



Notes from the Workshop on Status Assessment of Commercial Fish (ComFish WS 1-2021)

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Notes from the Workshop on Status Assessment of Commercial Fish (ComFish WS 1-2021)

Introduction

0.1 With reference to the [Outcome](#) of the 59th Meeting of the Heads of Delegation (HOD 59-2020, para 6.7 and 6.10), the Workshop on Status Assessment of Commercial Fish (ComFish WS 1-2021) was held on 28-29 September 2021.

0.2 The Workshop was attended by nominated contacts and experts from all Contracting Parties to the Helsinki Convention except the European Union, Latvia and Russia. The Workshop was also attended by observers such as the Baltic Sea Advisory Council (BSAC), the Coalition Clean Baltic (CCB), the International Council for the Exploration of the Sea (ICES) as well as the Convention for the Protection of the Marine Environment of the North-East Atlantic (OSPAR). The List of Participants is contained as **Annex 1**.

0.3 This Workshop was Chaired by Lena Bergström from Sweden. Owen Rowe, Project Manager, and Florent Nicolas, Associate Professional Secretary from the HELCOM Secretariat acted as secretaries of the Workshop.

Agenda Item 1 Adoption of the Agenda

1.1 After a round of introduction of the participants, the Workshop adopted the Agenda.

Agenda Item 2 Background information for ComFish WS 1-2021

2.1 The Workshop took note of the information on the Terms of Reference of ComFish WS 1-2021, approved by HOD 59-2020, (cf. [Outcome](#), para 6.10).

2.2 The Workshop took note of the information that STATE & CONSERVATION 15-2021, to be held from 4 to 8 October 2021, will review the proposals from this Workshop to assess commercial fish species within HOLAS III. The Meeting also took note that this review process might be held via correspondence due to the limited time between ComFish WS 1-2021 and STATE & CONSERVATION 15-2021.

2.3 The Workshop took note of the introduction on the Third HELCOM Holistic Assessment of the Baltic Sea Environment (HOLAS III) and the links between this Workshop and the overall work within the holistic assessment (**Presentation 1**).

2.4 The Workshop took note of the background information for this event, such as the aims of this Workshop, the policy requirements of the assessment of commercial fish in HOLAS III, the important dates for HOLAS III process as well as background information for MSFD descriptors on commercial fish species. The Workshop also took note of the work done under HOLAS II on commercial fish. This information is based on the [document 2-2](#) and summarized in **Presentation 2**.

Agenda Item 3 Data availability for commercial fish species

3.1 The Workshop took note of foreseen availability of data and assessment results via ICES that could be of use in HOLAS III, including explanations for different ICES assessment categories and information on ongoing work to develop assessments for data-limited stocks (**Presentation 3**). The Workshop also took note of the information on the extract from the ICES Stock Information Database on the current stocks assessed by ICES for the HELCOM Area. This extract is available as [attachment 1](#) to these Notes. The Workshop highlighted that the column G “Last Assessment” should actually be understood as “last advice”, while assessment results are in fact usually provided annually for stocks in the Baltic Sea.

3.2 The Workshop discussed that the work on Transparent Assessment Framework (TAF) will give much better access to data required to D3 and this is currently being developed within ICES (**Presentation 3**).

3.3 The Workshop took note of the information that the latest ICES advice on MSFD D3 was issued in 2020, and there has not been any active developments under this descriptor within ICES since 2017. The Workshop also took note of size or age-based indicators available from ICES work that may apply to assessments under D3C3. The workshop took note that ICES has recommended that age-based indicators (ABIs) be used for D3C3 where possible. In the absence of stock age frequency distributions (AFDs) from stock assessment, SBIs calculated from survey length frequency distributions (LFDs) should be considered. Furthermore, ICES recommends that D3C3 be considered as a surveillance indicator to ensure that any deterioration in the state of the stock would be detected.

3.4 The Workshop noted that any collection of datasets to support assessments under D3C3 can involve costs and time-related issues.

3.5 The Workshop took note of the information on the ICES Advice on fishing opportunities, catch and effort for Plaice (*Pleuronectes platessa*) in subdivisions 24–32 (Baltic Sea, excluding the Sound and Belt Seas) – ple.27.24-32 which is the only current Baltic assessment where information on B/Bmsy is given by ICES ([document 3-1](#)).

3.6 The Workshop discussed the use of MSY $B_{trigger}$ as a reference point for the assessment of stock status under the MSFD and potential alternative options, including the option to apply a multiplier to the MSY $B_{trigger}$, with the aim to find solutions which better comply with the definition of MSY and long term-sustainability. The Workshop discussed how this topic could be taken further, given that it relates to ICES advice. The Workshop requested to communicate the need of a continued discussion of reference points under D3C2 via STATE & CONSERVATION 15-2021.

3.7 The Workshop took note of the information on the upcoming ICES Workshop on Limit and Target Reference Points to be held on 2-4 November 2021. The Workshop wished to inform STATE & CONSERVATION 15-2021 that threshold values settings may be different from HOLAS III for this component if improvement are proposed by ICES.

Agenda Item 4 List of commercial fish species

4.1 The Workshop took note of the information on the background information on establishing the list of commercial fish species (**Presentation 2**, [document 2-2](#)).

4.2 The Workshop took note of the background information contained in the list of species for commercial fish assessment ([document 4-1](#)). This list was generated via different HELCOM processes and is giving some more information for each species listed (e.g. Reported under D3 for 2018 by the CPs which are also EU MS, HELCOM Red List category, etc.).

4.3 The Workshop took note of an initial evaluation to produce a regional commercial fish list according to Approach 1 as outlined by ICES Special Request Advice¹. The evaluation was based on data on reported landings from 2015 to 2019, which was the most recent comparable period available via the JRC/STECF database and was applied as combined results for ICES subdivisions 22, 24-32. The results were compared to corresponding results if based on a data set from 2003-2016 (document 4-2).

4.4 The Workshop considered the ICES Special Request Advice (also briefly presented in Documents 2-2 and 4-2) and highlighted the following section “the total landings of stocks selected for reporting should represent a very high proportion (by weight) of the landings (e.g. > 90%). In addition, ICES advises that, in cases where stocks represent a small proportion of the total weight of landings but generate relatively high

¹ https://www.ices.dk/sites/pub/Publication%20Reports/Advice/2020/Special_Requests/eu.2020.13.pdf

revenues, an additional threshold, based on commercial value, should be used to select species/stocks for D3 reporting.”

4.5 The Workshop agreed that using a threshold value based on the weight of the landings (e.g. > 90%) for commercial species is very sensible, but noted that a high threshold value would be needed for the Baltic Sea region in order to avoid omitting important species.

4.6 The Workshop discussed the option to use a low threshold value as a basis, with the option to add any additional relevant species as motivated, but agreed that the establishment of the regional list should be data-driven as much as possible to make its production repeatable and transparent.

4.7 The workshop took note of results from a complementary evaluation of data for years 2003-2016, and that including this as an information source would not add any species to the draft initial species list.

4.8 The Workshop discussed whether some smaller, but locally important, stocks would risk being ignored if the list is developed at the pan-regional level, considered the alternative option to divide the list by sub-regions to obtain more geographically relevant information.

4.9 The Workshop took note of the information that if the same assessment is done per sub-divisions regions where sub-divisions area and grouped based on their salinity (SD 30+31, 32 and the remaining ones) (cf. para 4.7), the list with a threshold fixed at 98% of the landings weight is very similar than the one highlighted in green colors in the table 2. The Workshop thanked the offer from Denmark to generate rapidly these analysis during the Workshop to make sure that the data-driven approach under consideration is robust enough to be proposed to STATE & CONSERVATION 15-2021.

4.10 The Workshop recommended a regional list of commercial fish species for HOLAS III, based on the criteria and data presented in document 4-2, with amendments as follows (also available as **Annex 2**, i.e. task 1 of the Workshop):

1. Species included in the top 98% of landings by weight or in the top 98% of landings by value during 2015-2019 are included.
2. Lack of data or assessments is not a reason for omitting species from the list, if they meet the above definition.
3. Landings of non-indigenous species (NIS) are not included, as any potential good status of NIS should not contribute to the status assessment of D3, and as any potential poor status of NIS should not motivate management actions with reference to D3
4. Any species identified on the regional list of commercial fish species and which are also included under HELCOM red list categories “Critically endangered” (CR), “Endangered” (EN), “Vulnerable” (VU) or “Near threatened” (NT) should be included in the overall D3 assessment.

4.11 The Workshop discussed that by-catch species are assessed under MSFD D1 and highlighted that, in the future, it might be relevant to assess discards and targeted species separately to make sure that non-targeted species are also suitably addressed.

4.12 The Workshop discussed that many aspects of recreational fishing are not considered under D3, but that these should be covered in HOLAS III. The workshop noted that the activity of recreational fishing can sometimes generate considerable economic values which are not linked to the value of reported commercial landings as presented in document 4-2.

4.13 The Workshop noted that the draft list according to the identified criteria does not include the stickleback (*Gasterosteus spp*), based on landing statistics for this species for 2015-2019.

4.14 The Workshop noted the issue that certain species may be addressed under D1 and D3 following the proposed list by the Workshop (e.g. flounder, perch and possibly also whitefish, pike-perch, pike – addressed under coastal fish monitoring). The Workshop asked input from STATE & CONSERVATION 15-2021 to give input on the approach to be taken on this issue since under MSFD D3 is to be used under D1.

Agenda Item 5 Assessing commercial exploited fish species for HOLAS III

5.1 The Workshop took note of the information on the assessment of populations/stocks of currently non-assessed fish species and their size structure for HOLAS III under the HELCOM BLUES project. As the work is ongoing, the presentation is not available on the Meeting Site.

5.2 The Workshop discussed the preconditions for D3 assessments and agreed that ICES assessments results are the primary source of input for assessing commercial fish in HOLAS III.

5.3 The Workshop discussed potential indicators or metrics to support assessments addressing the health of commercial fish stocks with respect to fishing mortality (F), spawning stock biomass (SSB), as well as age and size structure, and emphasized the importance of all these components for revealing the health status of commercial fish. The Workshop mentioned some relevant scientific publications on this topic².

5.4 The Workshop discussed the situation if some data that would be needed for HOLAS III are not available from ICES assessment results and how HELCOM could react.

5.5 The Workshop recommended the framework and preconditions for D3 assessments as presented in the **Annex 2**, as a summary of the discussions on this topic (i.e. task 2 of the Workshop).

5.6 The Workshop discussed the preferred types of data sources for D3C3 and if the assessment should be based on fishery independent data, such as data from surveys, or based on landing statistics (i.e. fishery dependent data) or derived from assessment-model, and concluded that they are all potentially useful for different purposes.

5.7 Based on the discussions, the Workshop drafted recommendations on indicators or metrics addressing healthy size and age structure as available in the **Annex 2** (i.e. task 2 of the Workshop). These draft recommendations show background information to assess healthy size and age structure and an indicative list of indicators/metric grouped per type (e.g. age structure, size structure – focused on large individuals, recruitment success, etc.).

5.8 The Workshop recommended to have a follow-up process regarding currently non-assessed stocks and/or indicators, and proposed a second workshop to be held in the near future to test some of the indicators to assess healthy size and age structure mentioned in the **Annex 2**.

5.9 The Workshop highlighted that the data availability will be a constraint for some stocks.

5.10 The Workshop considered the confidence setting approach applied in the BEAT integrated biodiversity assessment tool, noting that the structure presented is generic to cover all current biodiversity

² Vasilakopoulos, P., Jardim, E., Konrad, C., Rihan, D., Mannini, A., Pinto, C., ... & O'Neill, F. G. 2020. Selectivity metrics for fisheries management and advice. *Fish and Fisheries*, 21(3), 621-638.

Probst, W.N., Kempf, A., Taylor, M. Martinez, I., Miller, D. 2021. Six steps to produce stock assessments for the Marine Strategy Framework Directive compliant with Descriptor 3. *ICES Journal of Marine Science* 78(4). <https://doi.org/10.1093/icesjms/fsaa244>. Scientific, Technical and Economic Committee for Fisheries (STECF) – Review of technical measures (part 1) (STECF-20-02). EUR 28359 EN, Publications Office of the European Union, Luxembourg, 2020, ISBN 978-92-76-27161-1, doi:10.2760/734593, JRC123092

Additional publication not mentioned during the Workshop: Froese, R., Winker, H., Coro, G., Demirel, N., Tsikliras, A.C., Dimarchopoulou, D., Scarcella, G., Probst, W.N., Dureuil, M. and D. Pauly. 2018. A new approach for estimating stock status from length frequency data. *ICES Journal of Marine Science* 75(6): 2004-2015. doi:10.1093/icesjms/fsy078

indicators in HELCOM (and that current indicator specific issues are included withing the existing main categories).

5.11 The Workshop supported the general approach for assessing confidence in the BEAT tool but recommended that structural uncertainties (e.g. of underlying models) are also included in the confidence assessment. The Workshop recommended to use such approach for commercial fish assessment to highlight the confidence level.

5.12 The Workshop recommended that these issues should be reflected to the BEAT tool developers under the ongoing HELCOM BLUES and Baltic Data Flows projects for consideration.

5.13 The Workshop noted that the list of species (or stocks) discussed under the Agenda Item 4 may have different biological characteristics, habitats, and life histories, and are differently targeted by commercial fisheries, and importantly that data availability differs greatly between the species/stocks. The Workshop highlighted that these points are important when thinking about new indicators and any possible ranking of them for individual stocks.

5.14 The Workshop discussed the use of commercial fish data in the HOLAS II assessment, and recalled that the integration of preconditions for the MSFD are derived from the EU Commission Decision 2017/848 with the support of experts. The Workshop discussed these preconditions for HOLAS III.

5.15 The Workshop recommended to use the one-out-all-out approach for assessing overall status of a stock, since this is a policy decision (i.e. MSFD), and, further, that the overall status of a stock can only be assessed if data on at least both fishing mortality (F) and Spawning stock biomass (SSB) (or their proxies) are available.

5.16 The Workshop recommended to define indicator status during the assessment period as the average of all assessment values within the assessment period in relation to the most recently available reference value.

5.17 The recommendations regarding the integration of assessment results are summarized in the **Annex 2** of these notes (i.e. task 3 of this Workshop).

5.18 The Workshop took note of the information on the remaining questions related to the indicators for commercial fish species, such as the visualization of the assessment results, the rankings of such indicators, symbology, if other issues to be included, etc. (**Presentation 4**).

5.19 The Workshop discussed how to present the indicators based on the three MSFD criteria under D3 and recommended to clearly show the status with respect to all of these criteria, and with an assessment of overall status based on available information.

5.20 The Workshop suggested to add further development of this topic to the potential workshop (cf. para 5.8). The Workshop also suggested that this workshop in practice should be divided into two sessions: a first one to plan the work and data treatment, and a second one to evaluate, discuss and conclude on the results.

Agenda Item 6 Further work and next steps and Any Other Business

6.1 The Workshop proposed that a follow up procedure from this WS would be a second workshop (ComFish WS 2-2021) to further work on the indicators mentioned in the **Annex 2** and on the integration of such indicators for HOLAS III.

6.2 The Workshop also proposed that prior to this second workshop, the HELCOM Secretariat to liaise contact with ICES Secretariat to accommodate the exploration of D3C3 indicators and investigate the possibility to provide a new section "Age/size structure" in Advice documents, with indication of e.g. mean age/length in the catch, age/length at 50% and 90% first maturity, optimum length / age, 95th length

percentile, as appropriate for each stock. Information related to recruitment is also relevant and a length/age frequency histogram with indication of above reference points.

6.3 The Workshop discussed if the Kattegat would be included in HOLAS III based on the D3 list of commercial fish, or if the assessment of commercial fish should be applied based on the ICES definition of the Baltic Sea ecoregion, which excludes the Kattegat. The Workshop recommended clarification on this issue during STATE & CONSERVATION 15-2021, or by correspondence.

6.4 The Workshop discussed a document on food web effects of cod, herring and sprat on different habitats which was not submitted to the Workshop. This topic was raised during the HELCOM Workshop on Spatial impact and pressure assessment (26-27 August 2021) and it was highlighted that experts advice is needed for further work. The Workshop participants invited the Secretariat to share the document among the participants and invited the participants to give feedback to the Secretariat by 15 November 2021 (juuso.haapaniemi@helcom.fi).

6.5 The Workshop participants thanked Sweden for the preparation and Chairing this Workshop.

Agenda Item 7 Outcome of the Workshop

7.1 The Workshop participants adopted the notes of the Workshop via correspondence.

7.2 The final adopted Notes of the Workshop was made available in the HELCOM Meeting Portal, as well as the documents and the presentations.

Annex 1: List of participants of ComFish WS 1-2021

Representing	Name	Organisation	E-mail
Chair	Lena Bergström	Swedish University of Agricultural Sciences	lena.bergstrom@slu.se
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Denmark	Anna Rindorf	Danish Technical University	ar@aqua.dtu.dk
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Annex 2: Recommendations from ComFish WS 1-2021 to STATE & CONSERVATION 15-2021 on Status Assessment of Commercial Fish

This section contains the recommendations to STATE & CONSERVATION 15-2021, listed per tasks following the Terms of Reference for ComFish WS 1-2021. The last section lists other issues raised by ComFish WS 1-2021 which would require guidance from STATE & CONSERVATION 15-2021 as well as a proposal for follow-up the work on Status Assessment of Commercial Fish.

Task 1: Recommendation for the list of regional species for the assessment of commercial fish species

This section contains the recommendation from ComFish WS 1-2021 to STATE & CONSERVATION 15-2021 related to the task 1 “Recommend a regional species list for the assessment of commercial fish species and/or stocks in the Baltic Sea region for adoption”.

Table 1 below shows a recommended list of commercial fish species representative for the ICES Baltic Sea ecoregion (ICES SD 22, 24-32), derived based on the Approach 1 of the table 4 from the ICES Special Request Advice (Further details described in document 4-2).

The list was developed based on the following decision points:

1. Species included in the top 98% of landings by weight or in the top 98% of landings by value during 2015-2019 are included;
2. Lack of data or assessments is not a reason for omitting species from the list, if they meet the above definition;
3. Landings of non-indigenous species (NIS) are not included, as any potential good status of NIS should not contribute to the status assessment of D3, and as any potential poor status of NIS should not motivate management actions with reference to D3;
4. Any species identified on the regional list of commercial fish species and which are also included under HELCOM red list categories “Critically endangered” (CR), “Endangered” (EN), “Vulnerable” (VU) or “Near threatened” (NT) should be included in the overall D3 assessment.

Table 1. Recommended regional list of commercial species in the Baltic Sea, based on contribution to the reported weight of landings in summary for ICES SD 22, 24-32 during 2015-2019, crosschecked for sub-regional variability and against reported landings for 2003-2016. HELCOM Red List classification is listed for information, for concerned species.

Scientific name	Species name	Accumulated proportion of landings by weight	Contributed to 98 % of landing by value	HELCOM Red List
<i>Clupea harengus</i>	Atlantic_herring	49,8	YES	
<i>Sprattus sprattus</i>	European_sprat	86,2	YES	
<i>Gadus morhua</i>	Atlantic_cod	90,3	YES	
<i>Mytilus edulis</i>	Blue_mussel	93,5	YES	
<i>Platichthys flesus</i>	European_flounder and Baltic flounder	96,0	YES	
<i>Osmerus eperlanus</i>	European_smelt	96,5	YES	
<i>Pleuronectes platessa</i>	European_plaice	97,0	YES	

<i>Perca fluviatilis</i>	European_perch	97,5	YES	
<i>Ammodytes_spp+ Gymnoammodytes spp assessed jointly</i>	Sandeels(=Sandlances)	98,0		
<i>Rutilus rutilus</i>	Roach	98,3	YES	
<i>Coregonus albula</i>	Vendace	98,5	YES	
<i>Abramis brama</i>	Freshwater_bream	98,7	YES	
<i>Limanda limanda</i>	Common_dab	98,9	YES	
<i>Sander lucioperca</i>	Pike_perch	99,3	YES	
<i>Coregonus lavaretus</i>	European_whitefish	99,3	YES	EN
<i>Salmo salar</i>	Atlantic_salmon	99,5	YES	VU
<i>Anguilla anguilla</i>	European_eel	99,6	YES	CR
<i>Esox lucius</i>	Northern_pike	99,6	YES	
<i>Scophthalmus maximus</i>	Turbot	99,7	YES	NT
<i>Salmo trutta</i>	Sea_trout	99,8	YES	VU
<i>Solea solea</i>	Common_sole	99,9	YES	

Task 2: Develop and recommend the framework of the assessment, i.e. which parameters/indicators should be used

This section contains the recommendation from ComFish WS 1-2021 to STATE & CONSERVATION 15-2021 related to the task 2 “Develop and recommend the framework of the assessment, i.e. which parameters/indicators should be used”.

General recommendations on providing evaluations for the HOLAS III D3 assessment

1. The Workshop recommend that both fishing mortality (F) and spawning stock biomass (SSB) should be assessed for each stock, and if possible size/age structure, and alternative indicators should be used if F and SSB are not available (re: [Commission decision \(EU\) 2017/848](#), see *Specifications and standardized methods for monitoring and assessment* section under MSFD D3).
2. ICES assessment results are the primary source of input for the assessment of commercial fish in HOLAS III.
3. When ICES assessment results and data are not available according to the needs of HOLAS III then HELCOM should clarify from ICES if such data, indicators or additional analyses can be provided and, if so, in what time frame. If it can not be provided by ICES within the required time frame of HOLAS III, then HELCOM should initiate a process to apply suitable evaluations for the purposes of HOLAS III.

Recommendations on the assessment of “healthy size and age structure”

1. The assessment should be based on quantitative indicators that can provide guidance to management, either directly or indirectly.
 - Directly: for example reflecting selectivity in the fisheries.
 - Indirectly: for example changes in natural mortality, growth or recruitment that may need responses in target setting.
2. A suite of indicators/metrics would be needed to ensure a healthy stock over all parts of the size spectrum. An indicative but not exclusive list of indicators, grouped per type is provided below (i.e., grouped under broader categories):

Age structure

- Mean age in the catch

Size structure – focusing on large individuals

- 95th (or 90th) percentile of the fish-length distribution
- Should be designed so that it is insensitive to high recruitments

Recruitment success

- Potential examples: smolt productivity, L10

Selectivity/size structure in the fisheries catches

- Mean length of the catch, length of first capture, selectivity for juvenile fish

Other evaluators of changes in condition

- Mean weight at age

Genetic changes

- Mean length/age at maturity
3. Although applying the same indicators/metrics for different stocks, as far as possible, is advisable in the long term, data availability is expected to be a constraint for the evaluation of some stocks, and different indicators could prove to be optimal for different stocks.

Task 3: Recommend appropriate approaches for the integration of indicator results per species/stock and across the assessment period, respectively

This section contains the recommendation from ComFish WS 1-2021 to STATE & CONSERVATION 15-2021 related to the task 3 "Recommend appropriate approaches for the integration of indicator results per species/stock and across the assessment period, respectively".

Integration of assessment results

1. The Workshop recommends that one-out-all-out should be used across criteria for assessing overall status of a stock, as this was followed in HOLAS II, noting that it is reasonable to use the same approach as was applied in HOLAS II for the sake of comparability.
2. The overall status of a stock can only be given if data on at least both F and SSB (or their proxies) are available, and the overall status should also reflect results for age/size/condition aspects (i.e. MSFD D3C3). The specifics of an approach (building on options presented at ComFish WS 1-2021) for how to include evaluation results for D3C3 in this integration, under the understanding that HELCOM-agreed threshold values are not foreseen within the time frame of HOLAS III, could be further evaluated in connection with a proposed follow-up workshop (see below).
3. The assessment results should reflect data for the whole assessment period of six years (2016-2021), using the average result for all six years. Averaging is the most reasonable approach considering the properties of the underlying assessment data, including the fact that the assessment values have strong interannual variability. Especially for components such as age/size/productivity (e.g. D3C3), an assessment over only one year would not make interpretation of the results appropriate.
4. The Workshop recommended that data is included in the BEAT tool using the same approach as was applied in HOLAS II, but that the information on confidence is reassessed in relation to the new data (though using the template for the BEAT tool), and that information on confidence in the underlying model/assessment structure is incorporated in this.

Other issues raised with relevance to, or requiring guidance from State & Conservation

This section contains other issues raised by ComFish WS 1-2021 with relevance, or requiring guidance to further work on the Status Assessment of Commercial Fish.

1. Discussion on how to best estimate the biomass capable of producing MSY. Suggestions included: MSY B trigger, BMSY or suitable proxies when applying threshold values (i.e. under MSFD D3C2). The WS noted that there is an upcoming ICES meeting series that may also address this issue and it was proposed that potentially adopting any changes should wait on developments under ICES WKREF (two meetings planned 2-4 November 2021 and 11-13 January 2022). It was considered important to inform State and Conservation that threshold value setting/application may be different from HOLAS II for this component if improvement proposed by ICES is the result of their ongoing advice process. It was also noted that it would be relevant to feed the outcomes of this process into next proposed HELCOM ComFish WS 2-(2022) with a view to providing a further progress update to the spring State and Conservation meeting in 2022.
2. Kattegat area in HOLAS III. Clarify from State and Conservation if the Kattegat area should be included in the HOLAS III assessment of commercial fish, based on agreed D3 list, or if the assessment of commercial fish should be applied only on the ICES definition of the Baltic Sea ecoregion (thus exclude Kattegat area).
3. Request for State and Conservation to endorse sending a message to ICES. The Workshop discussed that there are other data and assessment components underway or developed in ICES that could support work towards HOLAS III. The proposal was made to send a general message to ICES, in particular associated with ongoing work in ICES taking place in late 2021/early 2022, to encourage that as much information, assessment output and data related to MSFD D3 (especially D3C3) is available to support HOLAS III.

Aspect such as these deemed potentially relevant: To accommodate exploration of D3C3 indicators, HELCOM could ask ICES to provide a new section "Age/size structure" in Advice documents, with indication of e.g. mean age/length in the catch, age/length at 50% and 90% first maturity, optimum length / age, 95th length percentile. Information related to recruitment success/failure also relevant. A length/age frequency histogram with indication of above reference points would also be useful. The this is to support the application of the indicators/metrics listed above.

The relationship of this to the proposed follow up workshop was also noted.

4. The link between the assessment of biodiversity and commercial fish (e.g. MSFD D1 and D3). The Workshop noted that certain species may be addressed under D1 and D3 based on the proposed list, e.g. flounder and perch (possibly also whitefish, pike-perch, pike), addressed under coastal fish monitoring. The Workshop considered that it was most appropriate to ask input from State and Conservation on how to approach this since under the MSFD the assessment of commercial fish (i.e. D3) is to be used under D1. The question remained open as to if this should be exclusive (i.e. only D3 can be used under D1 for commercial fish) or if D1 assessments of the same species can also include additional aspects of relevance for D1. It was noted that this issue may possibly also be relevant to reflect under the EU Art. 8 guidance that is currently being developed.

Follow up and resources

1. Second HELCOM ComFish WS proposed. The Workshop proposed that a follow up to this constructive process would be relevant and proposed that a second HELCOM workshop should be held, likely sandwiched between the end of the ICES processes described above (i.e. January 2022) and State

and Conservation (9-13 May 2022) – with a view to providing further input to State and Conservation 16-2022. It was proposed that the focus would be on applying a test case in relevant stocks that runs through the entire approach and looks at catch and biomass components (D3C1 and C2) and also adds on suitable age/size/productivity aspects (e.g. MSFD D3C3). This would also test and finalise suitable integration and confidence assessment approaches already outlined in the current process.

It was noted that in addition to the actual workshop, a preparatory phase would be critical, for example to ensure data preparation, and that the workshop would focus on the evaluation and review of data/results. Expert knowledge on the relevant ICES data is needed to achieve relevant temporal data coverage and facilitate the preparatory steps.

2. Resource related issues. The Workshop considered that no new proposals related to data collection or monitoring were relevant at this point. Thus, resource issues include: a) the proposed second WS, including preparatory aspects data handling and running of pilot assessment, and b) expert time/resources to apply this assessment in HOLAS III itself.