2nd edition of the BSAC Workshop on Seals and cormorants –

the Baltic predators: balancing fisheries and the environment

30th October 2024 09:00-16:00 EET

Hobo Hotel, Kluuvikatu 4, 00100 Helsinki, Finland,
In person and online through Zoom

Report

1. Welcome by the BSAC ExCom Chair Jarek Zielinski

The BSAC ExCom Chair welcomed all participants in-person and online, in particular the Member State representatives, HELCOM and all the experts who had accepted the invitation to make presentations. He chaired the meeting.

a. **Presentation of the agenda and workshop objectives**

The BSAC ExCom Chair presented the agenda and workshop objectives.
The Chair underlined that this second workshop focuses on an exchange of views around conservation and management of these seals and cormorants. He encouraged participants to share views on solutions as to how to achieve the delicate balance between conservation and management. Under the discussion points, the BSAC Secretariat listed some questions to guide participants. The various interventions will also be guiding the BSAC in its subsequent adoption of recommendations on cormorant and seals. He thanked those who replied to questions sent by the Secretariat prior to the workshop[1].

b. **Summary of the first workshop[2]**

The BSAC ExCom Chair presented the summary of the first workshop on predators held in October 2023. The workshop aimed at gathering insights on current legal frameworks, management practices, population trends, and the interaction between these predators and fish populations. Key points included challenges posed by seals and cormorants, as their increasing populations are exerting various level of pressure on fish stocks, and the economic viability of fisheries in the Baltic region. Some participants highlighted that more targeted management strategies might be needed to balance conservation with economic concerns. Existing regulations on managing predator populations, including hunting restrictions and protection measures, were discussed. There was a call for more concrete, region-specific solutions and improved monitoring to address the predator-fisheries conflict. The discussion emphasised the need for better scientific understanding of predator-prey dynamics and a stronger collaboration between Member States, scientists, fisheries and environmental authorities to address this growing challenge[3].

2. Updates from science & research and latest management discussions

a. *New EMFAF Project on seals and cormorants, Niels Jepsen & Mathis Olesen (DTU)*

[1] Past Meetings - Baltic Sea Advisory Council
[2] Past Meetings - Baltic Sea Advisory Council
[3] *The full report and all presentations are available on the BSAC website* Past Meetings - Baltic Sea Advisory Council

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Niels Jepsen presented an update of the pilot study conducted by DTU Aqua in Denmark on cormorants, presented during the BSAC workshop on predators held in October 2023[4]. Research indicated that cormorants can have a substantial impact on fish populations. Approximately 25 million cod could be eaten annually by cormorants in the Danish part of the Baltic. DTU Aqua has been granted EMFAF funding for a 3-year research project, as a follow up to a pilot study, to better model the overall impact of cormorants and seals. The project will look at seal and cormorants predation and will aim at assessing the seal and cormorants populations abundance. The project will cooperate with the KoMoDo project and focus on cod and western part of the Baltic. He informed that a solid data base had been collected to assess the cormorant population in the study area. 1,000 cod and 2,000 flounder were tagged. The results are not there yet. He also referred to research consisting of feeding cormorants with tagged fish to get better estimates of how much fish they consume.
Mathis Olesen presented some raw data on cormorant predation obtained in the above-mentioned research study conducted in the Danish waters. In 2022, 3160 fish (cod and flounder) were tagged. The size of the colony of cormorants amounted to 560 pairs. 800 tags were recovered in the cormorant colony, thus approx. 25% of tagged fish were consumed by cormorants. As indicated by the recovered tags, cormorants ate more larger cod and smaller flounder. Tags are detected inside a colony by a scanner.
The Chair thanked Niels Jepsen and Mathis Olesen for their presentation and for bringing up valuable data on cormorants.

b. ***EIFAAC update on the European-wide cormorant management planning process, Raymon van Anrooy (EIFAAC FAO), Ian G. Cowx (Hull International Fisheries Institute)***

Raymon van Anrooy (EIFAAC FAO) and **Ian G. Cowx (Hull International Fisheries Institute)** presented the ongoing work by the European Inland Fisheries and Aquaculture Commission (EIFAAC) on the development of a pan-European management plan for cormorants. The mission of EIFAAC is to promote the long-term sustainable development, utilization, conservation, restoration and responsible management of European inland fisheries and aquaculture, consistent with the objectives and principles of the FAO Code of Conduct for Responsible Fisheries and other relevant international instruments. The EIFAAC is developing Europe-wide management advice to protect vulnerable and endangered fish species from unsustainable predation by cormorants.
Cormorants are protected under the Birds Directive, Article 5 (not huntable species). The conservation status is considered as secure (favourable). Cormorants are protected in large designated conservation areas where they cannot be hunted. Numbers of breeding cormorants and overwintering cormorants have increased dramatically across Europe, creating conflict between bird conservation and fisheries and aquaculture. Cormorants are widely spread across Europe and the number of birds is estimated at more than 1 million. In 2008, the European Parliament adopted a Resolution towards a European Cormorant Management Plan to mitigate increasing impact. The European Commission was of the opinion that such plan would be difficult to implement, however fisheries stakeholders call for such a plan. EIFAAC

[4] Presentation from 2023 workshop til Niels Jepsen

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consulted stakeholders (including the BSAC) on the most appropriate management measures to protect vulnerable and endangered fish species from cormorant predation at the European scale. According to EIFAAC, the components of the plan should include evidence from population monitoring, such as regular surveys to understand cormorant distribution, breeding success, migration and feeding behaviour, and cover inland and coastal areas. It should also take account of the impact on ecosystems, by quantifying ecological, economic and social impacts of cormorants on fisheries and aquaculture in inland and coastal waters, as well as interaction with protected species. The management should not negatively impact other species, including those that are protected under EU law. It is fundamental for the plan to include regular updates on the population abundance. Article 9 of the Birds Directive[5] allows Member States to make derogations from its protective measures where certain wild bird species are causing damage to crops, livestock and fauna or represent a threat to public health or safety or to air safety.

Some examples on reducing the impact of cormorants by reducing the availability of fish to cormorants are presented in the INTERCAFE Cormorant Management Toolbox[6].

Components of European cormorant management plan

Cormorant numbers can be reduced by implementing the derogations under Article 9. There is a need for regional cooperation in cormorant management. Setting thresholds for fish stocks that trigger application of measures must be coordinated regionally. There is a specific need to manage the populations in priority areas and set thresholds regionally. A compensatory framework for damages caused by cormorants must be established. Discussion on deregulating cormorants from Article 5 to Article 7 (huntable species) of the Birds Directive is ongoing. The European Commission is of the opinion that it is difficult to deregulate a single species. An adaptive management process is proposed, that recognise varying levels of cormorant population density, habitat type, and human interventions across Europe. Such management includes dynamic measures, allowing for adjustments in intervention measures based on new data, research findings, and evolving cormorant and fish population dynamics. Long-term monitoring to assess effectiveness of management measures should be established. Research and innovation should include developing generic guidelines to assess scale of damage as well as research into how cormorant populations respond to regulation attempts. Few studies quantify movements, mortality/survival, immigration and emigration of birds. Research into and deployment of non-lethal deterrents such as noise devices, visual scare tactics, or altering fish stocking practices to minimize cormorant predation is needed. The EU ProtectFish project[7] addresses some of these issues. The information on cormorants is extremely fragmented. **A Pan-European Data Hub, stakeholder involvement and international cooperation between countries and organisations are needed. A central coordinating unit is needed because of different competencies of national and regional management bodies.**

[5] Directive 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds

[6] INTERCAFE Cormorant_Toolbox_Manual_FOR_WEB.pdf

[7] Launch 'ProtectFish' project | European Fishing Tackle Trade Association

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EIFAAC organised a workshop on management advice for reducing the impact of cormorant predation on fish and fisheries[8] on 8th October in Croatia. The workshop report by EIFAAC will be published in November 2024. The management plan will be consulted with stakeholders in 2025, and submitted to the Commission and the Bern Convention in June/July 2025.
A conference on management advice to reduce cormorant predation impacts, where the management plan will be presented, is scheduled to be held in Brussels on 3rd June 2025, hosted by the Polish EU Council Presidency, FAO Liaison Office in Brussels and EIFAAC Secretariat.

c. *BALTFISH summary of the Council AOB discussion on Baltic predators*

The German BALTFISH Presidency informed on the exchange on cormorants and seals in the AGRIFISH Council[9] on 21st-22nd October 2024[10]. A note on the need for revised rules to allow for ecosystem-based hunting of cormorants and seals in order to protect sensitive fish stocks was submitted by Sweden, supported by Estonia, Finland, and Latvia. The strong population increase in both seals and cormorants has severe consequences for the fish stocks and fisheries in the Baltic Sea. The Member States exchanged the views on this proposal. Several Member States supported management measures for seal and cormorants including ecosystem-based hunting.
The Commission stated that conflicts with seals and cormorants are local and as such they should be addressed locally. For cormorants, Member States can make use of the existing derogations and the Commission is not planning to change their legal status. The Commission will take into account the input received to the fitness check and its conclusions are expected in January 2025.
A representative of the Polish administration informed that conflicts with seals and cormorants are a highly discussed topic in Poland. An inter-ministerial team will meet to further discuss their management. On 3rd June 2025, the Polish EU Council Presidency will host a conference, together with FAO and EIFAAC on management advice to reduce cormorant predation impacts.

Discussion

The BSAC ExCom Chair asked the Danish scientists what is the average weight of cod consumed by cormorants.
Niels Jepsen replied that as indicated in the survey conducted by DTU Aqua, the average length of cod eaten by cormorants was 18 cm and average weight 50 grams. However, the information derived from tags retrieved from pellets only gives information on the total number of cod consumed. A more precise assessment of the total weight of cod consumed by cormorants is needed.
A representative of the OIG whether the cormorant management plan will take into account the fact that management of cormorant breeding populations, consisting of egg

[8] Workshop on management advice for reducing the impact of cormorant predation on fish and fisheries - Calendar
[9] Council of the European Union
[10] **Note from the Swedish delegation to AGRIFISH Council:** Need for revised rules to allow for ecosystem-based hunting of cormorants and seals in order to protect sensitive fish stocks pdf

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destruction and in consequence lack of reproductive success, may cause dispersion of a colony.
Ian G. Cowx agreed that dispersion caused by the lack of reproductive success may have negative effects and management at the local level is not an effective solution.
Niels Jepsen stated that in Denmark, the management of cormorants consists, among others, of destroying eggs. In some colonies, eggs had been destroyed and despite the lack of reproduction for 20 years, there was no dispersion.
A small-scale fisheries representative agreed that the fast-growing population of cormorants may be hindering the recovery of the fish stocks in the Baltic. He asked what is the relative amount and weights of fish in cormorant diets.
Niels Jepsen referred to the apparent collapse of the coastal fish stocks in Denmark. Each cormorant eats on average 500g of fish daily. This is a substantial amount which may matter in the case of coastal fish. Thus, predation from cormorants is now the main regulating factor for many fish stocks.
Ian G. Cowx stated that cormorants target certain areas and species, and this fact needs to be taken into account when referring to the impact of cormorant predation of fish stocks.
A representative of anglers asked the presenters to elaborate on the statement by the Commission that the impact of cormorants should be considered at a local level**.** He also asked why is unlikely that cormorants will be moved to Article 7 of the Birds Directive.
Ian G. Cowx stated that cormorants are migratory, move over large distances and therefore the problem is not local, because it moves with them. The management should take place at the European level. He also stated that it is unlikely that cormorants will be moved to Article 7 of the Birds Directive, because it is easier to manage them and control them under Article 5. People are reluctant to hunt cormorant. In addition, hunters could be made responsible for causing excessive damage to the populations and would be required to pay compensations.
A small-scale fisheries representative from Denmark stated that usually the Member States are responsible for the control of the populations of hunted species.
A representative of the OIG asked what is the scale of reduction of the cormorant population in order to rebuild the fish stocks.
Ian G. Cowx stated that some cormorant populations, in certain areas, are even below the required conservation status. The reductions of cormorant populations through hunting are not easily accepted by the society. Population thresholds need to be set in the management plan and are part of the ongoing work.

3. BSAC members discussions on cormorants Case studies presented

a. How can science look more into species interaction? *Updates from the KoMoDo Project, Katja Mehrwald, Tyrell de Weber (Institut für Binnenfischerei e.V. Potsdam-Sacrow)*

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Tyrell Deweber presented updates from the on-going research project on cormorant-induced mortality of western Baltic cod [11]. An overview of the project was presented during the BSAC workshop on predators in October 2023. KoMoDo works closely with DTU Aqua. The project is aimed at quantifying cormorant predation in selected sections of the Baltic Sea coast with a particular focus on cod, comparing conventional and novel genetically-based methods for quantifying fish predation from cormorant pellet analyses and estimating the potential impact of cormorant predation on natural mortality and the population dynamics of western Baltic cod. The project is carried out in 10 locations. Cormorants are counted in breeding/roosting locations and fresh pellet is collected for analyses. 2,199 samples were collected in the field. The results are not yet available for 2024. But there is high variability among locations and months. The following analyses are planned in the framework of the project: extracting DNA from cormorant pellets, direct comparison of genetic and morphological analysis, identifying the relative amount and weights of fish species in diets and the age of cod in cormorant diets, predation estimates through mark-recovery of cod and flatfish species, collection and analysis of population data for cod and other fish species, estimating the potential role of cormorant predation, what proportion of total mortality can be attributed to cormorant predation. It is a challenge to determine what proportion of total mortality can be attributed to cormorants. This assessment requires good data and the work is ongoing.
The Chair thanked for the presentation.

b. Understanding direct effect of cormorants' predation in nets. *Results of studies on cormorants-fyke nets interactions, Mats Westerbom (LUKE)*

Mats Westerbom presented the results of the studies on cormorants-fyke nets interactions. The project has been running for two years in Finland. The goals of the project are to document and quantify the direct damages caused by cormorants and grey herons on fisheries and aquaculture. The key questions to be answered by the project are: how much direct losses do cormorants cause? How many birds visit fyke nets? What is the overall behaviour of the birds?
There are four operational work packages. Damages in aquaculture and fyke nets are identified on the basis of 24/7 surveillance carried out monitored in 6 areas. The predation pressure could not be assessed due to the fact that the exact number of damaged fish could not be estimated. However, results suggest considerable damages in open fyke nets and only minor damages in bottom nets and pontoon nets. Results suggest low overall occurrence of fish wounded by birds. Only 0.5% of all fish carried marks caused by cormorants.
The Chair thanked for the presentation.

c. Discussion

[11] Past Meetings - Baltic Sea Advisory Council

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The Chair presented the questions put forward to the participants before the meeting to facilitate discussions[12].

A small-scale representative from Germany underlined that the growing impact of cormorant predation on fish and fisheries requires measures to be undertaken without delay. In his view, the existing data on cormorants should be used to establish management measures as there is no time to wait for the results of further scientific research. There is no future for small-scale fishing if no actions are taken to reduce the impact of cormorants.

A small-scale representative from Denmark agreed that actions to reduce the impact of cormorant predation should be taken without delay. He drew attention to the fact that cormorants also feed on eel and considering the state of the eel populations urgent actions are needed to reduce this predation.

A representative of anglers underlined the cormorants are a pan-European problem due to their life cycle and exceptional mobility. Cross-border actions coordinated through a central coordinating unit and cooperation between all stakeholders are needed.

A small-scale representative from Poland agreed with the previous speakers that measures with clear conservation and management objectives need to be taken to reduce cormorant predation.

A Danish scientist pointed to the need to set thresholds for cormorant management. The current carrying capacity levels are not known and require further studies. He agreed with the sense of urgency to undertake management measures underlined by the representatives of the fisheries sector, but underlined that funding for research necessary to set clear management objectives is difficult to get.

A fisheries representative from Finland agreed with the need for more cross-border cooperation regarding conservation and management of cormorants, in view of the growing cormorant populations and the state of the Baltic fisheries. He stated that protection hunting for cormorants is permitted in the Åland province with some positive results in reducing the colonies.

A small-scale representative from Denmark agreed with the need for cooperation of all stakeholders in cormorant management, as well as with setting clear conservation objectives and thresholds. The population sizes of cormorants need to be addressed in the light of the current state of fish stocks. Management should be conducted on a pan-Baltic

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- [12] *Do participants see a need for more cross-border cooperation regarding conservation and management of cormorants, involving both Baltic States and the European Commission, and if so, what could such cooperation concretely consist of?*
- *Can ICES do more, for instance by always providing breakdowns of estimated sources of mortality, including mortality by predation other than fishing?*
- *Should science look more at species interaction, i.e. how to balance the existence of one predator species without it being at the expense of the good status of a fish species such as salmon and cod? How does the fish stock status and structure influence the competition between fishers and cormorants?*
- *Should a favourable conservation status goal of numbers of breeding pairs be created and maintained in the Baltic?*
- *Should all Baltic States provide for financial support for primarily preventive measures through their EMFAF operation programmes?*

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scale. The management measures should aim at reducing the population of cormorants to the levels that would permit the fish stocks to grow. In the future, the populations of cormorants and seals may go down because of the lack of food, but fishers cannot wait and call for urgent actions to enable the coastal fisheries to survive.

A Danish scientist confirmed a great impact of cormorant predation on the European eel population. Data from tagging experiments carried out in Denmark 20 years ago indicated that 40-50% of eels were eaten by cormorants. These studies need to be updated. He also drew attention to the fact that according to scientific studies, mean mortality of salmon smolt by cormorants amounted to 47%.

A small-scale fisheries representative pointed to the need to estimate the levels of natural mortality of fish caused by seal and cormorant predation, as an input for ICES assessments and fisheries management.

A representative of the OIG agreed with the need to estimate the levels of natural mortality not only due to predators, but also other natural factors. He also agreed that regional cooperation is of key importance. Speaking as the Chair of the BSAC EBM Working Group, he underlined that the working group will also take this issue forward. He asked whether there is something preventing regional cooperation in the Baltic region.

The Chair stated that regional cooperation in cormorant management will be brought to the attention of BALTFISH by the BSAC.

A Danish scientist referred to the fact that the Commission has encouraged cross-border cooperation in setting cormorant management plans along the rules set by the EU legislation. Some Members States (Denmark, Finland, Sweden) are already discussing the thresholds values for cormorant management.

Another representative of the OIG emphasised that the management of cormorant should be carried out under the principles of the ecosystem-based management. Science should address the species interactions in the entire food web.

A representative of anglers referred to the impact of cormorants on the fish stocks in fresh waters. Anglers maintain the restoration efforts in the river systems. However, it is of key importance to know the levels of cormorant populations that freshwater systems can support. Favourable conservation status goal should be adapted to changing circumstances.

A representative of the OIG underlined that favourable conservation levels referring to the number of breeding pairs need to be set locally. He explained that favourable conservation status set as one value of the entire Baltic is not possible to achieve by all Member States.

A scientist from KoMoDo project stated that collecting data on cormorants is a huge and challenging task as after the breeding season birds move to other regions**.** The EU Data Collection Framework (DFC) only contains data on fish predators but not on cormorants. It would be useful to collect data on cormorant predation also within the DFC.

A scientist from Poland pointed out that ICES disposes of data on seal predation, but not cormorant predation. There are data gaps to be filled through data collection as the reports received from fishers includes only the damages made by seals.

A representative of the Estonian administration referred to the fact that the population of cormorants in Estonia is growing rapidly, with a three-fold increase in recent years. Oiling of eggs was carried out in places where cormorants have been dominant inhabitants in recent years. She underlined the need for closer cooperation between the Member States

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in the management of cormorant. She also agreed that input from a unified input from science on population numbers and predation is necessary in setting the management goals for cormorants in the Baltic. She referred to the proposal put forward by Sweden at the AGRIFISH Council in October 2024 to list cormorants in Annex IIb of the Birds Directive as a huntable species to contribute to the recovery of vulnerable fish stocks. Estonia supported this proposal. However, the Commission declared that it is not planning to include the cormorant in Annex II of the Birds Directive, because in their view the existing system of derogations under Article 9 is flexible enough to allow Member States to manage the conflicts.
She informed on the workshop held in hybrid format *"The impact of cormorants on fisheries and ecosystems"*, organised on 26th November 2024[13] by the Fisheries Information Centre of the Estonian Marine Institute of the University of Tartu.
A small-scale fisheries representative stated that in his view, the BSAC recommendation on cormorants should include a call to the Commission to broaden the Data Collection Framework to include cormorant data to serve as input to ICES assessment models.
A scientist from KoMoDo project pointed out that a multispecies model should be used for assessments of Baltic fish stocks, including the data on natural mortality to bring the management closer to ecosystem-based management. The work on estimating the predation mortality is planned, but for that there needs to be a formal collection of predator data.
A scientist from Denmark regretted that representative of the Commission in charge of the Birds Directive is not attending the workshop so that questions related to the cormorant management plan could be directed to the decision-makers.
The BSAC ExCom Chair stated that representatives of the Commission will be invited to the BSAC ExCom in January 2025 and could reply to any outstanding questions related to the management of cormorants and seals.
A representative of HELCOM referred to the meeting of the Informal Consultation Session of the HELCOM Working Group on Ecosystem-based Sustainable Fisheries will take place on 5-7 November 2024. HELCOM participates in a joint group on birds together with ICES. She proposed to discuss a potential way forward to solve the issue of data gaps on predators during the meeting, in order to generate this regional data set.
A small-scale fisheries representative from Denmark agreed that HELCOM may play a role in helping to generate a regional data set on predators. He commented that this is a very clear case where scientists and stakeholders agree that there is an issue and are in agreement that the cormorant and seal induced mortality on all fish stocks can be substantial in places with high density of cormorants.
A fisheries representative from Sweden supported the need for cross-border cooperation, the need to consider species interactions, as well as the need to fill the data gaps. She underlined that it is possible to incorporate the data related to predation in ICES assessments, if the data is available. To this end, data collection needs to be coordinated.

[13] The invitation to the meeting held in hybrid format was sent to the BSAC after the workshop. The seminar will focus on scientists' reviews of the impact of cormorants on marine and freshwater fish and the wider ecosystem.

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EMFAF support should be granted to preventive measures, but also to compensate fishers for serious damages.
A scientist from the Hull International Fisheries Institute stated that many points brought by the participants in the discussion reflect the elements of the draft cormorant management plan mentioned in his presentation. One of them is the need for central coordination between countries and institutions. Such central coordinating unit should be independent, with a balanced representation of all stakeholders, including those engaged in bird conservation. It could be financed from EMFAF. Another key issue brought forward in the discussion is the need to understand mortality caused by cormorants. The existing data needs to be updated. He further underlined that cormorants need to be managed locally but regulated regionally.

4. BSAC Chair key takeaways on cormorants' discussions

The Chair thanked the invited experts and all participants for sharing data and comments.
The Executive Secretary presented the draft conclusions that could be incorporated into the BSAC recommendations on cormorants.
The participants put forward comments to the draft conclusions.
A representative of the OIG underlined that in their view there is no need to change the EU environmental legislation and move cormorants to the Birds Directive Annex IIb.
Another representative of the OIG stated that non-lethal methods aimed at controlling the population of cormorants as well as animal welfare need to be mentioned.
A representative of anglers supported listing cormorants in Annex IIb of the Birds Directive as a huntable species to contribute to the recovery of vulnerable fish stocks.
A representative of recreational anglers supported listing cormorants in Annex IIb, while not delaying any other actions.
A representative of the Finnish administration underlined that the role of the Member States should be to collect data and provide input to ICES, to ensure that ICES can provide advice which takes better account of all sources of mortality, including predation mortality.
A representative of the OIG stated that there is no need to change the legislation and underlined that Article 9 of the Birds Directive[14] allows Member States to make derogations from its protective measures where certain wild bird species are causing damage to crops, livestock and fauna or represent a threat to public health or safety or to air safety.
Some representatives of the OIG and **a small-scale fisheries representative** asked to reformulate a statement in the draft recommendation, in order not to indicate that the predation of cormorants is the only pressure on the fish stocks, but that there are other predators and other pressures, and that the protection of one species (for example cormorants) should not be detrimental to the good status of another one (for example Baltic fish stocks).
A small-scale fisheries representative from Denmark stated that fishers are no longer the main predator on the fish stocks. There are other pressures that should be managed if possible, such as predators. The population of cormorants has been raised to a healthy

[14] Directive 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds

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level, while the fish stocks are in a dramatic state. It is evident that the fish stocks are largely affected by marine predators and in consequence the fisheries sector faces dire future. Therefore, population sizes of marine predators need to be addressed in the light of the current state of fish stocks.

A small-scale representative from Sweden agreed that coastal fisheries are no longer the main pressure on fish stocks. Measures should be taken to limit the impact of cormorant on depleted fish stocks in certain areas of the Baltic. Decision makers should be encouraged to take measures also at local level.

A representative of the Estonian administration expressed the opinion that derogations under Article 9 of the Birds Directive are not sufficient to effectively manage the cormorant populations. The impact of cormorant predation in Estonia is huge and equals the catches taken by their coastal fishery. The amendments to the Directive proposed by Sweden at the AGRIFISH Council would help to introduce unified management measures for cormorants in the Baltic.

Draft conclusions of the discussions on cormorants (that could become part of the BSAC recommendations):

- *All Baltic Member States in cooperation with the European Commission enhance their cross-border work with a view to implementing regular monitoring and regional Baltic management, for instance including a central coordination unit.*
- *In the spirit of Ecosystem Based Fisheries Management (EBFM), ongoing science, especially with a regional focus (national institutes across Member States around the Baltic Sea), continues, among others to provide input to ensure that European Commission's requests and ICES answers to requests can provide advice which takes better account of all sources of mortality, including predation mortality and update these figures regularly. This might require broadening the data collection activities to include cormorant data (include cormorants' numbers, predation levels and locations across countries) to serve as input for ICES. HELCOM could also help coordinate and assemble a data set. The BSAC would welcome efforts to include this data in modelling and multi species management.*
- *The problem of inter-species interaction is not yet adequately addressed in European environmental legislation (but it is in the CFP legislation). The protection of one species (for example cormorants) cannot come at the expense of the good status of another one. Some BSAC members support looking into moving cormorants to the BIRD Directive Annex IIb that would allow hunting not as a derogation but as a standard management practice. This will help unify management around the Baltic. Some environmental NGOs (including CCB, WWF, and others) do not agree with this.*
- *A favourable conservation status levels of numbers of breeding pairs should be created and maintained for cormorants in the Baltic Sea region. A dynamic threshold should be defined at the appropriate geographical scale. It should consider the carrying capacity of the relevant ecosystems.*
- *All Baltic Member States include in their EMFAF operational programmes provisions for support of especially preventive measures, but also compensation to fishers and aquaculture operators who suffer serious damage. there is a sense of urgency*

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- *The Commission, Member States, HELCOM and ICES, continue to involve the BSAC stakeholders on this topic as the ones primarily affected, including in the work on a European cormorant management plan.*

The Executive Secretary informed that the Secretariat will finalise the draft recommendations to include all comments made during the meeting and send them to the BSAC members for further comments. The recommendations will be adopted by the ExCom through written procedure.

5. BSAC members discussions on seals

a. HELCOM update

The HELCOM representative presented a short update on HELCOM work on seals. She referred to the Recommendation 27-28/2, Conservation of seals in the Baltic Sea Area[15], adopted in July 2006. Active part of recommendation asking countries to do. Specific tasks are given to the HELCOM Expert Group on Marine Mammals (EG MaMa). The next meeting of the group will take place in the end of November 2024. The outcome of the BSAC workshop is on the agenda of the meeting. HELCOM has no plans to reopen the recommendation 27-28/2.

b. How can science reflect better fish stock's natural mortality linked to seals? *Incorporation of seal induced mortality in the vendace fishery assessment, Teija Aho (SFPO)*

Teija Aho from Swedish Fishermen PO presented how to incorporate seal induced mortality in the vendace assessment. Vendace is a small coregonid fish, fished in Bothnian Bay, along the Swedish border and also in Finland. Vendace is the third most economically important species in the Baltic. The fishery is conducted with pair bottom trawls during 4 weeks in the autumn and targets reproductive population. Stock assessment is carried out by the Swedish University on Agricultural Sciences (SLU). Seal data, including the population size and diet is used in the assessment. A benchmark was carried out in 2021 to improve the quality of the assessment. Experts, fishers, county board, SwAM were invited to ensure the transparency of the process. The benchmark included an update of data (vendace, ringed seal), assessment model, recent knowledge and research. Different assessments models were tested taking into account recent knowledge and research on vendace. In 2023, vendace consumption by seals amounted to 1,800 – 3,500 tonnes, whereas the catches amounted to 1,300 tonnes. In 1988 the seal population amounted to approx. 2,000 seals, whereas in 2023 it ranged between 14,700 – 20,500 seals. In 2021, the proportion of vendace in seal diet was approx. 15%, whereas in 2023 it amounted to approx. 19%. Fishing mortality equalled 0.1 (in the last ten years), whereas mortality by seals during the same period amounted to 0.4-0.5. Vendace consumption by seals has increased and was higher than fisheries intake. This assessment indicated that the use of seal data and model change made assessment considerably more accurate.

[15] https://www.helcom.fi/wp-content/uploads/2019/06/Rec-27-28-2.pdf

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A small-scale fisheries representative noted that an assessment model based on B_{MSY} was used in the case of vendace. He pointed out that managing the biomass above B_{MSY} leads to a more resilient stock, less vulnerable to predation.
Teija Aho stated that the old model based on $B_{trigger}$ was not good in the case of vendace. Fishery affecting the stock very little. This model is so-called survival model.
A fisheries representative from Finland asked whether the assessment model for vendace including seal predation works better because it is applied at regional level?
Teija Aho replied that good quality data on predation is a guarantee of success in the management. In reply to a question asked by a representative of the OIG on how the number of seals was assessed, **Teija Aho** replied that the seal data from the Swedish University of Agricultural Sciences (SLU) was used.
A small-scale fisheries representative from Sweden asked whether the cormorant predation had also been taken into account in the assessment.
Teija Aho replied that there are no cormorant colonies in this area, however cormorants feed in this region in July. Therefore, the need to include cormorant predation data in the assessment needs to be considered.
A Danish student from DTU Aqua stated that DTU Aqua also tries to incorporate data on predators into a fish assessment model. The greatest challenge is to quantify the diet of predators.

c. Discussions on the questions put forward to the meeting

The Chair presented the questions put forward to the participants before the meeting to facilitate discussions[16].
A small-scale fisheries representative underlined that multi-species models used for stock assessment should take into account the prey availability.
A small-scale fisheries representative from Germany pointed to the urgency to take management measures, basing on the existing data on seals. Management should focus on the goals and measures should be applied on a pan-European scale.
A representative of the OIG asked to refer to the ecosystem-based fisheries management as well as prey availability in the BSAC recommendations. She also referred to the need to implement conservation measures for seals as none of the three species of seals (grey, ringed and harbour seals) have achieved good conservation status (GES) in the Baltic[17].
A representative of anglers referred to the sub-regional differences in the abundance of seal populations. The population status should be evaluated against the criteria for carrying

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- [16] *Do you see a need for more regional cooperation between Baltic States to achieve a regional conservation and management of seals in the Baltic Sea?*
- *HELCOM's Recommendation 27-28/2 is central to seal conservation in the Baltic Sea, do you see a need for HELCOM to review its recommendations, and if so, on which points?*
- *Can ICES do more to help fisheries managers? Should ICES seek to always include a breakdown of sources of mortality including mortality due to predation other than from fishing?*
- *Should science look more at interspecies interaction, i.e. how to balance the existence of one predator species without it being at the expense of the good status of a fish species such as salmon and cod? How does the fish stock status and structure influence the competition between fishers and seals?*
- *Are there specific measures Baltic States can take, such as always planning for funding of preventive measures?*

[17] HELCOM HOLAS III report State-of-the-Baltic-Sea-2023.pdf

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capacity for different management units. Threshold values for the good status of the populations should also apply to different management units, as the GES for the grey seal could never be reached for the entire Baltic.

A small-scale fisheries representative from Denmark expressed the opinion that sub-populations could be managed separately, taking into account regional differences in seal population dynamics and abundance.

A representative of the OIG agreed to the need to take account of different status of seal population in different parts of the Baltic in the management and conservation of Baltic seals. She expressed the view that the management should focus on preventing damages through different non-lethal measures, as hunting alone will not solve the problem. Her statement was supported by **other representative of the OIG**, who also underlined that funds for such compensation and the development of seal-safe gears should be secured from the European funds.

A small-scale fisheries representative from Sweden underlined that given a huge impact of seals on the fish stocks (predation and also parasite infections) immediate measures need to be taken, including culling in some areas.

A representative of the OIG stated that HELCOM recommendation on seals is key to seal conservation in the Baltic, since the different seals species have a different conservation status and some are still threatened with extinction in some parts of the Baltic.

Another representative of the OIG drew the attention to the fact that cod in poor condition are more susceptible to parasite infections from seals. Taking the example of cod in the Åland Sea, it seems that when there is enough food for the cod, the effects of the parasite infection on the condition and growth of cod are insignificant. Funding of specific measures, including compensation mechanisms and seal-safe gears should also be secured from the European funds. Non-lethal measures should be promoted.

A small-scale fisheries representative from Denmark noted that support should be granted to preserve the coastal fishery, most affected by seals. Financial support is a temporary solution until problems are resolved.

A representative of the Polish administration stated that that all seal species are under full protection in Poland and cannot be killed, captured or scared away. Their conservation status in the Polish waters is assessed as unfavourable/bad. Only non-lethal management measures are currently taken into account. A compensation system for damages caused by seals was financed from EMFF and now from EMFAF. Seal safe gears were tested under a project conducted by scientists and a fisheries organisation[18]. She underlined the need for regional cooperation in seal management.

A small-scale fisheries representative from Poland stated that testing seal safe gears as the one conducted in Poland should be planned as long-term projects. Despite a limited time, the tests carried out under the project in Poland had given positive results. He drew attention to the fact that compensation schemes for seal induced damages in fisheries only cover damages to the gears. A solution for making the damaged catch eligible for compensation should be found.

[18] The West Pomeranian University of Technology in Szczecin and Darłowo Group of Fish Producers and vessels owners.

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A fisheries representative from Finland informed that in Finland scaring devices and seal safe gears have been funded by EMFF and EMFAF. The hunting quota is small and not fully utilised.
A fisheries representative from Sweden underlined that small-scale fishery is severely affected by seals. Several projects on seal safe gears have been carried out. EMFAF funding will also be available to finance innovative projects.
The BSAC ExCom Chair drew attention that the HELCOM Recommendation on seals refers to *anthropogenic removals of seals,* carried under strict conditions depending on the population status.
The HELCOM representative explained that above all, the HELCOM recommendation aims at implementing management instruments to ensure that the favourable conservation status of the species is attained or maintained. She noted the questions raised by the participants, referring to the need to explain, and in some cases, to review the targets and assessment methodology used by HELCOM with respect to seals. She informed that relevant HELCOM experts and bodies will be informed in order to discuss the issues related to the targets and assessments.
A representative of anglers stated that in Sweden direct payments are made to fishers for damages made by seals. Funding is also secured for testing seal safe gears. He noted that in some areas of the Baltic grey seals do not achieve good status with regard to population growth rate if evaluated against the annual 7% growth rate. In his view, the threshold value of growth rate of 7% should be reduced as the number of seals increase.
A representative of the OIG pointed to the need to reach common understanding of the HELCOM recommendation on seals. Under the provisions of this recommendation licences for anthropogenic removal can be issued for populations between the Precautionary Approach and the Target Reference Levels, and for population above the Target Reference Level, licenses for anthropogenic removals can be issued provided that the long-term objectives of the General Management Principles are not compromised. These principles include the population size, distribution and health status of seals. She underlined that if target levels mentioned above are not achieved, licences for anthropogenic removals cannot be issued. In her opinion, it is necessary to read the recommendation in its entirety in order to get the right understanding of its provisions. She also pointed out that impacts on seal populations should also be considered. Seals are victims of bycatch, illegal hunting and climate change.
Another representative of the OIG referred to need to take account on various other pressures on the fish stocks, as well as the need to recover the Baltic ecosystem. Culling of seals alone will not solve the problem.
A fisheries representative from Finland referred to the trade ban in seal products and the BSAC contribution to the public consultation and the call for evidence on the fitness check on the EU rules on the trade in seal products in August 2024[19]. He drew attention to the fact the majority of BSAC members had agreed to the need to amend the EU legislation on trade in seal products. Trade in products from small scale ethical seal hunting carried

[19] BSAC reply to the fitness check of the EU rules on the trade in seal products [Modtagerfelt]

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out in the Baltic Sea for the sustainable management of a marine resource should be made legal in a way which is accepted by the WTO as well.

A representative of the Estonian administration informed that in Estonia, development of seal safe gears and other preventive measures are supported by the authorities. As the grey seal population in Estonia is within the safe biological limits, hunting for grey seals has been allowed in 2015. The hunting quota amounts to 1% of the population (quota has never been fully utilised). According to Estonian authorities, it is preferable to manage the population size of grey seal and deal with nuisance specimen instead of paying compensations to fishermen. Estonia is in favour of amending to amend the EU legislation on trade in seal products.

Small scale fisheries representatives from Poland and Sweden drew attention to the fact that the abundance of grey seals (i.e. approx. 60,000 animals) is already above the threshold of Limit Reference Level (LRL) of 10,000 established by HELCOM. They underlined that if no measures are taken to reduce the population, coastal fisheries will be extinct.

A small-scale fisheries representative from Denmark appealed to apply a more holistic approach. In his view, both fish and marine mammals are equally important for the ecosystem**.** The protection of one species (seals) should not be detrimental to the good status of another one (Baltic fish stocks). Marine predators have a major impact on the fish stocks and their populations should be regulated. He regretted that the BSAC cannot agree on a "tool box".

A small-scale fisheries representative underlined that seal predation is a limiting factor to the recovery of fish stocks in the Baltic. He referred to the note submitted by Sweden, supported by Estonia, Finland, and Latvia on the need for revised rules to allow for ecosystem-based hunting of cormorants and seals in order to protect sensitive fish stocks[20]. According to the note: "studies from Scotland and Canada have shown that seal predation can be a limiting factor in the recovery of cod stocks and that limiting commercial fishing is not enough to bring about a recovery of cod stocks. Similar result has been shown for herring in the Baltic Sea".

A representative of the OIG stated that the impact of seals on endangered fish stocks at local scale has been recognised, whereas the impact of seals on the Baltic scale should be further explored. Management measures should be adapted to the different state of the seal populations in different parts of the Baltic. No incentive should be given to hunting in the case of seal populations that have not reached a favourable status. He noted that a lot of other measures aimed at restoring the fish stocks, including water management and restoration of habitats are undertaken.

6. Key takeaways on seal discussions

The BSAC ExCom Chair thanked the invited experts and all participants for sharing data and comments.

The Executive Secretary presented the draft BSAC conclusions of the discussions on seals, including the comments made by the participants.

[20] Information from Sweden to the Council meeting on 22nd October 2024 pdf

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Draft conclusions on the discussions on seals (that could become part of the BSAC recommendations):

The Baltic Member States work together towards better and improved regional cooperation and a regional management and conservation of seals in the Baltic Sea and at EU level and species level (need to differentiate seal species and areas)

- *In the spirit of Ecosystem Based Fisheries Management (EBFM), scientific assessment should take into account, where relevant, fisheries impact (direct though bycatch and indirect through prey availability), inter-species dynamics: predators' impact (both directly through predation and indirectly through parasites in cod for instance), competition, and also prey availability. The state of the Baltic ecosystem, fish stock biomass levels and health, pollution and anoxia, climate change impact are of key importance in this discussion.*
- *In the spirit of Ecosystem Based Fisheries Management (EBFM), ongoing science, especially with a regional focus (national institutes across Member States around the Baltic Sea), continues, among others to provide input and should also focus on ensuring that European Commission's requests and ICES answers to requests can provide advice which takes better account of all sources of mortality, including predation mortality and update these figures regularly. This might require broadening data collection activities to include seal data (seal numbers, predation levels, diets and locations across countries) to feed into ICES. HELCOM might also have a role in coordinating and assembling of data sets. The BSAC would welcome efforts to include this data in modelling and multi-species management.*
- *Some members recommend that HELCOM looks into the criteria for evaluation of grey seals populations. In particular HELCOM Recommendation 27-28/2 should look at the number of individuals thresholds levels - management unit scale and size (and genetics/sub-population) to bring a more differentiated picture of the status from one area to another. Population growth rate objectives should be taken into account when issuing licenses for anthropogenic removals. Other members refer to the HELCOM HOLAS 3 report that shows that none of the population of 3 species of seals (grey, ringed and harbour seals) has achieved good conservation status.*
- *All Baltic Member States include in their EMFAF operational programmes provisions for support of especially preventive measures. Non-lethal measures should always come first (seal safe gears and scaring devices, but also ecosystem restauration and others) and be funded (through EMFAF for instance). EMFAF should also be used for compensating the damages made by seals to fishers and aquaculture operators. This should be streamlined (and cover funding for gears) and is needed in the short and medium term to maintain fisheries in some areas.*
- *For some BSAC members licensed anthropogenic removal under specific conditions could be an option. For others, anthropogenic removal should not be incentivised.*

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- *Trade ban: For some members it could increase the value of seals and become a resource. See BSAC recommendation of September 2024[21]. The Commission and Member States, HELCOM and ICES continue to involve BSAC stakeholders on this topic as the ones primarily affected.*

The participants provided some further comments to the draft conclusions. These comments will be included in the final recommendations.
The Executive Secretary informed that the Secretariat will finalise the draft recommendations, taking into account all comments made during the workshop and send them to the BSAC members for further comments. The recommendations will be adopted by the ExCom through written procedure.

North Sea Advisory Council (NSAC) workshop on predators:

The BSAC Demersal WG Chair informed that the NSAC has invited the BSAC to co-organise a workshop on predators in February 2025, in Luleå, Sweden. More information on this possible workshop will be given at a later date.

Next steps and closing by BSAC Chair

The BSAC ExCom Chair informed that the draft recommendations will be distributed to the BSAC members after the meeting. The recommendations will be adopted by the ExCom through written procedure.

He thanked all participants for good discussions and expressed the hope that the decision makers will use the outcome of the workshop in future management decisions. He thanked all scientists for attending the workshop and sharing their knowledge.

[21] https://www.bsac.dk/wp-content/uploads/2024/08/BSACreply-to-fitnesscheck_tradeinsealproducts_2024-2025-15rev.pdf

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