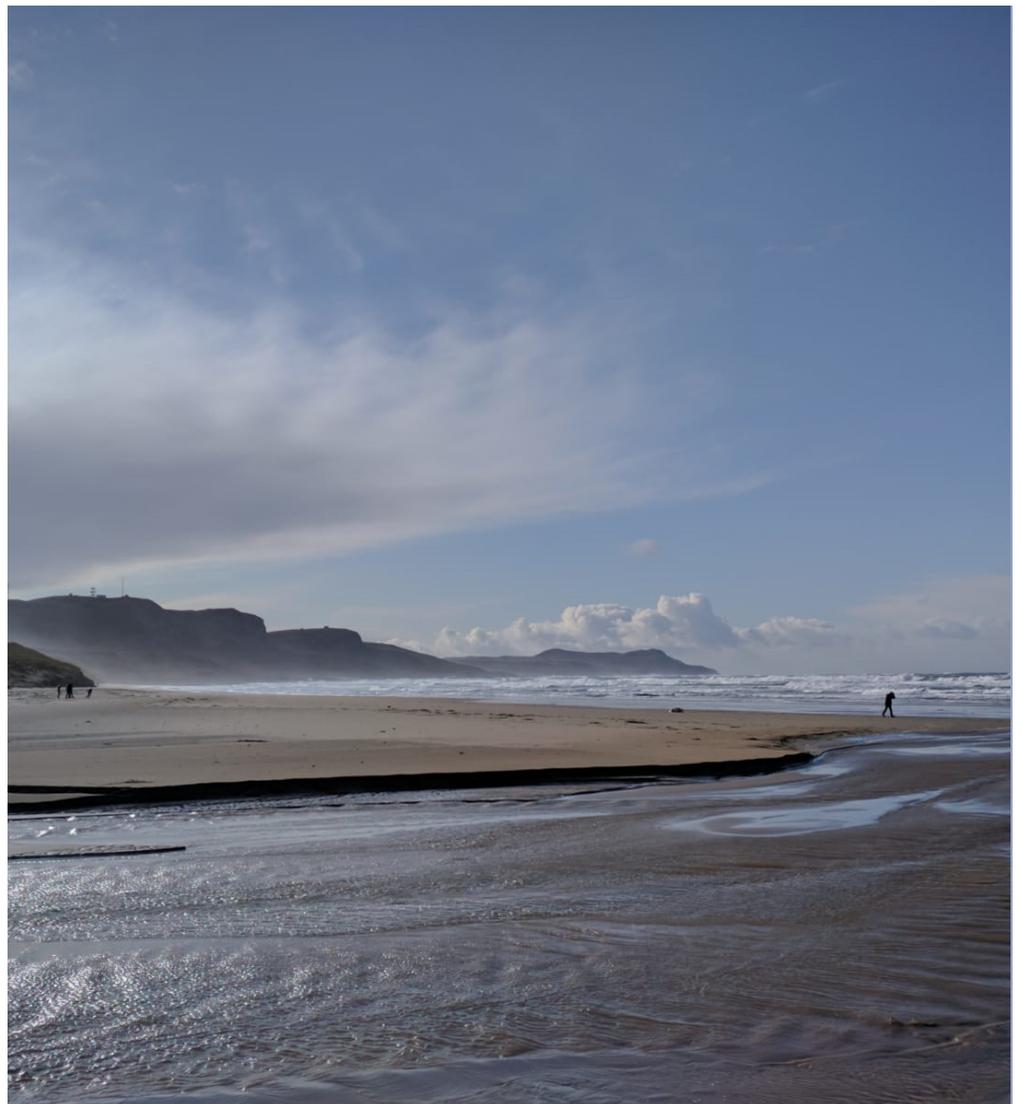


Report of the Annual Meeting between ICES, Advisory Councils and other Observers (MIACO)

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i Executive summary

This report presents a comprehensive overview of the 2025 meeting between ICES (International Council for the Exploration of the Sea) and Advisory Councils and other observers (MIACO). It covers the advisory outputs produced in 2024, quality assurance initiatives, future directions for fishing opportunities advice, ecosystem service and effects advice, stakeholder engagement, and planning for 2025. The meeting aimed to review current practices, discuss challenges, and gather stakeholder feedback to improve ICES advisory processes.

ICES produced a record 251 advisory documents in 2024, covering fishing opportunities for 192 stocks with an estimated catch of 5.2 million tonnes in the North Atlantic. Advice also included special requests on management plans, marine strategy directives, and ecosystem-based fisheries management. Ecosystem services advice encompassed Vulnerable Marine Ecosystems (VMEs), bycatch of endangered and protected species, and spatial trade-offs related to benthic impacts. New developments included workshops on offshore wind energy and the publication of the Framework for Ecosystem-Informed Science and Advice (FEISA) and a roadmap for marine recreational fisheries. Quality assurance efforts focused on the Transparent Assessment Framework (TAF) and data management improvements, including clearer data calls and enhanced diagnostics to increase reproducibility and transparency of advice.

The ICES Action Plan to Address Quality Assurance was detailed, highlighting coordinated sampling programs, data governance, and the benchmark process as key quality control elements. The plan emphasizes accountability, transparency, and continuous improvement through audits, diagnostics, and training. Challenges such as complex model errors and software version inconsistencies were noted, with a transition to TAF expected to reduce such issues. Ten prioritized actions for 2025 include adherence to deadlines, improved benchmark planning, independent audits, standardized diagnostics, and automation of outputs.

Discussions on rebuilding strategies and reference points highlighted ongoing work by ICES workshops and the MIRIA subgroup. While rebuilding scenarios are under development, implementation in 2025 advice was considered premature. The separation of operational reference points from stock status reference points is proposed to improve clarity. Stakeholders expressed diverse views on mixed stock guidelines, emphasizing the need for clarity, consistency, and communication of risks to managers. Concerns about economic impacts and the practicality of zero catch advice in mixed fisheries were raised, with calls for more adaptive and pragmatic approaches. ICES reaffirmed its role in providing precautionary advice while maintaining independence and engaging stakeholders through open workshops.

The Framework for Ecosystem-Informed Science and Advice (FEISA) was introduced as a tool to support ecosystem-based management by integrating indicators, risk assessment, and operational objectives aligned with management goals. FEISA facilitates translation of scientific knowledge into actionable advice, emphasizing risk communication and incremental development from contextual to objective-based assessments. The approach aims to connect diverse ecosystem considerations with fisheries advice while allowing for tailored management strategies.

Planning for next-generation Ecosystem Overviews (EOs) will focus on enhancing relevance and usability by integrating overviews with fishing opportunities advice. Feedback highlighted the importance of actionable management objectives by ecoregion and the potential role of overviews in advancing ecosystem-based fisheries management (EBFM). The interaction between descriptive and strategic advice remains a topic for development.

Progress on the ICES Offshore Renewable Energy roadmap includes reports and workshops addressing socioeconomic impacts on fisheries, cumulative impact assessments, and ecosystem effects of ORE developments. The advice will focus on scientific assessment rather than management actions, considering both negative and positive ecological impacts, including artificial habitats and species introductions. The scope primarily covers bottom-fixed and floating wind systems, with attention to lifecycle phases from construction to decommissioning.

ICES activities supporting the Kunming-Montreal Framework and EU Nature Restoration Regulation include the planned Workshop on Nature Restoration (WKREST) aimed at defining restoration types, recovery timeframes, and monitoring capacities. The workshop will involve experts across fisheries, habitat mapping, and marine spatial planning. WKREST is positioned as a scientific exercise to build advisory capacity aligned with policy drivers and international frameworks.

The new ICES stakeholder webpage was launched to improve transparency and showcase stakeholder roles in ICES processes. The Stakeholder Engagement Strategy, developed since 1980 and formalized in 2023, aims to build a diverse and competent stakeholder pool, enable effective contributions, and maintain traceable engagement processes. The Working Group on Stakeholder Engagement (WGENGAGE) will launch in March 2025 to support implementation of the strategy. The revised Observer Rules, revised in 2025, clarify observer types and access, balancing openness with the need to maintain impartiality in advice. Stakeholders expressed appreciation for the openness but noted challenges in participation in certain closed groups, emphasizing the need for balanced and timely engagement.

The 2025 work plan aligns expert group meetings and advice requester deadlines to optimize advice production and quality control. New tools, such as PowerBI and SharePoint, will enhance advice process visibility. The meeting concluded with a summary of discussions and action points emphasizing quality assurance, stakeholder engagement, ecosystem-based approaches, and pragmatic advice frameworks. Participants valued the hybrid meeting format and highlighted the importance of transparency, balanced stakeholder input, and improved communication of scientific debates.

1 Welcome and opening of the meeting

The ACOM Chair welcomed the participants of the meeting and allowed the new ICES President to offer a welcome too. The new President reminded the participants that he would no longer be a delegate of his member country, the UK, now that he is now the President and as such represents the whole of ICES. The General Secretary spoke afterwards and welcomed the participants; he said this meeting is a real priority to hear peoples' needs and engage in discussions.

The ACOM Chair then presented a general overview of the meeting's purpose. He elaborated on the role of the Advisory Committee of ICES, which is to oversee all the advice that ICES produces, and how the Committee has an operational function of checking the advice on an ongoing basis as well as pushing forward with its advisory frameworks and principles to try to tackle new advisory needs.

The ACOM Chair explained that during their term, he really wants to be resilient in the face of change – he discussed the big factors of change in our marine ecosystems, such as climate change, a biodiversity crisis, and the need for safe and sustainable seafood. He established that ICES has a large roll in all three areas developing the best scientific information and advice to help supporting decision makers in making management decisions and working together in an “**Ecosystem-based Management**” framework.

It was explained that ICES vision and mission is to “**employ the knowledge of ICES to effectively meet the societal needs for impartial evidence, and to generate state-of-the-art advice on meeting conservation, management and sustainability goals.**”

The ACOM Chair explained that the meeting would be recorded and asked if anyone had any objections to this fact (no one did), and presented the [code of ethics/professional conduct information for the organization](#). This included acknowledging proper DEI practice, reporting misconduct, and addressing any conflicts of interest.

Afterwards, the ACOM Chair elaborated on the **Action Points from MIACO 2024** – he provided a bulleted list which is included below:

- Discuss mixed stock fisheries guidelines at the March ACOM meeting
 - Explained that the guidelines were developed by ACOM on mixed fisheries in March and that the topic will be returned to later
- Include links to TAF for stocks/advice processed through it
 - Stated that ICES has started doing that and there are links in the advice sheets now
 - Still working on improving this, brought up security checks being necessary/code audits that ICES wasn't aware of so it has been a more difficult process than initially thought
- Implement ICES Quality Management System
 - To be discussed under Agenda Item 4
- Provide feedback on the ICES Endangered, Threatened, and Protected species bycatch roadmap by January 2024
 - Stated that ICES did not receive any feedback and published the ETP roadmap during Summer 2024
- Improve transparency in conservation advice inclusion for all stocks
 - Elaborated that ICES has changed the conservation advice (now called “**Conservation considerations**” in the advice sheets) and have been working to include it in all stocks as experts get the knowledge base together
- Prioritize EBM and address the ecosystem restoration needs

- Stated participants will hear more about the issue later in the week
 - Explained that there will be a presentation around a new ICES workshop (WKREST) planned in March revolving around the restoration of marine ecosystems
- Strengthen stakeholder engagement with clear roles and transparent processes
 - Stated this would be elaborated on in Agenda Item 7
 - Stated new workshop will begin regarding stakeholder engagement strategy
- Enhance reproducibility of advice using the Transparent Assessment Framework (TAF)
- Develop guidance for cumulative and combined effects related to Offshore Renewable Energy (ORE)
 - Stated this is on the agenda and that ACOM has received two special requests in relation to ORE and is seen as an active area ACOM is working on
- Update Vulnerable Marine Ecosystems (VMEs) advice
 - Discussed the potential errors in this advice
 - Elaborated that ICES released an update to the advice in September 2024 – explained how a report that documented changes to data submitted and corrections to errors to historical data in the VME database – has since been corrected and the correct data is used in the 2024 advice
- Create a stakeholder webpage to facilitate access to ICES events and information
 - Stated this will be discussed and presented to welcome feedback later in the meeting

2 Adoption of agenda

The ACOM Chair moved on from the opening of the meeting to the overview of the agenda. He stated that the meeting had already covered Items 1 & 2 (Welcome & Introductions), and started moving along the agenda path:

- Item 3 – Overview of Advice in 2024
- Item 4 – Quality Action Plan
 - Stated there would be a presentation provided in response to some error received in 2024
- Item 5a – Rebuilding & Reference Points
 - Explained that various different ICES groups were doing (including MIRIA) to bring forward its framework around rebuilding and reference points
- Item 6a & 6c – FEISA& ORE
 - Stated there would be presentations on both FEISA and ORE
- Item 5b – Mixed Stock Guidelines
- Reception to end the day
- The next day – Item 7a, 7b, & 7c – Stakeholder webpage, stakeholder engagement strategy, and changes to the observer rules
- Item 5c – Advice Changes
 - Stated these are planned for 2025 advice
- Item 6b – Overviews
- Item 6d – Biodiversity & Nature Restoration
- Item 8 – Workplan for 2025
- Item 9 – Wrap Up

After going through the agenda (Annex 2), the ACOM Chair conducted a round table for those in the meeting on-site as well as the virtual attendees.

3 Overview of ICES advice produced in 2024

ACOM Chair presented the advisory output for 2024. A total publication of 251 advisory documents which comprised advice on 192 stocks, various special requests and technical services. The represents highest level of output by ACOM to date. Advice was provided on fishing opportunities for the 192 stocks, equating to 5.2 million tonnes of catch in the North Atlantic. Special requests advice were also produced on management plans for Icelandic herring, a research roadmap for Baltic herring, and advice on the Marine Strategy Framework Directive D3C3, among others.

ACOM Chair discussed the ecosystem services and effects advice provided in 2024, which comprised advice on Vulnerable Marine Ecosystems (VMEs), bycatch of endangered and protected (ETP) species, and ecosystem-based fisheries management. Advice on VMEs was provided as recurrent advice to EU Commission DG MARE and for NEAFC Regulatory Areas. For advice on bycatch of ETP species, in addition to the recurrent advice to DG ENV, ICES also provided advice on special requests for bycatch monitoring systems. Advice on spatial trade-offs and

benthic impacts was given to DGENV and advice on ecosystem-based fisheries management was provided to NEAFC and OSPAR.

New developments in 2024 were presented by ACOM Chair, which included Workshop on off-shore wind (WKWIND), the publication of the Framework for Ecosystem-Informed Science and Advice (FEISA), and the new Roadmap for Marine Recreational Fisheries.

Issues of quality assurance and data management were emphasized by the ACOM Chair by highlighting the Transparent Assessment Framework (TAF) and the Regional Data-base Estimation System (RDBES). TAF was presented as a part quality assurance and plans for increased training for using TAF and development of templates. Efforts in improving data management in ICES were also presented with ongoing process of development clearer data call processes and database. Quality control steps were also presented briefly such improved expert group audits, the use of standard diagnostics and reproducibility principles.

ACOM Chair also presented activities and requests that are already in process for 2025. Special requests in 2025 included requests on Offshore Renewable Energy (ORE), on Salmon aquaculture and genetic work on Northern Shelf cod.

Other workshops were also planned for 2025 related to ecosystem restoration, stakeholder engagement and on impact of fishing on oceanic carbon (WKFISHCARBON).

ACOM Chair introduced the new advisory plan for 2025, focusing on quality assurance, process innovation, capacity building, and ecosystem-informed advice.

MIACO thanked ICES for the dedication and as well the online apps which are very useful. The independence of ICES as advice provider and as well the time used to communicate the advice was highly appreciated. The EO on the Baltic and the illustration was highlighted as both important and very good.

Concerning MoUs with other organisations, the Chair clarified the development of an MoU with ICCAT done during 2024; the contents are focused on the format of collaboration and horizontal issues (EBM, Climate Change). The MoU outline the areas of mutual interests and allows a closer collaboration, also on stocks which are assessed by both IGOs.

MIACO commented that the low participation of the 'national administrations' in ICES ADGs and other activities may be due to resource limitation. In addition, it may be due to an unawareness of the opportunity to join as observers.

MIACO discussed retrospective patterns especially the finding by Edgar *et al* 2024¹, that globally stock assessments tend to underestimate F and overestimate SSB. It was asked whether this can explain some of the advice inconsistencies? Firstly, ICES is working on a response paper with other scientists to clarify some of the methodological issues in the Edgar paper. ICES routinely collects data on and reports the retrospective patterns on or assessments. Retrospective patterns are a symptom of underlying issues with either input data, assumptions, model settings, structural assumptions etc. ICES examines this through benchmark process by thoroughly investigating the input data as well as potential changes in biology and ecosystem factors to try to minimise retrospective patterns.

In relation to reference points, it was clarified that ICES do not include density dependence when calculating reference points but changes in growth and productivity are considered when estimating reference points and that a larger revision reference point framework is under discussion.

¹ Edgar GJ, Bates AE, Krueck NC et al. Stock assessment models overstate sustainability of the world's fisheries. *Science* 2024; 385 :860–5. <http://doi.org/10.1126/science.adl6282>

Concerning special requests and their announcement and planning, it was clarified that these are received throughout the year, and it is difficult to publish a calendar of planned requests early in the year. The ICES workplan is updated when a new request has been accepted with the details of the process. The Advice Activities Forum is as well updated with the details of the request once the request has been accepted. Given that some requests take a while to settle in terms of objectives, the announcement of the request may happen shortly before the process is initiated. Concerning potential new requests related to biodiversity and other measures than fisheries regulation, it was highlighted that the BBNJ OECM activities carried out for NEAFC in 2024 showed that ICES is very capable of performing such activities and provide advice, however, no new advice requests on like matters have yet to come.

4 ICES Action Plan to Address Quality Assurance

The ACOM chair presented ongoing activities within the secretariat and within the network in terms of assuring quality of data and ICES advice as well as the ICES quality assurance plan. The plan includes a number of different aspects; planning process, the quality assurance of the processes, quality controllers of products, quality improvement cycle (including communication and feedback loops).

Several aspects were noted in terms of planning. There are coordinated national and regional sampling programmes, which include the planning of international oceanographic surveys. There is also planning within the Secretariat around advice processes and meeting schedules. Data management requires considerable planning as well including the issuing of formal data calls with delivery deadlines, which has implications for the various different data submitters in different countries. In ICES there is also a data governance group, DIG, and the ICES data centre keeps all the data secure and validated.

In terms of quality assurance, the ACOM chair highlighted key processes currently taking place. The benchmark process was identified as a key step within quality assurance in ICES. In the expert groups individual scientists scrutinise their data and each other's assessments and audits and independent reviews are carried out. ICES tries to promote a culture of accountability and ownership within, where experts keep engaged in the processes and are available to answer questions. When mistakes occur, there should be openness about it and work takes place to correct those mistakes in a timely manner. Guidelines and frameworks agreed by ACOM should be followed in the different processes.

The ACOM chair described some of the data quality indicators developed for several parts of the advisory process. For example, there are quality reports from member countries submitting to RDBES and the assessment expert groups use diagnostic plots and statistics to evaluate the quality of the data and results. It was recognized that ICES is moving towards reproducible and transparent advice where FAIR principles are applied.

It was also highlighted in the introduction of the action plan that in the last 5-6 years there had been considerable investment on communication. For example, the production of clear ADG minutes, and improving communication between ADGs and expert groups. It was also noted that quality issues are regularly discussed with WG chairs during WGCHAIRS. ICES also runs a number of training courses periodically to keep experts aware of and trained in different methods as they develop.

The ACOM chair reported that many of the errors were of a complex nature, particularly when new assessment models were applied and there were not sufficient quality diagnostics

accompanying such models. **The development of simplified and improved diagnostics for complex models was identified as a need as well as making the process more transparent with TAF and RDBES.** It was noted that some of the errors detected in 2024 related to the code used in the short-term forecast and were spotted by the WGMIXFISH in October 2024. **In 2025 these forecast checks will happen before the single stock advice is released.** Other errors related to the assessment model itself and was due to experts running assessment in their own computers and using old versions of software considered no longer reliable. **It was noted that a move towards TAF would minimize these types of errors from happening. There is the intent to have the assessments within TAF after benchmark processes are completed.** The ACOM chair explained that the main assessment models currently used in ICES are SAM, SS, SPiCT and UWTV. **ICES is developing templates and specific diagnostic tools for those four moles. Other assessment models may need a more rigorous review at the benchmark stage.**

The 10 actions included within the ICES action plan on quality assurance were detailed by the ACOM chair:

- Adhere to deadlines
- Improved benchmark planning
- Auditing the risk associated with different assessments
- Externalize the audits to independent early career scientists
- Audits of code post benchmark and standardization of methods
- Standard diagnostics and quality-controlled templates in TAF
- Consistency checks between advice sheets and SID/SAG/ASD through a new developed tool
- Independent run of the short-term forecast, where possible
- Automate outputs from TAF to other databases
- Integrate and simplifies ICES guidelines
- New ICES advisory plan
- Promotion of a quality assured culture in the network

Five take home messages for MIACO were highlighted by the ACOM chair:

- The ICES quality assurance plan will improve data quality;
- Advice corrections put stress on the system and new solutions are needed to minimize the burden (e.g. multiannual advice, corrections of major issues, fall-back advice);
- Strengthening the benchmark process is key including the engagement of stakeholders and the provision of potential new data streams;
- Proper resourcing is needed to keep the quality standards and the speed that are wanted;
- Developing a pre-agreed decision tree determining which errors need to be corrected would allow to free up resources in the system.

The floor was open for comments and suggestions from MIACO.

Discussion points

The PELAC representative had two comments on the Irish herring (North) and mackerel stock assessments. Regarding Irish herring, there were questions on the model appropriateness, and it was highlighted that issues flagged at the 2017 benchmark were still unresolved. Issues related to stock mixing were also mentioned. It is questioned whether the new quality assurance plan will help with these situations. Regarding the mackerel stock assessment, it is mentioned that

some official landings had not been included in the model. The PELAC representative asked for clarifications on whether this was due to data confidentiality.

The ACOM vice-chair replied to the comments saying that on Irish Sea herring the error in the assessment model was deep in the assessment settings and difficult to be picked up by the standard audit in the working group. The error was not found until a new expert took over the assessment and re-run all the pieces of the model. The stock mixing was not identified as an issue. It was clarified that additional genetic work is being carried out and new information can be incorporated into the stock assessment when available. The ACOM chair pointed out that the assessment is now included into TAF and there is full transparency.

The ACOM Chair replied regarding the mackerel landings saying that some countries flagged some of the data as confidential, meaning that it can't be published in ICES reports. However, all landings data are included in the stock assessment. It was noted that flagging the data as confidential by some countries was not a welcome development, not in compliance with EU regulations and that there should be full transparency around reporting fisheries statistics.

The PELAC representative had a final comment on the single stock advice summaries and the statements on stock mixing that can be unhelpful. The ACOM chair explained that there will be another point in the agenda about mixed stocks, that the issue had been discussed with MIRIA, and there will be further discussion with ACOM on trying to improve the mixed stock guidelines.

There was a question on whether there could be a quantification of the uncertainty in the models and the ACOM chair replied that this is already included in the assessment summaries and advice sheets by showing confidence intervals in the trends for SSB, Fishing mortality, and Recruitment. What is currently not done is to provide confidence intervals around the forecast since it will not be helpful for managers to have uncertainty bounds around catch advice. **ICES is open to explore additional ways of communicating uncertainties in the assessments and ICES is collaborating in a project that is looking at several new different quality indicators that could be included into the advice sheet.**

The representative from Low Impact Fisheries Europe pointed out that there may be additional errors in the models/advice sheets that are not picked up so the number of reported errors could be an underestimate. As an example, he pointed that if an expert group or ADG concludes that reference points for a stock are not appropriate anymore, those are re-estimated, but this change is not registered as an error. In other cases, there may be factors affecting the assessment (e.g. natural mortality) that had changed considerably but models do not adapt fast enough to account for them. In addition, he pointed out that the action plan on quality assurance does not include an action on how to improve commercial fisheries data and mentioned that the new control regulation will provide an opportunity to improve the quality of input data. As an example, he mentions the issue on herring and sprat misreporting in the Baltic. He introduced a final point on stakeholder input, pointing out that data from stakeholders provided to ICES processes usually comes from the same industry segment. He suggested that a more proactive approach may be needed to get engagement from other sectors of the industry, as not all sectors have the same opportunity to react quickly to data calls.

The ACOM Chair responded that errors are picked up through the advisory process before the advice is published; at expert group level, ADG level, etc. This is a reflection of the quality assurance process in action. It is clarified that these decisions are documented in ADG minutes and partially in WG reports. It is noted that observations and scientific studies with estimates on consumption rates are needed in order to integrate natural mortality and predation into assessment models. However, this information is not readily available for many stocks, and when developing reference points and MSEs robustness tests are performed regarding the assumptions on natural mortality and predation. **The ACOM Chair recognized that more of these robustness**

tests around natural mortality assumptions should be done. It was also agreed by the ACOM chair that ICES needs to work on mechanisms to achieve balanced input from stakeholders. ICES needs to be very mindful that different stakeholders have different capacities to engage. The stakeholder engagement strategy includes participatory processes that can help ensure balance, which can be addressed by WGENGAGE.

In terms of improving data collection, the ACOM Chair pointed towards further work with the institutes, the data collectors, and the different sectors to **improve data streams, and the need to leverage new technologies such as VMS and other methods introduced under the new control regulation. It was also noted that ICES has started to investigate collaboration with EFCA on the integration and usefulness of control data for scientific purposes.** The Scottish Fishermen Federation was mentioned as a good model going forward given its collaboration with Marine Scotland Science and the provision of industry data into the system as part of their observer programme.

The representative of Fiskebåt Norway had a comment on the way the single stock catch advice is presented. He pointed out that when catch advice is for more than 1 million tonnes, showing catch advice down to the nearest tonne can be over precise. He suggested a revision of the way numbers are rounded. The ACOM chair replied that this hyper precision on the ICES advice related to the guidelines on rounding rules. It was explained that when those guidelines were drafted there were long discussions in ACOM about rounding biomass to the nearest 1000, 100, 10, 5 tonnes etc. In the end ACOM decided not to round the biomass estimates but this means there is a hyper precision issue. The way the advice is presented should be further discussed in ACOM but rounding rules are not a priority issue at the moment.

A representative from the Scottish Pelagic Fishermen's Association highlighted two ICES reports from expert groups that may be of interest to MIACO regarding quality and standards: The workshop on accounting for fishers and other stakeholders' perceptions on the dynamic of fish stocks in ICES advice from 2024 (that elaborates on alternative data streams and how to manage those and through the ICES process), and The Workshop on standards and guidelines for fisheries dependent data from 2021. The links to the two reports were posted in the chat of the MI-ACO meeting.

The representative for the Danish society for nature conservation had a comment regarding the suggestion that perhaps only major issues may be corrected in the future. She suggested that a definition of "major" would be helpful. **The ACOM chair replied that this issue was discussed with MIRIA and a subgroup will be formed to elaborate on next steps.** To determine what could be "major" the timing of the advice could be considered; it might be too late in the management cycle for a correction to the catch advice to be useful to managers. ICES would still be transparent and report any errors in the working group reports and in relevant advice sheets the following year. It was also pointed out that there may be corrections that result in very small percentage changes in catch advice (< 1% as was the case for North Sea herring in 2024). Also, it was mentioned that for stocks with catch advice of 400,000 tonnes corrections may result in changes in catch advice that are negligible in the grand scheme of things. However, to issue a correction of advice still implies one or two weeks of work. There may also be special cases of stocks that are sensitive politically, or that are below B_{lim} where updating the assessment becomes a more important issue. **The ACOM Chair notes that ICES needs a dialogue with the managers to decide when advice updates are needed, potentially a decision tree can be developed.**

Action points identified:

- The development of simplified and improved diagnostics for complex assessment models as well as making the process more transparent with TAF and RDBES.

- It should be discussed how to make checks in short term forecast earlier in the calendar and before the single stock advice is released.
- A move towards TAF would minimize assessment errors from happening. There is the intent to have the assessments within TAF after benchmark processes are completed.
- ICES to develop TAF templates and specific diagnostic tools for the four most common assessment models used in ICES. Other assessment models need a more rigorous review at the benchmark stage.
- ICES to explore additional ways of communicating uncertainties in the assessments considering new quality indicators that could be included into advice sheets.
- More robustness tests around natural mortality assumptions should be done when assessment models are tested at benchmarks.
- ICES to work on mechanisms to achieve a more balanced input from stakeholders.
- ICES should think on the integration and usefulness of control data for scientific purposes as well as improve data streams and the need to leverage new technologies such as VMS and other methods introduced under the new control regulation.
- ICES and managers to decide when advice updates are needed after errors are found, potentially a decision tree can be developed. A subgroup will be formed to elaborate on next steps.

5 The future of fishing opportunities advice

5.1 Rebuilding, reference points and the advice framework

The ACOM Vice-Chair presented the results of ICES workshops on rebuilding strategies (WKREBUILD2) and detailed the work and current status of the MIRIA subgroup on this topic. The subgroup agreed that the work on this topic should be continued in 2025 as implementing rebuilding scenarios in the advice for 2025 was considered premature. While robustness testing of the sensitivity of alternative HCRs to low recruitment scenarios was considered valid, using a weighing factor to identify an optimal HCR was considered overstepping into management trade-offs and was not considered appropriate. The results of recent ICES workshops on the reference point framework were also presented. WKREF2 suggested to separate the operational reference points in the ICES advice rule from the stock status reference points. The next step from a science perspective is WKREFFRAME, which will examine the standard ICES advice rule (AR) and advice framework and make proposals on appropriate operational and status reference points. MIACO was asked to comment on these crucial stock advice topics.

Regarding rebuilding plans, MIACO asked if ACOM is unanimous that the rebuilding plans are better options to the current advice framework. Some members were disappointed to see that the advice requesters were reluctant to implement rebuilding plans. ACOM may agree, but this is a management issue so it is critical that managers are on board. ACOM focusses on precautionary advice, the specifics of rebuilding are for managers to discuss. The current advice rule and how it is applied has evolved over time and ACOM has agreed to carry on work (in consultation with requesters) to develop it further and test its robustness.

The ENGOs feel that they can bring fresh perspectives to the discussion and are keen to be involved. It was noted that sometimes the headline advice leads to stock size decreasing even when the stock is below $MSY B_{trigger}$. This less than desirable situation still allows managers to claim that they are acting sustainably by following the ICES headline advice. It was explained that the aim of the of AR is to recover stocks at lower biomasses quicker than fishing at F_{msy} , while the rate of recovery of stocks from such biomass is a concern for managers.

Fishery representatives noted that reference points are for use in fisheries management, and aren't pure scientific values to be estimated. Also, reference points are often based on averages over time, even though there will be natural stock fluctuations from year to year. There is also a need to allow for unavoidable bycatch. It was suggested that ICES should play a big role in describing consequences of different reference points and that there was a distinct need for more pragmatic advice. One suggestion that came up was the need to have more medium-term information in the advice sheet

ICES was asked to what extent the headline advice reflects all the broader fisheries policy objectives (e.g. on wider ecosystem health, population structure, food web integrity, rebuilding etc.). Presently it seems that this not specifically accounted for in the headline advice as a long- or mid-term perspective is rarely accounted for directly. ACOM was asked what initiatives they were taking to improve the ecosystem approach to fisheries management beyond single stock management and reference points. ICES is moving in this direction (e.g. F_{eco} in Irish Sea), but progress is slow (partly because of science developments still needed and partly because of a lack of clearly defined measurable objectives). Currently fishing opportunity advice is still single species oriented, and not everything is accounted for in the headline advice in general. It is not easy going from academic studies to advice, but there is a lot of ongoing work. There are examples from other areas (e.g. US) where regional councils work with regional ecosystem reference points.

It was noted that stakeholders do not have access to the MIRIA subgroups, though MIACO feels all parties should be engaged together as they have relevant views. ICES is happy to have a different meeting with stakeholders. Also, the WKREFRAME workshop will be open to all participants, so observers/stakeholders are welcome to attend. Some at MIACO felt it would be good to have a more general workshop with stakeholders to go through how F_{MSY} is calculated, how it is amended by the AR, timeframes considered etc. This would put stakeholders in a better position to provide relevant input.

In closing, the ACOM Chair emphasised the importance of keeping an arm's length between requesters of advice and ICES, in order to ensure independence. Science needs to be guided through dialogue between all parties to find the best solutions balancing different objectives. The current single stock approach uses generic rules for long term goals, so short term biomass declines may well occur. In such cases the management objective is important: for example, do managers priorities rapid recovery or still allow for some catch? Alternatives to zero catch advice exist (i.e. rebuilding HCRs) and it is important to develop an advice framework that is precautionary without stepping into management territory. There is no one size that fits all approach and it is difficult to implement an advice framework for many different stocks.

5.2 ICES mixed stock guidelines

The **Mixed Stock Guidance** was developed to address inconsistencies in advice given for the management of fisheries that catch mixed stocks of the same species. The ACOM vice-chair presented information on:

- **The need for guidelines:** Inconsistencies in advice across different areas led to the development of these guidelines to ensure a standardized approach.
- **Variation in data availability:** Some fisheries, like Northern Shelf Cod, have extensive data built into models, while others have minimal information, impacting the type of advice that can be provided.
- **Consistency with ICES Advisory Framework:** The guidelines must align with the ICES framework, ensuring precautionary measures for all stocks within a mixed fishery.
- **Stock-Specific Advice:** Each stock's advice should follow established rules, ensuring that fishing does not exceed sustainable levels. If a stock falls below B_{Lim}, fishing mortality must be restricted to restore the stock, potentially leading to zero catch recommendations.
- **Integration into Headline Advice:** Information on these mixed fisheries should be clearly included in advisory reports, and mixed-stock considerations should influence overall catch recommendations.

Feedback on the guidance was asked for. There was a mixed response to the guidelines.

Some MIACO members were very happy with the development and believed it vital the guidance was used in headline advice, as managers were not reading the rest of the advice sheet.

Other MIACO members felt that the current guidance was causing a lot of confusion.

Some s felt that more clarity was needed on how the guidelines would be applied across different fisheries. A key concern was how flexibility would be maintained while ensuring consistent advice across different management areas. Some members felt that they would like multi-species assessments and that it was not correct that ICES gave single stock advice and then tried to add mixed stock components. Others felt it should not be head-line advice as this is stepping into management. In the case of Northern shelf cod, some felt it would be better to provide catch scenarios and not give headline advice, rather leave it to the managers.

Some participants raised concerns about potential economic impacts, particularly if a stock falls below B_{lim}, requiring strict catch restrictions or zero catch recommendations. A case-by-case approach was suggested, where stocks in poor condition receive stricter limits, while those with healthy populations allow for more flexibility.

Most of MIACO agreed that mitigation measures should be in the Issues relevant for the advice. Some stakeholders suggested that additional reporting on mixed-stock interactions could improve decision-making, particularly where multiple species are caught together.

Feedback for ACOM in March

MIACO agreed that ICES needs to communicate the risk to managers and clear guidelines are needed, the format of how and when ICES communicate this risk is mainly what is at issue.

Participants emphasized that stakeholder perspectives must be considered in refining the guidelines. Several examples of mixed-stock challenges were discussed, including fisheries where one stock is overfished while another is healthy, making management decisions complex. It was recommended that ACOM consider adaptive management approaches that allow for adjustments based on new scientific data and industry feedback. There was also discussion about the need for continued engagement with industry stakeholders to ensure that the guidelines remain practical and effective.

5.3 Changes to fishing opportunities advice framework in 2025

The principles and current changes to the advice framework was presented to MIACO, focusing on three key areas: transition rules for category 1 and 2 stocks, advice rules for category 2 and 3 stocks, and advice rules for stocks below B_{lim} .

During the discussion of category 2 and 3 stocks, particular attention was given to technical challenges with the Constant Harvest Rate (chr), rb, and rfb rules regarding zero catch advice. It was noted that these rules cannot produce zero catch advice due to their formulation. To address this, WKLFIE has recommended that zero catch advice should be given when the biomass index falls below any reasonable B_{lim} . Conversely, when stocks show clear increasing trends, it was proposed that the average of recent catches could be used as the basis for the first year of non-zero advice, a practice already implemented for some stocks.

For stocks below B_{lim} in the assessment year, there will be no reliance for a short-term forecast and the advice will be for zero catch. ACOM will consider a more precautionary approach in March, potentially implementing zero catch advice whenever a stock is below B_{lim} in the assessment year.

Concerning the transition rule it was pointed out that if this could be explained in detailed in a sentence or two it would be very useful. Any changes to advice framework is discussed with managers given the need for the advice to be relevant and operational, however, the advice need to be fit for purpose and follow the 10 principles for advice and thus ACOM holds the final decision for any changes to the framework.

When ICES advises a zero TAC, continued data collection in the shape of monitoring TACs will continue to be provided where possible. However, in the opinion of MIACO, the operational part of a zero-catch advice is very limited and this discussion should be taken with the managers. A more pragmatic approach to manage zero catch stocks in a mixed fisheries is in highly needed.

6 The future of ecosystems service and effects advice

6.1 FEISA – what is it and how can we use it?

ACOM Vice-Chair presented the Framework for Ecosystem Informed Science and Advice (FEISA) which aims to enhance knowledge development and support ecosystem-based management (EBM) within ICES. It emphasizes the use of indicators to consolidate evidence for EBM and employs a risk assessment approach to translate these indicators into actionable advice. This approach identifies pathways from scientific research to practical advice through qualitative,

semi-quantitative, and objective-based risk assessments. The framework allows for incremental progress from contextual risk assessments, which prioritize human activities and ecosystem components, to objective-based risk assessments that evaluate management strategies and trade-offs.

ACOM Vice-Chair emphasized that in the FEISA approach, operational objectives are crucial, as they define specific indicator values tied to desirable or undesirable outcomes across biological, ecological, social, economic, and cultural dimensions. These objectives must align with management goals framed within governance and policy contexts. As risk management frameworks evolve, these operational objectives can become legally binding, particularly in fisheries.

FEISA builds on existing knowledge and practices within ICES, integrating contextual advice such as ecosystem overviews with component-specific advice, e.g., fishing opportunities. This integration ensures that ecosystem-informed advice considers the dynamic context and situates specific advice within the broader ecosystem framework.

Using the wind turbine analogy, ACOM Vice-Chair visualizes FEISA as follows: knowledge plurality forms the foundation or the tower of the turbine. Indicators represent one blade of the turbine, risk assessment another, and risk communication the third. Operational objectives are likened to the nacelle, essential for converting rotational energy into actionable advice. Just as the nacelle is crucial for generating electricity, operational objectives are necessary for producing relevant and actionable ecosystem-informed advice.

Questions and answer:

MIACO raised a question about FEISA using risk as a currency for communicating with managers. The example raised was in relation to advice for NAFO and NEAFC, where risk-based approach was preferred over MSFD approach. MIACO mentioned that from discussions with managers, they were concerned that managers will choose a less ambitious approach, instead of MSFD.

ACOM Vice-Chair responded to the advice for NEAFC, that if EBFM was the aim or goal, then FEISA can be used to compare and look into the overlaps between the two approaches. By using FEISA, we can connect the similar goals of the approaches of ecosystem informed advice. In terms of communicating risk to managers, by using risk table approach, managers will score all ecosystem considerations that were not considered in the assessment and apply a buffer in the advice if it reaches a second score. It was also highlighted that simpler approaches may lead to more false positives and overly precautionary management so there is value to tailoring the approach to the available information.

6.2 ICES overviews planning, next generation Ecosystem Overviews and Integrating overviews

ACOM Vice-Chair Marie-Julie Roux presented agenda point 6.b on the planning and integration of the Overviews within the ICES framework, to enhance the relevance and usability of these overviews while ensuring they meet the needs of various stakeholders.

There was a general support for integration and the main feedback point were:

Several MIACO participants stated that read the overviews and used them regularly in their meetings with policy makers.

The interaction between the Overviews and the fishing opportunities advice is still to be defined but we have identified points of overlap, and we need to optimize content with products like the advice explorer that is online based. The overviews should contain new types of more

disaggregated information on catches and fleet components was also mentioned by one participant and this could be useful for management as we gain new knowledge on the distributions of subpopulations, etc.

The next generation of EOs should contain more actionable management objectives by ecoregion, through a mapping exercise that necessarily will have to involve advice requesters, to ensure alignment and to bring forward the indicators to inform those objectives.

NEAFC has discussed the possibility to use the Ecosystem Overviews as a tool to advance in EBFM. One MIACO member highlighted that ICES needs to be aware of the consequences to managers in keeping the overviews descriptive Vs to committing managers to management actions.

6.3 ICES work on Offshore Renewable Energy roadmap and requests

The HAPISG chair presented progress on the ICES ORE roadmap implementation. Main highlights are the publication of the WKWIND report and two upcoming workshops to address some of the priority actions of the roadmap: WKOMO and WKDSIM.

The ACOM vice-chair gave an overview on the special requests related to ORE and the timeline for delivery: The DGMARE request on the socioeconomic impacts of ORE on fisheries and methodologies to model cumulative impacts and the GNBSI request to advise on the use of cumulative impact assessments to evaluate management scenarios, including ORE.

Key discussions were as follows:

Queries were raised about the scope of the DGMARE request and whether effects on MSFD D3 and D6 were considered.

ACOM Vice-Chair responded that the focus remains on the socioeconomic impact of ORE on fisheries and the impact on MSFD criteria were not part of the request.

Another question was on the effects of ORE on biodiversity and the creation of artificial habitats and potential positive impacts of ORE developments. ACOM Vicechair responded that a number of case studies will cover some of these aspects, but the final advice is yet to be drafted and can't say more about the content at this stage other than the planning. Balanced evaluations of ecological benefits and drawbacks are prioritized.

In any case, the focus of the advice remains on scientific assessments rather than management-oriented operational actions.

Other questions were on the type of ORE devices considered (i.e. floating wind). ACOM Vice-Chair responded that while the primary focus is on bottom-fixed systems, evidence on floating systems is also included.

A question was raised on whether the request would investigate existing approaches for cumulative impact assessments. The importance of addressing systemic issues like shifting baselines and time horizon limitations in cumulative impact assessments was emphasized. ICES intends to evaluate various methodologies and their applicability.

It is expected that the request will generate a degree of evidence that allows progress and possibly generates more questions too.

Questions on the ICES roadmap were whether the ICES roadmap included the decommissioning phases of ORE and the impact of cable operations and underwater noise. The HAPISG chair informed of the work of a number of ICES expert groups dealing with these issues including displacement of vessels.

The ACOM chair concluded by saying that ORE related science is emerging fast and ICES is well placed to inform and advise on MSP principles to avoid, minimise and mitigate negative impacts across all the dimensions (environmental, economic and social). ORE construction will cause significant changes to marine ecosystems, all stages of the life-cycle should be assessed from site investigations to decommissioning.

6.4 Kunming Montreal Framework & Nature Restoration Regulation

MIACO was provided with an update on key ICES activities supporting the Kunming-Montreal Framework and the EU Nature Restoration Regulation (NRR). A dedicated ICES workshop on nature restoration (WKREST) is scheduled for 4–7 March 2025 to advance this work. WKREST has attracted new experts in active restoration and established ICES groups, including fisheries assessment, habitat mapping, and marine spatial planning experts, who have overlapping roles in restoration-related work.

The workshop's primary goals include defining restoration types and recovery timeframes across taxa, exploring survey capacities for monitoring recovery, particularly for rare species, evaluating connectivity impacts on recovery processes, and identifying data and scientific needs to inform effective restoration strategies. The outcomes of WKREST are expected to support EU Member States in setting restoration priorities, considering the interplay between restoration goals and human uses of the sea.

During MIACO, it was inquired whether work under the Nature Restoration Regulation's Article 6 considers offshore renewable energy developments and their coordination to avoid conflicts with designated restoration areas. It was noted that WKREST is not directly addressing this aspect but is building ICES's capacity to advise in this area. A presentation by Andrew Kenny highlighted both positive and negative impacts of offshore renewable energy, such as artificial reefs and the risk of introducing non-indigenous species.

Questions were raised about whether ICES will focus on habitats or species in their restoration workshop, and whether land-sea interactions and nutrient runoff from agriculture in the Baltic Sea will be considered. It was noted that WKREST's scope is broader than the EU's Nature Restoration Regulation, including national perspectives and international policy drivers applicable to all ICES countries. Consideration of land-sea interactions and climate change impacts was also mentioned.

In the north-western Atlantic area of NAFO, challenges include addressing multiple overlapping pressures affecting restoration efforts of VMEs and defining irreversible damage relative to recovery time. The importance of mapping pressures and priority areas, utilizing previous ICES work, was emphasized.

There was an inquiry about sense-checking ICES work with potential future requesters and framing advice needs in current scientific workshops. It was noted that WKREST is a scientific exercise to build advisory capacity, with ongoing dialogue between ICES and requesters on where ICES can contribute most effectively to inform the nature restoration work.

MIACO also enquired about development and implementation timeframe for the Nature Restoration Regulation, similar to the MSFD. There was an inquiry about specific standard resolutions for calculating management objectives percentages under the Nature Restoration Regulation. It was noted that scale and resolution significantly impact results, with ICES traditionally using the c-square 0.05 x 0.05 degree resolution.

Regarding the review of higher-level agreements such as the Johannesburg or Reykjavik Declarations, it was noted that ICES's role is not to evaluate the effectiveness of these agreements but to provide evidence in the context of VMEs and legislative drivers. Lastly, there was an inquiry about using scientific or policy definitions in the context of nature restoration in WKREST. It was noted that a definitions paper was produced prior to the workshop to facilitate discussions, with definitions being a mix of science and policy.

7 Improving communications with advice users

7.1 Stakeholder webpage & navigating ICES website

ICES advice officer Jaylene Mbararia presented the new stakeholder webpage, which is located under the 'How We Work' tab. It is part of the strategy to improve transparency/clarity but also showcase how integral the work of stakeholders is to ICES. It also includes links to the new Observers page and the Advice Activities forum. The page includes an overview of stakeholder types and possibilities for stakeholder involvement in workshops etc.

7.2 Stakeholder engagement Strategy

The ACOM Chair presented an update on ICES' Stakeholder Engagement Strategy implementation. He outlined the historical context of stakeholder dialogue within ICES, which dates back to 1980, highlighting the organisation's gradual progression toward more open stakeholder engagement.

Key recent developments included:

- The Council's release of the Stakeholder Engagement Strategy in 2023
- The subsequent Workshop on Implementation of Stakeholder Engagement Strategy (WKSTIMP)
- Review and prioritization of WKSTIMP recommendations by SCICOM and ACOM in March 2024
- A pilot stakeholder engagement workshop on Management Strategy Evaluation for North Sea Herring in December 2024

The strategy defines success criteria including:

- Developing a diverse and representative pool of competent stakeholders
- Enabling effective contribution through clear process understanding
- Integrating essential knowledge for better science and advice
- Maintaining traceable engagement processes that inform decision-making

Looking ahead, the presentation noted that Terms of Reference for WGENGAGE (Working Group on Stakeholder Engagement) were officially approved by ICES, with the group set to launch in March 2025.

The Chair invited feedback on the strategy implementation, emphasising their commitment to incorporating stakeholder input into ICES processes. The strategy was broadly welcomed and positively received by the group. During the discussion a question was raised about differing observer approval variations between countries, though this was deferred to the subsequent observer rules discussion.

7.3 Revision of the Observer Rules

The ACOM Chair made a presentation on the revision of ICES observer rules. The focus was to enhance clarity and consistency with recently developed policies on the code of conduct, conflict of interest, and stakeholder engagement strategy. The existing policy, in place since 2013, lacked clarity regarding when individuals qualified as observers. A Council subgroup was established to review, identify gaps, and draft updated rules, integrating feedback from ACOM and SCICOM. While discussions with requesters were not conducted in this iteration, further revisions are planned. A key consideration was ensuring that stakeholder engagement does not compromise the impartiality and independence of ICES advice.

The revised rules do not significantly change stakeholder observation but introduce clear observer types with distinct access rules. These include requesters (organizations with formal agreements with ICES), stakeholder observers (organizations with observer status in advisory processes), research observers (academics studying ICES processes), partner observers (from intergovernmental organizations like PICES), and member country observers (nominated by National Delegates). Certain groups, mainly stock assessment working groups, remain closed to stakeholder observers unless nominated through national delegations. The benchmark processes, however, remain open for stakeholder participation.

The presentation concluded with an invitation to MIACO for comments and questions on the updated observer rules:

A participant commended ICES for its openness and welcoming approach to stakeholders. They expressed satisfaction that there were no major changes to the observer rules. However, it was highlighted instances where certain groups, which should be open, were closed to stakeholders and suggestions were made to ensure balanced participation, particularly for fishing stakeholders.

ICES acknowledged the challenge and referenced the WKSTIMP recommendations on balanced participation. Also, the Advice Activities Forum is used to share information about upcoming workshops and groups, and efforts will be made to provide more timely notifications for better stakeholder participation.

A question was raised regarding whether Advisory Councils are classified as stakeholder observers and thus limited to participation in groups part of Annex 5.

ICES clarified that most meetings, including workshops, are open to stakeholders, while only annex 5 listed technical groups are closed. However, participation in these closed groups is possible through National Delegate nominations. Additionally, ICES training courses are open to the public, and stakeholders are encouraged to apply through the ICES website.

8 ICES Advisory Work-plan 2025

The work plan for 2025 was presented by Head of Advice Department. It was explained that expert groups dates and advice requester deadlines set the terms for the workplan. Advice drafting groups and ACOM web-conferences are scheduled to fit the two 'end-points' at the same time as allowing for enough time between the different meetings to perform quality checks and formatting of the advice documents.

MIACO was reminded about the different relevant advice links. It was explained that a new advice process view will be made available through PowerBI and the new ICES SharePoint site when all SharePoint users have been moved to the new SharePoint.

On the [News on Advice Activities](#) information about advice releases, new requests and workshops are posted and is a good way to be updated. Participants were encouraged to sign up for alerts from the site by sending an email to advice@ices.dk.

9 Wrap up and close

The Chair went through the agenda, summing up discussion points and potential action points

	Agenda item	Outcomes to note
3	2024 Overview	MIACO gave positive feedback on the Boarfish benchmark, the presentation of the advice and more critical feedback on 7a herring. They emphasised the need for greater transparency around Special Request formulation. The Science and Advisory plans were also presented and week received.
4	Quality Action Plan	<p>MIACO discussed headline advice errors, recognising that the system is also picking up errors as the advice develops and supporting the plan to strengthen the QAF with a 10 point action plan for 2025 and the Advice plan.</p> <p>The issue of hyper precision, retrospective patterns, inconsistencies change in perception in ICES advice were all raised. ICES is open to explore additional ways of communicating uncertainties in the assessments and ICES is collaborating in a project that is looking at several new different quality indicators that could be included into the advice sheet. ACOM LS acknowledged that quality entails all these aspects but at the same time we are work with the best available information at the time the assessment is carried out and hindsight with the benefit of new data and knowledge is a wonderful thing.</p> <p>It is not always possible to take the latest scientific findings into operation advice. MIACO also highlighted the importance of using industry derived data to improve the quality (noting that there may be imbalances in different sectors capacity to contribute data). This is a complex issue and one that ACOM is discussing and working</p>

		<p>to address. Benchmarks play a key role in taking in new science. ACOM are also planning a WK on Retrospective patterns.</p> <p>MIACO were informed that ICES and MIRIA are discussing criteria and a decision tree for advice error corrections with the aim of reducing pressure on the system.</p>
5a	Rebuilding, reference points and the advice framework	<p>Reference Points are highly technical - ICES needs to some simple communication tools to build understanding about how reference points are defined and what they actually mean.</p> <p>MIACO raised concerns about the standard advice rule. ACOM is aware of these concerns already. Catch advice is given for the short-term. One suggestion that came up was the need to have more medium-term information in the advice sheet. ACOM leadership underlined that is open to management authorities to propose alternative management objectives and if these are adopted by all requesters and are found to be precautionary then the advice would be based on that.</p> <p>ICES was asked to what extent the headline advice reflects all the broader fisheries policy objectives. Some MIACO participants mentioned ambitions to move to Ecosystem based reference points taking account of foodweb interactions etc. ICES is very active on the science side with developing this. Other MIACO participants raised concerns that reference points need to be grounded in realism and that simulations are full of assumptions.</p> <p>ACOM LS communicated the concerns that the current application of AR for stocks just below or close to B_{lim} may not be precautionary. MIACO discussed the utility or not of zero catch advice which was part of the motivation for the ICES rebuilding work. It was noted that stakeholders do not have access to the MIRIA subgroups, though MIACO feels all parties should be engaged together as they have relevant views.</p> <p>One interesting question arose for WGENGAGE “Can Stakeholders be involved in drafting the ToRs?”</p>
5b	Mixed stock guidelines	<p>There were very divergent opinions from MIACO on this issue with some voicing concerns that it was premature whereas others thought that the headline advice always needs to be precautionary. The main conclusion was that ICES needs to communicate the risk to managers and clear guidelines is needed, the format of how and when we communicate this risk is mainly what is at issue. Participants emphasized that stakeholder perspectives must be considered in refining the guidelines.</p>
5c	Advice changes and transition rules	<p>The boundary between ICES science and management is not that clear when it comes to the transition rules. It is important that ICES advice is fit for purpose for example do large variations in advised catch advice make sense from a biological perspective?</p> <p>In the opinion of some MIACO participants a more pragmatic approach to manage zero catch stocks in a mixed fisheries is in highly needed.</p>

6a	FEISA	MIACO welcomed the presentation and the approach and questioned how much ambition there is from the management side to implement it.
6b	ICES overviews	MIACO provided positive feedback on the overviews but raised some questions about tactical v's strategic advice, risks of inconsistencies with fishing opportunities advice and how can we make the overviews more actionable noting that descriptive overviews may limit ambition on management side.
6c	ORE	MIACO raised several questions about what was and what was not included in the special requests but generally welcomed the work. The science is emerging fast and ICES is well placed to inform and advise on MSP principles of avoid, minimise and mitigate.
6d	Kunming Montreal & NRR	There was a good discussion on how ICES should play a role here too and WKREST was welcomed. The WKREST chairs are working on a definition paper to build a common understanding of terminology before the meeting
7	Stakeholder Webpage, Engagement and Observers	The new stakeholder and observer webpages were launched. The strategy was broadly welcomed and positively received by the group. MIACO expressed satisfaction that there were no major changes to the observer rules but also raised questions about Annex groups which are not open to observers.

MIACO appreciated the meeting and the format, it is a good forum and a pleasure to meet both each other and as well with ACOM Leadership and the Secretariat. Although the hybrid format can be challenging, it was appreciated that the options for participation was widened this way.

The work on TAF was highlighted as a very welcomed development as well as the improvement of the HCR evaluation.

The general inclusion of stakeholder input was highlighted, and the balanced stakeholder input was welcomed and found interesting; it was found to both have potential benefits and as well risks.

More insights into the scientific debate amongst ICES scientists would be welcomed on key subjects. A balance needs to be struck in the communications, however, between the experts and those not educated in the field.

Annex 1: List of participants

Name	Institute
Agnieszka Sadowska	European Commission
Aimi Hamberg	BSAC
Alan Haynie	ICES
Alexander Ben Embarek	BSAC
Alexandra Philippe	NWWAC
Alexandre Rodriguez	LDAC
Amanda Oberg	BSAC
Andrew Kenny	CEFAS
Angela Cortina	ARVI
Aodh O'Donnell	IFPO
Carl O'Brien	ICES
Catarina Abril	Sciaena
Catherine Pedersen Schirmer	FishSec
Chloe Pocheau	SWWAC
Christian Tsangarides	LIFE
Colm Lordan	ICES
Dale Rodmell	EEFPO
Daniela Costa	CCRUP
David Curtis	Online
David Reid	ICES
Dominic Rihan	Pelagic AC
Dorleta Garcia	ICES
Elena Balestri	Scottish Fishermen's Federation
Emiel Brouckaert	NWWAC
Esben Sverdrup-Jensen	Pelagic AC
Ewa Milewska	BSAC
Gaëtane Le Breuil	MarineIng

Gjert Endre Dingsor	Norwegian Fishermen's Association
Iris Ziegler	Seas at Risk
James Hinchcliffe	EFFOP/Marine ING
Jane Sandell	NFFO
Jarek Zielinski	BSAC
Jean-Christophe Vandeveld	Pew Trusts
Jenni Grossman	Client Earth
Joanne Morgan	ICES
Josephine Woronoff	Pew Trusts
Jules Danto	EAPO
Justyna Zajchowska	Pelagic AC
Karin Luedemann	MSC
Katarzyna Stepanowska	West Pomeranian University of Technology
Kenn Schau Fischer	NSAC
Kim Stobberup	MSC
Krzysztof Stanuch	BSAC
Kurt Rachlitz	NTNU
Lisa Ann Libungan	Fisheries Iceland
Lotte Worsøe Clausen	ICES
Marie-Julie Roux	ICES
Matti Ovaska	WWF
Merel den Held	Pelagic AC
Michael Andersen	NSAC
Mike Park	SWFPA
Mo Mathies	NWWAC
Nicolas Blanc	Sciaena
Patrick Murphy	Pelagic AC
Paul Macdonald	SFO
Paul Thomas	Pelagic AC
Paulina Ramirez-Monsalve	Niva
Raluca Ivanescu	European Commission

Romain Langeard	ARA France
Ruben Farias	Azores Fisheries Federation
Rufus Danby	SWFPA
Simon Jennings	ICES
Steve Mackinson	Scottish Pelagic
Tamara Talevska	NSAC

Annex 2: Agenda

Meeting between ICES and Advisory Councils and other Observers (MIACO)

Thursday 23rd (13:00) – Friday 24th (13:00) January 2025

Hybrid: physical & online

Chair: Colm Lordan

Final Agenda

1) Welcome and opening of the meeting.

The ACOM chair will outline the [ICES code of ethics and professional conduct](#). This will include a short roundtable of introductions from all participants.

2) Adoption of agenda

Any comments to the agenda should be before the 13th of January Doc 1. This will include a follow up of action points in Report of MIACO 2024 (Doc 2).

3) Overview of ICES advice produced in 2024

An overview of the ICES advice provided and advice process in 2024 will be presented (Doc 3).

MIACO will be invited to comment.

4) ICES Action Plan to Address Quality Assurance

Quality Assurance (QA) is fundamental to ICES advice. Acknowledging that there was an increased number of advice corrections/changes in 2024 ACOM leadership will present a review of the causes of errors. Many of the recent "errors" were due to underpinning data, model complexity and coding errors linked to workload, time pressures and resourcing. Ensuring the quality of scientific advice is an ongoing challenge involving many elements and collective responsibility. Ten new prioritised actions in 2025 will be proposed (Doc 4).

5) The future of fishing opportunities advice

a) Rebuilding, reference points and the advice framework

A MIRIA subgroup was established in 2024 to discuss rebuilding scenarios in ICES advice. This group met twice in 2024. The outcome of those discussions and further analysis by ICES will be presented. The Workshop on the calculation and evaluation of new reference points for category 1-2 stocks (WKNEWREF) report is now available and ACOM have accepted the groups recommendation to update and improve the guidelines for the calculation of reference points. These changes will be summarised. More broadly ACOM is still planning a workshop to evaluate the framework for advice WKREFRAME which will look at the standard ICES advice rule and reference points for stock status definition (Doc 5a).

MIACO will be invited to comment on these developments.

b) ICES mixed stock guidelines

At MIACO in 2024 the issue of consistency in approach for ICES advice on the management for mixed stock fisheries was raised (Doc 5b). ACOM discussed this in March 2024 and published version 1 of the

[ICES Guidelines for advice on fisheries that concurrently catch a mix of stocks of the same species](#) in May 2024. ACOM is currently reviewing the guidelines based on experience and feedback from the community and advice users.

MIACO will be invited to comment.

c) Changes to fishing opportunities advice framework in 2025

MIACO will be informed about some technical changes to the Advice Rules for category 2 and 3 stocks. And also, that ACOM will discuss the advice rule for stocks under B_{lim} in March due to concerns that providing non zero advice may not be precautionary (Doc 5c).

6) The future of ecosystems service and effects advice

a) FEISA – what is it and how can we use it?

The [ICES FEISA framework](#) was published in March 2024 (Doc 6a). The framework will be explained using a windfarm analogy with some worked examples.

MIACO will be asked to discuss how the framework could be applicable to future ICES advice.

b) ICES overviews planning, next generation Ecosystem Overviews and Integrating overviews

ACOM and SCICOM have initiated two processes to further develop EOs and to integrate overview in the future (Doc 6b). ACOM would like to receive feedback from MIACO on their views on the overviews and how they could be further developed.

c) ICES work on Offshore Renewable Energy roadmap and requests

The ICES ORE Roadmap was launched at MIACO in 2024. ICES will update on the work to address the roadmap objectives, and progress on ORE related special requests (Doc 6c).

d) Kunming Montreal Framework & Nature Restoration Regulation

ICES will provide an overview of the international policy and legislative drivers and how ICES is planning to develop the scientific knowledge base and in the future address requests related to biodiversity protection and restoration. ICES is planning a new expert group on the topic Workshop on Nature Restoration (WKREST) 4-7 March 2024 (Doc 6d).

MIACO is invited to comment and provide guidance on future advisory needs on this topic.

7) Improving communications with advice users

a) Stakeholder webpage & navigating ICES website

The new stakeholder webpage will be presented and feedback from MIACO will be sought.

b) Stakeholder engagement Strategy

SCICOM and ACOM have reviewed the WKSTIMP recommendations and also established WGEGNAGE will take up the points of the Stakeholder Engagement Strategy.

MIACO is invited to comment.

c) Revision of the Observer Rules

New Observer Rules were agreed at ICES Council 112 in November 2024. The changes will be explained (Doc 7).

MIACO is invited to comment.

8) ICES Advisory Work-plan 2025

The meeting will be updated with information on the Work-plan for ICES advice and relevant science initiatives in 2025.

MIACO is invited to comment on the presented plan including the timing for release of recurrent advice

9) Wrap up and close

Annex 3: List of Documents

Doc 01	MIACO 2025 Final Agenda
Doc 03	Advice Activities 2024
Doc 04	Quality Action Plan
Doc 05a	Rebuilding Reference Points Framework
Doc 05b	Mixed Stock Guidelines
Doc 06a	FEISA
Doc 06b	Overviews
Doc 06c	ORE
Doc 06d	Nature Restoration
Doc 07	Observer Rules