

# Annual Meeting between ICES, Advisory Councils and other Observers (MIACO 2022)

VOLUME 3 | ISSUE 1

ICES BUSINESS REPORTS



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# ICES Business Reports

## Volume 3: Issue 1

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#### Recommended format for purpose of citation:

ICES. 2023. Annual Meeting between ICES, Advisory Councils and other  
Observers (MIACO 2022)

ICES Business Reports, 3:1. 23 pp. <http://doi.org/10.17895/ices.pub.20269179>

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## i Executive summary

MIACO is the annual meeting between ICES advisory councils and other observers. An overview of the advice process and the advice provided in 2021 was given. MIACO was invited to review the advisory process in 2021 and to discuss any issues and concerns that had arisen since the 2021 MIACO meeting. MIACO 2022 specifically considered stakeholder engagement, ecosystem based management, mixed fisheries, bycatch of protected, threatened and endangered species (PETS), inclusion of conservation status in advice sheets, evaluating and reporting the presence of Vulnerable Marine Ecosystems (VMEs) and further implementation of methods for advice for data limited stocks. MIACO also addressed how ICES works with requesters of advice, expertise shortage in ICES, new science in 2022, quality control and assurance.

# 1 Welcome and opening of the meeting

## 1.1 Meeting etiquette and introductions

Meeting etiquette was summarised for the participants, no conflict of interest declarations were required as the overarching aim of the meeting is to listen to interests of people and organisations. Meeting participants introduced themselves briefly.

## 1.2 Adoption of agenda (Doc 01a)

*Including review of minutes and action points of MIACO 2021.*

Agenda was approved by the meeting.

Suggested dates for MIACO 2023: 12-13 January 2023, in ICES HQ, Copenhagen

All action points had been met between MIACO 2021 and the current meeting.

## 2 Review and feed back

### 2.1 Review of ICES Advisory services in 2021

*An overview of the advice process and the advice provided in 2021 was given in document 02.*

*MIACO was invited to review the advisory process in 2021 and is invited to comment.*

ACOM Chair re-introduced the principles behind the ICES advice (the 10 principles) followed by a summary of the advice activity during 2021 by region and advice product type. The ICES advisory framework graphics, created during 2022, were introduced to MIACO as this will be/is the cornerstone in the interactions between ICES and the Advice Requesters.

The Advisory Plan and the progress made for each of the priority areas was reviewed.

The high number of changes to the headline advice was highlighted; such a high rate of corrections to the main advice is unacceptable and ICES thus is focusing deeply on the quality assurance/control of the advice production. ICES has a number of initiatives in this respect and are prioritising this work very high. Majority of the errors come down to errors in input data, unfortunately. There is no doubt that the COVID-19 pandemic continuing into 2021 is a main reason for these mistakes, having an exhausted network throughout the system.

ICES has an operational objective for advice provided for bycatch of protected, endangered and threatened species given the plurality of management objectives from managers collectively.

MIACO raised a question whether the Brexit and adding an additional Coastal State/Advice requester has complicated the processes/increased the work load and complexities of the requests; ICES underlined that this is not the case, the dialogue between all parties is fine and requests are mostly coming out of the Specialised Committee on Fisheries.

The transparency of the ICES advisory process was acknowledged and appreciated by MIACO.

Windfarms and MPAs gives a very big displacement issue for the Fishing industry; it was raised whether any work is ongoing in ICES concerning the increased planned use of the marine environment and if so, how this will impact the ICES advisory work. ICES has set up two new groups on renewable energy and marine spatial advice respectively. ICES would greatly appreciate any input on the fisheries perspective/knowledge on fishing in MPAs and are in dialogue with the advice requesters to put forward actual advice requests on these matters. Thus, the science community is getting ready.

The electromagnetic fields in the marine environment was raised as another interesting subject for ICES to explore in terms of advisory activities. This is a hitherto unexplored field for ICES, but it will be checked if any activities are carried out on this so far.

The Ecosystem Overview on Azores was raised as having issues in terms of accuracy and data basis. ICES is aware that there is a wish to revise both the EO and FO for the Azores and it is in planning. ICES and CCRUP will engage in further dialogue on this in the fringes of MIACO.

### 2.2 Delivering science and advice in 2021 and 2022

*The impact of the Covid pandemic and the war in Ukraine impact the delivery of advice.*

*MIACO was invited to comment.*

Network and secretariat heavily impacted by workload during 2020 and 2021, the impact of the Covid pandemic and more recently the war in Ukraine impact the delivery of advice.

With the ease of restrictions on the COVID-19, physical meetings are happening which clearly facilitate the work of the network.

The temporary suspension of experts from the Russian Federation clearly impacts the network operationally and as well in terms of development. The only advice which was impacted directly was the salmon advice and NEA stocks (cod, haddock and capelin). The remaining advice so far has not been impacted. Remedial measures are taken in order to enable advice where Russian Federation data and expertise will be missing.

The scientific network overall had a diverse response to the invasion of Ukraine, most experiencing restrictions in terms of meetings, others finding alternative means to continue some sort of collaboration. There is no doubt that the temporary suspension is a loss for ICES, albeit decided for understandable reasons. It facilitated that ICES could continue the meeting activity although missing an important part of the network.

Comments from MIACO:

MIACO suggested that for the Baltic Sea, the Russian Federation catches have been uncertain; there was a concern whether this Russian expert suspension will have an impact on the assessment of the Baltic cod. ICES commented that the analysis worked out this year, however, the consequences into the future are a bit more unclear. Alternative dataflows from unofficial sources is still being discussed in ICES.

Concerning the impact of the war in Ukraine and the quota allocation between Baltic states it was brought up whether ICES could consider testing the use of the maximum value of MSY (upper limit) for sprat to cater for maximising the food supply. The CFP has implicit socio-economic features, however, the ICES advice has no such features and in the MoUs, ICES is not being asked to provide any advice on such matters.

## 2.3 Experience of MIACO participants

A round table for comments of experiences of MIACO (one person per organisation) of the production of advice, and the challenges with Covid and response to war in Ukraine took place.

MIACO highlighted that many aspects, but not all, of good fisheries management is following ICES advice. In response to this it was emphasized that ICES provides advice as an impartial response to a request, and does not lobby the requester or any other party to implement its advice, the advice is explained not defended.

In relation to the Common fishing policy and fisheries management plans in the UK it was mentioned that it was important that ICES becomes a central part in that process. ICES will be and has been made aware of a number of stocks that will be added to the MoU in the coming years.

As regards advice presentations it was requested by Advisory Councils if this could be arranged twice a year and if the Expert Group Chair could attend as well as the ACOM Leadership. The response from the ACOM Leadership was that ICES cannot ensure presentation two times per year for all ACs in addition to advice presentations to advice requesters but ICES is always trying to accommodate requests for advice presentations. EG Chairs can be invited by ACs to talk but they do not speak for ICES and costs will not be covered by ICES

Concerns were expressed about the rebuilding plan for western horse mackerel, some issues were thought to be unclear when looking at the ICES advice. It was suggested that ICES should look into how management plans can be developed without TACs and quota included. In regard

to the horse mackerel the ACOM Leadership responded that a rebuilding plan cannot be done until the reference points have been sorted out. In this context it was also explained how stakeholders might be able to work with the national institutes and feed into the ICES system.

MIACO highlighted that the ICES work is greatly valued and ICES therefore must be very clear of the consequences of the advice given and that a reality check into the processes might be appropriate. The ACOM Chair informed about the change that is planned for the advice, adding conservation as an aspect of future (starting 2023) fishing opportunities advice sheets.

It was requested if ICES have any plan for tailor made training for advisory councils on the core elements of the assessments as this would widen the understanding of the advice. MIACO was informed that ICES is already running training for managers as well as public introduction courses on stock assessment.

### 3 Stakeholder engagement

*ICES is evaluating its current approach to stakeholder engagement in light of international best practice for science organisations. ICES is committed to improve stakeholder engagement as documented in its strategic and advisory plans, and this engagement must maintain the scientific integrity and objectivity of ICES advice.*

*MIACO was invited to take note and comment on the draft stakeholder engagement strategy (Doc 03b).*

A presentation by ICES was given on stakeholder engagement.

MIACO raised an issue regarding stakeholder engagement, more specifically the future of the stakeholder information section in the advice sheets. This section was removed out of the advice sheets two years ago due to the Covid19 and has not been reinstated. ICES replied that stakeholders would be consulted regarding the future of the section and is interested in knowing if the section is going to be reinstated and what is the planned involvement of stakeholders and what is the expected form. ICES was concerned that there was no common understanding over the Stakeholder advice section. Issues like who owns it, who controls it and who has the right to edit were not properly defined. Meanwhile, ICES have had a workshop on standards and guidelines for fisheries dependent data that focused on how to create a system to bring in industry data into ICES work. A workshop to evaluate the utility of industry derived data and how to incorporate it into assessments. A proposal for a workshop on developing guidance for ensuring the integrity of scientific information submitted to ICES by data providers once again targeting industry information and trying to bring it into the system.

ICES needs to find a way to communicate stakeholder views. ICES will make a commitment to take the steps together with industry and NGO's on how to build a more robust sense testing.

Another point was raised by MIACO as there is a concern that for some of the processes that are requested by clients like an evaluation of an MSE the stakeholders have not much participation. The MSE rules to be evaluated and level of risk are defined by the requesters, the workshops itself are open to all participants and all are welcome.

**Action point:**

Form a subgroup with ACOM, scientists engaged in ICES with and volunteers from MIACO to explore the Information from Stakeholder section issue and look at concerns, opportunities and potential solutions and look at the sense testing study done with Steve Mackinson. The subgroup will report back to MIACO 2023.

## 4 Ecosystem based management

*Participants of MIACO have requested more information on how ICES provides information for ecosystem based management and ecosystem based fisheries management (EBM and EBFM). A presentation was given and MIACO were asked to contribute, by addressing the following questions:*

- 1) What do you understand as ecosystem based management?*
- 2) What are the next high-priority steps in EBM implementation?*
- 3) How can you work with ICES to improve the implementation of ecosystem based management in your jurisdiction?*

ICES's role is to provide the evidence for ecosystem-based decision making for the management of fisheries and other sectors in the ICES area. The evidence is required to explore the consequences of likely trade-offs (central to EBM) in the management of and between sectors and their impacts and services from the biodiversity of species and habitats. This is to support sustainable development aimed at both human and ecosystem well-being and stewardship of marine ecosystems. It is also recognized that EBFM should result in fisheries management that maintains resilient and productive ecosystems. ICES provides the knowledge base to achieve this end, as encapsulated in its mission of providing the *"information, knowledge, and advice on the sustainable management of human activities affecting, and affected by, marine ecosystems."*

This shift in focus for ICES is also mirrored in the type of advice managers are requesting from ICES, and has put ICES centre stage at the science-policy interface to implementing an ecosystem approach to fisheries management. Now, for example, >73% of data rich stocks that ICES provide advice on now incorporate an element of ecosystem variability, with the recognition of dynamic fisheries in social-ecological system. ICES has also noticed a need to increase in participatory development of mapping tools and format of advice. This includes interactive tools for spatial advice on, for example, the impact of bottom trawling on seafloor. In this science-policy interface ICES continues to work with managers and stakeholders towards evidence-based management options that account for space. This is an essential ingredient to implement EBM as it creates a framework to maintain trust and credibility of the science system.

ICES has reviewed for European Seas marine activities and their relative impact on the seafloor in each region including transport, tourism and leisure, energy production, dredge disposal, extraction of living resources, aggregate extraction, and many more. It was estimated that extraction of living resources or more specifically abrasion caused by bottom contacting fishing gear is a pressure that is at several orders of magnitude higher in terms of intensity and how widespread it is on the seafloor within all European waters.

## 5 Communication of advice

*The mechanisms and approaches used by ICES to communicate and explain advice were presented. With the experience of the last 18 months, and ICES commitment to reduce its CO2 budget, and to improve equity and inclusion, ICES needs to find approaches to maintain the dialogue, while reducing face to face meetings and improving notice of meeting invitations.*

*MIACO was asked to provide their insight into the advantages and disadvantages of the approaches.*

ICES explained that there are several issues that make it difficult for ICES to attend physically all the Advisory Council's meetings or at least to the same extent as in the recent past. There are issues with CO2 emissions and also with people having care duties that limit the ability to travel. There is the possibility of the responsibility of advice communications to be shared between ACOM Leadership and Secretariat which means that Advisory Councils would not always have higher ranking ICES representatives presenting the advice.

MIACO in its majority expressed the preference for physical attendance by ICES as this is seen as a valuable opportunity for the AC's to engage and clarify the advice with ICES and if attendance needs to be reduced then it should be prioritized the meetings where ICES presence is seen as essential.

## 6 Expertise shortage in ICES

*The ICES network consists of approximately 4000 experts across the North Atlantic in based in research institutes, academic institutions and also independent consultants. Despite this wealth of expertise, there are a number of crucial knowledge areas where either the expertise is lacking or is severely over burdened with work for ICES.*

*The areas are:*

- *Management strategy evaluations and risk analysis – quite case specific and time consuming. The majority of the stock-coordinators do not have the expertise to run these analyses as these are very specialised. The number of experts able to run these is unfortunately very low.*
- *Mixed fisheries analysis and advice – the expertise needed is mainly in the Baltic Sea where there are no available experts, but also in the Bay of Biscay a shortage of expertise is evident.*
- *Methods for providing advice for data limited stocks & species – although ICES is setting up specific training for stock assessors to do this, the further development of these methods, reviewing these, etc., is a challenge.*
- *Bycatch monitoring, evaluation and advice for protected, threatened, and endangered species – with the very high demand for advice in this area, the expert pool is exhausted although recruitment to the pool has happened. The main challenge currently is the expertise on bycatch of protected fish species and as well data coverage (observers).*

*MIACO was invited to comment and asked to take publicising these knowledge areas as in need of capacity building.*

There is an aspiration of ICES to provide evidence that supports advice for management under the EBM. MIACO raised whether there a missing pool of expertise on these two pillars (the socio-economic and the management areas). ICES do have the expertise out in the community, however, it has not yet been 'rained in' into the more routine advice work.

The ICES network is expanding on these non-fishery-related areas which feed into the EBM; the existence of other experts through consultancies was raised as well to facilitate a further broadening of the expertise pool. The underlying funding for specific research is as well addressed under the auspices of SCICOM and as well under a Council driven educational initiative (WKEDU).

It was raised that EU support the science community through the DCF and as well grants; however, what are the next steps? Can ICES facilitate a proposal to EU for how to facilitate the availability of experts – although the ICES community is broader than EU.

The WKLIFE methods developed were questioned whether these were fit for purpose in terms of providing management advice. There certainly is work to be done on the management advice provision for data limited stocks, making these more applicable/operational in the implementation.

## 7 New science in 2022

*A number of new, or continuing initiatives in ICES was presented. These included:*

- *Reference points for fish stocks and fisheries*
- *Industry perceptions of stock and fisheries status e.g. cod in mix fisheries*
- *Sticklebacks & round goby in the Baltic Sea*
- *Spatial conservation and management measures*
- *Fishing opportunities advice for data limited stocks*
- *Evidence for ecosystem based fisheries management in the Baltic Sea*
- *Aquaculture overviews*

*MIACO was invited to take note and comment.*

After a presentation from ICES the discussion started with a question related to the work being done for cod but also applies to other species. Are the management needs integrated in the assessment models at the beginning of the process or is the research done solely on the needs identified by experts for those stocks and only after the managers needs are included and evaluated? There was also a follow up asking if the OECMs are going to be part of the MPA's work?

In response by ICES, the group (WGMPAs) is supposed to look into all the area base conservation measures and the what the group will do, is to develop content for spinoff workshops for example the OECM's might be a spinoff workshop picking up on WKTOPS that happened last year. The Chairs of WGMPAs can be contacted for more specific information.

Regarding on the research on cod the ToR are being developed and there are several ideas on how to go forward and what should the WK cover. However, the cod WK should follow more or less what was done for the mackerel roadmap centring on cod and the challenges people are experiencing in the NS, WCS and Baltic. As for the order in which management measures are taken into consideration and evaluated this is done once an assessment has been agreed.

There was one question from MIACO regarding the ICES advice for mackerel where it is mentioned a need for a revision of the appropriateness of the use of stock components and associated protections measures. Is there any ongoing work to look into the potential revision? The reply was that unfortunately, there is no ongoing work at the moment.

A question was put to ICES regarding the mackerel roadmap, more specifically if there was any work on spatial dimensions on the management and if the existing measures in the NS for mackerel were not taken into account in that work. In reply it was noted that spatial dimensions were not taken into as the workshop focused more on the acoustic approaches, sampling and working with the PelAC improving information base for mackerel.

More detailed information was requested related to the WKEBFAB outcomes more specifically in mix fisheries considerations and sticklebacks.

The SCICOM Chair pointed that a new timeline similar to what was done for WKIRISH needs to be created for the Baltic. The WKEBFAB report is not out available just yet but as soon it is it will be public and information can be consulted.

There is one last question regarding the timeline for the having the WKREF2 unfortunately there is no hard timeline for the publication due to the workload of the Chairs.

## 8 Quality control and assurance

*Ongoing efforts and recent development on quality control and quality assurance of data, science and advice in ICES were presented.*

*MIACO was invited to take note and comment.*

ICES presented a document about developments at ICES related to quality control and assurance.

Quality is a major priority for ICES, as this is key to providing the best possible advice. ICES has recently been accredited for our data management under the CoreTrustSeal programme (April 2021). A new data policy licensing was accepted by Council in 2021, a data preservation plan is being prepared, and data flow schematics are being developed for key areas. The complexity of these flows and the workload involved is slowing progress, but it is hoped to have a working system of fully traceable and secure data by autumn 2022. There are numerous ICES groups providing data governance alongside the Secretariat. Further discussion around this will be needed in the coming year to ensure that such quality objectives are relevant to advice recipients, and monitoring is sufficient to demonstrate where improvements are needed.

Data flows now go beyond stock advice. They are getting more thorough and detailed. There is a need to highlight where in the system there are data challenges affecting flow/quality. The aim is not to hold all data at ICES, but rather to have a consistent framework that ensures there are no issues (or issues are easily identified) within data flows.

There has been no progress in use of TAF for stock assessments in recent years. While this does not mean that advice is not quality controlled and assured, ICES has set up a Governance group (WGTAFGOV) working to develop TAF further since this remains a priority of ACOM. There is a dashboard to view progress and training is being re-initiated in 2022.

ICES is also streamlining the process for data call changing. A more structured workflow and sign-off (managed in Github) should ensure fewer errors in the data calls, more consistency and better auditing of changes.

Numerous training events have been planned for 2022 with an aim to improving quality assurance processes. These relate to assessment methods, TAF, RDBES, data profiling etc. and are aimed at stock assessors/coordinators and data providers. More resources in the secretariat being applied to issues of quality control.

MIACO underlined the importance of QA/QC and recognised and appreciated the huge advances that ICES has made on this subject the past 5-6 years. Prioritising this as key in the ICES work was acknowledged; the implementation though needs further focus. Seeing TAF as the holy grail of QA/QC by the broader community may need to be challenged/nuanced. That said, it was requested to show clearly on the advice sheets whether this stock have a TAF assessment. Process flow and feedback loops has been done for data (QTS), however, the remaining steps of the process need to be included in this as well, from a measurement of a fish to the advice release. MIACO would like to see a quality system built around the entire process, suggesting an expert on the field could be consulted by ICES, allocating a lot of time and resources to pick-up the errors coming up as early as possible. As a response, ICES underlined that the processes and the feedback loops are looked into, however, it is a slow process due to the many iterations between expert groups, data groups, and governance groups.

During discussion it was raised whether the ICES concept of quality is more linked to stability/consistency and not fully linked to the most recent developments in the scientific

findings/observations in the ecosystems. A more open mind concerning the applied nature of the science behind ICES advice was advocated and a higher engagement in discussions with fishery/industry on differing perceptions of science. ICES acknowledged this input as crucial and ICES strives towards such an openness.

The more holistic view of the system would facilitate a higher quality, better compliance and broader understanding of the advice. The 'mechanical' implementation of ICES advisory rules was challenged by members of the meeting.

The issue of retrospective error in assessments was raised as crucial for the accuracy of the ICES advice and post-hoc adjustments. ICES raised that the retrospective patterns are quite stock specific and difficult to approach on a more generic manner; usually these are linked to the individual model set-up (selectivity, etc.). The flexibility of the model and the natural variability in the system often influence the retrospective patterns. ICES is putting a lot of effort into trying to assess the retrospective pattern for all stocks and TAF will allow more runs and checks to try address these issues when they arise. Retrospective patterns are often the reason for driving a stock through the benchmark process. It was raised that a management solution could be looked into, allowing for lower  $F$  and thus less sensitivity to the variability and uncertainty in the stock assessments. Keeping fishery mortality on track is more demanding of the advice and management depends on ICES to guide as how to this unstructured source of uncertainty can be included in a management of the resources.

During the discussion a better integration of the mixed fisheries advice was advocated as a means to facilitate a fishery with the discard ban in operation. The IEA groups were suggested as a link between advice, the alternative views and understandings of the system.

On the underlying data it was requested whether the RDBES can be accessed by others than advice requesters – the data in this database are the property of the countries adding the data and the access is currently restricted.

## 9 Bycatch of protected, threatened and endangered species (PETS)

*The work of ICES, analysing the monitoring and reporting, and evaluation of the impact of bycatch by fisheries has an increasing profile with requesters of advice. The key ongoing work was presented, along with the developing advice and bycatch roadmap.*

*MIACO was asked to take note, comment and discuss.*

ICES presented work on bycatch. This includes the establishment of the bycatch marine mammals, seabirds and seabird lists by ICES Ecoregion included in the bycatch roadmap; the development/redesign of the new bycatch recurrent advice sheets which will include multiannual bycatch observations, mitigation measures, and monitoring coverage; agreed proposal for management objectives by ACOM.

On a question to whether ICES cooperate with ASCOBANS it was indicated that currently ICES does not have a formal cooperation agreement but there is informal cooperation that has been established through meetings.

A comment on the continuation of the work as the special requests from DGMARE with regards to the harbour porpoise and the common dolphin was addressed by ICES. The process and the limitations of the resources in the ICES network and secretariat with regards to taking on more of this work in the coming years was addressed. Further work on common dolphin bycatch in the Bay of Biscay will be carried out in 2022 as part of a new request for advice to DGMARE. Discussions are being held with DGMARE on further work on harbour porpoise bycatch in the Baltic.

## 10 ICES working with EU DGENV, DGMARE and NEAFC on issues such as MSFD and VMEs

*ICES has been central to the development of science and advice for the EU Marine Strategy Framework Directive (MSFD) and Vulnerable Marine Ecosystems (VMEs) in the Northeast Atlantic. This was presented to MIACO, and oncoming work was presented.*

*MIACO was asked to take note, comment and discuss.*

ICES presented the latest advice ICES has created for the MSFD descriptors 3 and 4 for the EU commission and VMEs for the EU commission (for MSFD descriptor 6-D6) and NEAFC. With regards to D3 and D4 the article 8 guidance (commercially fish and shellfish) was reviewed, setting thresholds. For D3 work included different reporting scenarios for commercial fish and shellfish to assist EU member states for their D3 reporting. With regards to MSFD descriptor 6, the ICES advises on the footprint (2009-2011) for static and mobile gear, and mapping the consequences/outcomes of the implementation of different possible management scenarios. Specifically the advice presented management scenarios - highly trawled core grounds with peripheral lightly trawled grounds, resulting to possible trade-off scenarios. These are scenarios spatially aggregated into core areas with high effort/value and larger peripheral areas with low effort/value. The results showed that for the Baltic Sea, Greater North Sea, Celtic Seas, and Bay of Biscay and Iberian Coast, the removal of less than 10% of the total bottom trawling effort from peripheral fishing grounds will increase the overall extent of untrawled area to more than 40% in each MSFD broad habitat type in each subdivision.

Initially there was a comment from MIACO regarding the interpretation of the advice and if the final suggestion is to identify the main finishing grounds and reserve these for fishing while fishing less in peripheral areas. It was agreed that the advice can be interpreted this way.

Moving on with a question on the continuation of the work with respect to vessels smaller than 12 meters. ICES explained that there are plans with the commission (DGENV) for moving on with this work. A question on the modification on fishing vessels and gear that could help with seabed disturbance was posed and ICES agreed this could be something to be investigated.

An enquiry on the trade-offs and what will happen with the displaced effort from the less fished areas and if that would go back to the main fishing ground was discussed. ICES explained that the displacement has not been looked into and the assumption would be that this effort will go into the more heavily fished areas.

A final comment thanking ICES for this work and stating that requests for advice will be coming to ICES from the outermost regions advisory council.

## 11 Mixed fisheries

*The developments, opportunities and challenges when providing mixed fisheries advice were presented.*

*MIRIA was invited to take note and comment.*

The mixed fisheries scenarios were described, including the lack of specific management objectives which is the reason for calling the mixed fisheries ‘advice’ for ‘scenarios’.

The current mixed fisheries regions were described as well as the areas, where ICES would very much like to develop mixed fisheries if data and expertise can be found (BoB and Baltic). In general, the limiting factors for further development of the ICES mixed fisheries advice is indeed data and a very limited pool of experts. Models and knowledge is available, however, workload of the small, able community hinders a focused broadening of the mixed fisheries advice.

Further into the more detailed contents of the mixed fisheries advice, the new presentation of the scenarios was explained. The aim of this change is to make the mixed fisheries scenarios less complex to read/understand.

MIACO was approached concerning a stakeholder workshop with a focus on provision of an understandable, valuable and fleet-oriented advice; which scenarios makes sense, what are the objectives from the stakeholders point of view; how do we account for the adaptation in the fishery on technical interactions, etc.

The underlying assumptions of the mixed fisheries model were challenged by MIACO and the idea of moving towards an advice as an alternative to scenarios was questioned. The single-stock advice should be the focus for numeric advice and not mixed fisheries. ICES is aware that some of the conditioning in the mixed fisheries model are not detailed enough to capture the real interactions of the metiers. The workshop is intended to exactly point to where these conditioning/setting of the model fails. The intention of the development of the mixed fisheries advice is to further add clarity of the implications of fleet interactions for the single-stock advice.

MIACO raised whether it was realistic at all to model fishermen behaviour; the individual behaviour certainly deviates from the modelled norm. With the mixed fisheries scenarios are meant to display the collective behaviour of metiers, thus not the individual fisherman’s behaviour.

The aim of the mixed fisheries scenarios from ICES point of view would be useful to discuss/elaborate together with the relevant stakeholders – and this is exactly what the planned workshop should do. The developments were appreciated and these will be implemented in the FOs this year.

## 12 Forthcoming challenges

*MIACO was invited to take part in an exercise to highlight the forthcoming, medium-term challenges and needs for the production, breath (diversity), quality, and delivery of the evidence base for managing human activities and assess ecosystem state of the Northeast Atlantic and adjacent seas.*

Spatial squeeze with the increased use of the marine environment was identified as one of the main future challenges from MIACO. Thus, the spatial explicit models need to be further developed and implemented more directly in the stock assessment modelling. Looking further into the impact of wind farms in the Baltic should be followed by ICES and the implications for the fish stocks.

The legislation within the many MPAs scattered around the waters are very un-transparent and national regulations are often difficult to understand. Even the naming of the protected zones differs between Nations, complicating treating these zones equally. ICES was suggested to look further into this with a review of names and suggesting common names.

OECMs (MPAs as well) as well an issue viewed as a future challenge, certainly in EU waters.

In terms of longer-term science developments, the alignment of the advice and the 'reality' in terms of sense-checking should be further worked on, implemented and made operational. Regular discussions would be a good tool.

Improvements in understanding of the different trade-off situations with existing policy commitments between environment/fisheries, with a focus on the spatial management of the marine environment. ICES should look into how to improve the communication of such trade-off scenarios.

The impact of the environment on the fisheries need to be visible in the EMB (e.g. reference points, seals).

BBNJ under the UN, in principle exclude the marine fisheries however will certainly be impacted by any regulations under this. There is a need to have a link into this process and ICES has worked closely with NEAFC and NAFO on the developments. ICES is requesting observer status for the Arctic fisheries agreement and is as well in the upcoming process on the bottom trawling meeting in UN.

The effect of bottom trawling on the resetting of sediment was raised; ICES has a group working on the blue carbon issues and has as well discussed this in the recent trade-off advice process. ICES will further explore this.

Specifically for the Baltic, the link between the pelagic species and the choke-species (cod); this should be included in the development of the mixed fisheries for the Baltic Sea.

## 13 Benchmarks and new information flows in 2022

*The list of stocks and science that is being benchmarked and also new information being considered for inclusion in the overviews were presented. In addition the meeting was informed of the procedure for prioritising benchmarks and for the inclusion of new information in overviews.*

*MIACO was invited to take note and comment.*

The data profiling tool was as well introduced to MIACO as part of this agenda point and a link to the tool was provided to the meeting for further exploration.

An overview of the benchmarks planned for the year ahead will be posted on the Advice Activities forum when dates and ToRs are finally agreed with ACOM, chairs and reviewers.

The timing with Management Plan renewals/LTMP evaluations and the benchmarks was raised and ICES is in dialogue with advice requesters on the timing of LTMP revisions however, benchmarks are a bottom-up process where the expert groups decide when a bench. is needed. Of course the known renewal circle of some LTMPs should be known by the experts, so they can take this into account when looking into the timing of benchmark.

The flexibility or rather the rigidness of the process of benchmarks was raised; ICES continuously makes an effort to make a benchmark process that is fast enough to deal with immediate issues whilst allowing the science and data to be thoroughly checked in terms of quality and applicability.

The VME benchmark was described as the first non-fisheries benchmark process.

## 14 Wrap up

*The discussion and a summary of the views expressed was provided by the Chair.*

MIACO has provided healthy and constructive critique on the subjects raised by the agenda, in particular on the QA/QC points. The immediate impact of the war in Ukraine was as well displayed during the meeting including mitigation options. Sense-checking of the advice and the consequences of the advice provided was an important issue raised by MIACO. ICES physical participation in AC meetings will be further explored.

## Annex 1: List of participants

Name	Organisation	Country	E-mail
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\* Attended online.

\*\* Attended only the second day.

## Annex 2: Draft Agenda (annotated)

### 1) Welcome and opening of the meeting

#### a) Meeting etiquette and introductions

[https://www.ices.dk/about-ICES/Documents/ICES\\_meeting\\_etiquette.pdf](https://www.ices.dk/about-ICES/Documents/ICES_meeting_etiquette.pdf)

#### b) Adoption of agenda (Doc 01a).

*Including review of minutes and action points of MIACO 2021.*

<https://www.ices.dk/sites/pub/Publication%20Reports/ICES%20business%20reports/Annual%20Meeting%20between%20ICES,%20Advisory%20Councils%20and%20Other%20Observers.pdf>

Suggested dates for MIACO 2023: 12-13 January 2023, in ICES HQ, Copenhagen

### 2) Review and feed back

#### a) Review of ICES Advisory services in 2021 (Doc 02 & presentation).

*An overview of the advice process and the advice provided in 2021 is given in document 02.*

*MIACO is invited to review the advisory process in 2021 and is invited to comment.*

#### b) Delivering science and advice in 2021 and 2022.

*The impact of the Covid pandemic and the war in Ukraine impact the delivery of advice.*

*MIACO is invited to comment.*

#### c) Experience of MIACO participants.

*A round table for comments will take place of experiences of MIACO (one person per organisation) of the production of advice, and the challenges with Covid and response to war in Ukraine.*

*MIACO is invited discuss any issues and concerns that arose since the 2021 MIACO meeting.*

### 3) Stakeholder engagement (Docs 03a and 03b, and presentation).

*ICES is evaluating its current approach to stakeholder engagement in light of international best practice for science organisations. ICES is committed to improve stakeholder engagement as documented in its strategic and advisory plans, and this engagement must maintain the scientific integrity and objectivity of ICES advice. An evaluation of engagement has been carried out by the workshop WKSHOES (Doc 3a). In 2022, ICES is developing a formal stakeholder engagement strategy (draft as Doc 3b).*

*MIACO is invited to take note and comment on the draft stakeholder engagement strategy (Doc 03b).*

### 4) Ecosystem based management (Doc 04 and presentation).

*Participants of MIACO have requested more information on how ICES provides information for ecosystem based management and ecosystem based fisheries management (EBM and EBFM). A presentation will be given and MIACO will be asked to contribute, by addressing the following questions:*

- 1. Suggest 2-3 management objectives that may require trade-offs.*
- 2. How do we adapt ICES advice to address further needs of EBM?*
- 3. What do you think is the priority next step for EBM?*

*This will be carried out using a virtual white board.*

[https://miro.com/app/board/uXjVOsraiX8=/?share\\_link\\_id=698461735247](https://miro.com/app/board/uXjVOsraiX8=/?share_link_id=698461735247)

*The report of this meeting will not identify the feedback from specific participating organisations. This information will be used by ICES to further develop its ongoing efforts to provide the information for ecosystem based management.*

#### **5) Communication of advice (Presentation).**

*The mechanisms and approaches used by ICES to communicate and explain advice will be presented. With the experience of the last 18 months, and ICES commitment to reduce its CO2 budget, and to improve equity and inclusion, ICES needs to find approaches to maintain the dialogue, while reducing face to face meetings and improving notice of meeting invitations.*

*MIACO is asked to provide their insight into the advantages and disadvantages of the approaches. MIACO is also asked to highlight how the communication can be improved.*

#### **6) Expertise shortage in ICES.**

*The ICES network consists of approximately 4 000 experts across the North Atlantic in based in research institutes, academic institutions and also independent consultants. Despite this wealth of expertise, there are a number of crucial knowledge areas where either the expertise is lacking or is severely over burdened with work for ICES. These will be presented to MIRIA. These areas are:*

- 1. Management strategy evaluations and risk analysis*
- 2. Mixed fisheries analysis and advice*
- 3. Methods for providing advice for data limited stocks & species*
- 4. Bycatch monitoring, evaluation and advice for protected, threatened, and endangered species*

*MIACO is invited to comment and is asked to take publicising these knowledge areas as in need of capacity building.*

#### **7) New science in 2022.**

*A number of new, or continuing initiatives in ICES will be presented. These will include:*

- Reference points for fish stocks and fisheries*
- Industry perceptions of stock and fisheries status e.g. cod in mix fisheries*
- Sticklebacks & round goby in the Baltic Sea*
- Spatial conservation and management measures*
- Fishing opportunities advice for data limited stocks*
- Evidence for ecosystem based fisheries management in the Baltic Sea*
- Aquaculture overviews*
- Cod research and data needs*

*MIACO is invited to take note and comment.*

#### **8) Quality control and assurance (Doc 02a).**

*Ongoing efforts and recent development on quality control and quality assurance of data, science and advice in ICES will be presented.*

*MIACO is invited to take note and comment.*

#### **9) Bycatch of protected, threatened and endangered species (PETS) – operational management objective, list of species of bycatch relevance and template for annual bycatch advice (Doc 9 and presentation).**

*The work of ICES, analysing the monitoring and reporting, and evaluation of the impact of bycatch by fisheries has an increasing profile with requesters of advice. The key ongoing work will be presented, along with the developing advice and bycatch roadmap.*

*This includes the use by ICES of a generic operational management objective, the development of the list of species of bycatch relevance by ecoregion <https://www.ices.dk/news-and-events/news-archive/news/Pages/FishList.aspx>, and a template for annual bycatch advice.*

*MIACO is asked to take note, comment and discuss.*

**10) ICES working with EU DG ENV, DGMARE and NEAFC on issues such as MSFD and VMEs (Presentation).**

*ICES has been central to the development of science and advice for the EU Marine Strategy Framework Directive (MSFD) and Vulnerable Marine Ecosystems (VMEs) in the Northeast Atlantic. This will be presented to MIACO, and oncoming work will be presented.*

*MIACO is asked to take note, comment and discuss.*

**11) Mixed fisheries (Doc 11 and presentation).**

*The developments, opportunities and challenges when providing mixed fisheries advice will be presented.*

*MIRIA is invited to take note and comment.*

**12) Forthcoming challenges.**

*MIACO is invited to take part in an exercise to highlight the forthcoming, medium-term challenges and needs for the production, breadth (diversity), quality, and delivery of the evidence base for managing human activities and assess ecosystem state of the Northeast Atlantic and adjacent seas.*

**13) Bench.s and new information flows in 2022.**

*The list of stocks and science that is being bench.ed and also new information being considered for inclusion in the overviews will be presented. In addition the meeting will be informed of the procedure for prioritising bench.s and for the inclusion of new information in overviews.*

*MIACO is invited to take note and comment.*

**14) Wrap up.**

*The discussion and a summary of the views expressed will be provided by the Chair*