First DIKE TSG workshop draft meeting report

The first DIKE TSG meeting was held on July 4th in Copenhagen, back to back with the 19th meeting of MODEG to allow interaction between the two groups and the newly awarded EMODnet projects. In total the meeting had 60 participants of which approximately 20 represented the DIKE TSG. The breakout session involved only members of DIKE TSG, and the recommendations put forward in this document represents those of the DIKE TSG. The Commission was represented by both DG MARE and ENV.

Meeting documents and presentations can be found in:  <http://projects.eionet.europa.eu/msfd-wg-dike-technical-group/library> and <https://circabc.europa.eu/w/browse/4fc536b7-87e8-44a9-92d1-bf83e1151ff9>.

# Recommendations to WG-DIKE

DIKE TSG found the model for information needs related to specific indicators, presented in working paper 4, may be a suitable way for MS to progress on art 19.3, and recommend to DIKE that it should be further elaborated to identify the expectations for information needs. The model proposes an approach to establishing a workflow among the EU level, MS, RSC and other operators like EMODnet and Copernicus, in support of fulfilling the requirements of article 19.3, while also achieving greater regional coherence. It is a means to show how specific data needs can be identified and different operators/projects can be engaged or utilised in a coherent process. In the model presented it remains the decision of the MS how to approach a particular aspect of the working process. It was anticipated that the model was useful for aspects addressed under art. 8 a and 8b, as well as to MSFD Descriptors but more clear links to art. 11, and art. 8c are needed. Specific recommendations were:

1. Overviews of specific information needs should be elaborated through a series of DIKE TSG workshops, with support of the RSC. In 2014, information needs for eutrophication, hazardous substances, biodiversity, and if appropriate, fisheries should be developed. A workshop on each topic is recommended.
2. EMODnet projects can be used to provide technical support to different aspects of the workflow, and can be used in different ways depending on the national/regional setting. This support is built into the workflow of EMODnet chemistry and relevant governance and practical arrangements should be further explored. It should also be explored to which extent EMODnet biology can act in the same capacity for work related to biodiversity indicators.
3. A DIKE TSG workshop to specifically discuss MyOcean/Copernicus marine service product applications for MSFD purposes was also recommended.

# Presentation 1: a roadmap for art 19.3

Presented by Trine Christiansen, EEA

The roadmap for article 19.3 data access/reporting has 4 fundamentals; to have defined a prioritized list of data sets directly linked to all indicators, to have agreed the thematic content and format of each data set, to have established effective and efficient data management mechanisms at national, regional and EU levels and to have established public access to the data and data products via web portals.

This workshop was intended to clarify existing working arrangements, and a model for incorporating new ways of working towards 2018 reporting. This model places indicators as the key to development of relevant data collection and monitoring programmes and demands a package of information in support of these main Descriptors within regional seas. The following 4 presentations centre around: how are things working today, what came out of the 2012 art 19.3 reporting, what can we take from INSPIRE, and a model for organising working arrangements that also allows us to understand the roles of EMODnet and Copernicus.

# Presentation 2: Existing European data exchange within Eionet

Constanca Belchior, EEA

The objective of this presentation was to outline the EEA WISE SoE regular dataflow, the governance around it and its use, as well as reflections on the existing process.

The EEA uses the dataflows through EIONET to build datasets to produce indicators upon which EEA assessment reports are based.

Some characteristics of this approach:

* The dataflows cover parameters also reported under OSPAR and Helcom;
* Double reporting is avoided by accepting data reported under OSPAR, Helcom or the Eionet.
* However, these three data reporting pathways add additional complexity and is a challenge to the QC and validation.

Based on this TSG DIKE were invited to reflect on the different elements needed for developing an appropriate data fact sheet, which describes the required information on observations and the data exchange mechanism(s).

In the following discussion it was highlighted by the EEA that the revision of the data request was to refine and clarify where mistakes or misinterpretations have been made in the transmission of data from national systems to the EIONET, rather than change datasets that had been built up over years.

# Presentation 3: Status of 2013 reporting on art 19.3

Presented by Periklis Panagiotidis, ICES and ETC/ICM

MS were asked to report on data and information underlying their initial assessments by April 15, 2015. Options for reporting data and information included: using existing metadata, reporting fields under art. 8. This could be achieved through providing reference to literature, by giving access to datasets prepared specifically for the MSFD initial assessments by providing a relevant web-link, or a mixture of these.

The greatest proportion of MS used the existing art. 8 fields and a number used a mixture of the options. In terms of the usability of the information provided by MS, it was shown that:

* There was a wide variation in formats of metadata which makes it hard to make standard enquiries;
* Most information was in the native language of the MS, some efforts had been made for key information to be in English by some of the MS;
* Links to data sources were not sufficiently precise. There was not enough information provided to locate the matching datasets/reports.

The presentation highlighted that increasing the variability of the metadata sources adds extra complexity as far as the information extraction is concerned. Furthermore, that the usability of the information provided is negatively affected by the disparate sources/methods. Therefore it was noted by the EEA in moving towards the 2018 reporting, simple, standardised and harmonised reporting workflows are the key to success.

In the discussion that followed a number of points were highlighted, including: that MS should have used their regional dataset links where available (i.e. Baltic), that the timing of the development of reporting elements meant that links between the initial assessment and data provision had not been specified at the time of compiling the initial assessments.

# Presentation 4: How can INSPIRE be used to support MSFD reporting

Presented by Darja Lihteneger, EEA

The presentation focused on examples of using spatial data (through INSPIRE) within the context of MSFD.

INSPIRE is a Directive on spatial data/information that has a European wide element, and matching national implementation, known as spatial data infrastructures. 16 out of a total of 34 spatial themes listed in the INSPIRE Directive annexes I-III are relevant to marine and coastal management research, and therefore MSFD.

The EEA demonstrated by example how the data models for INSPIRE implementation and the MSFD have a degree of commonality which can be used as an opportunity to harmonise the standards from different data flows/directives/providers. INSPIRE will not deliver content (spatial datasets for MSFD), but it will provide a basis for defining how harmonisation across a spatial resource should take place. This will be key for the MSFD in building coherent and comparable information across the European seas, and across disciplines.

The MS made a number of observations about the implementation of INSPIRE including: the timing of the implementation and its linkage to other Directive implementations is not well aligned. That in making a generic model for INSPIRE rules, much information is aggregated/lost, which means at the MSFD level it is hard to distinguish between spatial objects that are quite different in nature if you do this based on INSPIRE implementing rules. To this the EEA noted that INSPIRE provides a framework and many of the specific use cases will need to be developed in i.e. the implementation of the MSFD within MS.

# Presentation 5 and breakout session: MSFD regional data work flow: schema and examples

Presented by Neil Holdsworth, ICES and ETC/ICM

The presentation outlined an approach to an agreed workflow between EU, MS, RSC, EMODnet, and other actors on the provision of data for an indicator driven process. It was highlighted that this should help to achieve greater regional coherence and ensure efficient use of resources (within and between MS and EU). The main points from the presentation can be summarized as:

* Regional coordination was not very evident from 2012 national reporting, and therefore increased coordination through the Regional Sea Conventions would be beneficial;
* The workflow model consists of structural elements (governance, methodology, operational basis and operators) as well as process elements (data collection, assembly, indicator provision, assessment);
* By describing the process, components and operators in a workflow you allow for national or regional and Descriptor variation to be made explicit but at the same time aligned to other processes;
* TSG DIKE’s main focus would be on the elements relevant for the operational basis, as well as identifying available methodologies for indicators, which are assumed to be developed in relevant RSC.

## Breakout discussion: MSFD regional data workflow

A breakout session dedicated to the discussion of the model and the working paper 4 made the following points:

* the model provides a means to show how different operators/projects can be engaged or utilised in a coherent process, while it is still the decision of the MS how to approach a particular aspect of the working process;
* the model recognises differences at a regional and Descriptor level, and that some regions/MS may be more advanced, or have a different approach to a particular set of Descriptors than others. However, this should be transparent and described in a standard way through the model that makes this evident;
* The purpose of the worked examples are to show clearly who are the responsible actors in the workflow elements and what their specific roles and provisions are to the specific Descriptor within the region;
* Some MS saw a clear advantage of an operational system where information is continuously updated, as it removes many of the issues that result from disconnected processes that a 6-year reporting cycle might entail. This would be appropriate for indicators that are already monitored annually or annually generated, but it would not be appropriate in all cases;
* The general model is correct, however there may need to be more linkages/levels to elaborate on i.e. art 11 monitoring and its influence on the workflow;
* The model, if properly described, would provide the appropriate transparency across the regions so that the EEA can make a European Assessment where a clear linkage and definition of the methodologies of the collection, assembly and indicator provision are made;
* The frequency of updates of an indicator/assessment cannot be generalised across all regions and Descriptors, this would have to be dealt with in the specific examples or each Descriptor/region;
* The model needs to be quite specific about the operators i.e. when an RSC is referenced it needs to be stated if the operational unit is e.g. the Secretariat of the RSC, or one of its its working groups i.e. MS;
* For the Baltic, they are aspiring to do the next assessment cycle on a regional basis, so this model would be very useful for this;
* It is still possible to define only MS-level indicators in the model, however the model tries to build coherence and show linkages to regional indicators if this is in place.

Overall, the 3 regional examples already show the differences in approach and the maturity of the existing setup/infrastructure and where the challenges will lie.

A number of questions were posed to the MS, and this is summarized here:

1. **Do you agree to the model proposed where indicators are a central component?**

The model was generally accepted. However more detailed explanation is needed to define ‘methodology’, ‘data’, frequency of updating, distinguishing national and regional guidelines etc. Some MS recommended the vertical ‘axis’ of the table should not be taken as a process. Governance, methodology, operational basis and operators are all separate entities.

1. **Does it correctly reflect the roles and existing working arrangements among MS and RSC? If not, how should it be changed, or do we need to make it more regionally specific?**

It was clarified that the MSFD builds on Descriptors and indicators, and where common indicators have been defined at regional level these will need to be clearly included in this process. Some working arrangements are not included, e.g. ICES leading Descriptor 3.

1. **Does the model presented represent the desired continued working arrangements for fulfilling the MSFD obligations under article 19.3? If not, how should it be changed?**

It was generally agreed that in order to further explore the model Eutrophication (nutrients) and hazardous substances, along with biodiversity and fisheries should be the first group of Descriptors to be described in this model for each region/sub-region. These will be made available for further discussion in future Technical Working Groups. However, it was highlighted that information and data on article 8c (economic and social analysis) would not be adequately described by the model in its current form.

1. **How can this be made operational per Descriptor and region?**

For the North-East Atlantic and Baltic, this is quite clearly linked and described through the associated RSCs. For the Mediterranean, Italy will discuss this at Barcelona Convention next week and how the regional cooperation could help. (No Black Sea MS were present). There are different situations for different Descriptors. It will be more obvious how to make this operational when examples have been produced (see answers to Q3).

5. **If other operators than the MS are to support the work under art 19.3, then relevant observations need to be made available by MS. What are barriers to sharing data?**

Many MS saw EMODnet as a toolbox that could, if MS so wished, provide assistance in the DIKE processes under guidance from MS. More work is needed on the nature of data and whether MS can use the EMODnet consortia for data management for MSFD. However, the nature of EMODnet as a project makes it very difficult for MS to delegate their legal compliance with the Directive on the basis of a) its governance structure and b) its longevity. Regarding the overall model, MS noted that the mechanism may not necessarily be EMODnet depending on the region/Descriptor context.

It was noted that EMODnet could be used in different ways i.e. can be a national approach as a proxy for a national data management system, or it can be seen as an additional regional step to assemble the regional product/indicator.

# Presentation 6: How can EMODnet engage in support to MSFD data reporting

Presented by Alessandra Giogetti, University of Trieste and Giordano Giorgi (IT)

The first presentation focused on the activities of EMODnet chemistry in relation to the MSFD activities. The objectives of EMODnet are to assemble marine data, metadata and data products covering all European waters. In the second phase of EMODnet the partners are spread among almost all European countries including the Black Sea. The work plan of the project is divided into six work packages and it will be executed in 3 phases: construction, consolidation and convergence. Work package number 3 focuses on maximizing the compliance with MSFD requirements. Also work packages 5 focuses on engaging with MSFD stakeholders and align/revise chemical portal and products through dialogue. EMODnet plans to have a regular dialogue with the TSG/WG-DIKE, focusing on:

* Establishing and agreeing on standards for MSFD-relevant data and data products,
* Providing access to chemical data of particular relevance to MSFD, and
* Incorporating data emanating from MSFD assessments and monitoring, including its labelling as formal MSFD datasets and its provision by Member State organizations that are outside of the contracts.

The presentation highlighted the need for agreed spatial units to define products and datasets upon. Unfortunately, maps of marine (sub)regions can only be shared with the EMODnet projects when they have been finally agreed by MS.

The second presentation focused on the usability of EMODnet in the MSFD activities with two examples: One on how Italy would use EMODnet for contaminants related to Descriptor 8, and another one for the Black Sea for Descriptor 5 (Eutrophication). In the view of Italy, EMODnet provides the technical infrastructure that enables the international cooperation required by MSFD to take place. From the Italian perspective, it is helpful that EMODnet has the capacity to provide a technical solution for sharing data. Belgium, however, indicated reservation towards engaging EMODnet because they find that the governance mechanism is not mature enough, and a stronger connection to Member State organisation needs to be established. Such issues should be addressed in future discussions.

# Presentation 7: GMES

Presented by Neils Kinneging (NL) and Giordano Giorgi (IT)

The presentation was an assessment of the MyOcean catalogue 3.0 products for application to environmental issues (WFD, MSFD, WG-DIKE, EEA): nutrients and eutrophication only. Environmental assessments need a strong linkage between level of pressure/impacts and activities/driving forces (DPSIR). The presentation points are summarised to the following key points:

* MyOcean already offers products useful for MSFD
* MyOcean should officially provide WMS service:
	+ Viewing MyOcean products in client WMS viewers (INSPIRE requirement). Technically MyOcean already offers this, but unsupported.
	+ MyOcean should provide INSPIRE web services for grids in addition to manual/batch download mechanisms (OPeNDAP, OGC WCS, WFS). Technically MyOcean already offers OPeNDAP, but unsupported.
* WCS allows for requesting data at tailored local grids for easy local DPSIR analysis.
* Foster MyOcean dissemination of dedicated models products already prepared for regional seas (e.g. NOOS, ESA, OSPAR)
	+ Suite of model results support assessment
	+ Suite of remote sensing algorithms support assessment
* WG DIKE should play active role as end-user in MyOcean

# Presentation 8: Options for reporting of monitoring programmes (art. 11)

Presented by David Connor (DG-ENV)

The presentation focused on presenting different reporting mechanisms available in Member States. The purpose of the reporting sheets is to describe as accurately as possible the way each MS is going to report monitoring programmes. Since each MS might have different ways of organizing their information (content management systems, databases, spread sheets etc.) for the reporting process there are a number of possible technical options to use:

1. Content management systems that provide automated process for extracting the data;
2. Internal databases developed by the Member States;
3. Information gathered within word or excel files with database;
4. Web form system;
5. Paper reports.

During the followed discussion some of the present representatives choose from the above options:

**Belgium**: not decided, preferably for (C) - standalone database, would like to move to automation eventually or (D)

**Finland**: HELCOM will provide a web-based CMS (option A), Finland is in favour of this

**Germany**: Option A, but not sure if they can develop system for next year, fall back is XML option (B), however would at least go for paper if all else fails

**Sweden**: option A + paper

**Italy**: option A, more useful for national harvesting and internal dissemination

**Netherlands**: option A is the best solution

# Presentation 9: German example, business workflow process for MSFD

Presented by Hans-Christian Reimers, DE

The final presentation of the meeting focused on the structure and potential of the Monitoring Fact Sheets (MFS) for the MSFD reporting. The presentation also described the technical details of the MFS as well as their implementation in the German monitoring programme.

During the discussion some issues were raised. It was asked whether spatial data could be presented as polygons as well as points, but the problem, also present in WFD, has not been solved. It was also pointed out that the reporting process is required in 2014, however it has been noted that not all MS are in the same stage and that each one is facing different challenges so best practices for each one have to be used.

The HELCOM document to this meeting on web-based reporting of monitoring programmes points out open issues on resources, and issues that need to be overcome: e.g. early technical coordination of national and regional approaches; relationship of national and regional documentation needs to be clarified (procedures and content); need to clarify if fact sheets need to link to xml schemas or if they can refer to a web-site.

As follow-up to the activities it was suggested that there should be a workshop organized by Germany for any volunteering Member States in mid-October to refine factsheets and guidelines for the content management system. First there has to be a discussion with the MS for the content and then the schemas for the reporting (XML) are going to be built.