Ms Charlina Vitcheva
Director-General for Maritime Affairs and Fisheries
European Commission
Rue Josef II 99
1000 Brussels
Belgium

Brussels, 30 April 2026

Cc: North Sea Member States, Baltic Sea Member States

NSAC Advice Ref. 08-2526
NSAC/BSAC Advice on management of predators (cormorants and seals)

This paper was approved with consensus by the NSAC and BSAC Executive Committees on 30 April 2026.

Executive Summary

Conflicts between fisheries and predators (cormorants and seals) are intensifying due to depleted fish stocks, ecosystem shifts, and fragmented governance. While these species are ecologically important and culturally valued, their local impacts on vulnerable fish stocks and fisheries' livelihoods can be significant.

Below are overarching main recommendations; detailed general and species-specific recommendations are listed in the advice section below.

Science

- Healthy and resilient fish stocks are the basis for resolving predator-related conflicts: ecosystem recovery must be prioritized and guided by ecosystem-based management to address all factors impeding recovery.
- Transparent and long-term monitoring of predator populations and fish stocks are needed, with open access to publicly funded data. Data should be gathered with the explicit goal of informing management decisions.
- Research in high-conflict areas where fish stocks are declining should be prioritized. Establishment of regional research platforms could be useful to address shared challenges.
- Inclusion of predator-induced mortality into natural mortality estimates should be enhanced through use of models (i.e., ICES SMS). Category 3 assessments such as Eastern Baltic cod should be updated to reflect predator-prey and parasite dynamics.
- Social and economic sciences must be included in data collection strategies for a holistic understanding of ecosystem and community impacts.
- Securing long-term investment in high-quality and timely science to support consistent and evidence-based policy and management decisions is essential.

NSAC is supported by The European Commission

- Research into gear innovation, supporting minimum gear damage and reduced interactions with protected species, should be promoted through close collaboration between researchers and fishers to develop practical solutions.

Policy

- Coherence and harmonization between EU directives that regulate predators and resources management is paramount. Member States should receive clear guidance to reduce disparities in interpreting and implementing the Birds Directive, Habitats Directive, Marine Strategy Framework Directive and the Water Framework Directive.
- To reflect current ecological conditions and scientific information, an evaluation of the Birds and Habitats Directives should be considered. This should be done to enable a standardized but adaptable management and ensure a level playing field across the EU. National discrepancies should be addressed to reduce administrative burdens and legal delays.
- Cross-directorate and cross-border collaboration needs to be strengthened so that policy integration reflects the latest science, ecological realities and stakeholder concerns.
- Existing funding mechanisms (e.g., EMFAF) should be further mobilised for non-lethal predator management, gear innovation, and ecosystem restoration. This should be done with considerations of environmental and social benefits (i.e., ecosystem and social balance).
- The continued search for non-lethal predator management measures should not prevent the use of other management measures.
- Systematic stakeholder engagement needs to be embedded in policy development to improve transparency, legitimacy, and uptake of measures.

Management

- A shared EU-wide goal needs to be defined: achieving healthy fish populations that support both wildlife and fisheries.
- Regionally adaptive and ecosystem-based approaches should be encouraged, and coordination between Member States should be strengthened to prevent ecological imbalance.
- Alternative conflict mitigation strategies should be assessed before considering lethal control.
- Clarifications and harmonization is needed on conditions for lethal control across Member States.
- Science-based adaptive management utilizing satellite tracking, annual monitoring, modelling, and social-science-driven participatory processes should be promoted.
- Compensation schemes for documented gear damage and losses from protected species should be expanded and streamlined.
- Management bodies should take a more proactive role in guiding research and posing strategic questions to the scientific community.

1 Background

In recent years, increasing predation by grey seals (*Halichoerus grypus*), and both the great cormorant (*Phalacrocorax carbo sinensis*) and lesser great cormorant has been observed in the North Sea, Skagerrak, and Kattegat and Baltic Sea regions. This rise in predation, particularly on juvenile cod and other demersal species, is potentially affecting stock recruitment and productivity. Despite this, natural mortality is currently not incorporated in stock assessments or scientific advice for several demersal species.

Stakeholders in the Baltic Sea, where the impact is particularly acute, have proactively addressed the issue through two dedicated workshops. The first, held on 27 October 2023[1], explored legal frameworks, management practices, population trends, and predator-fish interactions. A follow-up meeting on 30 October 2024[2] focused on conservation and management perspectives, culminating in the development of two consensus advice papers, one on seals[3] and one on cormorants[4].

Recognizing that these challenges are not unique to the Baltic but part of a broader, pan-European issue, linked to the migratory behaviour of these predators, North Sea stakeholders have also expressed growing concern over the increased predation. In response, and in line with our commitments to advance ecosystem-based fisheries management, the NSAC and the BSAC convened a joint workshop on 20 March 2025 in Luleå, Sweden. The event aimed to gather and exchange knowledge on the impacts of increased seal and cormorant populations on fisheries and the wider industry. This joint NSAC/BSAC event brought together representatives from the European Commission (DG Environment), ICES, North and Baltic Seas Member States, fisheries and environmental stakeholders, and scientific experts. Presentations outlined the current state of science, policy, and management options related to predator-fisheries interactions. Through an interactive discussion, participants reflected on existing challenges and explored paths forward in terms of management, policy and science. All key insights and outcomes were captured in the published workshop report[5].

Although the NSAC has not previously addressed human-wildlife interactions directly, it has contributed to related topics, including multiple papers, some jointly with the North Western Waters AC, on the EU Prohibited Species List: NSAC Advice from 2017, 2018 and 2020, and NWWAC/NSAC joint advice from 2021 and 2023. NSAC and BSAC also recognize and have followed relevant work by OSPAR on monitoring seal and cormorant populations in the Greater North Sea, ICES (particularly via the Working Group on Marine Mammal Ecology (WGMME), Working Group on Multi-Species Assessment Methods (WGSAM), and the Working Group on Food Webs (WKFoodWeb)), and HELCOM (via the Baltic Sea Action Plan and its implementing bodies such as EG MAMA, WG BioDiv, and the joint HELCOM-OSPAR-ICES WG Bird). Additionally, ongoing FAO efforts within the European Inland Fisheries and Aquaculture Advisory Commission (EIFAAC) have been taken into account. These include the development of sustainable management actions on cormorant populations (2012) and, more

[1] https://www.bsac.dk/wp-content/uploads/2023/08/BSAC-workshop-predators-27October-REPORTfinal.pdf
[2] https://www.bsac.dk/wp-content/uploads/2024/06/BSACworkshoponpredators_Helsinki_30102024_final-report.pdf
[3] https://www.bsac.dk/wp-content/uploads/2024/12/BSACrecomendation-on-seals.pdf
[4] https://www.bsac.dk/wp-content/uploads/2024/12/BSACrecommendation-on-cormorants.pdf
[5] https://www.nsrac.org/wp-content/uploads/2025/02/NSAC_BSAC-report-Seals-and-Cormorants-wksp_FINAL_clean.pdf

recently, the creation of an European-wide management advice to protect vulnerable fish species from unsustainable cormorants predation (2024)[6]. Additionally, both ACs participated in the Stakeholder Consultation on the draft European Cormorant Management Plan (25 April 2025, online) and the Conference on Management Advice to Reduce Cormorant Predation Impacts, hosted by the Polish EU Council Presidency (3 June 2025, Brussels).

This advice consolidates the key findings and recommendations from the joint workshop, aiming to inform ongoing discussions on predator management in the North and Baltic Seas and support balanced, evidence-based policy development.

2 Advice

Interactions between fisheries (both commercial and recreational) and predators such as cormorants and seals constitute a form of human–wildlife conflict, centred on competition for exploited fish stocks. Whether real or perceived, these conflicts are marked by divergent views among stakeholders regarding the extent and impact of predation on fish populations, and are impacted by shifting political priorities and public scrutiny. In light of these differing perspectives, greater clarity is needed on the scientific evidence, policy frameworks, and management measures currently in place across North Sea and Baltic Sea Member States, as well as the feasibility of developing a coordinated EU-level response.

The following recommendations are organised into general and predator-specific sections, and further structured by science, policy, and management considerations.

2.1 General recommendations

Science

- The recovery and resilience of fish populations should be prioritized as a foundational solution to predator-related conflicts. Predator impacts are generally exacerbated when fish stocks are already compromised and should therefore be addressed through broader ecosystem restoration.
- Science should deliver a base for management with suggestions on how to manage the ecosystem, considering evidence of ecological and economic damages.
- Sustained support for projects and actions that enhance EBFM and reflect predator-prey dynamics in natural mortality estimates in ICES stock assessments and advice should be ensured to address underlying imbalances.
- Data should be collected with the explicit goal of informing specific management actions. Transparency and acceptance of scientific outcomes may be obtained by aligning data efforts with stakeholder needs and management goals.

[6] https://www.fao.org/eifaac/projects/ongoing-projects/en

- Transparent and long-term (spatial and temporal) monitoring of predator populations and fish stocks should be ensured, with public access to publicly funded data to support informed scientific advice.
- Regional research platforms can be developed to coordinate data collection, diet analysis, and impact assessments to address shared challenges through shared findings.
- Efforts to collect data should be prioritized in areas where fish stocks are declining and human-wildlife conflict is rising.
- Social and economic sciences must be included in data collection strategies to ensure a holistic understanding of the systems.
- The integration of predator-induced mortality into natural mortality estimates should be strengthened through improved use of models like ICES SMS, while accounting for limitations in spatial scale and data availability. Model applicability to localized predator-prey interactions should be enhanced to account better for coastal predator impacts.
- Steps for incorporating predator impacts into Category 3 stock assessments (e.g., Eastern Baltic cod), which currently do not explicitly include natural mortality in their assessment protocol, should be undertaken. This can be done through:
    - preliminary re-evaluation of the ecological impact of seal and cormorant predation on key fish,
    - cross-validation of predation estimates with existing discard and landing data to assess scale and relevance,
    - review of assessment strategies for critical stocks, including exploring alternative modelling approaches, and
    - alignment with the 2026 ICES SMS model update, ensuring necessary predator-prey data and ecosystem interactions are ready for incorporation.
- Long-term investment in quality science and monitoring must be prioritized to ensure consistent, evidence-based decision-making.

Policy

- Evaluation of the Birds and Habitats Directives should be considered to better reflect current ecological conditions and scientific knowledge, and to allow for a standardized but adaptable approach to management planning that ensures a level playing field across the EU. Differences in how directives are applied nationally, such as the lack of possibility in Germany to manage species not listed under Annex II (i.e., cormorants), need to be addressed to reduce administrative burdens and legal delays.

- Derogation procedures specified in Birds and Habitats Directives should be improved to ensure they are clear, efficient, and evidence-based, allowing for more consistent and responsive implementation across the EU.
- Legal and policy inconsistencies among key EU directives, such as the Birds Directive, Habitats Directive, Marine Strategy Framework Directive, and Water Framework Directive, need to be addressed. Clear guidance to Member States should be provided to reduce disparities in interpretation and implementation.
- Inter-directorate collaboration should be strengthened to ensure policy integration reflects current research, ecological realities and stakeholder concerns. This may be facilitated through the creation of cross-directorate working groups.
- Species with recovered conservation status should be reassessed, with the possibility of reclassification under different annexes via delegated acts rather than full legislative reopening. Clear, science-based thresholds must be defined to trigger such reassessments or management updates.
- To improve clarity in implementing EU directives, guidelines may be preferred over overly specific legal definitions. Any such guidelines should be developed inclusively, with stakeholder consultation to ensure relevance across diverse regional contexts.
- Existing funding mechanisms need to be fully utilized to support predator management, gear innovation, and ecosystem restoration. Incentive structures should be diversified to include environmental and social benefits, not just financial outcomes.
- Systematic stakeholder and public engagement must be embedded into policy development to improve transparency, legitimacy, and uptake of measures.

Management

- A shared EU-wide goal needs to be defined, focusing on the achievement of healthy fish populations that benefit both people and wildlife.
- Regionally adaptive management approaches should be encouraged, recognizing that predator-prey and parasite dynamics vary significantly between and within marine areas such as the Baltic Sea and the North Sea.
- Coordination among Member States should be strengthened to prevent predator displacement and ecological imbalance resulting from uneven application of management rules.
- Investment in alternative conflict mitigation strategies, including non-lethal deterrents, habitat management, and regionally tailored solutions, should be prioritized. Escalating to lethal control may be considered only when justified by evidence and after other options have proven ineffective.
- Conditions for lethal control must be clarified and unified across Member States, with a strong emphasis on transparency, scientific justification, and long-term ecological sustainability.

- Innovation in fishing gear (i.e., seal-proof nets, bird-deterring designs) must be supported to reduce interactions with protected species and minimize gear damage. Collaborative development between researchers and fishers should be encouraged to refine, test, and adapt innovative technologies in real-world conditions, ensuring solutions are both practical and ecologically sound.
- A learning-based and adaptive management approach should be promoted through the funding of long-term and interdisciplinary research programs (i.e., populations distribution, feeding behaviour, and harvest risk assessments), the utilization of tools such as satellite tracking and annual monitoring, and the integration of social science research to improve stakeholder engagement and enable participatory management.
- Member States should be encouraged to utilize the European Maritime, Fisheries and Aquaculture Fund (EMFAF) to support non-lethal prevention tools (i.e., deterrents, seal-safe gear, egg oiling) and to provide financial compensation for documented damage caused by protected species.
- Management bodies should be encouraged to take a more proactive role in guiding research and posing strategic questions to the scientific community.

2.2 Cormorants: State of Play & Specific Recommendations

Cormorant predation on fish represents one of the most widespread human-wildlife conflicts[7][8] affecting both commercial and recreational fisheries. Documented impacts extend to commercial fish stocks, endangered species recovery efforts, and aquaculture sustainability.

Cormorants are protected under Article 5 of the European Bird Directive 2009/147/EC. Following a population decline in the 1970s, numbers rebounded to over one million in Northwest Europe. However, the 2023 Quality Status Report (QSR) assessment reveals that most water-column-feeding birds, including cormorants, remain in poor conservation status, with less than 75% of their populations assessed as being in good condition[9], pointing to a discrepancy in perception. In the Baltic cormorants are considered not threatened, with the Baltic Sea basin being home to approximately 200 000 breeding pairs of cormorants[10]. The great cormorant is currently listed as Least Concern on the IUCN Red List.

Under Article 9 of the Birds Directive, Member States can derogate to implement measures, including lethal control, to prevent serious damage to fisheries and aquaculture, provided

[7] https://bioone.org/journals/ardea/volume-109/issue-3/arde.v109i2.a31/There-must-be-Some-Kind-of-Way-Out-of-Here/10.5253/arde.v109i2.a31.short

[8] https://www.sciencedirect.com/science/article/pii/S0165783624002984

[9] https://oap.ospar.org/en/ospar-assessments/quality-status-reports/qsr-2023/synthesis-report/regional-summaries/

[10] Council of the European Union, Note submitted by Sweden, supported by Estonia, Finland and Latvia to the Council meeting on 21st-22nd October 2024, (Need for revised rules to allow for ecosystem-based hunting of cormorants and seals in order to protect sensitive fish stocks - Information from Sweden, supported by Estonia, Finland, and Latvia). pdf

specific criteria are met. Despite local and regional measures, conflicts persist due to cormorant's mobility – spanning hundreds of kilometres – and a lack of coordinated actions[11].

Science

- Current data gaps should be addressed through the implementation of regular, accurate, and up-to-date population monitoring to support evidence-based management. There is an urgent need for updated and more comprehensive data that accurately represents the current status of cormorants across Europe.
- Projects such as KoMoDo and PROTECTFISH which investigate and analyse diet, predation rates, and ecological impacts should be supported, and their findings should be integrated into relevant management strategies.
- To reflect the opportunistic predation behaviour of cormorants, stock assessment models like the ICES SMS model should be updated with more dynamic diet composition inputs. In view of this, diet composition data, including prey size and age, should be collected annually across different locations to reflect changing foraging patterns.

Policy

- The potential reclassification of cormorants under Annex II of the Birds Directive should be considered in areas where the species has a secure conservation status. This reclassification could reduce dependency on complex derogation process (inefficient in countries like Denmark where hunters must be involved in control measures), enable more responsive and locally managed control by licensed hunters without case-by-case approval, improve public perception and trust by reframing cormorant population control as standard wildlife management, and foster greater cooperation between fishers, authorities, and the public. Such reclassification should be considered only where scientific and conservation criteria are met.
- EU-level coordination in cormorant management should be promoted to reduce disparities in how control measures are authorized and enforced across jurisdictions.
- As updated EU guidelines on Articles 5 and 9 of the Birds Directive are under development, care must be taken to ensure they include clear and practical definitions of key terms – such as "serious damage" – and provide transparent criteria for granting derogations.

Management

- Intercafe Toolbox must be revised and updated using evidence-based approaches, incorporating new research and field-tested practices.
- The development and wider adoption of alternative approaches, such as habitat modification and smarter fish stocking strategies, should be encouraged to provide sustainable and context-specific solutions to predator-related conflicts.

[11] https://www.sciencedirect.com/science/article/pii/S0964569124003041

- Where justified by data, licensed, localized culling may be considered as a management tool. Such actions must be regulated, scientifically justified, and designed to avoid long-term ecological harm.
- Regional coordination in culling measures must be ensured to prevent the displacement of predator pressure to neighbouring areas and to maintain fairness and ecological balance across management zones.

2.3 Seals: State of Play & Specific Recommendations

The North Sea and Baltic Sea are both home to the grey seal, an emblematic marine mammal species which often appears to come into conflicts with fisheries. In the Greater North Sea, the grey seal population has significantly increased following historical declines caused by hunting. According to the OSPAR QSR assessment[12] abundance has risen steadily since 1992, reflecting a strong recovery from past exploitation. In the Baltic Sea, grey seals experienced severe declines in the mid-1900s due to hunting and pollution. Since then, the population has been growing at an annual rate of 5%[13], reaching an estimated 40 000-50 000 specimen by 2018[14].

The grey seal is currently listed as Least Concern on the IUCN Red List.

Seals are protected under the EU Habitats Directive (Annex II and Annex V), which governs the conservation of non-bird species and habitats. Since 1987, the Habitats Directive remains unchanged and no comprehensive seal management plans exist. Thus, the debate about seals and fisheries interaction is being reawakened[15] and a balanced approach respecting both ecological and human need is necessary.

Science

- The impact of seals on fish populations should be reassessed in light of spread of parasites, declining fish stocks and shifts in prey availability, to ensure that management strategies remain ecologically appropriate.
- Development and broader adoption of alternative fishing gear that minimizes seal-fishery interactions (such as pontoon traps, modified fish pots, and acoustic deterrent devices (ADDs)) must be prioritized and supported through innovation funding and knowledge exchange. However, environmental safeguards and careful site selection must be ensured when deploying ADDs, particularly in areas where porpoises and dolphins are present.

[12] https://oap.ospar.org/en/ospar-assessments/quality-status-reports/qsr-2023/indicator-assessments/seal-abundance-and-distribution/

[13] https://www.bsac.dk/wp-content/uploads/2023/08/Karin-Harding-Markus-Ahola-Presentation-27-oktober-2023_v4x.pdf

[14] https://www.bsac.dk/wp-content/uploads/2023/08/Gildas-Glemarec-BSAC23-cormorants-and-seals-interactions-with-fisheries.pdf

[15] https://www.sciencedirect.com/science/article/abs/pii/S1385110106000876

- Efforts such as the SOS Fisk project to integrate seal- and cormorant-induced natural mortality into ecosystem-based fisheries models should be continued and expanded, to enhance the accuracy and ecological relevance of stock assessments.
- Data from scat and stomach content analyses should be utilized to improve the precision of updates to the ICES SMS model, particularly in relation to predator-prey interactions.

Management

- International seal management frameworks and conservation objectives should be reviewed and updated to reflect current ecological data, and regional differences must be acknowledged in any policy revisions.
- The coexistence of seals and fisheries should be supported by strengthening the overall health of the marine ecosystem through the improvement of fisheries management, restoration of habitats, and reduction of pollution to ease ecosystem pressures.
- Simulation and modelling tools should be employed to assess the ecological and population-level impacts of management actions, including regulated hunting, prior to implementation.
- Compensation schemes for seal-induced gear damage and catch losses should be expanded, streamlined, and made more accessible.

3 Conclusion

Seals and cormorants are integral to the marine ecosystems they inhabit, contributing significantly to food web dynamics. Due to their distinctive appearance, both species evoke strong public affection, resulting in strong reactions to any perceived harm. Both seals and cormorants can exert measurable local impacts on certain fish stocks, competing directly with fisheries for shared resources. Fisheries, in turn, affect these predators through direct mortality (bycatch), regulated culling in some Member States, and indirect effects on the food web.

First and foremost, efforts should be focused on maintaining and restoring sustainable fish stocks, reducing or eliminating bycatch, halting pollution and eutrophication, and promoting habitat restoration, which would benefit both the predators and the fisheries sector. At the same time, current socio-economic costs of the conflict should not be ignored. Applying an EBFM approach can help balance environmental, economic, and social objectives by considering the needs of the entire ecosystem and its users. Achieving this balance requires close, inclusive, and transparent cooperation between stakeholders, scientists, and management authorities.

Current European environmental and fisheries legislation does not yet fully address the complexities of inter-species interactions, where the protection of one species may inadvertently undermine the conservation status of another. Addressing predator-induced mortality and multi-species interactions into fisheries management is essential for

implementing ecosystem-based and holistic approaches, envisaged in numerous EU policies, including the Common Fisheries Policy.

Lastly, the NSAC and BSAC would like to thank the Commission and Member States for considering this paper and remain ready to contribute to further discussions on this important matter.