group (EOSG/ETWG)

Maarten Soetaert <sup>a</sup> (Chairman of the Electrical Trawling WG under EOSG)

<sup>a</sup> Institute for Agricultural and Fisheries Research (ILVO), Ankerstraat 1, 8400 Oostende, Belgium

The working group on electrical trawling (WGELECTRA) examines the effects of electric trawls on marine environment, including the reduction of bycatch and bottom impact, altered fishing efforts, adverse side-effects on marine fauna and energy savings. Additionally, the potential economic, ecosystem, and

population dynamics impacts of this type of fishing on a wide scale are also evaluated. The findings are included in a state-of-the art review of all studies on marine electrofishing which is yearly updated and also used to found advice and answers on specific requests of member states.

The second goal of WGELECTRA is to guarantee a yearly meeting with all scientists active in marine electrofishing research during which all ongoing and upcoming research is presented and discussed. This improves the quality and streamlines studies in different member states, which helps to optimally prioritise and address the existing knowledge gaps. By doing so, it also creates a platform to promote supra-national joint research projects on electrotrawling.

## 28. Setting up a recreational fisheries survey in Belgium with the help of ICES Working group for Recreational Fisheries Surveys (EOSG/WGRFS)

Frankwin Van Winsen <sup>a</sup> and Thomas Verleye <sup>b</sup>.

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Recreational catches have been shown to have a significant impact on widely targeted species. Hence, member states are required to collect data on recreational catches for certain species under the EU Multiannual Programme (EU-MAP), for the period 2017–2019. In the past, little research was performed on the size and impact of recreational fisheries in Belgium. In 2015, Belgium participated in the WGRFS for the first time after a long absence. In 2016, a recreational survey protocol was developed. Since 2017, a marine recreational fisheries survey is in place, monitoring the complete sector.

Every country has its unique context regarding recreational fisheries, hence regional sampling is not desired and there is no one size fits all solution. However, ICES WGRFS provided, support in terms of network, documentation and discussions in setting up the Belgium survey. Furthermore, the Quality Assurance Tool assessed the Belgium survey, as one of three national surveys, in 2017. This QAT assessment at the working group, assures the quality of the Belgium survey with respect to the sampling design using best practice

guidelines. Finally, the WGRFS, allowed for the compilation of data resulting in a paper on the European recreational catch estimates.

## VII. IEASG - Integrated Ecosystem Assessments Steering Group

### 29. Introduction to the work of IEASG

Geneviève Lacroix <sup>a</sup> and Leo Barbut <sup>a</sup>.

<sup>a</sup> ECOMOD, Royal Belgian Institute for Natural Sciences (RBINS), Rue Vautierstraat 1, 1000 Brussels, Belgium

Integrated Ecosystem Assessments synthesise and evaluate information on physical, chemical, ecological, human and environmental process affecting ecosystems. This Steering Group is responsible for guiding and supporting Expert Groups that develop ecosystem modelling and assessment methods, contribute to state of the environment reporting and underpin guidance on meeting ecological, social and economic objectives.

Topics covered include:

- Development of integrated ecosystem assessments for the Arctic, Baltic, Barents, Celtic, North, northwest Atlantic and Norwegian seas
- Comparative analyses of marine ecosystems
- Ecosystem modelling
- Methods and application of ecosystem-based management and risk assessment
- Linking ecological, economic and social models and analyses to understand interactions and trade-offs between management objectives
- Defining data needs to support integrated ecosystem assessment
- Development of integrated advice to support ecosystem-based management

### 30. How larval traits of six flatfish species impact population connectivity? (WGIPEM)

Leo Barbut <sup>a</sup>, Clara Groot Grego, Sophie Delerue-Ricard, Sara Vandamme, Filip A.M. Volckaert <sup>b</sup>, Geneviève Lacroix <sup>a</sup>.

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<sup>b</sup> Laboratory of Biodiversity and Evolutionary Genomics (LBEG), University of Leuven, Ch. de Bériotstraat 32 box 2439, 3000 Leuven, Belgium

Connectivity and dispersal are important factors for ecosystem dynamics, conservation and resource management. Dispersal and recruitment success are determined in early life for many marine species. For those larvae that are pelagic, transport from spawning to nursery grounds is driven by hydrodynamic processes. Other environmental factors such as temperature and biological factors such as ecophysiology, behaviour and reproductive strategy (spawning period and spawning grounds) influence the final dispersal pattern and larval survival. Here, we use a particle-tracking transport model coupled to a 3D hydrodynamic model (Larvae &Co), to assess the connectivity patterns between spawning and nursery grounds of six flatfish species in the North Sea

over a 10-year period (1997-2006). Results showed that the six flatfishes can be divided in two groups, each with their specific connectivity patterns. Turbot, common sole and brill live in two subpopulations in the North Sea; common dab, European flounder and European plaice represent a single mixed population. The large overlap in connectivity for species that spawn during the same period and the seasonal change in hydrodynamics highlight the strong impact of a summer front in larval dispersal.

This study is related to the ICES Working Group on Integrative Physical-biological and Ecosystem Modelling (WGIPEM) and contributes to the ToRg 'Provide tools to improve our understanding of habitat connectivity to support and advise spatial management plans'



## ANNEX 4: BICEpS18 PARTICIPANTS

First BICEpS Colloquium - An opportunity to share Belgian contributions to  
and experiences with ICES as an inspiration for future work  
(14 November 2018, RBINS, Brussels)

AMATO Elvio (UAntwerp),

BARBUT Leo (RBINS),

BEKAERT Karen (ILVO),

CLAUS Simon (VLIZ),

COX David (BELSPO),

DEGRAER Steven (RBINS),

DEPESTELE Jochen (ILVO),

DEVRIESE Lisa (VLIZ),

GOFFART Anne (ULiège),

HAELTERS Jan (RBINS),

HOSTENS Kris (ILVO),

JAUNIAUX Thierry (ULiège),

KAPEL Michel (RBINS),

KERCKHOF Francis (RBINS),

LAGRING Ruth (RBINS),

LE Hong Minh (RBINS),

LESCRAUWAET Ann-Katrien (VLIZ),

MOREAU Kelle (RBINS),

NIMMEGEERS Sofie (ILVO),

PARMENTIER Koen (RBINS),

POLET Hans (ILVO),

RUMES Bob (RBINS),

SCHLESSER Marianne (RBINS),

SCORY Serge (RBINS),

SOETAERT Maarten (ILVO),

SYS Klaas (ILVO),

TORREELE Els (ILVO),

UHLMANN Sven-Sebastian (ILVO),

VAN BOGAERT Noémi (ILVO),

VAN COLEN Carl (UGhent),

VAN WINSEN Frankwin (ILVO),

VANAVERBEKE Jan (RBINS),

VANDEMAELE Sofie (ILVO),

VANDENBERGHE Thomas (RBINS),

VANDENDRIESSCHE Sofie (ILVO),

VANDERPERREN Els (ILVO),

VANSTEENBRUGGE Lies (ILVO),

VOLCKAERT Filip (KUL).



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