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Background

BSAC has established a new Sub-group on ecosystem based management.

This new group aims to focus attention on several interconnected topics that are linked to fisheries management and highly relevant for the BSAC to comment on, as part of implementing the CFP as well as the MSFD and the Habitats and Birds Directives. The group reports to the BSAC Demersal/Pelagic Working Group.

Action requested

The Meeting is invited to take note of the attached report of the meeting of the BSAC Sub-group on ecosystem based management held on 28 March 2017 in Copenhagen.

BSAC Sub-group on ecosystem based management

28th March 2017

Hotel Park Inn by Radisson, Engvej 17, 2300 Copenhagen S

Report

1. Welcome by the Secretariat

Sally Clink, the BSAC Secretary welcomed all the participants of the Sub-group to Copenhagen.

2. Formalities for the start of the meeting:

2.1 Election of group and meeting chair

The BSAC members present at the meeting nominated and elected by consensus **Nils Höglund**, from Coalition Clean Baltic to chair the meetings of the Sub-group on EBM.

2.2 Apologies and adoption of the agenda

The BSAC Secretary informed that the apologies are attached to the list of participants (on website).¹ The agenda was adopted without changes.

3. Terms of reference for the group: confirmation and ideas for 2017-2018

The Chair stated that the aim of the sub-group on ecosystem-based management (EBM) is to deal with interactions between fisheries and environmental conservation objectives in order to contribute to achieving the objectives of fisheries and environment policies simultaneously. Its goal is to broaden the scope of discussions in the BSAC by bringing topics for ecosystem based work to the table. He invited the BSAC members as well as invited guests and observers to express their views freely in the discussions. He noted that the Sub-group will report to the BSAC Demersal/Pelagic Working Group, but it is the competence of the ExCom to agree and adopt any advice from the sub-group. The advice will be sent to the European Commission and the Member States.

The Chair informed that the terms of reference for the Sub-group had been adopted by the ExCom. He proposed to discuss further the ideas for future work under AOB.

The sub-group confirmed the terms of reference for its work and took note of issues already discussed by the BSAC at earlier meetings with respect to ecosystem based management.

¹ Link to the meeting here: <http://www.bsac.dk/Meetings/BSAC-meetings/BSAC-Sub-Group-on-Ecosystem-Based-Management>

4. BSAC seminar on ecosystem based management in Gdynia 2012

The sub-group took note that the seminar on ecosystem based management, organised by the BSAC in 2012, discussed the implications of ecosystem based management for Baltic Sea fisheries.

The Chair noted that EBM is already used by ICES in its advice. The EBM encompasses a variety of issues, including how to prioritise different goals, some very difficult to match. He named issues such as MPAs, seals, marine litter. Environmental and fisheries sectors do not co-operate well today. It is crucial to enhance communication and cooperation between the fisheries and environmental administrations.

5. Presentation by Mark Dickey-Collas, Ecosystem Approach Coordinator, ICES

Mark Dickey-Collas, Ecosystem Approach Coordinator, ICES presented the “Ecosystem approach to fisheries management”. He underlined that ecosystem-based Fisheries Management (EBFM) is a generalised process which balances human activities and environmental stewardship in a multiple use context. EBFM addresses the fishing sector. Such an approach to the management of marine activities has been described and defined by a number of organisations (Food and Agriculture Organisation, the Convention on Biological Diversity, the Arctic Council) and applied in relevant legislation (e.g. CFP, MSFD).

EBM requires the consideration of broader issues, where the impacts of marine sectors intersect and society needs information on trade-offs between such activities and with marine ecosystems.

The key principles of EBFM include sustainability, long term objectives, stakeholder involvement and using all forms of knowledge. A crucial component of moving forward is that identified pressures should be prioritised. He gave an example of the Celtic Sea, where the five most important pressures in the Celtic Seas ecoregion are selective extraction of species, abrasion, smothering, substrate loss, and nutrient and organic enrichment. These pressures are linked mainly to the following human activities: fishing, aquaculture, coastal construction, land-based industry, maritime transport, agriculture, dredging and offshore structures for renewable and non-renewable energy sources. An overview of the Baltic Sea ecoregion will be available at the end of 2017.

The ingredients for success in EBFM include, among others: develop a framework for implementation, identify trade-offs & synergies, use whatever governance mandate that exists and acknowledge the power of/ownership between sectors. Knowledge of EBM is based on 3 pillars: transparent and open information (data), understanding the use of expert modelling and advice for management, ecosystem variability, carrying capacity & productivity and shifts in distributions & behaviour.

ICES provides three main outputs to support EBM: advice on fishing opportunities, fisheries overviews, and ecosystem overviews. These products are continually developing to address new information as well as changes in the ecosystem, legislation and the drivers of fisheries. Spatial management and regional priorities are addressed since all of the advice is given by ecoregion. The ecoregions reflect both the biogeography of the ICES area and the management of the area by national and regional authorities.

Mark Dickey-Collas drew attention to the fact that wicked problems arise within EBFM: stakeholders cannot agree, it requires complex judgement, there are no right/wrong solutions and no objective measure of success. On top of that, there are super wicked problems such as the fact that time is running out and that there is no central authority to lead.

Mark Dickey-Collas' presentation is on the BSAC website.

Responding to the questions put forward in the course of the discussions, **Mark Dickey-Collas** stated that examples of good practices in the implementation of EBFM can be observed in various Member States, among others Sweden. Referring to trade-offs, he noted that there is never a win-win situation in EBFM, so trade-offs are central in the management of and between sectors.

A fisheries representative pointed to the fact that there is not enough dialogue concerning the scientific advice. Managers and scientists are reluctant to discuss. More involvement of science in this dialogue is needed.

Mark Dickey-Collas underlined that the dialogue between stakeholders is crucial, while acknowledging the power of/ ownership between sectors. He referred to the fact that ICES working groups and workshops have considered the framework and application of both EBM and EBFM. This work has contributed to further development of the evidence required to provide relevant and timely operational advice. He noted that ICES does not provide a direct, formal advice on EBM, but a knowledge base for managers.

An observer from the Swedish administration noted that Sweden is trying to initiate a dialogue on EBFM at national level, involving commercial and recreational fisheries.

Responding to a question put forward by one of the observers on the quality of the EBM process, **Mark Dickey-Collas** noted that quality is central. ICES works hard to ensure the legitimacy and credibility of its advice. Both a top-down approach and bottom-up approach have been used with respect to EBFM.

The Chair thanked Mark Dickey-Collas for his presentation, which he considered a great start for discussions.

He noted that the BSAC represents the bottom-up approach and as an advisory body it could ask the Member States to address particular issues related to EBM. The Sub-group is a response to the call to engage with players early, often, and continually, as pointed in the presentation.

The Sub-group agreed that ecosystem based management is a process, a balancing act between human activities and environmental impact, requiring a step by step approach. The knowledge base, as well as participation, should be of high quality.

6. Marine Protected Areas as a measure to protect habitats and species

The Chair of the sub-group referred to the paper submitted by CCB (Annex 1). He recalled that the BSAC is committed to focusing attention on several interconnected topics that are indirectly linked to fisheries management, but highly relevant for the BSAC to comment on as part of implementing the CFP, as well as the MSFD and the Habitats Directive. Therefore, as a first step, CCB proposes that the new BSAC Sub-group on Ecosystem Based Management starts initially to discuss a general position on how best to establish, manage and evaluate MPAs in the Baltic. MPAs are part of a tool box of technical measures and are used as a wider term for areas which are closed or protected for several reasons: sea beds, birds, mammals, fish or fish reproduction/protection etc. Attention is needed to look at this from a fish and fisheries point of view, but also in light of the need to protect habitats and species. MPAs include no-take zones or partial fishery closures (ban on certain gears). The BSAC should have a clear position in order to advise all member states and extend an open invitation to address individual proposals for MPAs on the BSAC agenda.

A fisheries representative noted that MPAs have their merits in terms of nature protection, but they are not a universal tool for fisheries management. They can provide protection for fish stocks, but rather in terms of spatial regulations than no-take zones. He pointed to the fact that protection measures, such as temporal closures, should be scientifically proven and evaluated after a certain time.

An OIG representative stated that MPAs are used for several, well-defined reasons such as protection of habitats or species. Management plans for protected areas are prepared with wide stakeholder consultations.

A fisheries representative indicated that protected areas have benefits, but given the variability of nature and natural resources, they have to be flexible and used only where relevant. He noted that closures applied within 12 nautical miles are under the competence of national authorities.

A representative of the European Commission explained that decisions concerning technical measures can be taken at Member State level only if they affect the Member State in question. All other decisions lie in the competence of the Commission.

An observer from the Swedish administration noted that some Swedish protected areas were re-opened for fisheries after the protected stock had been restored.

She noted that some closed areas are used as reference areas to see what happens to the endangered species if there is no fishing pressure. She underlined that no-take zones or closed areas are just one of the tools, used only if goals cannot be achieved by other means.

Referring to the Western Baltic cod, a **representative of the OIG** noted the benefits of using temporal and spatial closures during spawning as a tool to improve recruitment of the stock, along with responsible decisions regarding the TAC. This view was supported by a small-scale fisheries representative.

Mark Dickey-Collas, ICES stated that in the case of demersal fish, he was not aware of any scientific evidence as to the positive impact of closures during spawning on recruitment.

A fisheries representative drew attention to the need to discuss fisheries in the context of spatial planning. He noted that apart from areas closed to fisheries, there are areas from which fishery is excluded due to other activities, such as traffic separation etc.

Some participants drew attention to the fact that MPAs should be regarded as a protection measure, not necessarily implying fishery closures. In order to ensure flexibility, MPAs should not be part of management plans or technical measures regulations

The sub-group agreed that MPAs could be relevant and should be subject to review. As a tool, they should be based on science and kept separate from other management measures such as multiannual management plans and technical conservation measures regulations. The group decided to come back to the issue of MPAs in the future.

In summary, the group concluded and proposed the following as a BSAC general statement on protected areas:

- Protected areas are useful and should be seen as one part of a tool box in marine management, especially for habitat/nature protection
- Protected areas are not a universal tool in fisheries management
- Establishment of protected areas should be supported by scientific knowledge
- Any protected area must have an adaptive management
- Protected areas should always have separate management on a case by case basis
- The BSAC is open to discuss detailed proposals when such are presented.

7. Henrik Beha Pedersen, Plastic Change

Henrik Beha Pedersen, founder and CEO at Plastic Change gave a presentation on marine litter/plastic, microplastics in fish and a Plastic Free Baltic Ocean project, initiated together with KPMG.

According to the latest research, approximately 8 million tonnes of garbage are discharged in the oceans. This is expected to double in the course of the next ten years. If we continue polluting the oceans with plastic, there will be more plastic than fish in the oceans. Fish are polluted by plastic. Strong policy measures are needed to combat this problem. Plastic Change has initiated Danish partnership on global scientific research in plastic pollution of the oceans. The aim is to have a plastic free Baltic Sea. The project led by Plastic Change aims at gathering documentation and working on solutions. It will map the hot spots in the Baltic and demonstrate Danish best practises in combatting plastic litter in other Baltic countries. He invited the BSAC to follow and join them in their efforts to combat plastic pollution.

[Henrik Beha Pedersen's presentation is on the BSAC website.]

The Chair noted that plastic litter links to fisheries through derelict fishing gears and microplastics found in fish.

Some fisheries representatives noted that whereas the problem of marine litter from fishing boats can be solved by educating and raising awareness of fishermen, microplastics pollution is not easy to solve.

Speaking on behalf of CCB, **Nils Höglund** stated that solutions to the microplastics should be sought on land. He drew attention to the work carried out by CCB with respect to natural systems for cleaning wastewater from nutrients and microplastics by using constructed wetlands.

The sub-group decided to keep the issue of marine litter open and maintain a dialogue.

8. Seals: proposal from the Fishermen's Federation for Small-Scale Fishery in Sweden (SYEF)

Karl Lundström from the Swedish University of Agricultural Sciences gave a presentation on the impact of cormorants and seals on coastal fish stocks. He presented the population development of these two species in the last 30 years. Seals and cormorants feed on commercially important fish species. In the Baltic, increasing populations of both seals and cormorants during the last decades and their interaction with fishing gears have contributed to conflicts with fishermen. Population trends for each species were presented. However, little is known about the feeding habits of these species, due to a general lack of interest in diet studies among agencies responsible.

From available data, it can be concluded that seals and cormorants can affect fish populations. The problem needs further investigation, discussion and a responsible approach. With better knowledge, mortality caused by these two predators should be included in the assessment of fish stocks.

Karl Lundström's presentation is on the BSAC website.

An OIG representative informed the meeting that management plans for seals and cormorants are in place in Finland. Compensation is paid to fishermen for damage caused by these predatory species.

In the course of the discussion, the issue of seal parasites in fish was also raised by an observer representing small-scale fisheries. The latest investigation indicates that most of the cod around Bornholm is infected by seal worms.

It was highlighted that growing seal populations have a critical effect on small-scale fisheries. There are many local situations along the Baltic Sea, where damage caused by seals to the gears and the catch threatens the livelihoods of fishermen. The need for closer co-operation between environmental and fisheries authorities in the Member States was also underlined. BALTFISH could serve as a platform for discussions and an exchange of information on the issue.

A representative of the Polish administration informed the meeting that the compensation system for damage caused by seals is under preparation.

A fisheries representative noted that the management plans currently in place have not solved the problem of growing conflicts between these predatory species and fisheries, because they only aim at protecting the species in question.

The Fishermen's Federation for Small-Scale Fishery in Sweden (SYEF) put forward its proposal concerning the impacts of increasing seal populations on small-scale coastal fisheries across the Baltic.

The sub-group had different views on seal management. It was agreed that regional or sub-regional solutions are needed because of the different status of seal populations in the Baltic. It was clearly stated that discussions on seal and cormorant management must be open. At the same time, the development of alternative gears with the involvement of fishermen should be continued.

The sub-group decided that the matter of interaction between seals and fisheries should be addressed by:

- Recognising the issue by all stakeholders and identifying its severity in various local areas, based on inter alia extensive gathering of information from fishers directly affected and others, and on monitoring and ecological research; funding for science needed to achieve these goals should be made available as a matter of priority.
- Exchanging information and best practices on preventive measures, giving priority to non-lethal action, co-operation in drafting management plans, application of compensation measures (EMFF etc.).

- Identifying and promoting solutions tailored to the needs of specific local areas.
- Efforts to develop alternative gears must continue and be extended, not only to individual Swedish projects, but developed and tested elsewhere simultaneously.

The sub-group agreed that HELCOM should be invited to take part and present its work relating to EBM, including the management of the conflict between seal and fisheries, in order to avoid duplication of the work done by the HELCOM Seal Group.

The sub-group agreed that any gear development work should make use of EMFF funding and be pooled across the Member States.

9. AOB

The BSAC Secretary informed the meeting of the HELCOM suggestion of a joint resolution/commitment to deal with the active removal of ghost nets. She also informed the participants of the sixth HELCOM Ecosystem based sustainable fisheries meeting FISH, to be held on 22nd – 24th May 2017 in Helsinki.

The meeting took note. The meeting agreed to send an invitation to HELCOM to the next meeting of the sub-group.

The meeting approved the summary of the meeting (to inform the BSAC ExCom), including the topics to focus on in the near future. The issues proposed were:

- Bycatch
- Mixed fisheries
- Fleet dynamics
- Ecosystem impacts
- Maritime spatial planning
- Fisheries management measures in marine protected areas
- Try to compile an overview of projects in Baltic Member States on gear development [NB Staffan Larsson proposal to create a network for gear development for the cod fishery: ExCom 310117]
- Send an invitation to HELCOM to take part and present work relating to EBM

The sub-group had a discussion about its interaction with HELCOM and about who and what to advise. There was general agreement that its mandate is to advise the Member States and the Commission and it is the competence of the ExCom to agree and adopt any advice from the sub-group.

The Chair will investigate the possibility of inviting Mark Dickey-Collas to lead the sub-group through a workshop on EBFM.

The Chair thanked everyone for the good discussions at this first meeting.

Ulrika Gunnartz (Swedish Agency for Marine and Water Management) provided the link to the Swedish evaluation of five no-take zones established as a fisheries management measure in 2010:

<https://www.havochvatten.se/hav/fiske--fritid/sport--och-fritidsfiske/fiskevard-och-fisketillsyn/fiskefria-omraden.html>

The evaluation has resulted in the following reports (so far):

- SwAMs report with policy recommendations and a summary of results from the ecological and socioeconomic evaluation (in Swedish):
<https://www.havochvatten.se/download/18.3f416cfa159b7a016da1ebfa/1484900442252/rapport-2016-31-fiskefria-omraden-ny.pdf>
- SLU Aqua's ecological evaluation (in Swedish with English summary) :
http://www.slu.se/globalassets/ew/org/inst/aqua/externwebb/sidan-publikationer/aqua-reports-xxxx_xx/aquareports-2016_20-fiskefria-omraden_20161214.pdf
- SLU CERE's conceptual socioeconomic analysis:
http://www.cere.se/documents/wp/2016/CERE_WP2016-7.pdf
- SLU CERE's empirical socioeconomic analysis:
http://www.cere.se/documents/wp/2016/CERE_WP2016-17.pdf

Nils Höglund has informed that a new CCB study concludes that both waste water after treatments plants and storm water contains micro plastic particles. Testing the same water after it has passed through a constructed wetland show that considerable amounts are trapped in the wetland, regardless of whether the initial amounts were high or low. The results are encouraging since all efforts to reduce increasing outflow of micro plastic to river and sea are welcome, and in the case of using wetlands it is a win-win-win situation since we already know that wetlands also work for capturing nutrients and pharmaceuticals² The final report on this from CCB is pending.

² <http://www.ccb.se/2017/04/wetlands-dramatically-reduce-micro-plastic/>