

BSAC Joint Demersal - Pelagic Working Group
Tuesday 27th February 2024 and
Wednesday 28th February 2024
Online through Zoom

Report

Tuesday 27th February 2024, 09:30-15:30

1. Welcome by the Demersal WG Chair Teija Aho, and the Pelagic WG Chair Lise Laustsen

The Pelagic WG Chair warmly welcomed all the BSAC members, the European Commission, ICES, Member States, the presenters and all other observers. She chaired the meeting.

2. Formalities for the start of the meeting

Apologies, AOB, and adoption of the agenda

The agenda was adopted.

Under **AOB** the WG Chairs and Secretariat would like to cover a point on the Commission report on the Baltic Multiannual Plan.

3. Discussion on the Commission's CFP Communication
([CFP today-tomorrow](#), [BSAC draft reply](#))

The Pelagic WG Chair referred to the shortlist of actions from the package identified by the ExCom as relevant in the BSAC draft reply. The BSAC delivered its recommendations on the EU Action Plan in December 2023. At this meeting, the WG is to draft recommendations on the relevant Actions foreseen by the Commission in the CFP Communication: *CFP today and tomorrow: a Fisheries and Oceans Pact towards sustainable, science-based, innovative and inclusive fisheries management*¹.

The Working Group discussed the relevant actions, divided in chapters of the Action Plan and added statements to the recommendations provided on the basis of past BSAC recommendations, other ACs work and the BSAC EBM WG.

Landing obligation

The Executive Secretary informed that the EFCA draft report on the evaluation of the compliance with the landing obligation (LO) in the Baltic for 2019-2021 is now ready. The draft report will be adopted by the BALTFISH Control Expert Group and HLG. The BSAC will hold a joint EFCA – BALTFISH - BSAC workshop following the meeting of the Control Expert Group and BALTFISH HLG, to discuss the results of the evaluation.

¹ [5-Commission-Com-CFP-today-Tomorrow-Feb2023.pdf \(bsac.dk\)](#)

The WG decided to discuss the EFCA report on evaluation of the landing obligation at a later stage.

BALTFISH

The WG agreed that the cooperation with BALTFISH has been important in the past year. The BSAC Management team held regular virtual coffee meetings with the Polish BALTFISH Presidency.

Vessel modernisation, safety, energy efficiency, working conditions

A fisheries representative from Poland pointed out that vessels above 24 m length are excluded from the EMFAF support for the energy transition as well as scrapping. He underlined that the funding opportunities should be available to all fleet segments to achieve a just and fair energy transition.

The WG Chair informed that the BSAC addressed these issues under its recommendations on the energy transition of the Baltic Sea fisheries sector.²

The WG took note.

Sustainable innovation in fisheries

A fisheries representative from Poland stated that sustainable innovation in fisheries can also change the approach to fisheries science and management.

The WG decided to include in the BSAC recommendation: sustainable innovation in fisheries can also change the approach to fisheries science and management.

Implementation of the CFP

The Executive Secretary referred to the fact that the BSAC had formulated its recommendations on the CFP implementation in the White Paper published in 2022.

Fishers of the Future

The WG Chair informed that the BSAC members are consulted in a survey carried out in the framework of an EU-wide participatory foresight project aiming to forecast the role of fishers in society in 2050 as a basis to inform fisheries decisions in the coming years. More information on the project will be given under the relevant agenda point.

A fisheries representative from Poland expressed disappointment at the structure of the survey. In his view, the survey does not take into account any real implications of the EU policies such as the Green Deal.

The WG decided to discuss the survey under the relevant agenda point and in the EBM WG.

Development of social indicators

The WG Chair informed that the Commission launched a consultation on the development of social indicators to be used in the analysis of socio-economic reports with the help of the STECF. The BSAC members had been asked to send comments. The deadline for replies

² <https://www.bsac.dk/wp-content/uploads/2023/10/BSACletterEnergyTransition-2023-2024-23.pdf>
<https://www.bsac.dk/wp-content/uploads/2023/10/BSACrecommendationEnergyTransition.pdf>

is 8th March 2024. The BSAC Secretariat will then draft a BSAC recommendation. The final recommendation should be sent to the Commission by mid-April.

The WG took note of the comments made by the EBM WG. **The WG** decided to include a reference to recreational fishing, following a request of one of its members³.

Ecosystem based approach

The Executive Secretary referred to the draft recommendation proposed by the EBM WG⁴.

A fisheries representative from Poland drew attention to the different understanding of the ecosystem approach among the stakeholders. In his view, multiple pressures have to be taken into account, such as the impact of seals and cormorants on fisheries, the interspecies relations and the impact of selectivity on the stock structure. These impacts should be estimated and quantified. However, these serious implications are not readily understood, i.e. the impact of diseases spread by seals on fish stocks. He underlined that management of seal populations is in line with the ecosystem approach and fishers will defend it. He also referred to selective fishing. Despite the mainstream approach represented by some members of the PECH Committee of the European Parliament, who support the increase of mesh sizes, in the case of several species, selective fishing may seriously affect the population structure of (age and gender distribution). Therefore, selectivity in relation to changes in the stock structure should be taken into account in the fisheries management.

A representative of the OIG agreed that there are different interpretations of the ecosystem based approach and this should be mentioned in the BSAC recommendation. However, the definition of the ecosystem based approach referred to in the CFP should be adhered to.

The participants also proposed to include the data needs related to the ecosystem based approach to Data Collection Programme, consumption of juvenile fish by cormorants, mixed species composition in the recommendation.

³ *The BSAC sees a need to introduce social indicators, that should also consider the support structures for fisheries, (EAA proposal) including recreational fishing.*

⁴ *There is agreement in the BSAC on the continued need to focus on the overall ecosystem, and the other factors that are affecting the well-being of certain stocks. Fishing is one of the factors that is having an influence on the stocks. Several other challenging developments are occurring at the same time, among other species interaction and climate change. The BSAC welcomes the fact that ICES advice includes a chapter on conservation status for some stocks in order to deliver ecosystem-based management options. The BSAC is of the opinion that estimation and quantification of the effects of species interactions need to be undertaken urgently. The BSAC strongly supports the increased Commission's efforts to develop scientific support for the ecosystem-based approach to EU fisheries management (EAFM). At the same time the BSAC reminds that pressures from other human activities such as offshore wind energy developments and their impact should also be considered. The BSAC also highlights climate change led impacts on the Baltic ecosystem, and its fisheries. These impacts on the Baltic Sea, its ecosystem and fisheries should be better understood, in order to develop management strategies to adapt to climate change. In this context, the BSAC draws attention to the conclusions of the BSAC Webinar on climate change.*

The BSAC is of the opinion that the MAP as well as the technical measures should be revised to take account of the changes in the state of the fish stocks and the environment, including the interspecies considerations.

The WG agreed with the previous comments made by the EBM WG and decided that the ecosystem based approach should be further discussed in the EBM WG.

Single use plastic directive and marine litter

The WG decided that the single use plastic directive and marine litter should be further discussed in the EBM WG.

Fishing opportunities

The Executive Secretary referred to the draft recommendation proposed by the EBM WG. He informed that the BSAC has also been invited to answer a questionnaire on social indicators to be used by STECF and a questionnaire on the fishing opportunities with a view to preparing a vadaemecum on the allocation of fishing opportunities in order to improve transparency, promote sustainable fishing practices across the EU, and support small-scale and coastal fishers (implementation of Article 17 of the Basic Regulation). STECF recommended the description of the allocation of fishing opportunities including the implementation of Article 17 should be included in the National Fisheries Profiles. These profiles will be published in the fall of 2024. The deadline for answering the questionnaires for the BSAC members is 8th March 2024⁵. A first draft summarising the answer received and reflecting discussions in the Working Groups on the CFP Communication will be circulated to members for comments, then validated by ExCom.

A fisheries representative from Poland asked what are the intentions behind the survey, as the allocation of fishing opportunities is solely within the competence of Member States.

The representative of DG Mare explained the rationale behind the Commission's questionnaire on the allocation of fishing opportunities is to improve the transparency on Article 17 and to evaluate the implementation of the criteria set in Article 17 of the Basic Regulation⁶. This would contribute to establishing a baseline of information against which future STECF work could assess the completeness of information provided to the Commission by Member States on the implementation of Article 17.

The WG took note of the questionnaires on social data and Article 17 and encouraged the BSAC members to provide input.

Fishing capacity management

The WG Chair referred to the BSAC recommendation on energy transition, which refers the lack of transparency in terms of capacity ceilings.

⁵ The Commission sent questionnaires to all Member States to gather information on their allocation methods in March 2016, May 2020, January 2022 and July 2023. The answers collected were subsequently analysed by the STECF.

⁶ Article 17 of the Basic Regulation stipulates that “when allocating the fishing opportunities available to them, as referred to in Article 16, Member States shall use transparent and objective criteria including those of an environmental, social and economic nature. The criteria to be used may include, inter alia, the impact of fishing on the environment, the history of compliance, the contribution to the local economy and historic catch levels. Within the fishing opportunities allocated to them, Member States shall endeavour to provide incentives to fishing vessels deploying selective fishing gear or using fishing techniques with reduced environmental impact, such as reduced energy consumption or habitat damage.”

A fisheries representative from Poland underlined that both fishing capacity and fishing effort⁷ should be considered to reflect the true picture of the fishing opportunities.

The Working Group decided to include the comments made during the meeting in the BSAC recommendations and looked forward to the discussions in the EBM WG on 8th March 2024. The final draft of the BSAC recommendations on the Commission's CFP Communication will be prepared by the Secretariat after the EBM WG meeting and circulated to the members for comments and validation.

Commission's report on the Baltic MAP

The Executive Secretary informed that the BSAC Secretariat received a letter from DG Mare addressed to the BSAC ExCom Chair and to the BALTFISH Presidency. The letter refers to the second report on the implementation of Regulation (EU) 2016/1139 establishing the Multiannual Plan for the Baltic Sea (MAP). The BSAC and its members are asked to provide input on various aspects of the MAP. The replies to and results of the survey will be used to inform the Commission's implementation report. A short survey with 18 questions on substance has been put online on EU Survey⁸. The deadline for replies to the Commission is 4th April 2024. The BSAC Secretariat has prepared first draft answers based on the past BSAC discussions on the MAP⁹. The draft will be subsequently distributed to members and then sent to the ExCom for validation. He presented the draft BSAC reply and drew attention to some questions on control and the margin of tolerance, on the MAP and regional cooperation on other topics and the socio-economic impact of the MAP since 2019.

The Executive Secretary referred to the overall assessment of the MAP included in the BSAC answer to the Commission's questionnaire in 2019 that the MAP has not lived up to its expectations and has not delivered the expected results during 6 years of its implementation.

A fisheries representative from Poland underlined that several weaknesses that undermine the effectiveness of the MAP had been identified by the BSAC already during the discussions before the implementation of the MAP and during its evaluation in 2019. Above all, the MAP does not take into consideration the importance of species interactions and, in his view, has failed to deliver any positive results, has not lived up to its expectations and should be revised.

A small-scale fisheries representative from Poland underlined the need to include the impact of predators in the MAP.

The representative of DG Mare explained that the species interactions had not been included in the MAP, because ICES has not been in a position to give advice on these interactions. He stated that progress was made this year in ICES work on mixed fisheries in

⁷ Fishing capacity is defined as the ability of a vessel or a fleet to catch fish, fishing effort is generally defined in terms of the time spent searching for fish (search duration) and/or the amount of fishing gear of a specific type used on the fishing grounds over a given unit of time e.g. a fishing operation, fishing activity, day or fishing trip (FAO).

⁸ https://ec.europa.eu/eusurvey/runner/BS_MAP_implementation_2024

⁹ [BSAC answer to the first questionnaire of the Commission in 2019](#), [BSAC input to the European parliament Fisheries Committee hearing 23/01/23](#), [BSAC workshop on the Baltic MAP of 16/05/23](#), and the [BSAC reply to the European Commission open feedback](#)

the Baltic. There are new experts who are looking into the Baltic mixed fisheries scenario. He also stated that in accordance with the legal obligation obliging the Commission to provide a report on the MAP implementation every five years as of 2019, the report should be ready in July 2024. He also informed that the questionnaire includes free text boxes where additional comments can be added.

The WG Chair underlined that the comment made by the BSAC to the previous evaluation in 2019 that the MAP has been counterproductive in implementing the ecosystem-based approach to fisheries should be repeated. Species interactions should be included in the plan. She encouraged the BSAC members to give their input to the draft BSAC reply.

A representative of DG Mare informed on upcoming Commission's consultation on the trade in seal products, expected to take place in the 2nd quarter 2024 and invited the BSAC to give input.

The WG took note.

The WG took note of the comments provided by participants. The BSAC members were asked to contribute to the BSAC draft to the Commission's survey to inform the second report on the implementation of the Multiannual Plan for the Baltic Sea before 12th March 2024.

4. Special session on species interactions

The session included a series of scientific presentations followed by Q&A and discussion.

The WG Chair warmly welcomed the scientists who had accepted the invitation to make presentations on the latest research on species interactions.

a. Sprat-herring-cod interactions: *Nataliia Kulatska, Swedish University of Agricultural Science; Nis Sand Jacobsen, DTU Aqua*

Nataliia Kulatska, Swedish University of Agricultural Science presented size-selective cod predation: impact on prey and implications for pelagic fisheries¹⁰. Relationship between the size of predator and prey is one of the main determinants of predator-prey interactions. Prey may escape predation by growing in size, either to become faster or to grow beyond the size threshold of what a predator can consume. Reaching the size required to switch to a piscivorous diet further ignites the growth of a predator, help to mature earlier and may increase its survival. Cod diet changes with cod size. Smaller cod feed mainly on benthos (*Saduria* and mysids) and larger cod feed mainly on herring and sprat. At present, the abundance of *Saduria* has drastically decreased maybe due to anoxic areas. Different studies investigate the competition between different predators. In the research study conducted by SLU, multispecies model built in Gadget was used. It was fitted to multiple fisheries dependent and independent data, covering the period of 1974-2013. The model estimated the parameters of fisheries and cod selection. The overlap in prey and length was the largest in 1974-1988 when cod had higher abundance and was larger in size, and gradually decreased with time. Cod generally select smaller sizes of sprat and herring. Cod had a higher impact than fisheries on all length groups of both herring and sprat in 1974-

¹⁰ <https://www.bsac.dk/past-meetings/>

1988, when cod abundance was high. After cod abundance decreased, predation mortality caused by cod also decreased, with some increase after 2007, and was higher than fisheries mortality for herring. Estimated prey biomass unavailable for fisheries due to a delayed effect of cod consumption, a novel contribution of the study, was often similar to the biomass unavailable due to an immediate effect, essentially doubling the total potential effect of cod consumption.

Limitations: the spatial distribution of cod, sprat, herring and fisheries effort was not included. There is a possibility of delayed effects of fisheries on prey available for cod, if fisheries select larger fish. The research did not account for competition between herring and sprat, however it can negatively affect their growth and condition.

Cod concentrates progressively towards the southwestern part of the central Baltic Sea, while sprat and herring increase their densities towards the northeastern part. Thus, if the biomass of suitable prey available for cod is smaller due to the spatial mismatch between predator and prey, the effect of competition with fisheries may be higher for cod than suggested by this study. There is also a possibility of delayed effects of fisheries on prey available for cod, since fisheries target larger prey individuals that are likely to be more fecund¹¹, thus decreasing the number of recruits and prey available in future years.

The WG Chair thanked Nataliia Kulatska for her presentation.

A fisheries representative from Poland found the presentation very interesting and consistent with the observations of fishers. He stated that small cod feeds on *Saduria*, a benthic isopod crustacea, and not pelagic fish. However, also old cod that had not been able to grow continues to feed on *Saduria*, this preventing the recruits from feeding on these benthic organisms. Would harvesting small, but old cod help to improve the population size of pelagic fish?

Nataliia Kulatska stated that herring and sprat competition over benthic prey has not been included in the research. Targeting small, old cod is not possible, since the age of fish is not determined in fisheries.

Nis Sand Jacobsen, DTU Aqua presented¹² species interaction in the Baltic. Species interactions consist of predation leading to natural mortality, somatic growth due to prey abundance, food competition and disease spread and are crucial drivers of population dynamics. These interactions, especially natural mortality, are important for the ecosystem based fisheries management. The (eastern) Baltic Sea has often been assumed to be a three species complex in fisheries approaches. This can be illustrated by a schematic view of the Baltic Sea upper-trophic food web, showing interactions between cod, sprat, and herring¹³. Relationships between species can be both positive and negative. Negative and positive trends can also be driven by environment. SMS (Stochastic Multi-species model) is a multispecies model used to calculate natural mortality for several commercial stocks. The model uses stomach content data to infer the diet of predator stocks. The model uses diet, prey preference, and abundance to assess the natural mortality. The model is being updated every 3 years in the Baltic and the North Sea in the WGSAM ICES group. The

¹¹ *Blueweiss et al., 1978*

¹² <https://www.bsac.dk/past-meetings/>

¹³ Lindegren et al. 2009, [Preventing the collapse of the Baltic cod stock through an ecosystem-based management approach | PNAS](#)

Baltic SMS model contains sprat, herring and cod as an external predator. The total biomass eaten of sprat and herring has been declining heavily since the 1980s, mainly due to the decline in cod biomass.

Is cod still an important predator? Non fish predators are increasingly considered as important predators. DTU Aqua carries out projects regarding seals (across the Baltic) and cormorants (Western Baltic). Other predators that may be important are harbour porpoise and whiting. Better knowledge is needed to properly incorporate their interactions with commercial fish stocks into management. An SMS model including cormorants, seals and new stomach data is being developed for the Western Baltic. A larger cod project regarding seal-cod interactions has just started. In conclusion, Nis Sand Jacobsen stated that interactions between species are changing due to environment, management and population dynamics and need to be re-examined to account for predators that are actually present. Implementation of species interactions in management is paramount to achieve proper management and ecosystem balance.

The WG Chair thanked Nis Sand Jacobsen for his presentation.

a. Flatfish – cod interactions: *Michele Casini, Swedish University of Agricultural Science*

Michele Casini, Swedish University of Agricultural Science presented cod – flounder interactions in the Baltic Sea¹⁴. The interactions between cod and pelagic fish have been studied extensively, while interactions between cod and flounder not as much. Cod has suffered biological changes (e.g. declines in size at maturity, in mean size and in body condition). One hypothesis (among several) has been the increased competition with flounder. Some projects, conducted in Sweden, in the past few years have attempted to understand more about the potential interactions between cod and flounder. This could indicate some interrelation. In conclusion, Michele Casini stated that cod and flounder interact through predation and perhaps competition. It was determined that cod and flounder are never abundant at the same time. Large cod (≥ 55 cm) feed on flounder: the disappearance of large cod may have facilitated the increase in flounder in some areas in the past three decades. The decline in cod condition from early 1990s does not seem to be associated to the increase in flounder (other factors more important). However, the diet of cod has changed (they eat less benthos currently) possibly due to high densities of flounder, and this can hinder cod recovery. Also historically cod condition was low when flounder was very abundant (around the 1940s-1950s, Eero et al. 2023). This can indicate a negative effect of flounder on cod diet and energy intake, although the effect on cod stock is still unknown.

A fisheries representative from Poland asked whether the small size and condition of cod prevents them from eating small pelagic fish.

Michele Casini answered that when cod are weak, they may stay more at the bottom to feed on benthos. Flounder competes with cod for benthos organisms. Cod eat less benthos

¹⁴ <https://www.bsac.dk/past-meetings/>

now, possibly due to higher abundance of flounder, and this can have a negative impact on cod recovery.

The WG Chair thanked Michele Casini for his presentation.

b. Modelling and mixed fisheries advice: Marco Scotti, GEOMAR Helmholtz Centre for Ocean Research Kiel

Marco Scotti, GEOMAR Helmholtz Centre for Ocean Research Kiel presented how ecosystem based fisheries management restores biodiversity and catch of commercial stocks in the western Baltic Sea¹⁵. He summarised how the decline of western Baltic spring-spawning herring and western Baltic cod stocks may indirectly harm other ecosystem components such as harbour porpoise and illustrate the benefits of ecosystem-based fisheries management on the entire ecosystem, including the commercially relevant stocks. Objective of the study conducted by Geomar is the assessment of alternative fisheries management scenarios for their impact on biodiversity and catch. Research was conducted in SDs 22 and 24, chosen for their ecological integrity. Ecopath and Ecosim software was used to make the food web models. Five scenarios with varying F values tested: no fishing ($F=0$), business as usual ($F = \text{average } F_{2015-2019}$), maximum sustainable yield, MSY ($F = F_{MSY}$), half MSY ($F = 50\% F_{MSY}$), ecosystem-based fisheries management, EBFM ($F = 0$ for juvenile cod, $F = 50\% F_{MSY}$ for herring and sprat, and $F = 80\% F_{MSY}$ for adult cod and flatfish). Results indicate that the EBFM¹⁶ can be beneficial to rebuild crucial fish stocks in SD 22 and 24. It can be the most viable alternative for maintaining productivity of the stock and fishery. It also allows to improve food web resilience to climate change and other global changes (i.e. variations in phytoplankton biomass, which may depend on multiple factors such as ocean warming and changes in nutrient load). In conclusion, Marco Scotti stated that EBFM represents the best solution to rebuild heavily exploited fish stocks of herring and cod. Especially for cod stock biomass EBFM is outscoring the BAU scenario. EBFM is also the best solution to maintain long-term sustainable yields of fisheries, preserve a healthy population of harbour porpoise and improve food web resilience to ocean warming.

The WG Chair thanked Marco Scotti for his presentation.

c. Ecosystem based management: Kristiina Hommik, University of Tartu; Stefan Neuenfeldt, DTU Aqua

Kristiina Hommik, University of Tartu presented an initial analysis of mixed fisheries in the Baltic Sea fisheries¹⁷. The first step was to describe the Baltic Sea fisheries in as much detail as was currently possible. The work was conducted under ICES WGMIXFISH and in

¹⁵ <https://www.bsac.dk/past-meetings/>

¹⁶ [Frontiers | Ecosystem-based fisheries management increases catch and carbon sequestration through recovery of exploited stocks: The western Baltic Sea case study \(frontiersin.org\)](#)

¹⁷ <https://www.bsac.dk/past-meetings/>

relation to special request from DG Mare¹⁸. It was noted that the analysis should be considered as a starting point for the future work on the Baltic Sea mixed fisheries models. Currently there are no mixed fisheries scenarios developed for the Baltic Sea. The first steps for developing the mixed fisheries scenarios have been taken, however the whole process takes time. One of the limitations is the accessibility of data. For the Baltic Fisheries Assessment Working Group (WGBFAS) the data has been asked (and reported) using relatively high-level métier codes - meaning that the métiers are defined as either 'active' or 'passive'. This level of detail is not enough to detect correct technical interactions nor develop a mixed fisheries model. The current Baltic data call will be superseded by the RDBES data call, where the data is reported with high resolution. Therefore, the consensus is that the work on developing the mixed fisheries model(s) for Baltic Sea will be continued using the data which comes available through RDBES. This means that the progress of developing mixed fisheries model(s) for Baltic Sea is dependent on the developments with the usage of RDBES.

Analysis was done for interactions of central Baltic herring (CBH) and Baltic sprat stock, western Baltic cod (WBC) stock interactions with other flatfishes, eastern Baltic cod (EBC) stock interactions with other flatfishes and interactions of Bothnian Sea herring and Baltic sprat stock.

The level of mixing of herring and sprat in landings is variable and depends on a given country's quota shares of both stocks. Countries which in proportion have much larger sprat quotas have clean sprat fisheries with low levels of herring bycatch. On the contrary, countries which in proportion have larger central Baltic herring quotas show more mixing of herring and sprat in the landings. Additionally, when using small mesh sizes (16–31 mm), cleaner sprat landings can be achieved. The analysis confirmed that sprat catches in Bothnian Sea can be considered as incidental by-catch. The demersal fishery in Baltic Sea is a very mixed fishery. The main gears catching cod are bottom otter trawls and gillnetters. The work will continue developing mixed fisheries scenarios for the Baltic Sea.

The WG Chair thanked Kristiina Hommik for her presentation.

Stefan Neuenfeldt, DTU Aqua¹⁹ presented species interactions in the novel Baltic Sea – what we know and what we think we know. Traditional interactions include the interactions between cod, herring, and sprat. There are also interactions between cod and flounder, and competition for food, including benthos organisms (*Saduria*, *Bylgides*). However, there have been changes in the Baltic. The cod cannibalism and predation on flounder has almost disappeared because there is no more large cod. Also predation on herring and sprat has decreased because cod are too small. Seals and cormorants predate on cod. The management of both seals and cormorants is difficult because of societal problems underlying the seal-fishery and cormorant – fishery conflicts. The question is whether the

¹⁸ ICES was requested to assess if in the Baltic Sea sprat fisheries can be operated without any by-catches of herring (depending on the fishing area respectively by-catches of western herring, central herring and Bothnian herring), and if flatfish fisheries can be operated without any by-catches of cod.

¹⁹ <https://www.bsac.dk/past-meetings/>

Predation of these two species is so significant that there is a need to introduce quota for them. It is difficult what the seals eat. Some research has been made using satellite monitoring. Two hot spots had been identified around Bornholm where cod is eaten by seals. Stefan Neuenfeldt referred to the predation of cormorants²⁰. Research conducted by indicates that cormorants can have a substantial impact on fish populations. The speaker referred to a pilot PIT-tagging study on cod, eel and flounder. The recovered tags equals a predation by cormorants of 65% of the cod and 58 % of the flounder. It could therefore be concluded that cormorants have an impact on migrating salmonids, flounder, eel and potentially high impact on cod. There are still some issues that need to be clarified: whether small cod suffer from the lack of specific benthic food due to hypoxia, or from competition with plaice. It should be verified through studies of seal diet whether seals consume around 2.000 tonnes of cod around Bornholm. With reference to the predation of cormorants, it should be verified whether they forage in the entire Baltic.

The WG Chair thanked Stefan Neuenfeldt for his presentation.

The WG Chair asked how could the assessment of the species interactions be improved.

Stefan Neuenfeldt stated that a lot of data is collected with the help of fishers with relation to species interactions, however, data analysis takes time. Closer collaboration with the sprat fishing sector in the Baltic could give new avenues and improve the assessment.

A fisheries representative from Poland stated that all presentations had confirmed that the observations of fishers that cod are small and therefore unable to effectively feed on pelagic fish, but none of the presenters pointed to the high mortality of herring and sprat which escape from the fishing gear. However, according to the available scientific studies, this could be one of the important reasons for a decrease in the biomass of pelagic fish. Selective gears in pelagic fishery change the stock structure. Instead of suggesting climate change or fisheries as the reasons for decreases in fish biomass, scientists should look into the consequences of selective catches.

The WG Chair asked about any specific data needs or research needed to improve the knowledge on species interactions.

In this context, one of the presenters mentioned special data on pelagic catches, including size and age distribution of sprat. Another presenter referred to the need to have more and better quality data on seal predation and seal diet. Another presenter referred to the need to collect more data on flatfish (eg. stomach contents) since flatfish fishery is growing in importance in the Baltic.

With reference to a question on how seal and cormorant data can be used in stock assessment, one of the presenters indicated that natural mortality based on seal and cormorant predation can be included in the stock assessment. He pointed to the fact that such natural mortality could be at the same level as fishing mortality for some fish stocks. Another presenter underlined the need to carry out proper sampling of seal stomach content over a continuous period of time, including a DNA analysis. Another presenter referred to the fact that data needs for mixed fisheries scenario are the same as for single

²⁰ Material from Niels Jepsen, DTU Aqua

species scenario. She underlined that engagement of more experts and more financial resources are needed to further develop the models for mixed fisheries in the Baltic.

The WG decided that all data needs referred to in the presentations should be included in the BSAC letter to HELCOM on data needs (see agenda item 5).

Wednesday 28th February 2024, 09:30-13:00

The Demersal WG Chair Teija Aho welcomed all participants. She chaired the meeting on the 2nd day.

5. HELCOM Working Group FISH request for BSAC input on BSAP Action S40 – BSAC report, HELCOM presentation

Discussion and finalisation of BSAC draft reply to HELCOM

The WG Chair referred to the presentation made by HELCOM Deputy Executive Secretary during the Executive Committee in January 2024²¹. At HELCOM WG FISH meeting, 1-3 November 2023, the BSAC proposed to provide input in the form of a list of species for which there is a need for better data, with rationale included.

The Executive Secretary informed that the ExCom had discussed the BSAC input to the BSAP actions on data needs. He also referred to the discussion on the data needs in the context of species interaction, held the previous day.

A fisheries representative from Poland expressed his critical opinion on the presentation given by HELCOM at the last BSAC ExCom. The presentation did not include a single reference to fisheries. He emphasised that HELCOM has a different approach to ecosystem based management, for example with respect to the need to mitigate the impact of seals on fish stocks. HELCOM is of the opinion that seals need to be protected and not managed. He concluded that it is difficult to give input to the work of an organisation which follows such policy. Another fisheries representative from Poland supported his statement.

In the course of discussion several data needs were mentioned by the meeting participants:

- data on spatial distribution and size and age distribution for all stocks,
- data to determine the structure of the stocks and structure of catches (in terms of age and sex distribution),
- data on flatfish, including the diet and interaction with cod (competition for benthic food, geographical/vertical overlap of stocks),
- information on the sea phase of salmon life cycle (impact of temperature and food on smolts), data on salmon from Bothnian Sea area, data on salmon migration is needed to protect weak stocks and focus on strong stocks,
- data on recreational fisheries,
- seals - stomach content data to determine the diet,
- more information on the benthos,

²¹ Under the Baltic Sea Action Plan action S40, HELCOM has to *Identify by 2024 fish species for which there is a need for better data for identified purposes, such as setting threshold levels*. In parallel, BSAP action B35 specifies that HELCOM has to, *by 2024, operationalize a set of indicators for the assessment of fish population health, including size and age distribution, where applicable*.

- harbour porpoise - need for reliable data on population size and mitigation methods.

A small-scale fisheries representative from Germany underlined that more research is needed to look into the problem of poor condition of flatfish (observations of starving fish in German waters).

A fisheries representative from Poland proposed to add in the rationale for data needs for cod, resulting from its poor condition, that due to its condition and size, cod cannot complement its diet with pelagic fish, and this results in competition for food with flatfish for benthic food. With respect to harbour porpoise, he underlined that need for reliable data on population size in the Baltic, obtained using a proper research methodology. He questioned the methods of counting harbour porpoises in the Baltic used in the SAMBAH project, as, in his opinion, the same individuals could have been recorded several times. He asked the representative of the Commission whether all Member States meet the requirement of providing data on bycatches of harbour porpoise.

The representative of DG Mare stated that he will come back with the information on whether the Member States comply with the marine mammal by-catch reporting requirements²².

The Executive Secretary proposed that the BSAC reply to HELCOM should include an introduction on the objective of the action to identify by 2024 fish species for which there is a need for better data, highlighting the reporting requirements introduced in the new Control Regulation, which will probably allow to fill some of the data gaps, and prioritising the data needs.

A fisheries representative from Poland underlined that data on the right population structure of the cod stocks, in terms of age, should be prioritised. Such data could help to determine the reasons behind poor condition of cod and inform management decisions.

²² Information received from DG Mare after the meeting: ICES makes an annual data call to the Member States asking them to provide information notably on sensitive species bycatches. ICES compiles this information and publishes it in different reports and advice.

Under the revised Control Regulation (Article 14(8)) catches of any sensitive species are required to be reported in logbooks (“In the case of catches of sensitive species referred to in Article 10(1) and (2) and Article 11(1) of Regulation (EU) 2019/1241, the information referred in paragraph 2, point (h), of this Article shall also contain the quantities in kilograms live weight or, where appropriate, the number of individuals, of the catches which are injured, dead or released alive.”).

There are further legal obligations, among others Point 2, Annex XIII of Technical Measures Regulation: “Member States shall take the necessary steps to collect scientific data on incidental catches of sensitive species”, Article 12(4) of Habitats Directive: “Member States shall establish a system to monitor the incidental capture and killing of the animal species listed in Annex IV (a)”. This includes all cetaceans but only the saimaa seal and the Mediterranean monk seal.”, Article 11 of Habitats Directive: “Member States shall undertake surveillance of the conservation status of the natural habitats and species referred to in Article 2 with particular regard to priority natural habitat types and priority species.”, Article 17(1) of Habitats Directive: “Every six years from the date of expiry of the period laid down in Article 23, Member States shall draw up a report on the implementation of the measures taken under this Directive. This report shall include in particular information concerning the conservation measures referred to in Article 6 (1) as well as evaluation of the impact of those measures on the conservation status of the natural habitat types of Annex I and the species in Annex II and the main results of the surveillance referred to in Article 11. The report, in accordance with the format established by the committee, shall be forwarded to the Commission and made accessible to the public.”, also Article 11 of MSFD setting out MS obligations to establish monitoring programmes and Article 9 concerning determination of good environmental status.

The WG Chair concluded that all of the identified data and research needs for cod, herring, sprat, flat fish (plaice and flounder), and salmon could be considered to be a priority.

The Executive Secretary informed that the vice-chair of ACOM had agreed to present the upcoming ICES advice on size-age structure of the fish stocks (in relation with the MSFD) during the next EBM WG on 8th March 2024.

The WG decided to ask the Secretariat to prepare a letter addressed to HELCOM with a proposed list of data needs for different species, including a short rationale. The EBM WG on 8th March will consider this draft letter. The letter will be sent to the ExCom for comments/validation and then presented to the HELCOM FISH meeting on the 12-14th March 2024.

6. Presentation of project Permagov, Riku Varjopuro, Syke

Riku Varjopuro, Syke presented the Permagov project²³. The project runs till the end of 2026. Innovative Research for Improving EU Marine Governance. The project is aimed at analysing and improving the performance of marine policies in realisation of the EU Green Deal objectives. The project is conducted in two phases. The analytical phase is aimed at studying the performance of marine policies. The second phase is aimed at co-producing implementation pathways with the stakeholders, to improve marine governance. The project collaborates with other HORIZON Europe projects.

The project will deal with seabed integrity in the Baltic Sea, with the aim to contributing to the implementation of the HELCOM Baltic Sea Action Plan (BSAP), minimising the loss of and disturbance to seabed caused by human activities. The case study will evaluate the interplay between different sectoral governance regimes (e.g. fishing, dredging, biodiversity conservation) and identify lessons and conclusions that could be instructive for future governance.

The project will also deal with marine litter in the Baltic Sea, in order to improve governance approaches to fighting marine litter, prioritise sea-based sources and contribute to the implementation of the BSAP and HELCOM Regional Action Plan on Marine Litter. The project will aim at understanding how the governance of Abandoned Lost or otherwise Discarded Fishing Gear (ALDFG) in the Baltic Sea region is shifting to (potentially) meet policy goals to reduce litter. The case study will evaluate the interplay between different sectoral governance regimes (e.g. fishing, biodiversity) and identify lessons and conclusions that could be instructive for the governance in combatting ALDFG.

Proposed involvement of BSAC: to get feedback and advice on the study implementation throughout the project implementation (2023-2026).

Questions to BSAC: on seabed integrity- bottom trawling: What is the situation, trend and expected future development of bottom trawling at the Baltic Sea?

On marine litter – ALDFG - Which key stakeholders should be involved in this case study?
How significant issue is the ALDFG in the Baltic Sea?

The WG Chair thanked Riku Varjopuro for his presentation.

²³ <https://www.bsac.dk/past-meetings/>

A fisheries representative from Poland underlined that 80% of marine litter comes from land and this information should be taken into account in the project. Measures need to be taken on land to prevent such pollution. He also pointed to the need to differentiate between different types of plastics. He referred to bottom trawling and emphasised that different trawling methods and gears, as well as different seabed structures should also be considered in the evaluation conducted by PERMAGOV.

Riku Varjopuro agreed that bottom trawling case study needs to look in more detail at different sea bottom types in the context of disruptions of habitats by bottom trawling. The project is will study the fishing practices and related challenges to implement regional commitments of protecting seabed integrity.

Another fisheries representative from Poland referred to the projects aimed at collecting lost gears at sea, conducted with the participation of Polish fishers in the Polish EEZ. **A small-scale fisheries representative** gave an example of a specific project carried out some years ago²⁴ in the Polish waters.

A representative of the OIG pointed out to the negative impact of bottom trawling on particularly vulnerable, endangered habitats included on the HELCOM Red List, such as the Słupsk Furrow²⁵, where the pressure from bottom trawling is exceptionally high, as indicated on the map showing the situation, and future development of bottom trawling in the Baltic.. This case should be studied under the project, to determine the impact of bottom trawling on these habitats under the present fishing pressure. With reference to lost fishing gears, he agreed that Polish fishers participated in the projects carried out in Poland²⁶. These projects also covered activities carried out in Estonia and Sweden. The recommendations, among others on the proposed marking of the fish gears, derived from these projects should be taken into account by PERMAGOV²⁷.

A fisheries representative from Poland underlined that the Słupsk Furrow is an important fishing area and he could not understand why fishing should be restricted in this area.

Another fisheries representative from Poland drew attention to the considerable impact of energy infrastructure and offshore wind farms on Baltic seabed, and on fish spawning areas, that should be taken into account in the project.

The WG Chair encouraged the BSAC members to give input to the PERMAGOV project.

The Executive Secretary informed that the PERMAGOV presentation and contact details will be circulated to the BSAC members to enable them to answer the specific questions addressed to the BSAC by PERMAGOV.

Riku Varjopuro thanked for comments on the report and informed that the analysis of the performance of marine policies will be finalised by the end of 2024. Stakeholders will be

²⁴ <https://www.youtube.com/watch?v=Kt8lqwbKUy8>
<https://www.youtube.com/watch?v=teYyR6OQp9o>

²⁵ Słupsk Furrow connects the Bornholm Deep with the Gotland Deep and Gdańsk Deep [HELCOM-Red-List-Biotope-Information-Sheets-BIS.pdf](#)

²⁶ Projects were carried out between 2012 – 2022 by WWF Poland and the MARE Foundation

²⁷ https://wwf.panda.org/discover/knowledge_hub/where_we_work/baltic/solution/fisheries_reform/ghost_nets

contacted to get additional feedback. PERMAGOV will carry out interviews with stakeholders in spring.

7. Fishers of the Future project: presentation of the questionnaire (*Introductory letter to stakeholders*)

The **Executive Secretary** presented the context of the Fishers of the Future project. He informed that the Secretariat had invited the project leaders, who were unable to present this project to the meeting. The project will run during 2024. It is an EU-wide participatory foresight project aiming to forecast the role of fishers in society in 2050 as a basis to inform fisheries decisions in the coming years. Fishers are facing a multitude of new challenges: climate change, more and more competition for maritime space, rising costs and the need to transition to greener energies amongst others. This project looks ahead and tries to understand how fishers envisage their future. The study will be based on desk study, interviews, events and dialogue. After the initial phase of desk study and a first set of interviews, the project is now moving into the second phase, exploring the future of the world around fishers i.e. key uncertainties and challenges faced by fishers. In this context, he informed the meeting that a survey was shared with BSAC members, deadline 27th February and a hybrid event is scheduled for 19th March (the ExCom Chair will take part). The BSAC members are welcome to reply to the survey. Some members have already expressed the view that not all drivers and problems that could be faced by fisheries in 2050 have been included in the survey. He encouraged the BSAC members to reply to the survey, also indicating what is missing.

The **WG** decided to ask the BSAC members to give input to the survey.

8. Discussion on the future work of the WG: Climate change webinar, work on generation renewal, and predators workshop

The **WG Chair** referred to the future work of the Pelagic and Demersal WG. She invited the participants to comment and prioritise the work programme.

In the context of the webinar on climate change, the **Executive Secretary** invited the BSAC members to share names of experts as well as new research for the meeting. The webinar could take place in the beginning of May 2024. He proposed to ask the European Environment Agency to present How climate change impacts marine life²⁸.

The **BSAC ExCom Vice-Chair** stated that the work programme for the BSAC working groups covers all important issues.

The WG discussed the future work of the working groups:

- *Discussion with the Commission on the topic of selectivity (size/species).*

A fisheries representative from Poland referred to the need to have a discussion with experts – geneticists, who could explain to the BSAC and the Commission the impact of selectivity on the stock structure.

²⁸ European Environmental Agency: [How climate change impacts marine life — European Environment Agency \(europa.eu\)](https://www.eea.europa.eu/en/press-releases/2023/04/04)

The Executive Secretary stated that in line with the BSAC recommendation on the Marine Action Plan, selectivity should be discussed with the European Commission to make sure that the understanding of this term is more aligned.

The WG Chair proposed to include selectivity discussions in the agenda of the next meeting of Demersal WG.

- Management of seals and other predators and interactions with fisheries: A follow up workshop to the workshop on predators in the Baltic held in October 2023 will be BSAC will organised in 2024.

A fisheries representative from Poland underlined the importance to discuss the damages caused by the predators and measures that should be taken to ensure healthy fish stocks and sustainable fisheries. Taking into account the present situation of Baltic fisheries, measures should be taken to minimise any further impact of predators. Therefore, the BSAC workshop should take place as soon as possible. He asked to invite researchers with alternative approach to science, not always in line with the mainstream.

A small-scale fisheries representative underlined that the next steps concerning the management of predators should be taken without any delay and this should be the purpose of the next BSAC workshop.

A fisheries representative from Finland pointed out that Finnish fishers have been struggling with seals for the last 30 years. At present, the mitigation measures consist of no-go zones for the seals. He emphasised that although hunting is also an option, the society will never allow to hunt as many seals as needed.

- Generation renewal in the fisheries.

The Executive Secretary stated that generation renewal is a new point in the BSAC work programme. It is high on the agenda for the policy makers (*see consultation on the fishers of the future, and the consultation on the social indicators*). This issue could be discussed in the next meetings of BSAC WGs.

A fisheries representative from Poland stated that it is important to ensure good education and preserve the fishing know-how. He underlined that this is a time-consuming process.

A small-scale fisheries representative from Poland emphasised that there won't be any fishers without fish. At present, this profession does not ensure adequate revenues.

A small-scale fisheries representative from Germany underlined the need to diversify the revenues in fisheries in order for fishers to be able to address environmental protection. Young people are not interested in the profession, because fish stocks are at a low level. He agreed that it takes a long time for fishers to gain practical knowledge. The educational framework should be created by Member States.

- Evaluation of the landing obligation.

The WG Chair informed that the BSAC will be consulted in the second and third quarter of 2024 by the Commission on the study supporting the evaluation of the landing obligation through e-surveys and interviews. The final report is due to be submitted in January 2025.

The WG took note of the comments to the work plan.

The Demersal WG Chair drew attention to the report of the Danish Fisheries Commission report on the future of Danish fisheries. She proposed to ask the Danish Ministry to give a

presentation of the report at the next BSAC meeting. She also informed that a similar report was produced in Germany²⁹.

9. ICES responses to BSAC questions tabled in June 2023: Discussion on the TABACOD project results not included in the cod assessment, Karin Hüsey DTU Aqua, [ICES responses](#)

Karin Hüsey was leading the work of TABACOD³⁰. She was invited to join the BSAC Working Group meeting following the ICES ACOM Vice-Chair answer received in writing in January 2024, explaining that the TABACOD results had not been taken into account at the last eastern cod benchmark because some results had been considered as not valid.

Karin Hüsey, DTU Aqua, referred to the concerns raised by the BSAC on the fact that the results of the TABACOD project had not been considered in the assessment and the ICES reply³¹. Karin Hüsey stated that there seems to be a misunderstanding in the reply from ICES.

She explained the work done in the framework of the TABACOD project³² and clarified how the TABACOD results are used in the assessment. The scope of the project was to provide the biological knowledge on age, growth and mortality of the cod (*Gadus morhua*) stock in the eastern Baltic Sea. The project started in 2016 and was carried out in four working packages (WP). The objective of WP1 was to collate data from previous tagging experiments in the Baltic Sea to provide the empirical information for the development of statistical growth models and the estimation of historical growth for stock assessment purposes. The objective of WP2 was to design and carry out a large-scale cod tagging program in the southern Baltic Sea (ICES subdivisions 24, 25, 26). The purpose of conducting this tagging study was to gain new data on contemporary growth rate and otolith development of eastern Baltic cod. The objective of WP3 was to use these data from WP1 and WP2 to develop and apply growth models to estimate changes in cod growth rates and implement them in analytical stock assessment models and provide current fisheries-independent estimates of mortality based on the new TABACOD tagging program. The objectives of WP4 were to develop methods for using otolith microchemistry as age estimation tool and to validate this approach. TABACOD results have demonstrated that growth of eastern Baltic cod has varied substantially since the 1950s, but with an unprecedented decrease over the last two decades.

She concluded her presentation by saying that the TABACOD data (historic and new tagging) is used in the stock assessment. All approaches (tagging, survey, chemistry) confirm the decreasing growth of cod. Accuracy is approach-dependent. Implementation of

²⁹ Full report in Danish: <https://research.cbs.dk/en/publications/fremtidens-fiskeri-rapport-fra-fiskerikommissionen-december-2023>
Summary translated: <https://vbn.aau.dk/da/publications/unofficial-translation-of-the-summary-pages-9-21-of-the-report-of>

³⁰ <https://www.bsac.dk/past-meetings/>

³¹ ICES replied that a benchmark is needed to include the results and in the last benchmark they considered that the growth parameters derived from the TABACOD tagging program (TABACOD project³¹) were considered to be an overestimate of the eastern Baltic cod growth, although they were used to validate the change in growth. This is because the tagged fish most likely include individuals of western Baltic cod. The incorporation of the results will probably be considered again in the next benchmark.

³² [368-2020-TABACOD-Final-Report \(3\).pdf](#)

chemistry-based ageing requires cost-benefit evaluation, especially if there is no targeted fishery for cod.

The WG Chair thanked Karin Hüsey for her presentation.

A fisheries representative from Poland thanked for including the TABACOD project on the agenda of the WG. He reminded that the BSAC had asked the same question on whether the results of the TABACOD project have been included in the assessment for two years in a row. The reply was received in January 2024. He thanked Karin Hüsey for confirming that the eastern cod samples had been used in the research. He asked whether, under the present stock situation, the age of cod could be determined using the length and whether the project had assumed the lack of growth in cod and whether the stock consists at present of older individuals?

Karin Hüsey replied that ICES uses a combination of age distribution and age – length key to determine the age. Traditional age readings indicate a decline in the growth of cod. These indications are probably overestimated. She confirmed that the cod are in general older. The stock structure has changed in relation to the age and size. There are hardly any cod larger than 35 cm.

A representative of the OIG asked whether the samples had also be taken in the northern part of the Baltic (north of the Åland island) where cod seems to be in a better condition. He also asked if genetic studies had been carried out to determine the structure of the Baltic cod populations.

Karin Hüsey confirmed that there are regional differences in the growth rate of cod in the Baltic³³. The TABACOD project looked mainly at the eastern cod stock, but there is evidence that western cod grows faster than the eastern cod. There is no information on the cod in the Åland Sea. With reference to genetic studies, she stated that there might not be enough data on Baltic cod to carry out an analysis of the genetic population structure. She noted that there is a genetic selection if the largest cod are targeted in the fishery. However, she stated that she would not feel comfortable answering a question whether the largest individuals should be removed in fisheries.

Due to the lack of time, **the WG Chair** invited the BSAC members to send questions to Karin Hüsey by mail.

The WG Chair thanked everybody for good discussions and interpreters for nice work.

³³ McQueen, K., Casini, M., Dolk, B., Haase, S., Hemmer-Hansen, J., Hilvarsson, A., Hüsey, K., Mion, M., Mohr, T., Radtke, K., Schade, F. M., Schulz, N., Krumme, U. 2020. Regional and stock-specific differences in contemporary growth of Baltic cod revealed through tag recapture data. *ICES J. Mar. Sci.*, doi:10.1093/icesjms/fsaa104.