**Marine Strategy Framework Directive (MSFD)**

***Common Implementation Strategy***

# Workshop on Descriptor 3+ regarding all commercial exploited fish and shellfish stocks in relation to the Good Environmental Status,

**2nd Meeting, Brussels 9-10 April 2013**

## Summary Report

The European Commission welcomed the participants and hoped that the meeting would contribute to the developments leading forward to the next round of assessments in 2018. By the end of 2013 the Commission will report on the evaluation of the Member States initial assessments and will identify gaps and questions emerging from this. The Minutes from the previous D3+ meeting in Paris was available.

The Commission (DG Environment) gave a short presentation giving the state of play and an overview of what had happened since last meeting. The Commission is looking into the Initial Assessment reports (checking compliance, adequacy, consistency and coherence). Still some MS have not provided full reports regarding articles 8, 9 and 10. Some early indications based on the national reports were presented. There seems to be much qualitative information and reporting sheets are often missing. Also it seems that there are low ambition levels and little coherence in the reports. More details on the implementation of Descriptor 3 were presented. The Commission's report is expected in autumn and an in-depth technical assessment of the MS reports is planned for end 2013/early 2014. Consistency between the assessments is envisaged. Furthermore, the Commission (DG Environment) gave a presentation on the EU Biodiversity Strategy and its context. Not only D3 but also descriptors 1, 2 and 4 are relevant to reach the biodiversity goal. Conversely, in addition to Target 4 on sustainable fisheries, several others of the Biodiversity Strategy's targets and actions – in particular those dealing with Natura 2000, the mapping and assessment of ecosystems, and invasive alien species – also relate to fisheries and the marine environment. In this respect, implementation of the Strategy is closely aligned with that of the MSFD.

**Presentations and Discussions**

During the workshop a range of scientific presentations were given :

- ICES developments (Han Lindeboom)
- Latest developments on Descriptor 3 (Carl O'Brien)
- Population age and size distribution indicative of a healthy stock (Gerjan Piet)
- Maintaining Biodiversity: choosing what you need from an overly-diverse indicator menu (Simon Greenstreet)
- Developing the Food Web descriptor – From principles to practice (Stuart Rogers)
- Providing the solution to D4; Work in ICES (Stuart Rogers)
- Sea Floor Integrity and Fisheries under MSFD – Ices achievements in analysing fisheries data (Heino Fock)
- D6 Sea Floor Integrity – Habitat mapping (Pål Buhl-Mortensen)
- Links to EU Biodiversity Strategy (Target 4) – Risk-based approach (Carl O'Brien)
- Integrated assessment and ecosystem overviews (Leonie Dransfeld)

All presentations including those of the Commission is available on Circabc:

https://circabc.europa.eu/w/browse/212aac58-be1a-4c90-ae4a-e94ce14621c8

**Latest developments on Descriptor 3**

ICES use of the precautionary principle to overcome the data limited situations for many fish species should be considered in the light of the EC communication from 2000 on the use of the precautionary principle. The latter is the basis for a number of policies developed over the years including a risk-based approach. The ICES approach to data-limited fishery analysis calls for a determination of the status of exploitation relative to $F_{MSY}$ (overfishing or no overfishing) and consideration of the stock trend. A precautionary margin of −20% has been applied by ICES for those cases when the stock status relative to candidate reference points for stock size or exploitation is unknown. This approach is intended to move in the direction of sustainable exploitation, having due regard for the species' biological characteristics and uncertainty in the information. This implies that advice is applicable to a time-frame which is compatible with a measurable response in the metrics used as the basis for the advice; i.e. in the simplest case, and where the least information is available, this would imply a multi-annual constant catch advice. However,

it may be relevant to somehow build in incentives for MS/fishermen to provide more data for data limited stocks when data is missing today.
How do the developments on single species assessments fit with similar developments for mixed-species fisheries?
The single species assessments will inform on the targets for the species in mixed fisheries. Multi-species/mixed-species models are only considering a handful of species and we do not presently have fully understanding of the complete ecosystem and food-web in for example the North Sea. The single species assessments and reference levels are important to be able to manage the fisheries more sustainable and evaluate what is the status of the system on a regional level. The new policy on discard ban will have implications for the assessment of the stocks, trophic chain and ecosystems. However, in general the reference values (fishing at MSY) in multi-species fisheries are expected to be different (in some cases lower or higher) depending on the management objectives, according to ICES studies in the Baltic Sea, than in a single species fishery. This is in accordance with the statement in COM (2010/477/EU): "*in mixed fisheries and where ecosystem interactions are important, long term management plans may result in exploiting some stocks more lightly than at $F_{MSY}$ levels in order not to prejudice the exploitation at $F_{MSY}$ of other species*".
ICES has not come up with reference points for mixed fisheries/multi-species fisheries in the North Sea. The 11 descriptors are treated as they were independent, which is not the case. Until now the development in the ICES science has looked at the individual descriptors and not their integration and interactions. There is possibly links between descriptors and indicators and a smaller number of indicators may be sufficient.

**Population age and size distribution indicative of a healthy stock**

COM decision 2010/477/EU within criteria 3.3 clearly states that healthy stocks are characterised by high proportion of old, large individuals. The presentation considered what a healthy age and size distribution of a fish stock is. Should older fish be preferred then it should be stated in the criteria definition, not just the phrase "healthy age and size distribution". The word "healthy" is difficult to use in the assessment process as having more old fish at sea does not necessarily mean that the stock is healthier.
Overfishing change the genetics in the fish stock towards smaller fish spawning earlier.
When we follow the MSY target we will probably also achieve a more natural size distribution in the stock. In mixed fisheries for flat fish it is very difficult to avoid smaller sized fish.
The large fish indicator is set for mixed fisheries where many species is caught in the trawl. The study presented is on the single species level. Following the large fish indicator will move the size and age distribution in the right direction towards MSY.
A view point was to have a size and age structure as close as possible to the size and age structure of a fish stock without fishing.

Using “healthy/not healthy” is not good when communicating because it can be misunderstood by the public.
The study on “population age and size distribution that is indicative of a healthy stock” showed that it is difficult to define any target for GES. “Healthy” should be considered in relation to resistance and resilience, instead of high proportion of old, large individuals, and should also define targets and thresholds. From a management perspective the selectivity pattern of the fishery would be the preferred criterion.

**Maintaining Biodiversity: choosing what you need from an overly-diverse indicator menu**

Based on assessment of a set of OSPAR biodiversity indicators it was questioned if we need “pressure” indicators and targets for “species” level ecosystem components when there are good species abundance indicators for all three component levels.
It is unlikely that simply achieving fisheries management GES objectives will also ensure that we will meet GES for all the other D1 indicators. However, meeting the MSY target will probably contribute to meet the other GES targets of D1 and D4.
The LFI (large fish indicator) is adapted to each ecosystem. In the North Sea it is the proportion by weight of fish exceeding 40 cm in length by a defined number of species in a survey well sampled. Thereby badly sampled species will not give noise in the index.
It gets more complicated when we add more dimensions into the MSY approach.
Fishing mortality has declined 60% between 1986 and 2008 in the Celtic Sea. Some modelling results suggest that not all species will recover at the current low $F_{MSY}$ level. About 16 species will likely recover out of the 22 species occurring.

**Developing the Food Web descriptor**

The large fish indicator (LFI) is an easy “ecosystem” indicator to use for food-web (as well as for biodiversity) because the data and the methodology to calculate the indicator are available in ICES (survey data and WG reports). Response time may be slow.
However, the trophic level index is complicated to use and compare consistently over the years because it is based on catch and catch compositions. It has been found to be very sensitive to variability in the way catch data has been collected by different MS and over the years. If we had good reliable catch data collected over the years the trophic indicator could be useful but unfortunately there are too many unknown variables (changes in the fisheries e.g. gear selectivity, target species, and the market for fish).
ICES should support the Common Implementation Strategy and ensure the specificity and sensitivity of indicators is consistent across EU. Those at regional sea scale (e.g. LFI) could be delivered by ICES on behalf of MS.

Reducing fishing to MSY levels is expected to be sufficient to allow the LFI to increase to within values proposed as appropriate targets by ICES.
MS should first use the indicators already available on e.g. sea bird populations breeding success or marine mammals population sizes.
The eastern Baltic Sea cod is increasing in population size but it has recently been found to be starving because of lack of food. The latter is a good reason for considering multispecies fisheries and food web models in the stock assessments. Stomach contents of fish are relevant for understanding multispecies interactions and ecosystem modeling. New techniques are interesting (e.g. DNA) because the conventional way of stomach analysis is very costly.

**Sea Floor Integrity and Fisheries under MSFD**

Indicators for sea-floor integrity are under development in Benthic Habitat Experts groups under HELCOM and OSPAR. Their developments should also be considered.
The availability of VMS data through the DCF is essential for ICES working groups analysing fisheries distributions pressures and impacts at high resolutions. The linkage and overlay between the habitats distributions and the fisheries distributions are the next step to be analysed once habitat maps and high resolution fisheries data are available. It is important to cooperate with the fishermen and use the industry knowledge. It was also noted that all other human activities which can have a impact on the sea floor should be considered and not only fishing.
Habitat mapping can become more cost-effective by prioritising the most important key habitat areas and map these first. The areas should not be mapped in small pieces and for single topics at the time but the whole area and all topics should be considered from the beginning which is much more cost effective.
Here also, reduction in fishing intensity to Fmsy is expected to lead to indicators of seafloor integrity that are within acceptable limits.

**Links to EU Biodiversity Strategy (Target 4) – Risk-based approach**

A more integrated approach of assessment across descriptors, in particular D1, D3, D4 and D6 was advocated. Similar discussions as presented are taking place in the WG GES indicating that things are moving in the same directions. The risk-based approach is being further developed in ICES and there is more work to be done on e.g. clear definitions. The ICES WGECO has reviewed a number of risk models and found the approach similar but the data requirements were very different – the cost-effectiveness is an issue. It is important to reach a common understanding and agreement what MS should and should not use with respect to these models. How much uncertainty is acceptable when we still want to take action?

**Integrated assessment and ecosystem overviews**

Why is ICES developing integrated assessment and Ecosystem overviews? In ICES there has been an increasing wish for inclusion of environmental issues into fisheries advice for several years and thereby moving towards more integrated advice. To make sure ICES working groups do not forget to take ecosystem considerations into account when they do assessments it was decided to make short ecosystem overviews outlining e.g. important developments and major environmental pressures. Also people outside ICES could have an interest in this information. The Commission (DG Environment) found that preparing ecosystem overviews overlapped with activities in the EEA and in the RSC.

**Conclusions**

The workshop has been a useful opportunity to learn what is going on in ICES in relation to descriptor 3 and other descriptors which may be a useful input for the further MSFD implementation. However, there needs to be further discussion on how this information can be best used and how the work is organised in the future. In the light of increasingly limited resources, it will be important to find ways to use the resources most efficiently. ICES should support activities of the RSC and close gaps within their activities trying to avoid the organisation of ICES workshops and RSC WGs on the same topic. It will need to be clarified whether some of this work is pursued further on request of the MS, the RSC or the Commission. Any future activities should take into account the results of the Article 12 assessment of the Commission and should be included into the future work programme for the MSFD Common Implementation Strategy which is currently under discussion.

Further work and discussions will also be necessary to ensure coherence and consistency of assessments between the different policies, in particular the MSFD, the CFP and the Biodiversity Strategy. This will only be possible following the conclusion of the ongoing negotiations on the CFP. Moreover, the approaches presented by ICES are largely developed and applicable for the ICES regions only. Some of them could be applied also in other marine regions but further efforts need to be made to allow solutions which are also applicable in the Mediterranean and the Black Sea.

Initial views from ICES suggest that meeting the Fmsy indicator will lead to ecosystem changes that may well be considered sufficient to warrant a positive assessment of several other indicators with respect to GES, so achieving policy coherence may be less difficult than some had anticipated.

Overall, the presentations, discussions and the potential further support of ICES in the MSFD implementation were broadly welcomed by participants and there was support to continue with

this format in the future. Therefore, a follow up D3+ workshop should be envisaged, tentatively for 2014. This workshop could further develop, in particular:

- Standardised operational methods for D3 and related descriptors that allow regional coordination when indicators are prepared by MS and or RSC (e.g. by ICES or similar body) as an input for recommendations.

- Look for opportunities to integrate indicator development across descriptors. Aim for an optimised set of indicators, especially across D1, D3, D4 and D6, that allow indicators to contribute to multiple descriptors**.**

- A risk based approach to the integration of D3+D1, D4 and D6 should be explored. E.g. SICA (Scale Intensity and Consequence Analysis) provides a prioritisation system

- Risk Definitions (low, moderate, high), need to be agreed based on data availability.

Until then, the Commission should consider to invite ICES to investigate, in particular:

- a detailed contribution to the future CIS work programme as regards activities and deliverables that ICES would be able to prepare;
- draft recommendations for the assessment of descriptor 3 building on the work of ICES (D3+ report), the discussions at the two workshops, the outcome of the CFP reform, the application of the precautionary principle, the ecosystem approach and the results of the Article 12 report; the draft recommendations could be discussed at the next workshop and finally be adopted by the MSCG.
- A consolidated contribution to WG GES on how the ongoing ICES work could be used for the further development of a common understanding on GES regarding other descriptors (than D3), particularly focused on the ecosystem impacts from fisheries (the '+' part of D3+) and assessments at ecosystem level (for D1.7 and D4). ICES could contribute with the GES drafting group and the results could be presented/discussed at WG GES before they are endorsed by MSCG. Furthermore, the results of the drafting group of WG GES will also have to be taken into account.
- for the possibility to complement fisheries advice with the current state of GES D3 (annual assessment – "distance to 2020 objective") in the marine (sub-)regions NEA and Baltic in order to improve the relationship between the short term and long term targets.

Similar discussions should be encouraged in the RSC's to define clearly the needs and the role of ICES in their MSFD implementation work. ICES can also play an important role in data management, sharing and compiling of integrated assessments and ecosystem overviews provided this work is closely coordinated and complementary to the ongoing activities of the EEA, OSPAR and HELCOM. Finally, the next D3+ workshop could be mandated to review the progress in these areas, consolidate the discussions through the above-mentioned preparatory work of ICES.