

MINUTES OF THE MEETING OF THE ICES ADVISORY COMMITTEE (ACOM), MARCH 2021

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i Executive summary

The Advisory Committee of ICES met remotely to consider the following issues, the code of conduct, the recommendations of the benchmark oversight group (BOG), decisions on initiatives to consider changes in productivity in the ecosystem, and expert group reporting in light of the transparent assessment framework (TAF). It also further addressed quality control and assurance, reference points and rebuilding fish stocks, management strategy evaluations, retrospective patterns and incorporating survivability in discards estimates. ACOM also considered issues around assessment and advice on eel and salmon. More attention was given to data poor methods and how to document the framework for ecosystem services and effects advice. The group on ecosystem-based management and the Chair of the ICES Science Committee reported. ACOM considered next steps for the provision of advice online. Finally, ACOM considered and commented on the ongoing work and plans for fisheries overviews, ecosystem overviews, viewpoints, bycatch and sensitive species, vulnerable marine ecosystems (VMEs), aquaculture and mixed fisheries advice.

Structure of the meeting.

As a result of the COVID-19 pandemic the 2021 March 2021 meeting of the ICES Advisory Committee was held through remote means (WebEx). ACOM met for two four-hour sessions. Thus, few decisions were made.

Two plenary sessions occurred (9 and 10 March.) In the beginning of the meeting on 10th March ACOM met in two breakout groups, one to discuss and propose decisions on recommendations from WKLIFEX and MSY advice for production models, and the other to discuss and preliminary approve the next iteration of the introduction section on rationale for “Advice on ecosystem services and effects”.

1 Welcome, code of conduct, review of action points from March 2020 and review of membership

The agenda was adopted via the ACOM forum beforehand (Annex 2). ACOM was invited to review and update the ACOM membership list and changes reported to the Secretariat.

ACOM reflected on the code of conduct. The list of action points from ACOM September 2020 was reviewed.

The meeting was welcomed by ACOM Chair, Mark Dickey-Collas. ACOM was thanked for their dedicated work in 2020, that together with the dedicated work of the experts in the ICES community, and despite of the pandemic situation, had made it possible to release all advice that was scheduled for 2020.

The meeting was attended by all member countries, Faroe Islands and Greenland observers, ACOM Leadership, SCICOM, EOSG and FRSG Chairs and Secretariat Staff (Annex 1).

The Portuguese ACOM member, Fatima Borges, informed that this would be her last year as ACOM member. Fatima was thanked by the Chair for her committed work and contributions to the Advisory Services, her successor, Ivone Figueiredo, was welcomed and introduced herself.

Action 1 ACOM to inform secretariat of changes to membership

Decision 1 ACOM considered the code of conduct and considered that there were no actual or perceived conflicts of interest within the committee.

2 Benchmark Oversight Group (BOG) report and benchmark decisions

The Chair of BOG reported on activities, results of 2021 benchmarks, planning for 2022, opportunities and challenges. ACOM was invited to comment, and agree on actions.

The BOG Chair presented a summary of recent Benchmark Oversight Group (BOG) activities and meetings. This included a review of three main tasks for which BOG was set up last year (i.e. address generic benchmark issues, review completed benchmarks/make recommendations, propose new benchmarks), and the aims of its January and March 2021 meetings. ACOM thanked the BOG for its work and deliberations.

The BOG's activities included:

1. Preparing a benchmark planning checklist: draft ready to be finalized for comment. Example: for benchmark processes to be concluded in 2021, several deadlines like cut-off points for submitting documentation, were set up so that sufficient progress was made in the benchmark.
2. Preparing Category 1 assessment diagnostic guidelines for benchmarks: draft in preparation.
3. Developing a reviewer checklist for benchmarks: No progress, but ICES has updated the general guidance for reviewers, and checklist would be an aid for the benchmark reviewers.
4. Expanding the scope of these benchmarks beyond fish stocks: there have been discussions and a first proposal for a non-fishery benchmark, and another potential one for 2022–2023.

2.1 Review of completed benchmarks and decisions including remedial actions if required

The recommendations of the BOG on the 2021 benchmarks were presented to ACOM and the following decisions were made:

WKCLuB:

1. *BOG recommends that the conclusions of the benchmark be accepted and be used in the production of the advice starting in 2021 [for herring 30 and 31].*
 - ACOM approval for herring 30 and 31.

IBPSPRAT:

2. *BOG recommends that the conclusions of the interbenchmark be used for the provision of advice in 2021. BOG recommends that the management year and the timing of the advice should be discussed with the requesters [for sprat 7 d-e].*
 - Discussion about 1 over 2 advice rule, a new rule developed by WKLIFE and recommended in WKLIFE X report last year. Further no comment.
 - ACOM approval for Sprat 7 d-e.

WKBARFAR 2021:

3. *BOG recommends that the conclusions of the benchmark be used for the production of advice in 2021 for all stocks in the benchmark. The BOG report approved the approaches for all stocks in WKBARFAR. There were no comments on ling at the ACOM meeting, considered approved.*

ACOM approval for **ling 5.b**

4. **For North East Arctic cod**, BOG noted that proposed revisions to the Norway catch for NEA cod could not be resolved. Depending on the extent and magnitude of these revisions, these may require an interbenchmark in the future. This is not expected until 2022.

- Depending on scope of revisions may require interbenchmark.
ACOM approval for North East Arctic cod.

5. BOG noted the issue of the advice form for the two Coastal cod (one or two advice sheet- see Annex 1) but made no recommendation [**for coastal cod**].

- To be split in two components but unable to distinguish from outset (genetic analysis after). ACOM agreed one advice sheet for the two components.

ACOM approval for coastal cod.

WKMSYSPiCT 2021

6. BOG recommends that the accepted SPiCT models for the five stocks listed be used to provide advice starting in 2021.

- ACOM approval for angler 8c9a, megrim 6b, Nephrops 25, Nephrops 2627, Nephrops 31.

7. BOG recommends that deadlines for benchmark analyses and documents continue to be applied.

- ACOM approval deadlines for submissions to continue to be applied.

8. BOG recommends that technical guidelines for SPiCT analyses contained in the benchmark report (sections 1.5 of draft report) should be considered by experts wishing to apply the method.

- ACOM approval for SPiCT guidelines in report to be used by other groups.
ACOM had another meeting on 18 March 2021 to address the implementation of MSYSPiCT methods into the ICES advice framework.

WKNSEA 2021

9. At the time of the review, the benchmark had not been completed. Given the unconventional approach, BOG recommends that once the benchmark is completed, the benchmark results be reviewed by a group including external experts not involved in the benchmark [**for North Sea cod**].

- ACOM request further independent review of benchmark findings for North Sea cod.

10. BOG recommends that the assessment approaches agreed at the benchmark for spurdog, sole and whiting be used as the basis for the production of the advice. [**for sole 7.d, spurdog, whiting 6.a**].

- ACOM approval for Sole 7.d, spurdog, whiting 6.a.

11. BOG recommends that the rationale for the reference points for whiting include a comparison of the reference points with the full time series [**for whiting 6.a**].

- ACOM approval of rationale for reference points for whiting in 6a.

WKWEST 2021

12. BOG recommends that the approaches accepted during the benchmark form the basis for the provision of advice for these stocks in 2021. (Note: conventional 2 over 3 rule for gurnard and plaice) [**for sardine in 7, red gurnard in 3-8, plaice in 7h-k, sole in 8c9a**].

- ACOM approval for Sardine in 7, Red gurnard in 3-8, Plaice in 7h-k, Sole in 8c9a.

13. BOG recommends that advice for sardine in 7 be provided annually.

- ACOM approval for advice for sardine in 7 be provided annually.

WKSandeel 2021

- Delayed- no further discussion.

WKSEALS 2021

- Delayed – no further discussion.

2.2 Proposed benchmarks for 2021/2022 and decisions

ACOM then addressed the BOG recommendations for the proposed prioritisation of benchmarks for 2022. This year, this resulted into a proposal for benchmarks on 27 stocks and one non-fisheries topic to be completed in 2022 (see table below).

Name of benchmark	WKSALMON 2022	WKCAPELIN 2022	WKPRAWN 2022	WKCNS 2022
Proposed stocks	sal.nac.all	cap.27.1-2	pra.27.1-2	cod.27.7a
	sal.neac.all	cap.27.2a514	pra.27.3a4	ple.27.7fg
	sal.wgc.all		NAFO 3M	had.27.46a20
				ple.27.420
				her.27.6a7bc
Name of benchmark	WKNORTH 2022	WKELASMO 2022	WKMEGANG 2022	WKVMEBENCH
Proposed stocks	reb.27.5a14	por.27.nea	ldb.27.8c9a	VME advice
	ghl.27.1-2	rjc.27.8	meg.27.7b-k8abd	
	ghl.27.561214	rju.27.7de	meg.27.8c9a	
	cod.21.1	rjn678abd	mon.27.8c9a*	
	cod.21.1a-e		mon.27.78abd*	
			ank.27.78abd*	
Stocks not included in the proposal	sal.27.22-31	bss.27.4bc7ad-h	hke.27.3a46-8abd	reg.27571214
	sal.27.32	boc.27.6-8	mur.27.671-ce-k89a	cod.2127.1f14
	ane.27.8	gug.27.3a47d	hom.27.2a4a5b6a7a-ce-k8	rjm.27.3a47d
	bll.273a47de	hke.278c9a	reb2127.dp	rjh.27.4c7d
				rjc.27.3a47d

ACOM approved the recommendations in the table but requested further clarity on the Greenland cod (cod.2127.1f14) and hake 27.3a46-8abd.

Decision 2.1. Recommendations from BOG on 2021 Benchmarks

ACOM approval for herring 30 and 31.

ACOM approval for sprat 7 d-e.

ACOM approval for coastal cod. Advice to be split in two components but ACOM agreed one advice sheet for the two components.

ACOM approval for ling 5.b.

ACOM approval for angler 8c9a, Megrim 6b, *Nephrops* 25, *Nephrops* 2627, *Nephrops* 31.

ACOM approval deadlines for submissions to continue to be applied.

ACOM approval for SPiCT guidelines in report to be used by other groups.

ACOM request further independent review of benchmark findings for North Sea cod.

ACOM approval for Sole 7.d, spurdog, whiting 6.a.

ACOM approval of rationale for reference points for whiting in 6a.

ACOM approval for Sardine in 7, red gurnard in 3-8, plaice in 7h-k, sole in 8c9a.

ACOM approval for advice for sardine in 7 be provided annually.

Decision 2.2. Future benchmarks. ACOM approved the recommendations in the table provided by BOG but requested further clarity on the Greenland cod (cod.2127.1f14) and hake 27.3a46-8abd.

3 Feedback from MIRIA, MIACO and WGCHAIRS

ACOM was briefed about the 2021 meetings of MIRIA, MIACO and WGCHAIRS. ACOM was invited to comment, agree on actions, and take decisions as appropriate.

The MIRIA (Meeting between ICES and Requesters of ICES Advice) and MIACO (Meeting between ICES, Advisory Councils and other Observers) meetings had very similar agendas, reviewing last year's activities, discussing the COVID-19 pandemic disruption and the expectations for 2021. MIRIA and MIACO completed a survey that will feed through to the next stage developing the Ecosystem and Fisheries overviews.

Bilateral meetings took place with Norway, OSPAR, HELCOM, Iceland, UK, DG ENVIRONMENT and DG MARE to review potential upcoming special requests, discussed shared stocks and management plans. There is no agreement to report in terms of headline advice for the shared stocks (Norway – UK – EU) and ICES Secretariat is waiting for guidance.

WGCHAIRS (Meeting of ICES Expert Group Chairs) met for 4 days, gathering chairs from across all the ICES network and China (PICES). All Steering Groups were represented. The new expert group chairs were introduced to the responsibilities and expectations of being chair, and the guidelines for ICES Expert Groups. The advice day covered the benchmark system, reference points, COVID-19 and advice, and the 2021 work plan. A combined day with Science and Advice chairs discussed broader responsibilities and issues, including Gender and inclusivity in ICES. The chairs discussed the challenges of communicating science in today's social and political climate in breakout sessions. WGCHAIRS ended with an escape room challenge as a team building exercise.

ACOM did not make further comment and no actions or decisions were taken.

4 Intersessional subgroup on consistent approach to changing productivity in fisheries advice

The Chairs of the subgroup reported on activities, and recommendations. ACOM was invited to comment, agree on actions, and take decisions as appropriate.

The three ToR of the subgroup were considered individually. ACOM welcomed finding of the subgroup.

TOR1: review the findings of WKIRISH and provide potential mechanisms to either apply the approach to current advice or highlight the approach to requesters.

WKIRISH considered the incorporation of ecosystem driven productivity information directly into the advice for fishing opportunities. The proposed method uses information external to the assessment (ecosystem indicators) to adjust the advice (the F value to be applied). Ecopath with Ecosim (EwE) was reviewed by WGSAM for providing indicators. There was some concern in the subgroup that this approach may simply track noise and the subgroup did not recommend adjusting F on an annual basis as proposed. Process error from environment should be accounted for in the model, potentially adjusting advice if there are clear trends rather than just noise. The subgroup also thought that there is a need to consider different categories and management strategies depending of the biology of the stock (e.g. further work is necessary to link the Bescapement strategy for small pelagics with the findings from WKIRISH). The subgroup recommended that indicator selection mechanisms should be aligned with the benchmark process, and that indicators should explore both linear and non-linear relationships. They also felt that other approaches besides full ecosystem models could be considered (e.g. MICE, qualitative network modelling). It is good to have indicators that can be updated simply as new data and information becomes available.

ACOM supported the findings of the subgroup.

Action 4.1. Communicate decision to WKIRISH and to NWWAC (ACOM leadership)

Decision 4.1. Not to incorporate Feco as described by WKIRISH into the advice framework.

NOTE: since the ACOM meeting further discussions with the WKIRISH experts have led to a re-opening of the issue. Based on new evidence, in May 2021, ACOM accepted the scientific evidence (including simulations) and quality assurance measures and agreed on the Forum to allow Feco to be included in the catch options tables for relevant Irish Sea stocks.

TOR2: suggest whether ACOM should define a method and criteria to define a change in productivity, possibly approach an expert group for assistance?

The subgroup considered that it would be premature to recommend any particular method to determine changes in productivity. This could require a combination of mechanistic and empirical approaches, and needs to consider random, gradual and step changes in productivity. The Ecosystem Productivity audit will provide an initial idea of how changes in ecosystem productivity are currently being taken into account. A dedicated workshop based on the results of the productivity audit and/or a specific ToR for the methods WG (WGMG) could be used to evaluate different existing methods and provide best guidance from worked examples. The process of investigating changes in productivity should be carried out at the benchmark as the existing benchmark procedure gives scope to provide an independent review of any particular approach. The subgroup considered that for now it was not necessary to have a method and criteria for

identifying a change and it would make sense to maintain a flexible approach. During discussion it was noted that some document/guidance to support individual choices made for time period used for reference point calculations is needed since currently this is too flexibly handled between stocks.

Action 4.2. Explore with SCICOM if a workshop on methods to detect/highlight changes in productivity is useful (ACOM leadership)

Decision 4.2. ACOM agreed that groups would should be encouraged to find suitable solutions to determining shifts in productivity, and it would currently not recommend specific methods in the advice guidelines.

TOR3: comment the overall approach to incorporating multispecies model derived estimates of M and provide guidance on how new estimates of M should be introduced into a stock assessment used for advice (assuming already that the model to estimate M has been reviewed by WGSAM and the method and rationale for incorporation already exists in the stock annex).

New multispecies model key runs have triggered Interbenchmark procedures (IBPs) in the past due to changes in the time series of M used in the stock assessments. An *ad hoc* approach to dealing with such changes may lead to inconsistency across stocks. The subgroup considered that there may be a need to align benchmark timing with key runs of multispecies models (or vice versa). During discussion it was noted that the impact of the new M time series is very stock specific though, with some stocks not have significant differences. It was also noted that of greater significance was the fact that data used in the multispecies models (e.g. SMS) is often more than 20 years old. Better data/models are needed to produce better estimates of multispecies M. Regarding the timing of key runs in relation to benchmarks, multispecies models are generally updated on a shorter time frame than benchmarks are held for stocks.

ACOM decided to try link the key runs to benchmark timing moving forward (acknowledging that there will be some IBPs needed, special circumstances etc.), though this will require good communication between the assessment groups and the multispecies modelling groups.

Decision 4.3. ACOM agreed to link the multispecies key runs to benchmark timing moving forward but IBP may still be needed for specific stocks.

5 TAF reporting workshop

The Chair of the TAF reporting workshop reported on its findings and recommendations. ACOM was invited to comment, agree on actions, and take decisions as appropriate.

The workshop was held in January 2021. The aim of the workshop was to look at a potential next step in the TAF development with regards to automating the (assessment group) report writing process, both in terms of current report structure and potential future reporting structure.

The benefits of having script-based reports (markdown) include reduced workload, minimising mistakes, and having one source for figures and tables and the data behind them. Furthermore, script-based reports open the possibility to incorporate information from other databases (RDBES, DATRAS etc.) in an automated way.

Initially, there would be work required to develop the script/markdown. In the long term, it would reduce the workload in the assessment group. For some stocks, such scripts already exist, so we wouldn't be starting from scratch. The script-based reports open up the opportunity to directly incorporate information from the regional database (RDBES), DATRAS, Stock Information Database and Stock Assessment Graph database (SAG)

What is needed to make this happen:

- 1) A tool that generates markdown-based report templates,
- 2) "Ambassadors" to create examples and push this process forward,
- 3) Training in TAF and markdown reporting.

Overall timeline for this development could be anything from 1 to 5 years. ACOM welcomed the findings of the workshop.

Action 5.1. Each ACOM member to identify 1 person from each country to act as ambassadors

Action 5.2. Create a tool that generates markdown-based report template, (TAFGOV and secretariat)

Action 5.3. Create a tool that generates a stock category specific template to be used to submit essential stock data to TAF (TAFGOV and secretariat).

6 Progress updates – fishing opportunities

ACOM was briefed on a number of ongoing initiatives in the arena of fishing opportunities advice and was invited to comment, agree on actions, and take decisions as appropriate.

6.1 Quality control and quality assurance

Head of ICES Data Centre made a presentation focused on quality control and quality assurance. A brief update was given on the progress made on the ICES data management accreditation process. ICES Data Centre is managing 30 data flows and it has applied to for accreditation for 30 for those through the Core Trust Seal. This is a lengthy process and at the moment ICES is waiting for feedback while in parallel working on the data flows schematics. This is entire process has been very useful with the special focus to the dataflow schematics that allow a good visualisation on where the quality assurance or the quality control are done and were there are gaps that need to be filled.

The Data Information Group (DIG) and the Data Centre, are revisiting the data policy and data licencing situation. ICES data policy is an open data policy but it mixes aspects of the data licencing as well as of data policy which can be confusing. The proposal is to splitting and reformulating these. The new open access data policy will be proposed to SCICOM who will recommended it for adoption by the ICES Council. This will help fulfilling the advisory plan priorities looking at access to the evidence based as it ensures that the data are FAIR: Findable, Accessible, Interoperable and Reusable for these to happen a clear path to the data and clear understandable access rights. This will be key for future data quality control of data management.

Finally, some recent highlights regarding some groups/workshops looking into quality control and quality assurance issues. Working Group on the Governance of Quality Management of Data and Advice (WGQUALITY) was established and it is the successor of Planning Group on Data Needs for Assessment and Advice (PGDATA). One of the main objectives is to map out the quality management processes in ICES and operationalizing this into a quality assurance framework. Also, the Workshop on Data Standards and Guidance (WKDSG) which is an industry science initiative is aiming to bring together some of the issues raised by WGQUALITY and the Data Science and Technology Steering Group (DSTSG) and with a goal of providing guidance for stakeholders collecting data to be able to deliver it into the ICES system in good quality-controlled way using the correct processes ensuring the data will be usable.

ACOM did not comment further.

6.2 Reference points & rebuilding

The ACOM leadership presented on the substance, challenges, and possible work plans for addressing key issues with respect to ICES reference points, rebuilding plans, and the interconnect-edness of these issues. The Workshop on guidelines and methods for the evaluation of rebuilding plans (WKREBUILD) found that there may be aspects of the ICES advisory framework (versus the North American frameworks), that may increase the probability of ICES advice (i.e. reference points and harvest control rules) leading to the latent or delayed triggering of rebuilding plans. WKREBUILD and the Workshop of Fisheries Management Reference Points in a Changing Environment (WKRChange) showed that the gap between ICES B_{lim} and $MSYB_{trigger}$ is too narrow

leading to delayed reductions in the target F , increasing the risk of falling below B_{lim} and triggering a rebuilding plan with little time to adapt or respond. WKREBUILD recommends we have a workshop on setting reference points and for the initiation and completion of rebuilding plans. This touches on more than rebuilding plans, other aspects of reference plans, the framework for advice, and the layering of the PA approach on top of the MSY approach. All of these issues should be considered in a workshop on reference points. It was also recommended that we have WKREBUILD2, to test the draft rebuilding plan guidelines.

Action 6.2. Draft ToR for three inter-connected workshops: WKREBUILD, WKMSE3, WKRP-Change. These workshops will be coordinated via a planning meeting with ACOM Leadership, the workshop chairs, and an ACOM representative from the Netherlands.

6.3 Management strategy evaluations

The second Workshop on writing guidelines for Management Strategy Evaluation (WKGMSE) had recommended an additional workshop on calculating reference points, focusing on revaluating the basis for calculating B_{lim} , where B_{lim} would have a sound biological basis.

This workshop should compare reference points derived using different frameworks. It was explained how this was a different focus to WKREBUILD, which had been looking at the technical differences in reference point calculation.

There were also recommendations around the current ICES approach, which is harvest rate simulation testing, compared to the international approach to MSE, which is a more flexible and open process. In this approach an empirical management strategy is tuned to meet specific management objectives. This requires engagement with stakeholders and managers. It was recommended that ICES should consider moving towards this approach.

ACOM asked for decisions about which reference points to use soon. It was noted that the mackerel workshop already used reference points from the MSE framework and argued that this approach was the optimal way. So, an option is currently that if have an MSE working and using this to characterize the uncertainties and biases in the assessment, this should be the way used.

There was also a question about density dependence in reference points, arguing that there would need to be a good rationale for including in productivity change in the benchmark and advice. It was stated that this could be a big issue which would result in very large changes in our reference points. Caution was asked for. There was broad agreement, there should be good evidence before it was included.

See Action point 6.2 above.

6.4 Retrospective patterns

A summary of retrospective values reported for Category 1 and 2 stocks in 2020 was presented. In comparison to the previous two years there was a reduction in the number of stocks reporting Mohn's rho values. There is a need to improve the reporting of these values, and that will be worked on in 2021.

ACOM had no further comments

6.5 Survival of discards

A Workshop on the Inclusion of Discard and Survival in Stock Assessments (WKSURVIVE) took place in February 2011. The main aim of the workshop was to explore ways for incorporating survivability into stock assessments. Most of the scientists attending the meeting were experts on “survival estimates” rather than stock assessment experts.

Survivability is already included in some stock assessments such as most *Nephrops* sp., one plaice stock and the recreational catch component of seabass. Other ICES stock assessments could incorporate survivability and WKSURVIVE aimed at identifying such stocks.

WKSURVIVE produced a Table compiling existing survivability data and data sources that may be unknown for some stock assessors. The Stock Information Database (SID), that now incorporates a module related to benchmark planning with the relevant “issue-list” by stock, will be used to suggest stock assessors the potential for incorporating survivability data for certain stocks. New information on survivability would be incorporated into stock assessments through benchmarks but it may be also possible to address survivability issues for several stocks at once through dedicated Inter-benchmarks. Four candidate stocks (two plaice and two ray stocks) have been identified by WKSURVIVE as candidates for the 2022/2023 benchmark cycle.

The ACOM leadership commented that recipients of ICES advice wanted, within the single stock advice, tables with 1) catch scenarios assuming discard survivability, and 2) catch scenarios where all discards are landed. However, since survivability impacts selectivity and, in turn, biological reference points, it is not possible/absolutely correct to add extra scenarios in the catch scenario tables that account for survivability. This will impact the *Nephrops* spp. advice sheets in 2021 and the usual catch scenario tables including discard survivability assumptions will not be included.

ACOM asked how this work was to be communicated to the expert groups. It was clarified that, even when contact points between EGs and WKSURVIVE can be arranged, the intention is to use SID to inform stock assessors of potential data sources of survivability information. The information will reach stock coordinators immediately.

Decision 6.5. ACOM must consider the issue of survivability in benchmarks’ ToR.

6.6 Activities around eel

The presentation covered the EU Special request leading to the Workshop on relevant geographical area on the temporal migration patterns of European eel (WKEELMIGRATION 2020), the upcoming Workshop on Designing an Eel Data Call (WKEELDATA3) in April 2021 and the developing EU Special request on eel management plans and conservation measures in 2021. Then the Workshop on the future of eel advice (WKFEA) was presented to ACOM.

The expert community on eels seemed to be unaware of the ICES advice framework. Communication should be improved with stakeholders. WKFEA made recommendations to the Working Group on Eels (WGEEL) and ACOM. Further work was needed with developing special requests with EU-DGMARE.

6.7 Activities around salmon

A number of issues relating to the assessment and advice of salmon stocks were presented. For the Baltic Sea salmon advice, ICES advises on the at sea fisheries on mixed river stocks from Assessment Units (two separate assessments) containing multiple salmon rivers. Since some of these rivers have stocks in poor condition, advice following the MSY framework is likely to be for zero catch because these poor river stocks are caught in the mixed at sea fishery. It was suggested to have a workshop in 2022 to determine if there are other mixed fishery options consistent with MSY i.e. focus on healthy river stocks (e.g. combined with additional fisheries measures, area-based rules etc.). Such a 'Future of salmon advice' would be similar to the workshop held for eel ([WKFEA](#)). There is still significant work to be done on the complicated full life history model for salmon in the Baltic (e.g. the Gulf of Finland should be incorporated with rest of Baltic Sea), but a benchmark could follow this workshop in 2023 or later.

ACOM provided no further comments.

7 Split into breakout groups

7.1 Discussion and propose decisions on recommendations from WKLIFEX and MSY advice for production models

A break out group of ACOM was briefed on the recommendations, challenges and proposed actions stemming from the 10th Workshop on Development of Quantitative Assessment Methodologies based on Life-history traits, exploitation characteristics, and other relevant parameters for data-limited stocks (WKLIFEX) and advice needs for MSY advice for stocks using production models for assessments and forecasts. The group was invited to comment, agree on actions, and propose decisions as appropriate. The decisions will be taken on the forum after the meeting.

The breakout group built some understanding, but still felt that a further a one-off meeting was needed to finalise the issues. There was a general consensus to move forward quickly with new approaches, but still some concerns. Length based methods have more considerations that should be accounted for during a meeting, and clarifying how/why does SPiCT differ from other production models used for advice.

Action 7.1. ACOM to hold a further follow up meeting to determine how to implement the roll-out of the new WKLIFE procedures.

7.2 Discussion and potentially preliminary approve the new introduction section on rationale for “Advice on ecosystem services and effects”

Continuing the work from ACOM in March and September 2020, a break out group of ACOM discussed the final version of the introduction section on “Advice on ecosystem services and effects”. The group was invited to comment, agree on actions, and provisionally approve the text. The final approval will be on the forum after the meeting.

The document “Advice on ecosystem services and effects”, was presented with the aim to be published under the guide to ICES advisory framework and principles and ACOM was asked whether the approach and structure were acceptable and whether there were any important element(s) or process(es) missing.

ACOM requested that a definition of “services” be included in the document. The document is conceived as a collection and description on how ICES does environmental advice and it is not restricted to a particular ecosystem service. A definition will be included. It was noted that the ecosystem and aquaculture overviews include text on socioeconomics while the fisheries overviews do not. ACOM leadership noted the issue and reminded previous discussion on this. The updated technical guidelines on ecosystem overviews, approved by ACOM recently, set the basis for content in the ecosystem overviews. Several ecosystem overviews already contain some relevant information (location of medium and large ports) and one of the two pipeline proposals, accepted by ACOM, will result in inclusion of further information (quantitative information on size of fishing ports). As this forms a small part of ecosystem overviews, ACOM will revisit the text. Aquaculture overviews will contain a separate section on socio-economy, as per agreement of ACOM in 2020. Potential inclusion of socioeconomic issues to fisheries overviews can be discussed at the upcoming workshop on the future of fisheries overviews.

ACOM agreed to remove the harp and hooded seal section from the text and also remove the sentence on all advice being linked to an ecoregion (although this is generally the case). A comment on the flexibility of the spatial and temporal scales of the advice was needed and will be added to the draft. Discussion occurred about the precautionary approach in the document.

It was noted that there's no explanation on the mechanism for integration

Action 7.2. Revisions to the Advice of ecosystem services and effects to be made, and the documents to be placed on the ACOM forum for approval.
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8 Joint ACOM SCICOM Ecosystem based management (EBM) group

ACOM was briefed on the work of the Joint ACOM/SCICOM group on EBM and the likely next steps. ACOM was invited to comment, agree on actions, and take decisions as appropriate.

This group was formed after ACOM and SCICOM discussions in 2020. The ToR of the group were presented and it was highlighted that this is an ongoing and dynamic process. The group had worked since autumn 2020 creating a working definition of EBM, mission statement, and a common direction and framework for future work. The results of this work include recommendations to move to an indicator framework, resulting risk assessment, and final product of “EBM-aware” Advice. Such a framework can be used to inform EBM knowledge and evidence base development, and can feed into the implementation of EBM advice. The next steps of this process (time frame: 2021–2023) will be to finalize the framework, reach out and engage with relevant ICES Expert Groups, and develop an implementation plan

There was positive feedback from ACOM. A comment was made on the need to assess the type of indicators that will be used and how to prioritize these. Positive comments on the knowledge availability and distinction between empirical and analytical space. The Ecosystem Observation Steering Group (EOSG) Chair said his steering group can help organize the data collection behind the indicators, pointing out that many of the EOSG groups that are trying to organise and coordinate data collections need this kind of steering so they can gather relevant data that can be used for the indicators.

There were no further action points arising from these discussions, other than to continue to support the work of the joint group

9 COVID mitigation

ACOM was briefed on the situation, consequences and impacts of COVID19 on science and advice quality across ACOM activities. ACOM was invited to comment, agree on actions, and take decisions as appropriate.

The measures taken and the consequences of those measures were presented to ACOM. There was a special note on experience of the ADGs running in 2020, the ADG chairs were encouraged to run the meetings within the allocated time and request for extra days if necessary.

There was a discussion regarding the terms of the single stock advice sheets: abbreviated vs full advice. The consensus agreement of ACOM (December 17, 2020) was that the 2021 single stock advice sheets will be the full advice sheet minus the stakeholder information and traffic lights, with brief sections especially in the “quality of the assessment” and “stakeholder information”.

There were no further action points arising from these discussions.

10 Update from Chair of SCICOM

The Chair of the Science Committee (SCICOM) briefed ACOM on SCICOM activities, including plans for the ASC and the steering groups. ACOM was invited to comment.

The presentation covered the following issues:

- Joint ICES/PICES UN Ocean Decade programme proposal (submitted 15 January 2021)
- Communication project to highlight the work of expert groups through interviews with Early Career Scientists
- Change in leadership (new SCICOM Chair, 3 Steering Groups, 1 Strategic Initiative, DIG and SIPG)
- New Data Science and Technology Steering Group (DSTSG)
- Training Courses went online
- New library platform to come shortly
- ASC and most co-sponsored symposia moved to 2021 (exception is Oceans Past that did hold an online symposium in 2020)
- Webinar on “Understanding the impacts of COVID-19 pandemic on fisheries, markets, communities, and management”

There were no remarks from ACOM after the presentation, and no actions agreed.

11 Update on development of online advice

ACOM was briefed on developments for online advice. ACOM was invited to comment, agree on actions, and take decisions as appropriate.

The role of ACOM is not only to produce the advice, quality assure and writing the advice but also disseminating the advice. Currently ICES advice is based around narratives (text) published in pdfs. Among these overviews, viewpoints, special requests and regular advice. However, increasingly ICES is producing data products using new visualisations tools such the interactive maps.

Requesters have expectations that the delivering mechanisms will change and adapt to current times and ICES needs to embrace and use the available technology. ACOM has already given support to a number of initiatives for new ways for disseminating the advice these include: The Interactive VISA project which produced four interactive examples of fishing opportunities advice. The ecosystem overviews wiring diagram or the seabass tool which initially was developed as a technical service but is a good example of a shiny app that was well received and is now part of the EU grant agreement. Also, there are many examples in some of the ICES member countries where institutes have developed their own apps. The current ICES advisory plan commits ICES to develop online/interactive delivery of advice.

Currently there are resources available through the Secretariat to work towards and start developing and producing online advice. A new position in the Secretariat has just been funded for two years to work with ACOM and the Advisory Services on this. There is also another half position through the Seawise BG10 project. DIG is already looking into how to quality control shiny apps. Also, ICES has been approached by Consortiums (in the proposal stage) willing to contribute on the development of online advice.

In summary a lot of initiatives exist but these initiatives are coming together in an *Ad hoc* way.

Writing manuscripts and providing online advice are two very different things and there are different sets of skills needed and to address this some questions need answering. Where is the expertise on the science communication? There are no agreed strategies so what has higher priority; the quality assurance message, the visualization impact or an effective communication of the advice? There is a need for joint up approach, priorities need to be set and a dialogue with the requesters is needed in an agile and pragmatic approach mindful of resources limitations.

ACOM asked if the focus of the advice development should be to deliver what is expected by the advice requesters (mainly printable pdf type advice) or if the development of the advice should have a broader audience in mind. It was noted that the advice is targeted to the requesters and independently of how the advice is to be disseminated all advice will have option to print to pdf. However, the experience from the seabass tool and mix-fisheries taught us that requesters want interactivity.

When looking for expertise; experts with experience in app and product developed was needed but also experts with ideas and vision on how to develop and present the advice of the future. Also, more than technical abilities what is needed are experts willing to think differently on how to present the advice being it single stock advice or ecosystem advice or any other types.

Action 11. ACOM to nominate 2–3 people to work in a group together with ACOM Leadership. This group will highlight initial priorities which will be put forward to ACOM for feedback. Initial prototypes are to be posted in the forum so that ACOM can provide feedback which in turn will allow the group to build upon make improvements in an interactive and agile manner. A Post requesting for volunteers to join this sub-group to be posted in the forum

12 Progress updates – Ecosystem services and impacts

ACOM was briefed on a number of ongoing initiatives in the arena of ecosystem services and impacts advice and invited to comment, agree on actions, and take decisions as appropriate.

Four presentations and discussions were given on overviews and viewpoints, bycatch, VME and aquaculture advice. Mixed fisheries advice was added as an AOB (12.5)

12.1 Overviews and viewpoints

Fisheries Overviews

Almost all ICES ecoregions have fisheries overviews except for the Faroes ecoregion (publication planned in 2021) and the Arctic Ocean. In 2021, the Fisheries Overviews will be updated, and the mixed fisheries section will be reviewed. The Workshop on future of Fisheries Overviews (WKFO, 29–31 March 2021) will summarize the feedbacks received from MIRIA, MIACO and ACOM, in order to draw a long-term strategy, review the structure of the overviews and consider the FAIR data principles with the support of the ICES Data Centre.

No further comment from ACOM

Ecosystem overviews

The Ecosystem Overviews cover 10 ecoregions. A new overview for the Central Arctic Ocean will be published in 2021. The Norwegian Sea Ecosystem Overview will be updated during Spring. The Workshop on methods and guidelines to link human activities, pressures and state of the ecosystem in Ecosystem Overviews (WKTRANSPARENT) was held in December 2020, with a reduced agenda due to the COVID19 disruption. The workshop was mainly dedicated to the update of the technical guidelines, the proposition of two workshops (on ecosystem services and food webs) and the training need for ecosystem assessment methods. Based on the new technical guidelines published in March 2021, an update of the Celtic Seas Ecosystem Overview is planned in 2021.

No further comment from ACOM.

Viewpoints

Two viewpoints were published in 2019/2020, two are in preparation for publication in 2021:

- Emerging marine and aquatic pathogens
- Quantifying and managing the effects of chemical pollution in the oceans

Two viewpoints are under consideration for a publication in 2022:

- Application of DNA based approaches with the landing obligation
- Microplastics

No further comment from ACOM.

12.2 Bycatch and sensitive species

The presentation covered the status of ICES advice on bycatch and upcoming requests. ACOM leadership appreciated initiative by Ireland and Norway to strengthen expertise on bycatch at a national level and asked ACOM to consider recruitment of additional experts to support ICES work on the bycatch of PETS in the future.

ACOM suggested to include the Data Collection Framework (DCF) in the communication for the special request from EU-DGENV to avoid double work. It was pointed out that there are links with Regional Coordination Groups (RCGs) and DCF already: the Working Group on Commercial Catches (WGATCH) is involved in the request formulation and the chair of the group is the lead for RCG PET on bycatch and attends the Working Group on Bycatch of Protected Species (WGBYC).

No further actions for ACOM.

12.3 VME, OECMs

The presentation covered recent ICES work related to VMEs (*vulnerable marine ecosystems*) and OECMs (*other effective area-based conservation measure*).

VMEs have their origins in “Sustainable fisheries” resolutions from UNGA and are inextricably linked to fishing activities and their management in order to protect such vulnerable ecosystems. It follows therefore, the requesters for ICES advice on VMEs are DGMARE and NEAFC and when responding ICES uses the 2008 “*FAO International Guidelines for the Management of Deep-sea Fisheries in the High Seas*”. There is an obligation on states/RFMO to implement the FAO guidelines under the 2009 UNGA Resolution 64/72 and they include 5 criteria for identifying VME, these Uniqueness, Functional significance, Fragility, Life-history traits and Structural complexity which is what ICES uses.

ICES has provided over 20 bits of advice on VME related topics to NEAFC since 2008, and the ‘*New Information*’ request has become recurrent over the past 5 years. ICES also received recurrent VME requests from the DGMARE in 2013 and again each year for the past 5 years. The request from NEAFC includes aspects of where fisheries activities took place during the year, whereas for the EU we just provide information where VMEs occur. Ongoing discussions on special requests with EU and NEAFC are occurring.

Taking into account the ACOM and NEAFC discussion and the desire to Benchmark the VME advice process, a proposal has been put to BOG for a Benchmark in 2022, and had just been approved by ACOM. ICES held a very successful WK on Predictive Habitat Modelling (Feb) and, consistent with FAO Guidance we also used Physical Elements (banks, seamounts, coral mounds, mud volcanoes) in ICESs response to the DGMARE’s Deep Sea Access request.

It was mentioned that the two examples, Deep Sea Access regulation (DGMARE) and MSFD D6 seabed (DGMARE), are great examples of how working groups, the data centre, the secretariat, ACOM and the requestor work iterative on special requests to develop the knowledge, data flows and methods to build the systems needed to respond to recurrent requests. Related to this are for the OSPAR/HELCOM technical service spatial data layers of fishing intensity/pressure to assess impact on benthic habitats from fishing activities. ICES is requested to produce updated spatial data layers on fishing intensity/ pressure for the past 3 years. OSPAR in 2017 and 18 and HELCOM in 2017.

Other effective area-based conservation measures (OECMs)” appeared for the first time in 2010 in the CBD Strategic Plan for Biodiversity 2011–2020, within [Aichi Biodiversity Target 11](#). COP

14 in 2018 adopted the following definition: “*Other effective area-based conservation measure*” means “*a geographically defined area, other than a Protected Area, which is governed and managed in ways that achieve positive and sustained long-term outcomes for the in-situ conservation of biodiversity, with associated ecosystem functions and services and, where applicable, cultural, spiritual, socio-economic, and other locally relevant values*”

The four criteria for the identification of OECMs (CBD, 2018) are well described in the CBD Decision.

- a. Area is not currently recognized as a protected area;
- b. Area is geographically defined, governed, and managed;
- c. Achieves sustained and effective contribution to *in situ* conservation of biodiversity;
- d. Achieves associated ecosystem functions and services and upholds, where applicable, cultural, spiritual, socio-economic, and other locally relevant values.

ICES is about to run a workshop with IUCN fish expert group on Testing OECM Practices and Strategies (WKTOPS). This will report to ACOM and SCICOM.

No further comments or actions from ACOM.

12.4 Aquaculture

The Aquaculture Core Group was introduced and timeline for coming Aquaculture Overviews and viewpoint was detailed. The advice drafting groups (ADGs) should be populated soon, the aquaculture experts have been very helpful in the making of the overviews, etc.; their involvement in the further advisory process could be beneficial and ACOM was asked to consider such involvement, the expertise being sought for the nominations is a mixture of aquaculture knowledge and advice in general.

ADG nomination in general – when the nominations are being called, it would be useful to narrow down/specify the expertise sought. It needs to be someone who can translate science into advice and in addition to this, special expertise could be specified as needed.

There was general support for the processes and ACOM encouraged the continuation. No further actions were proposed.

12.5 Mixed fisheries advice

Mixed fisheries considerations; the mixed fisheries will be particularly useful this year as they will be part of the EU:UK negotiations which has dragged out into Q1 2021.

The timetable for coming negotiations is estimated to be September and obviously the mixed fisheries considerations are depending on assessments done in the autumn + surveys later in the year. This means that with the current suite of stocks in the mixed fisheries the advice cannot be done before October/November. ACOM Leadership has suggested to put mixed fisheries advice on pause this year and develop with the advice requesters an operational format for the mixed fisheries advice.

Action 12.5. The content and timing of mixed fisheries advice to be discussed with requesters (ACOM Leadership and Secretariat).

13 Closing wrap up

The ACOM chair rounded up the meeting by inviting all ACOM members to speak.

All points and agreements in the meeting were touched upon in the summing up and all inputs were thought to be valuable. ACOM and the network of experts were thanked for making a success of a difficult last 12 months.

Meeting closed at 17:55.

14 List of action points and decisions.

Action 1. ACOM to inform secretariat of changes to membership

Action 4.1. Communicate decision to WKIRISH and to NWWAC (ACOM leadership)

Action 4.2. Explore with SCICOM if a workshop on methods to detect/highlight changes in productivity is useful (ACOM leadership)

Action 5.1. Each ACOM member to identify 1 person from each country to act as ambassadors

Action 5.2. Create a tool that generates markdown-based report template, (TAFGOV and secretariat)

Action 5.3. Create a tool that generates a stock category specific template to be used to submit essential stock data to TAF (TAFGOV and secretariat).

Action 6.2. Draft ToR for three inter-connected workshops: WKRebuild, WKMSE3, WKRP-change. These workshops will be coordinated via a planning meeting with ACOM Leadership, the workshop chairs, and an ACOM representative from the Netherlands.

Action 7.1. ACOM to hold a further follow up meeting to determine how to implement the roll-out of the new WKLIFE procedures.

Action 7.2. Revisions to the Advice of ecosystem services and effects to be made, and the documents to be placed on the ACOM forum for approval.

Action 11. ACOM to nominate two to three people to work in a group together with ACOM Leadership. This group will highlight initial priorities which will be put forward to ACOM for feedback. Initial prototypes are to be posted in the forum so that ACOM can provide feedback which in turn will allow the group to build upon make improvements in an interactive and agile manner. A Post requesting for volunteers to join this sub-group to be posted in the forum

Action 12.5. the content and timing of mixed fisheries advice to be discussed with requesters (ACOM leadership and secretariat).

Decision 1. ACOM considered the code of conduct and considered that there were no actual or perceived conflicts of interest within the committee.

Decision 2.1. Recommendations from BOG on 2021 Benchmarks – ACOM decisions:

approval for herring 30 and 31.

approval for sprat 7 d-e.

approval for coastal cod. Advice to be split in two components but ACOM agreed one advice sheet for the two components.

approval for ling 5b

approval for angler 8c9a, megrim 6b, *Nephrops* 25, *Nephrops* 2627, *Nephrops* 31.

approval deadlines for submissions to continue to be applied.

approval for SPiCT guidelines in report to be used by other groups.

request further independent review of benchmark findings for North Sea cod.

approval for sole 7.d, spurdog, whiting 6.a.

approval of rationale for reference points for whiting in 6a.

approval for sardine in 7, red gurnard in 3-8, plaice in 7h-k, sole in 8c9a.

approval for advice for sardine in 7 be provided annually.

Decisions 2.2. Future Benchmarks. ACOM approved the recommendations in the table provided by BOG but requested further clarity on the Greenland cod (cod.2127.1f14) and hake 27.3a46-8abd.

Decision 4.2. ACOM agreed that groups would should be encouraged to find suitable solutions to determining shifts in productivity, and it would currently not recommend specific methods in the advice guidelines.

Decision 4.3. ACOM agreed to link the multispecies key runs to benchmark timing moving forward but IBP may still be needed for specific stocks.

Decision 4.1. Not to incorporate Feco as described by WKIRISH into the advice framework.

Decision 6.5. ACOM to must consider the issue of survivability in benchmarks' ToR.

Annex 1: List of participants

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Annex 2: Meeting agenda

Day 1 (Break 15:50 to 16:10)

1. Welcome, code of conduct, review of action points from March 2020 & review of membership (Docs 01a, 01b, 01c, 01d, 01e)

The agenda will be adopted via the ACOM forum beforehand (Doc 01a). ACOM will be invited to review and update the ACOM membership list (Doc 01b). Changes should be reported to the Secretariat.

Online Meeting etiquette.

ACOM will reflect on the code of conduct (Doc 01c)

The list of action points from ACOM March 2020 will be reviewed (Doc 01d).

For information a review of activities in 2020 is available (Doc 01e).

New ACOM members will be asked to introduce themselves.

2. BOG report & benchmark decisions (Doc 02) (Ghislain)

The Chair of BOG will report on activities, results of 2021 benchmarks, planning for 2022, opportunities and challenges.

ACOM will be invited to comment, agree on actions.

2.1. Review of completed benchmarks and decisions including remedial actions if required

ACOM review and asked to approve BOG recommendations

2.2. Proposed benchmarks for 2021/2022 & decisions

ACOM review and asked to approve BOG recommendations

3. Feedback from MIRIA, MIACO & WGCHAIRS (Presentation 03) (Mark)

ACOM will be briefed about the 2021 meetings of MIRIA, MIACO and WGCHAIRS.

ACOM will be invited to comment, agree on actions, and take decisions as appropriate.

4. Intersessional subgroup on consistent approach to changing productivity in fisheries advice (Doc 04) (Marie-Julie)

The Chairs of the subgroup will report on activities, and recommendations.

ACOM will be invited to comment, agree on actions, and take decisions as appropriate.

5. TAF reporting workshop (WKREPTAF, Doc 05) (Niels)

The Chair of the workshop will report on its findings and recommendations.

ACOM will be invited to comment, agree on actions, and take decisions as appropriate.

6. Progress updates – fishing opportunities (presentations)

ACOM will be briefed on a number of ongoing initiatives in the arena of fishing opportunities advice

ACOM will be invited to comment, agree on actions, and take decisions as appropriate.

6.1. Quality control & quality assurance- (see doc 01e section 10) – 15 mins – 4 slides (Neil)

6.2. Reference points & rebuilding – 10 mins - 2 slides (Colm)

- 6.3. Management strategy evaluations – 10 mins – 2 slides (Colm)**
- 6.4. Retrospective patterns – 10 mins – 1 slide (Ghislain)**
- 6.5. Survival of discards – 10 mins -1 slide (Rui)**
- 6.6. Activities around eel – 10 mins -2 slides (Henn/Alain)**
- 6.7. Activities around salmon – 10 mins -1 slide (Ghislain)**

Day 2 (Break 15:50 to 16:10)

7. Split into breakout groups:

7.1. Discussion and propose decisions on recommendations from WKLIFEX and MSY advice for production models (Doc 07.1) (Colm & Ghislain)

A break out group of ACOM will be briefed on the recommendations, challenges and proposed actions stemming from WKLIFEX and advice needs for MSY advice for stocks using production models for assessments and forecasts.

The break out group of ACOM will be invited to comment, agree on actions, and propose decisions as appropriate. The decisions will be taken on the forum after the meeting.

7.2. Discussion and preliminary approval of the next iteration of the introduction section on rationale for “Advice on ecosystem services and effects”. (Doc 07.2) (Eugene & Henn)

Continuing the work from ACOM in March and September 2020, a break out group of ACOM will discuss the final version of the introduction section on “Advice on ecosystem services and effects”.

The break out group of ACOM will be invited to comment, agree on actions, and provisionally approve the text. The final approval will be on the forum after the meeting.

8. Joint ACOM SCICOM EBM group (Presentation 8) (Marie-Julie)

ACOM will be briefed on the work of the Joint group and the likely next steps.

ACOM will be invited to comment, agree on actions, and take decisions as appropriate.

9. COVID mitigation (Presentation 9) (Mark)

ACOM will be briefed on the situation, consequences and impacts of Covid on science and advice quality across ACOM activities.

ACOM will be invited to comment, agree on actions, and take decisions as appropriate.

10. Update from Chair of SCICOM (Presentation 10) (Jörn)

The Chair of SCICOM will brief ACOM on SCICOM activities, including plans for the ASC and the steering groups.

ACOM will be invited to comment.

11. Update on development of online advice (Presentation) Mark

ACOM will be briefed on developments for online advice.

ACOM will be invited to comment, agree on actions, and take decisions as appropriate.

12. Progress updates – Ecosystem services & impacts (presentations)

ACOM will be briefed on a number of ongoing initiatives in the arena of ecosystem services and impacts advice.

ACOM will be invited to comment, agree on actions, and take decisions as appropriate.

12.1. Overviews and viewpoints – 15 mins – 4 slides Henn

12.2. Bycatch and sensitive species – 15 mins - 3 slides Henn

12.3. VME, OECMs – 10 mins - 1 slide Eugene

12.4. Aquaculture – 10 mins - 1 slide Anne

13. Closing wrap up

A summary of discussions, and key action points and decisions.

Proposed time line:

09-Mar		10-Mar	
14:00	1. Welcome, Col, Intro etc	14:00	7. Beakout Groups
14:15	2. BOG report		7.1 WKLIFEX
			7.2 Advice on ecosystem
14:50	3. Miria, MIACO, WGCHAIRS	15:00	8. Joint EBM group
15:05	4. Productivity in advice subgroup report	15:20	9. Covid
15:50	20 mins BREAK	15:50	20 mins BREAK
16:10	5. TAF WKREPTAF	16:10	10. SCICOM Chair
		16:25	11. Online advice
16:30	6. Fish Opp progress	16:40	12. Ecosystem progress
		17:50	13. Wrap Up
18:00	Close	18:00	Close