



Meeting of Advisory Councils and ICES (MIAC)

18th January 2024

9:00 – 12:00

Report

1. Opening of the meeting and welcome

Jarek Zieliński, the BSAC ExCom Chair welcomed the ICES representatives as well as the representatives from different ACs (in person and online). He chaired the meeting. He thanked ICES for providing the meeting room and for being available to answer the questions put forward by the ACs. Due to very tight agenda, the Chair asked the participants to keep to the limit of maximum 10 minutes per question. There was a tour-de-table.

The agenda was adopted with one change in the order of questions (questions 5 and 11).

2. Introduction

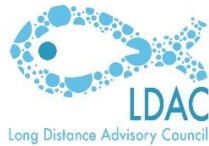
Questions put forward by the ACs to ICES before the MIAC meeting and grouped by topics. After agreement with ICES, questions of lower priority were left for written answers.

A. Stock assessment

NWWAC SWWAC 1. Stability clause for more stock categories

In its advice on 2024 fishing opportunities, the NWWAC proposed that the stability clause used for category 3 stock is applied to other categories as well to mitigate fluctuations in the advice over the years. This year's ICES advice for plaice 7d (-50%) is an example of the huge consequences of retro-active revision of indicators and of the necessity to expand the stability clause to more categories. Another example is the data poor plaice stock in 7fg, for which the TAC in 2023 was reduced by 77% despite the inconsistency with the observations of fishers. Last year the NWWAC unsuccessfully recommended to avoid TAC movements of this size and asked DG MARE to apply the stability clause limitation, even if the condition based on poorly available data is not fulfilled. They would appreciate hearing ICES views on the possibility to use the stability clause more widely to enable industry to do forward planning.

Colm Lordan, the ACOM Chair stated that ICES understands the concerns expressed by the ACs with regard to large fluctuations of the TAC advice and the requests to use the stability clause more widely also for category 1 and 2 stocks, even if the condition based on poorly available data is not fulfilled. He underlined that stability clause is used for category 3 stocks. ICES considers that category 1 and 2 stocks are good enough to operate without stability clause. There are many reasons for the changes in the advice from one year to another. For the plaice stock in 7d the 50% reduction in the TAC advice had been caused by a decline in recruitment. He emphasised that ICES accepts the need for stability in the advised TACs, but the application of stability clause could sometimes have unexpected consequences. He pointed out that the broader application of the stability clause should be



tested, in order to verify that the clause achieves its management objectives and this could be achieved through a special request addressed to ICES. He promised to inform DG Mare that this issue had been raised and will report back to NWWAC on the follow-up actions.

The NWWAC representative thanked the ACOM Chair for his comprehensive reply and expressed the hope that this issue will be taken forward by ICES and DG Mare.

PelAC SWWAC 2. Request for set up ICES working group on genetics

The PelAC has been at the forefront of genetic stock-ID work for many years, and its acceptance as a tool for population refinement and the delineation of stock boundaries is now gaining wider traction in the scientific community. Examples include work undertaken in [herring](#) and [horse mackerel](#).

Particularly for horse mackerel, considerable advances have been made in genetic stock-ID, as detailed in the [2023 WGWIDE report](#), which are expected to have a significant impact on the assessments. It is critical that the continuation of genetic sample collection and genetic stock identification analyses are made a priority across the three stocks.

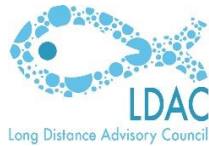
A separate example, the AFBI herring stock identification project undertaken by Swansea University which developed a genetic assignment model to distinguish between Irish and Celtic Sea herring, revealed that the samples from the Irish Sea Herring Acoustic Survey comprised a significant proportion of herring from the Celtic Sea¹. This indicates that Celtic Sea herring are migrating out of the Celtic Sea for a part of the year, are being surveyed and likely fished as part of the Irish Sea stock. The PelAC underlines the importance that the continuation of this work is secured by ICES.

In general terms, the PelAC has recommended for some time that ICES sets up a dedicated stock-ID task force to ensure new genetic information gets through the ICES system and is incorporated into stock assessments, as appropriate. The PelAC would appreciate feedback from ICES on whether it plans on pursuing the set-up of such a stock-ID task force, and what time frame would be envisaged for this.

The ACOM Chair responded, saying that ICES recognises the importance of genetic stock identification work and number of ICES working groups are working on different genetic methods applied in fisheries and aquaculture. Training courses in genetics were also organised in the past. He asked how a dedicated stock-ID task force could bring added value to the current ICES work on genetics.

The PELAC representative underlined that the Pelagic Advisory Council had undertaken and supported work on genetic stock identification. This work is expected to deliver considerable progress in stock assessment. He emphasised that a dedicated stock identification task force ICES could adopt a coordinated and systematic approach to

¹ Gwilliam, M., Farrell, E., Davies, C.E., Franconi, N., Blow, G., Consuegra, S. and Clarke, D. 2020. Identification of Herring Stocks. DAERA - AFBI 2022 - 3849352 - FINAL REPORT. Swansea University, 40 pp. 56



genetics. Continuation of the work on genetics by ICES is of crucial importance, in particular in view of the upcoming horse mackerel benchmark.

The ACOM Chair responded that ICES could consider developing a roadmap to address the issue of genetic stock identification, that could also be used as communication tool. He stated that new information is usually introduced to stock assessment through benchmarks. Producing a roadmap in this case would require some time and coordination.

PelAC SWWAC 3. Mackerel benchmark 2025

The PelAC notes that the next benchmark meeting for Northeast Atlantic mackerel is currently planned in 2025. In anticipation of this benchmark for mackerel, the PelAC considers it important that fecundity, a key parameter of the mackerel assessment, is treated correctly. The PelAC believes new research findings on fecundity (e.g. [T. Janssen et al. \(2021\)](#)) should be taken up at the upcoming benchmark as they can play an important role in addressing the discrepancies that exist between the mackerel IENSSN survey and the egg survey (even though this was not an issue for 2022).

In addition, the PelAC is of the opinion that the subject of climate change and ecosystem shifts affecting mackerel distribution and fishing patterns should also be incorporated into the benchmark on mackerel.

The PelAC would appreciate feedback from ICES to what extent these two topics are set to be addressed in the next mackerel benchmark. Secondly, the PelAC asks if a date has already been set for the data compilation meeting of the mackerel benchmark, as this would help us in our planning of preparatory meetings.

The ACOM Vice-Chair (Dorletta Garcia) confirmed that after some further analysis by the data compilation workshop prior to the benchmark, the research findings on fecundity could be included during the benchmark for northeast Atlantic mackerel, planned in 2025. The workshop will take place in the coming months. In relation to the impact of climate change, potential impact on the biology, including the natural mortality, shifts affecting the distribution and changes in the fishing pattern will also be considered during the benchmark. The calculation of the reference points will be an important element in relation to potential impact of climate change.

The PELAC representative underlined that findings on mackerel fecundity as well as the two critical climate change impact parameters (distribution and fishing pattern) should be taken into account during the benchmark. He strongly emphasised the opinion of the PelAC that there should be a mechanism in place at ICES that allows for incorporation of new data of urgent nature as it becomes available such as the findings on mackerel fecundity, outside of the benchmark process.

The Head of the Advice Department at ICES (Lotte Worsøe Clausen) stated that ICES is aware of the need to incorporate the impact of climate change in the stock assessment parameters, especially for migrating stocks. However, ICES is still working on identifying the



operational practices that will facilitate and encourage the development of integrated scenarios of climate impact to be used in modelling.

NSAC SWWAC 4. New rfb methodology for data limited stocks

The NSAC shares the concerns of the North Sea fishers with regard to the new methodology for assessing data limited stocks (rfb rule), which emerged from WKLIFE. Under the rfb rule, generally a precautionary multiplier is applied, meaning the advice is reduced even when all else remains the same. This creates a downward spiral which is impossible to solve unless the data-limited nature of the stock is addressed. In the absence of empirical proof of decline, the precautionary cut might seem like a management rather than a scientific decision. In addition, no consideration seems to be given to stock perception at sea. Such a situation risks creating chokes in the context of the landing obligation and quota management, and it is difficult to justify to end users the rationale behind the increasing stock and decreasing advice. We also notice the various steps of precaution layered. We ask ICES to comment on the appropriateness of the new rule and possible solutions to address industry's concerns.

The ACOM Vice-Chair (Joanne Morgan) confirmed that the RFB rule is part of the MSY and precautionary approach (PA) framework for category 3 stocks. The use of the precautionary multiplier for more caution is embedded in the PA approach. The rule has been developed to provide better advice for data limited stocks. The method is tested since 2020. The results are published in the WKLIFE reports (available on ICES share point). Joanne Morgan stated that the application of the rule may not help in the first year but is expected to bring positive results fairly soon.

The NSAC representative drew attention to the fact that the effects of the application of the rfb rule raise concern among fishers. In the case of whiting, the stock has doubled in size, whereas ICES recommends a 27% reduction of the TAC. Such advice was given for a number of stocks and may have severe consequences for the fishing industry. If a stock increases, a reduction rule should not be applied, as this would create problems with the landing obligation. He underlined that ICES should produce science as the basis for providing advice for fisheries management and not only for the sake of science. He further suggested a more humane approach to advice. He concluded by saying that the rfb rule may give positive results on paper, but does not deliver in real life.

The ACOM Chair commented that in the past advice had been given by ICES for individual stocks, on the basis of different approaches. This ended up in inconsistencies. Therefore, ICES decided to develop frameworks and guidelines to be consistent. In accordance with the guidelines, if a certain approach does not deliver the expected results and is found not to be precautionary, as it had been the case with whiting, a data limited approach is applied. ICES cannot apply humane approach and has to follow the rules.

BSAC 11. Question on the assessment model used for central herring stock following the February 2023 benchmark



A new assessment model was used last year for central Baltic herring. The ICES assessment working group ([WKBBALTPEL](#)) featured discussions between scientists about the new reference point values proposed. In particular, Polish and German scientists made a minority statement on the estimation of Blim for the stock (The value of Blim proposed at WKBBALTPEL (561,000 t) is 70% higher than the previous one (330,000 t)). The minority group did not find convincing scientific reasons for such a high change in Blim, estimated by WKBBALTPEL as 15% of B₀. They presented an alternative view on the Blim level estimated as 11% of B₀. Thus, the minority group suggests using a SSB of about 423,000 t as a new estimate of Blim. What is ICES considering as a next step?

The ACOM Vice-Chair (Dorletta Garcia) stated that the next step to be taken is to define the reference points for central Baltic herring. ICES will return to this issue at the MIACO meeting. The benchmark analysed how to change the reference point framework to make it easy to understand and more in line with international practice. In line with the ICES guidelines, the benchmark proposed to change the Blim, estimated by WKBBALTPEL as 15% of B₀. The use of B₀ was considered as a good approach because it facilitates comparability. The new value of Blim had been agreed in a spirit of compromise, by the majority of experts present during the benchmark.

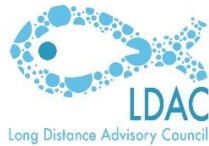
LDAC 6. Improving scientific knowledge for deep-water stocks (catch and discard data)

In MIAC 2021, based on a proposal of the LDAC, the LDAC, NWWAC, NSAC (and potentially SWWAC) agreed to consider setting up a Task Force to look into the needs and gaps of commercial data on (by)catch and discards for deep-water stocks both within EU waters and in international waters of NEAFC. It was agreed that avenues of collaboration should be explored with ICES WGDEEP. There could be an opportunity this year to work with scientists to check how to integrate commercial data into the advisory process in time for next biannual advice on fishing opportunities for 2025/2026.

The LDAC proposes to table again this discussion and follow up on this item to check if there is interest to pursue this topic again.

The ACOM Vice-Chair stated that ICES relays on its member countries to collect data in all areas. He stated that ICES can only encourage the management authorities in different countries and areas to carry out sampling programmes. ICES provides feedback to sampling data and articulates the gaps. It also looks at how monitoring and sampling can be improved. He emphasised that the ACs are invited to collaborate with ICES in order to improve the scientific knowledge.

The LDAC representative congratulated ICES on the quality of data used in the advice for deep water stocks which has considerably improved over the last decade due to the requirements of the Data Collection Framework, as well as improved interactions with several scientific projects. This was also acknowledged by ICES WGDEEP. He also reminded that ICES had organised two workshops with industry (co-chaired by Colm Lordan) to identify the gaps of commercial data on (by)catch and discards for deep-water stocks in relation to a



number of stocks. There were also joint AC Focus Group on deep-sea species to look on how to improve science-industry collaboration in improving knowledge on deep-sea stocks. The LDAC representative proposed to follow up on this item and offered collaboration in improving the data quality and filling some of the existing data gaps. The LDAC will contact with colleagues from other ACs, and concerned countries to identify the existing gaps and make progress in filling them and will report back to ICES when/if progress is made.

LDAC 7. Update on NAFO/ICES Pandalus Working Group: scientific advice on 3M Shrimp for 2024 and management implications for NAFO RA

In continuation with the request made in MIAC in previous years, the LDAC would like to request ICES to continue working with NAFO in ensuring that timing of meetings and stock assessment is handed over and delivered in time for decision at the NAFO Annual Meeting in the third week of September.

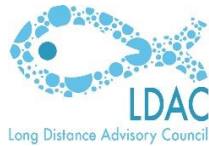
ICES noted at last year's MIAC a strong progress on ecosystem modelling for the Flemish Cap and the inter-relationships between redfish, cod and shrimp, including on multi-species MSE. It was also noted that a 'number of pandalus benchmarks' took place in 2022 with some interesting results but still there is work to do in terms of data quality and ecosystem modelling for Flemish Cap.

However, ICES stressed that despite the benchmarks of the other shrimp stocks of the Joint Group ICES-NAFO are finished, this is not the case for the 3M stock. The main reason is that this is a data limited stock with lack of robust data available which has deteriorated over time. Moreover, there were no more benchmark meetings in 2023 for this stock.

The LDAC would be interested in knowing more about the biological state of this stock and scientific method applied. We would also wish to have an update on the work on ecosystem modelling for the Flemish Cap as well as a tentative calendar for avenues for stakeholder engagement to assess how best we could assist with relevant stakeholders' expertise (e.g. benchmark workshop, WKPRAWN).

The ACOM Vice Chair (Joanne Morgan) referred to the fact that 3M stock is assessed under a joint ICES-NAFO Working Group on Pandalus. The benchmark carried out last year was not able to make any progress due to the lack of sufficient data. In consequence, the stock was categorised as data limited and the previous assessment model based on fishery data has remained in place. As to the biological state of the stock, Joanne Morgan explained that the Blim derived from female biomass index is low, recruitment derived from survey is also very low. The advice is no direct fishing. The multispecies model for assessment shows promising results but has not been used in the advice. The ACOM Vice-Chair promised to contact her colleagues to find out more about the update on the assessment model for this stock.

The LDAC representative thanked for the explanation provided and underlined that the question had been put on the agenda to reiterate the request made every year by LDAC whereby it asks ICES for updates on the approach to address advice for this species.



He welcomed progress on ecosystem modelling for 3M cod, redfish and shrimp stocks and asked ICES to continue working with NAFO in ensuring that timing of meetings and stock assessment is handed over and delivered in time for decision at the NAFO Annual Meeting which takes place in the third week of September. He referred to the fact that despite all efforts made by NAFO and ICES, there is an urgent need to implement an updated assessment model for 3M shrimp. He underlined that the still there is work to do in terms of data quality and ecosystem modelling for the Flemish Cap, engaging the leading scientists. He concluded by confirming the LDAC willingness to provide stakeholder input through specific advice and continue collaboration with ICES on the topic.

NSAC 8. Pandalus Borealis

The NSAC would like to exchange views on the changed framework for the provision of the advice for Northern shrimp (Pandalus Borealis), particularly regarding the introduction of a new basis for setting reference points based on B0 – a method that has previously been rejected by ICES. Due to the change in assessment period (July to June instead of January to December), a change followed in hermaphroditic relationship which led to a change in the perception of the stock (below Blim instead of above Blim). Overall, catches have been stable in the last 4-5 years. The recruitment in last two years were above Blim, which is an improvement compared to recruitment in previous years. Moreover, the biomass remained stable and is even slightly increasing. With the stock size below MSY Btrigger and Blim, the reduction ratio in management is applied which produces a 47% decrease in advice. The NSAC would like to hear about the rationale for this new basis for setting reference points for Pandalus Borealis.

The ICES representative explained that B0 had been used for northern shrimp already in 2022. B0 reference point is not in the ICES guidelines and its application had been proposed by ICES Working Groups and during benchmark workshop for Baltic pelagic stocks (WKBBALTPEL). The pelagic benchmark had proposed to change the Blim, estimated by WKBBALTPEL as 15% of B0. Despite the lack of consensus among experts in the pelagic benchmark, the use of B0 to estimate the Blim reference point for central Baltic herring was considered as a good approach by the majority of experts, because it facilitates comparability. ICES understands the concerns expressed by the ACs with regard to large fluctuations of the TAC advice and the requests of the fishing industry for stability in the advice. He noted that in accordance with the ICES framework guidelines, the stability clause limitation is not applied to category 1 and 2 stocks.

The NSAC representative thanked the ICES representative for explaining the technical issues behind the change of reference points. He emphasised that this is not a sufficient explanation for the fishing industry. The ICES advice for *Pandalus Borealis* is a cause of serious concern for the industry. The stock is improving, while the advice is declining considerably (by 47%), causing frustration of the fishers. The industry has been calling for avoidance of such sudden changes in the advice. He called for a more pragmatic use of scientific advice that could benefit both the stock and the industry. In his view, ICES should



consider changes to its advice guidance, in order to avoid reducing advice for increasing stocks for all stock categories. He underlined that the formulae of the MIAC meeting should enable proper discussion of such important issue relating the changed framework for the provision of the advice that has a huge consequences for the fishing industry.

The ICES representative explained that ICES always uses the best available science in its advice. The advice for northern shrimp is based on the management strategy agreed by Norway and the EU which does not include a stability clause.

The Chair underlined that there is no perfect formula for a meeting with such heavy and sensitive agenda. He stated that it is up to the ACs and ICES to discuss and work out a better formula for the future MIAC meetings.

NSAC 9. North Sea Cod

The NSAC would like to exchange views on the changed framework for the provision of advice for the North Sea cod. The multi-stock Stock Assessment Model (SAM) for Northern Shelf Cod treats cod stock as a combination of sub-stocks of Southern Cod, North Western Cod and Viking Cod, and assumes full mixing of the three. The rationale for the advice has been changed by the ICES ACOM as the independent advice for three sub-stocks was deemed not implementable in practice. Given that the Southern sub-stock is below blim constituting the most limiting of the three sub-stocks, precautionary consideration was applied with the reduction in the weakest sub-stock of -60%. Given the assumption of full mixing, this reduction is applied to all three sub-stocks. In NSAC's view, such advice is unrealistic when combined with the provisions of the landing obligation. The NSAC would like to understand ICES' perception of this new framework and exchange views on the way forward.

The ACOM Vice-Chair explained the reasons behind the application of the changed framework for the provision of advice for North Sea cod. The assessment is more similar to a single stock than a multistock one. According to the forecast, the new model should result in an increase of the weakest subcomponents. There is a need for further discussion on the suitability of the model, in particular the estimation of the reference points, which raise a lot of concern. If needed, the assessment model will be improved. Genetic data are currently not available to assign catches to substocks. The limitations of the data mean that the assessment is an intermediate step between a single-stock assessment and a full mixed-stock model and, as a result, its ability to resolve the dynamics of the different substocks is limited. ICES is not in a position to provide area-specific catch advice without additional genetic data sampled routinely from both commercial fisheries and scientific surveys.

The NSAC representative thanked ICES for the explanation. He stated that he had supported the new model during the benchmark, as it shows clear benefits in terms of assessment. He noted, however, that ICES should provide catch options in the advice, rather than management advice, which could be considered as overstepping the competences of ICES. He called for a more pragmatic approach to the advice, reflecting what happens in



nature and taking into account the fact that many people depend on this fishery. He drew the attention to the fact that in the mixed fishery advice for cod, ICES only takes into account the weakest subcomponent. Given the assumption of full mixing, the reduction is applied to all three sub-stocks. In his opinion, this is a misuse of the science. Once again, the fishing industry cannot agree to accept a decrease in the TAC while the stock size is increasing.

The ACOM Chair explained that in line with the precautionary approach, ICES had decided to take a mixed fisheries approach and look at the weakest sub-component, as the different ability to resolve the dynamics of the different substocks is limited. The model is more of a single stock assessment model. Referring to the overstepping into management, he recognised that a number of stocks with sudden changes in the advice raises concern and challenges. He underlined that ICES will make further efforts to improve the dialogue with fisheries managers, in order to avoid the perception that ICES is overstepping into management.

NWWAC 10. Update on ICES work on climate change impacts in NWW cod stock assessments

As mentioned in the [2022 ICES Celtic Seas ecoregion – Ecosystem Overview](#), climate change is already observable within some parts of the Celtic Seas ecoregion, with a mean annual sea surface temperature showing an overall upward trend of about +0.5°C since 1975. Cod preservation in the Celtic Seas is critically threatened by this, as the species' temperature optimum is outside of the range of temperature values occurring in the Celtic Seas ecosystem^[1]. This is especially true for cod reproduction, as the spawning cycle of this species is extremely fine-tuned, sophisticated and easily disturbed. As a consequence, there seem to be few indications that a full recovery of the stock is still biologically possible. ICES has already partly integrated the lower productivity of these stocks into its evaluation method (for example with recruitment hypothesis). However, the reference points used in the assessment do not take into account the effects of climate change on environmental conditions. We appreciate that the information needed to adjust reference points is missing for a great number of stocks, which makes it difficult to quantify the impacts of climate change. However, their consideration in the ICES assessment is vital to understand the future viability of cod fisheries in the Celtic Seas and allow for the suitable and adaptive alignment of fisheries management measures. In light of this, we would appreciate hearing about the next steps and objectives ICES may have to address this issue.

The ACOM Vice Chair (Joanne Morgan) referred to the ongoing work on climate change impacts. Some information is included in the ecosystem overviews. The Feco reference point takes account the effects of climate change on environmental conditions (such as sea surface temperature, changes in the growth, recruitment and maturity). Such impact has an

[1] Hernvann, P. Y., Gascuel, D., Grüss, A., Druon, J. N., Kopp, D., Perez, I., ... & Robert, M. (2020). The Celtic Sea through time and space: Ecosystem modelling to unravel fishing and climate change impacts on food-web structure and dynamics. *Frontiers in Marine Science*, 1018.



effect on the fleet selectivity and should be incorporated in the assessment. However, progress on this will not be immediate, because climate change impacts are complex.

The NWWAC representative underlined that the information needed to adjust reference points is missing for a great number of stocks, which makes it difficult to quantify the impacts of climate change. He underlined the urgency to quantify the impacts of climate change in the assessment outside the benchmark process, to allow for the suitable and adaptive alignment of fisheries management measures.

The ACOM Vice Chair stated that changes in the reference points are usually incorporated in the ICES framework through benchmarks as they require input by external reviewers. Working Groups can only address issues of lesser importance, such as errors in calculations. Potentially, ICES expert groups could address climate change reference points. She took note of the request of NWWAC to adjust the reference points in order to quantify the impacts of climate change into the assessment.

The ACOM Chair underlined that experts are working to make environmental drivers operational and incorporate them into the assessment model. It requires time and efforts to incorporate any climate predictions into the ICES advice. Environmental drivers are complex. Stock productivity can be made of different components, and can be driven by different aspects (changes of recruitment, growth etc.). There is also a need to take into account that natural mortality may be unknown. Distribution of species can also create problems in the assessment.

The ACOM Vice-Chair (Henn Ojaveer) referred to the paper on the rationale for heterogeneous inclusion of ecosystem trends and variability in ICES fishing opportunities (available on ICES share point)², which provides a comprehensive overview of the inclusion these trends in ICES fishing opportunities advice in the Northeast Atlantic.

CCRUP 5. Stock categories for *Pagellus bogaraveo* and *Beryx spp.*

Regarding the ICES stock data category of the species *Pagellus bogaraveo* and *Beryx spp.*, which are in ICES analysis category 3 and 5, respectively, we would like to ask you if you have received enough data over the last year to be able to give an opinion on the increase in the category of *Beryx spp.* and the possible increase in TACs and quotas for these species.

We would also like to inform you that the annual (2023) spring demersal longline survey (ARQDAÇO) was carried out in all the Azorean islands and ended on 1 July 2023.

The ICES representative referred to the fact that ICES is working on improving the assessment and data of the two stocks (*Pagellus bogaraveo* is under a benchmark), and is expecting to work out a production model. The annual spring longline survey had issues with coverage and data. There are data gaps in the case of *Beryx spp.*

² [The rationale for heterogeneous inclusion of ecosystem trends and variability in ICES fishing opportunities advice](#)



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B. STAKEHOLDER INPUT IN ICES WORK

NWWAC PELAC LDAC 12. Update on ICES work on inclusion/consideration of stakeholder information, including fishers' perceptions, in stock assessments

The lack of data for certain stocks is negatively impacting stock assessments and management, with potential impacts on the catch advice and the resulting fishing opportunities. The ICES Advisory Plan also recognises this as a quality assurance issue. In this regard, it is essential to consider partnerships between scientists and fishers as one of the main tools to boost data availability. Industry surveys and non-quantifiable information such as fishers' perceptions are an important part of this process. The NWWAC has continued its engagement on the topic, following the work of WKSTIMP and attending the WKAFPA meeting in October 2023. We would appreciate an update on how ICES is going to follow up on the outcomes of this work.

The ICES representative referred to the ongoing work on the operationalisation of the ICES Stakeholder Engagement Strategy³. The strategy aims to ensure the effective and balanced participation of stakeholders, as they play a central role in contributing to the scientific basis and societal context of advice. Stakeholder engagement is increasingly important in the work of ICES. Workshops and meetings are organized to consult stakeholders on knowledge needs, methods, data, and, more broadly, their expert knowledge, and incorporate this knowledge into the science and the evidence base for advice. Engagement occurs with experts in the network as well as with the Secretariat and the committees. Fora for engagement on a high level are the meetings with the requesters of ICES advice (MIRIA) and the Advisory Councils and observers to the advisory process (MIACO).

A workshop on accounting for fishers and other stakeholders' perception of the dynamics of fish stocks in ICES advice⁴ was held on 11-12 October 2023 (WKAFPA). The workshop supported ICES to deliver on the priority to 'Improve the mechanism for sharing alternative perceptions of the state of stocks and fisheries', by identifying where and how alternative perceptions could be gathered and usefully applied. Another workshop referred to was the WKENSURE⁵ held in 2023 – a workshop on developing guidance for ensuring the integrity of scientific information submitted to ICES by data providers, convened to develop guidance for identifying, assessing and managing potential conflict of interest in data and information provision that may affect the integrity of ICES science and advice. The ICES representative underlined the potential role of the ACs during the benchmark processes.

The PelAC representative stressed the importance, for Advisory Councils, of inclusion/consideration of stakeholder information in ICES advice. This issue was discussed during several MIACO meetings. PelAC discussed the draft stakeholder engagement

³ [WKSTIMP \(ices.dk\)](#); [ICES Stakeholder Engagement Strategy \(figshare.com\)](#)

⁴ [WKAFPA \(ices.dk\)](#)

⁵ [Workshop on developing guidance for ensuring the integrity of scientific information submitted to ices by data providers \(WKEensure\) \(figshare.com\)](#)



strategy and presented its comments to ICES⁶. The issue of the incorporation of stakeholder information into ICES advice is not covered by the present draft strategy but the PelAC would like to reiterate its point regarding the need for clarity on the type of content and the editorial rules for its inclusion. The PelAC would appreciate an update on how ICES is going to follow up on the outcomes of this work.

The ACOM Chair stated that in the past, stakeholder information sections in the advice had raised challenges as the information not validated by ICES was an issue for ACOM. Therefore, ACOM decided to suspend stakeholder sections in the reports until exact parameters are defined. The decision on whether to reinstate stakeholder information sections will be based on the information received from relevant Working Groups. **ICES** will come back to this issue at MIACO.

The NWWAC representative asked who will decide whether to reintroduce the stakeholder information sections in the advice.

The ACOM Chair replied that the requesters of the advice will decide how much to involve the stakeholders and whether the stakeholder information should be reinstated in the advice.

C. ECOSYSTEM-BASED APPROACH AND MIXED FISHERIES

LDAC 13. Update on work of ICES with NEAFC on ecosystem-based approach to fisheries, spatial measures and climate change

The LDAC would be interested in getting more information on the work of ICES in relation to all the recent developments referred above, notably:

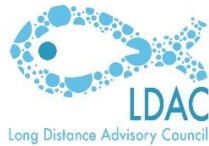
- *The NEAFC request to ICES for an advice on an ecosystem approach to fisheries management;*
- *ICES collaboration with OSPAR on implementing a cross-sectoral ecosystem-based approach;*
- *ICES role on the work on spatial management (VMEs, OECMs, MPAs...);*
- *ICES contribution to studying the impact of climate change on shared NEA stocks*

The ICES representative informed that ICES presented its recurrent advice to the 42nd Annual Meeting of NEAFC⁷, held in November 2023, as well as a reply to the special request on Other Effective Area-Based Conservation Measures (OECM)⁸. The ICES advice was annexed to the report. Lotte Worsøe Clausen of ICES presented the report of the Advisory Committee, including approaches to fisheries advice based on best available science, maximum sustainable yield and ecosystem-based management. ICES was aiming to help NEAFC in developing its higher-level objectives on biodiversity. Work will be completed by

⁶ [2122PAC74-Letter-to-ICES-on-draft-stakeholder-engagement-strategy.pdf \(pelagic-ac.org\)](#)

⁷ [AM : 42nd Annual Meeting of the North-East Atlantic Fisheries Commission | North-East Atlantic Fisheries Commission \(neafc.org\)](#)

⁸ [neafc.2023.12 \(1\).pdf](#)



NEAFC. Areas with depths of less than 400 meters. Many climate effects are included in stock assessments. ICES also produced advice on areas where Vulnerable Marine Ecosystems (VMEs) are known to occur or are likely to occur in EU waters⁹, which presents five spatial management scenarios for VMEs protection in EU waters based on new and updated information.

The LDAC representatives asked about the calendar of further discussions on OECM, to which NEAFC is committed on the basis of a resolution and whether ICES will be involved. He also asked for relation between ICES and OSPAR on the implementation of a cross-sectoral ecosystem-based approach via collective arrangement. Last, he asked if ICES is going to be part of the performance review process of NEAFC.

The ICES representative replied that discussions on OECM will be held in October 2024 and ICES will be involved in further discussions. ICES is also engaged in the work with OSPAR on implementing a cross-sectoral ecosystem-based approach and will participate in the next meeting for the collective arrangement. Last, he said that ICES is not directly involved in the performance review process, although will assist NEAFC in providing scientific and technical advice underpinning VME areas.

BSAC 14. Questions on ecosystem considerations in Baltic stocks advice

Last year, the BSAC had asked this question (how to account for seal and parasite mortality in the advice) and ICES answered that work was ongoing¹⁰. Is there any update to this?

The ACOM Vice-Chair (Henn Ojaveer) informed that that DTU Aqua has applied for financing for a project on the impact of parasites from seals.

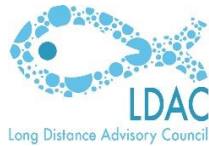
*What efforts are made to better estimate the natural mortality levels due to impact of predators such as seals and cormorants (on the cod stocks) or prey availability (such as *Mysis relicta* for Bothnian herring)?*

The ACOM Vice-Chair (Henn Ojaveer) replied that initial studies on cormorant predation indicate that the natural mortality levels of cod caused by cormorants are high, but vary according to the region. Further studies on natural mortality caused by cormorants are needed. He referred to an on-going research project on cormorant-induced mortality of western Baltic cod, conducted by the Thünen Institute and Danish DTU Aqua. A regional monitoring plan will be developed to collect cormorant predation data as a potential input for

⁹ vme.eu/pdf

¹⁰ For seals: *Work is ongoing on updating data on seal stomach content assessing the effect on cod biomass, ICES experts are working on models and collecting new evidence to further quantify the importance of cod in seal diet.*

Parasites in cod: *Parasite infestation of cod is also a driver of natural mortality. It is however unclear if it is a cause or an effect of poor condition of cod. Science is investigating these complex issues (eutrophication, climate change, O₂ and seal abundance) and it is impossible to quantify the ecological effects.*



ICES assessments. The results of the project will be presented and published. The project will be concluded in 2027.

With reference to the prey availability for Bothnian herring, **the ICES representative** stated that the Natural Resource Institute in Finland had started research work on Bothnian herring and invited the Swedish University of Agricultural Science (SLU) to participate in the research on size structure of this stock and prey species dynamics. He informed that the results of this scientific work will be shared with ICES. There is a lack of information on the current abundance of *Mysis relicta*. Bothnian herring will be addressed in a special request submitted to ICES by DG Mare.

A representative of small scale fishers from the BSAC referred to the fact that research on Bothnian herring is carried out in SD 29 and 32, but should also cover SD 30 and 31. He noted that the stock has been in constant decline for 30 years despite the ICES model claiming the stock has been constantly underfished during this time. Given the relationship between food availability, predation and spawning stock biomass, he asked what work is ICES undertaking to ensure more accurate natural mortality estimates?

The ICES representative stated that herring growth is not only affected by the lack of prey. Lack of zooplankton might be another reason for the decline in the condition of Bothnian herring. He agreed that experts should take a further look at the stock, and consider the need to revise the fishing mortality and biomass reference points for herring in SDs 30-31 in view of the decreasing trend in spawning stock biomass in recent years.

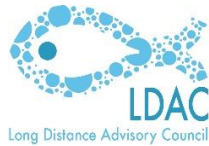
The TABACOD project results¹¹ have shown new information on the actual growth rate of cod. The eastern cod has a very low growth rate, and in some cases, there was no growth at all. Why did ICES not take into account these important growth rate/age results in the cod stock assessment?

The ICES representative informed that growth rate/age results are incorporated in the cod stock assessment. However, the ICES assessment working group had concluded that the growth parameters derived from the TABACOD project were considered to be an overestimate of the Eastern Baltic cod growth, although they were used to validate the change in growth. The incorporation of these results will probably be considered again in the next benchmark.

How is ICES explaining why cod is getting shorter and thinner? Is it related to a problem of an increase of selective fishing? Do you think that from a genetic point of view such fish should be kept in the stock or should be harvested?

The ICES representative stated that on the basis of information provided for publication cod with high infection load cannot grow.

¹¹ <https://orbit.dtu.dk/en/publications/tagging-baltic-cod-tabacod-eastern-baltic-cod-solving-the-ageing->



In the small pelagic fisheries, selective fishing with minimum mesh sizes leads to the structure of the catches not reflecting the structure of the harvested stock. In addition, for these fisheries, changing size selectivity by increasing mesh size may be detrimental, due to potentially higher hidden underwater mortality. In light of this, does ICES think that minimum mesh size for the species should be applied?

The ICES representative answered that due to high mortality rates and lack of full knowledge ICES cannot conclude whether there should be a minimum mesh size for pelagic fisheries. More science is needed to answer this question.

A fisheries representative from the BSAC referred to the answer received in the beginning of January 2024 from one of the ACOM Vice-Chairs by the BSAC to the question referring to the TABACOD project. He could not agree that *the growth parameters of Baltic cod derived from the TABACOD tagging program (TABACOD project) were considered to be an overestimate of the Eastern Baltic cod growth*. He also questioned the ICES comment that *tagged fish most likely included individuals of western Baltic cod*. He underlined that according to the project report, 76% of the tagged cod had been assigned to the eastern cod stock.

The ACOM Vice-Chair explained that a benchmark is needed to include any new scientific evidence.

The ICES representative asked the BSAC to send additional written questions to ICES. After consulting the experts, the ICES representative will reply in writing.

15. Questions on reference points: Bmsy and Feco

Bmsy: *In the Baltic, only the Gulf of Riga herring stock has a biomass that has been more than double MSY Btrigger, which is a proxy for Bmsy, while sprat is the only other stock estimated to be above MSY Btrigger.*

Therefore, the question is when and how will ICES utilise the Bmsy reference point? This is necessary for managers to ensure that harvested stocks are above MSY levels (in line with the CFP) and for the majority of fishers to have sufficient catch availability.

Feco, an ecosystem-based fishing mortality reference point: *The Feco fishing mortality reference point has been used in the Celtic Sea. Can ICES explain the Feco concept and exemplify how it could be used in the Baltic? Does it have value in light of the need for better fishing mortality management within the mixed fisheries sprat/herring/cod and cod/plaice/flounder?*

This question was not dealt with at MIAC meeting due to the lack of time. Bmsy and Feco reference points were largely covered under an agenda point of MIACO on reference points.

Concluding remarks

The Chair thanked the ICES representatives and the AC representatives for good discussions.



Written responses from ICES received after the meeting

Stock assessment: A1 NWWAC and SWWAC - Application of the precautionary approach ICES is requested to provide advice on these stocks in the MoUs and Grant agreements. In the absence of sufficient data ICES applies its precautionary framework. ICES would encourage the collection of data to support the assessment and management of DLS stocks. Collaboration with National Scientific institutes and coordination through the RCGs of the DCF is needed. ICES has also worked on methodologies to allow for non-traditional data (WKENSURE, WKDSG, WKSHOES and the Data Profiling Tool). Guidance has been developed to support the integration of an increasing number of data and information contributions by third parties into ICES processed. WKLIFE is also currently working to try to come up with different methods for these types of stocks.

A2 NWWAC and SWWAC - Avoidance of unwanted catches in stock assessments Many of the ICES assessment include scientific estimates of unwanted catches, such as information on catch at age and length frequencies of catches. The assessment models usually allow for changing selectivity patterns in the fishery and this is informed by data (survey and catch data). So most assessment models can estimate improved fisheries selection and this is taken into account in the assessment and subsequent forecast.

A3 PelAC - Boarfish The boarfish benchmark is ongoing and without pre-empting the results of the benchmark process if the assessment move to category 1 then the advice cycle may be updated to annual subject to agreement of requesters. If it fails to reach Category 1 WKLIFE methods would be considered. Note that most (except SPiCT) are for 2 year advice and have been tested for bi-annual application and should not be used for annual advice without bespoke testing according to the developers.

A4 PelAC - Herring in areas 6a North and 6a South 7bc A benchmark would be needed but discussing at HAWG would be important for BenchMark Prioritisation.

BSAC - Herring and cod stocks in the Baltic ICES is relying on sampling and monitoring data from member states to assess the levels of unavoidable bycatch. Ecosystem based approach and mixed fisheries considerations

A6 BSAC - Progress of the work on mixed fisheries advice in the Baltic Sea for pelagic and demersal fisheries Progress was made this year in WGMIXFISH. If this work continues mixed fisheries scenarios can be implemented in 1-2 years.

A7 PelAC - ICES training opportunities on Ecosystem approach fisheries management This is a matter for DG MARE but some previous ICES training courses funded by DGMARE were open to stakeholders.

BSAC - Questions on ecosystem considerations in stocks advice of the Baltic



1. Last year, the BSAC had asked this question (how to account for seal and parasite mortality in the advice) and ICES answered that work was ongoing¹². Is there any update to this? DTU Aqua has applied for a EMFAF project on natural mortality conducted by seals, cormorants, and parasites and how this can be incorporated in the stock assessment. Funding decision will be made in about 1 month.

2. What efforts are made to better estimate the natural mortality levels due to impact of predators such as seals and cormorants (on the cod stocks) or prey availability (such as *Mysis relicta* for Bothnian herring)? A pilot study was carried out by DTU in 2022 in the Western Baltic, where a large group of cod has been tagged with PIT-tags to investigate the magnitude of predation from cormorants. The preliminary results have shown a high predation rate (> 25 %). Estimations on the total number of juvenile cod eaten by cormorants in the Western Baltic also show very high predation rates. However, these numbers should be further evaluated by including data from many colonies, as recent German studies have shown very large difference between cormorant colonies in their dependence on cod in the diet (0 to 80%). DTU Aqua is likely going to continue the investigations in coming years. In the Bothnian Sea, northern SD 29 and northern half of SD 32, monitoring of *Mysis* abundance was started in each BIAS survey haul at index (0–4) level, 2022 as the first year. Mysids have regularly been seen among the fish in the catches, and earlier observations from surveys in the Bothnian Sea (BIAS) suggest that there is a relationship between the abundance of mysids in the catches and the condition and possibly growth rate of larger herring. In addition, the first try to observe mysids with acoustic equipment was tried in 2023.

The TABACOD project results¹³ have shown new information on the actual growth rate of cod. The eastern cod has a very low growth rate, and in some cases, there was no growth at all. Why did ICES not take into account these important growth rate/age results in the cod stock assessment? From the latest benchmark report it appears that the reduced growth is incorporated into the assessment:

Growth information Annual age- length-keys (ALK) are used in the assessment model from 1991 onwards to inform the estimated yearly deviations in Von Bertalanffy growth parameters. The ALKs are based on age readings from BITS surveys, available in DATRAS. Both the ALKs from Q1 and Q4 are included.

Age information from otolith age readings is considered uncertain, especially for later years. Nevertheless, WKBALTCOD2 (2019) concluded the ALKs used to provide a reasonable proxy for estimating changes in growth for the following reasons: i) The estimated change in growth is in line with expected changes in growth due to observed changes in biology of the stock and environmental conditions, as well as with preliminary growth information from a recent tagging program. ii) It is recognized that the exact values for Von Bertalanffy growth parameters estimated in the stock assessment are uncertain due to imprecise age information. This is affecting also natural mortality estimates, as growth and M are confounded. However, the results of the stock assessment in terms

¹² For seals: Work is ongoing on updating data on seal stomach content assessing the effect on cod biomass, ICES experts are working on models and collecting new evidence to further quantify the importance of cod in seal diet. Parasites in cod: Parasite infestation of cod is also a driver of natural mortality. It is however unclear if it is a cause or an effect of poor condition of cod. Science is investigating these complex issues (eutrophication, climate change, O₂ and seal abundance) and it is impossible to quantify the ecological effects.

¹³ [Tagging Baltic Cod – TABACOD: Eastern Baltic cod: Solving the ageing and stock assessment problems with combined state-of-the-art tagging methods – Welcome to DTU Research Database](#)



of stock status were found to be robust to the uncertainties associated with separating between M and growth (see ICES WKBALTCOD2 2019 for further details). For these reasons, the ALKs presently used in the stock assessment are considered to provide a reasonable proxy for informing growth changes for stock assessment purposes. This is considered a temporary solution, until an alternative method for estimating growth becomes available (e.g. otolith microchemistry).

How is ICES explaining why cod is getting shorter and thinner? Is it related to a problem of an increase of selective fishing? Do you think that from a genetic point of view such fish should be kept in the stock or should be harvested?

The reason for fish in becoming thinner is not due to selective fishing but due to lack of food, oxygen depletion and parasites. A recent unpublished study by DTU Aqua shows that cod with high infection load cannot gain weight (or increase condition factor), even with unlimited access to food. The directed fishing on cod has been prohibited for many years in the eastern Baltic area and it would be expected that this trend (with thin cod) would reverse if it was caused by selective fishing when no directed fishing is ongoing.

In the small pelagic fisheries, selective fishing with minimum mesh sizes leads to the structure of the catches not reflecting the structure of the harvested stock. In addition, for these fisheries, changing size selectivity by increasing mesh size may be detrimental, due to potentially higher hidden underwater mortality. In light of this, does ICES think that minimum mesh size for the species should be applied?

ICES would like to reiterate the conclusions of WKHERBAL that the basis for gear related technical measures for size selection in fisheries for small pelagic species are weak due to apparent high rates of post escape mortality, and that it was probably not a high priority to explore this further unless a more detailed review of the role of technical measures in fisheries for small pelagic species is available. This review is particularly important as the potential effects of this source of unaccounted mortality is largely unknown but may be substantial. Regarding the current question from BSAC about whether minimum sizes for herring should at all be applied, ICES considers that before any firm conclusion about the pros and cons of size selectivity through mesh size.