Metadata from Case Studies

Milestone 24

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1. Introduction

Milestone 24 (and D6.4, Annex 1 & 2) is the Metadata Catalogue for Pilot Study Areas where case studies to be carried out, and produced under DEVOTES Task 6.2.1 and Deliverable D6.4, in relation to Specific Objective 6.2. This task is an effort for collating and archiving information on the available data sources so that an overview of the data available for assessing biodiversity across the different components present in the areas each which located in European Regional Seas. A broad-scale GIS-shapes showing the spatial distribution of habitats within these pilot areas and metadata on the intensity of various human activities and pressures will also be provided. Consequently, the catalogue will constitute the basis for developing biodiversity indicators in WP3.

Within the frame of Specific Objective 6.2, there are 8 selected pilot areas on which the biodiversity assessment tool will be tested, in parallel with the development of the generic assessment framework (Specific Objective 6.1). All regional seas in Europe are represented in the selection of pilot areas and two of the pilot areas are transitional seas between the regional seas. These areas and responsible partners for providing access to already available data sources are: 1) Gulf of Finland (SYKE), 2) Kattegat (AU), 3) Southern North Sea (NIOZ), 4) Bay of Biscay (AZTI), 5) Adriatic Sea (CONISMA), 6) Eastern Aegean Sea (DEU), 7) Sea of Marmara (DEU), and 8) Western open Black Sea (IOBAS). The responsible partner who has already provided information on the data source availability will continuously update these information throughout the project. The remainder of the partners within a regional sea will also provide information data sources from the area during the updating process.

This catalogue of metadata is in the first instance aimed at being available for the members of DEVOTES to use while either considering data availability across a range of areas, or as a first step towards acquiring the relevant "real" data. The data shall be made available for those wishing to test indicators (Task 3.1.2), or for testing the integrated biodiversity assessment tool (Tasks 6.1.1, 6.1.2, 6.2.2, 6.3.1 and 6.3.2). In addition, it presents a description of the Pilot Study Areas, available for the partners to get a clear idea of the differences among sites.

The outputs of indicator testing at the pilot sites, within WP3 (Indicators) and the testing of the integrated biodiversity tool within WP6 are essential to several deliverables, i.e., D6.1: Report on identification of keystone species and processes across regional seas; D6.2: Report on potential definitions of Good Environmental Status (GenS); D6.3: Manual, guidelines and software for biodiversity assessment; and D6.5: Report on management implications of biodiversity assessment tool. Thus, the metadata catalogue is a keystone component of the entire DEVOTES project.

Once, it is released in the “Partner’s Area” section of DEVOTES web site, it will firstly be accessible and exploitable for all partners. Nonetheless, it can also be released at the level public access, on the basis of the approval by DEVOTES management. The possible benefit of releasing the metadata catalogue at public access level is to acquire more information on the additional exploitable data sources.

In this context, the indicators from WP3 and model results from WP4, which constitute the fundamental basis for this development efforts, together with the conceptual basis to be developed on human pressure and climate change in WP1, will also function as guide to the users in their exploring efforts through the catalogue. This is also valid for WP5 for investigating the data available for their promising new monitoring techniques. For WP2, the catalogue has also potential to help to select the best case study areas for achieving “Specific Objective 2.1: Identification of cost-effective MSFD monitoring and assessment systems”.

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2. Structure of the Deliverable

The catalogue has been specifically designed for the Pilot Study Areas selected. Regarding the possible changes in accession conditions to data sets in the project’s time frame, the catalogue has been designed as a simple but robust software application (DMCat) which enables periodical updates of the archive and provides the user a continuous and up-to-date metadata information source.

These Pilot Study Areas where case studies to be carried out in order to test the extent to which a range of compiled indicators are fit for purpose as a support to DEVOTES WP3. Thus, the DMCat contains information on the availability, accessibility, spatial coverage of datasets as well as their relevance of each components of DPSIR framework and biodiversity (i.e., organisms groups such as phytoplankton, zooplankton, phytobenthos, zoobenthos, etc.) for use within the DEVOTES project in order to test the biodiversity tool(s) on the pilot areas.

The DMCat enables users to sort, list and merge the data source information on the basis of his/her interests on a given time period, in a pilot site, for the indicators listed for each component of DPSIR and for anyone of organisms groups assigned as the components of biodiversity. The users are able to select three types of output: (i) a list in a text format; (ii) a gridded-base map; or (iii) both the list and the map. The list obtained can also be further navigated by the user for selecting the items of interest via clicking on the tick-boxes at the left, so that the properties of the output setting will be finalized and be ready for saving and/or printing out.

The core part of the catalogue is the reviewable and revisable information "Archive". This archive has been created through the inputs provided by participant partners for each Pilot Study Areas. All information on data sources and their properties have been registered and stored interactively in this archive which the users can access the archive via DMCat and search and extract the information on the basis of his/her interests. Another important feature of the archive is the possibility to update it. At any time, any contribution from the partners can be inserted to the archive, or, any data sources found irrelevant or useless or inaccessible can be removed. These editing processes will be carried out by DEU on the basis of feedbacks provided by the users. Whenever the archive is updated, the new version will be replaced with the older version, and all partners involved will be notified. Both, the application software and the archive will be available at the “Partner’s Area” of the project’s website.

3. The Current Volume of DMCat

Since the DMCat is based mainly on the data sources specific to the Pilot Study Areas in compliance with to scope of DEVOTES project, its contents and their properties such as the states of availability, accessibility, and spatial coverage are restricted within the abilities and possibilities of each partner’s disposal for a given Pilot Study Area. After extensive information processing, the DMCat has been created and has currently contained a volume metadata relevant to 244 DEVOTES indicators (see Annex 1 of D3.1). They all are arranged in compliance with each components of the DPSIR framework which are derived from MSFD (2008) and provided in the Annex 3 of D6.4. When the averages of each component over the Pilot Study Areas are considered, the indicators for drivers, impacts and states have the highest availability, respectively with 46.7%, 46.3% and 45.5%, while those for responses and pressures have lowest values, again respectively with 29.5% and 27.7%. When each Pilot study Area analysed individually over DPSIR components, they have more or less in line with the general data source availability pattern, except the response indicators. The Southern North Sea has yet had no data source on Driver and response indicators, while the North Western Black Sea is lacking only response indicators.
At the time of completion of D6.4, a total of 446 different data sources were stored in the DMCat and arranged on the basis of their properties such as sources type, indicator type, accessibility, spatial coverage and representativeness of organisms groups. Their distributions over each Pilot Study Area were also revealed on the bases of accessibility, spatial coverage and relevance to the components of DPSIR framework. Most of these data sources contain usually different data sets that can be used for more than one indicator types or organism groups which folds its actual volume of data availability.

In summary, the main outcomes of the created DMCat are:

- An update-able archive of the metadata catalogue constitutes the basis for developing biodiversity indicators in WP3 and model in WP4 as well as for testing efforts for integrated biodiversity assessments at pilot areas in WP6.
- Broad-scale thematic maps of each Pilot Study Area in which GIS-shapes showing their spatial distribution provided.
- Metadata on the intensity of various human activities and pressures.
- An overview of the data available for assessing biodiversity across the different components present in Pilot Study Areas.

Consequently, DEVOTES Project has had an inventory on the available data source at European scale and a tool to explore its contents in compliance to the needs of the other tasks to be accomplished. The MDCat’s ability for being updated and upgraded has also provided possibility for further refinement when required on the bases of needs that can be emerged during and even beyond the project’s lifetime.

4. The List of Annexes

4.1. The Metadata Templates per Pilot Study Areas

1) 1_GulfofFinlandMetadata.xlsx
2) 2_KattegatMetadata.xlsx
3) 3_SouthernNSeaMetadata.xlsx
4) 4_BayofBiscayMetadata.xlsx
5) 5_AdriaticSeaMetadata.xlsx
6) 6_AegeanSeaMetadata.xlsx
7) 7_theMarmaraSeaMetadata.xlsx
8) 8_WBlackSeaMetadata.xlsx

4.2. The Data Source per Pilot Study Areas

1) 1_GulfofFinlandDataSources.xlsx
2) 2_KattegatDataSources.xlsx
3) 3_SouthernNSeaDataSources.xlsx
4) 4_BayofBiscayDataSources.xlsx
5) 5_AdriaticSeaDataSources.xlsx
6) 6_AegeanSeaDataSources.xlsx
7) 7_theMarmaraSeaDataSources.xlsx
8) 8_WBlackSeaDataSources.xlsx