

Annex B

(informative)

Use cases

This annex describes the use cases that were used as a basis for the development of this data specification.

None of the user requirements detailed practical uses (or needs) of the data, therefore a series of user requirements have been created which fill the gap in this regard. User requirements are a critical part of this process as they should be used to drive the schema. These user requirements cover:

The assessment of conservation status of habitats and species at the bio-geographical level

(use case 1)

Evaluation of the Natura 2000 network by bio-geographical region

(use case 2)

Provide german physiographic units (Naturräumliche Haupteinheiten) to INSPIRE

(use case 3)

Use of the Environmental Stratification of Europe (Metzger et al. 2005) in EBONE reporting

(use case 4)

The first use case describes the assessment of the Conservation Status of the habitat types and species listed on the Annex's of the Habitat Directives. This is one of the key tools in assessing the efficiency of the Habitats Directive (and by default the efficiency of the EU and Member States) in its stated aim of protecting biodiversity in the European Union. These assessments are done at the bio-geographical level.

The second use case is similar to the first in that it is an important tool in assessing the effectiveness of the Commission and the Member States in protecting biodiversity in Europe, in this case through analyses of the sufficiency of the Natura 2000 network.

The third use case describes how the german physiographic units have to be respected for impact regulation to insure coherence (Federal Nature Conservation Act, *Bundesnaturschutzgesetz*).

The fourth use case describes how to use the Environmental Stratification of Europe (Metzger et al. 2005) in EBONE reporting

B.1 The assessment of conservation status of habitats and species at the bio-geographical level

Use Case Description – use case 1	
Name	Assessing the Conservation Status of Habitats and Species reported under Article 17 of Habitats Directive
Primary actor	Member state
Goal	To assess Conservation Status of a habitat type or species at the Bio-geographical level
System under consideration	Reportnet's CDR
Importance	High
Description	Article 17 of the Habitats Directive obliges Member States to report every six years on the progress of the implementation of the Directive. It is applicable for habitat types and species listed in the Annexes of the Directive. The key outcome of this process is the assessment of the Conservation Status of a habitat type or species at the Bio-geographical level.
Pre-condition	Agreed upon Bio-geographical regions, (agreed upon codings for these regions) National datasets on habitat type and species distribution. Specifications for the data input.
Post-condition	See below in Data Sources.
Flow of Events – Basic Path	
Step 1	Member States produces 2 obligatory spatial datasets (distribution of habitat types and species) and one descriptive (tabular) dataset. Member States follow the encodings given in the Article 17 Guidelines. (Link: to Habitats and Biotopes and Species Themes).
Step 2	Member States uploads the datasets as XML and GML into Reportnet's CDR.
Step 3	The ETC/BD downloads the national datasets from the CDR.
Step 4	The ETC/BD performs a series of quality assessment on the data.
Step 5	In case the report or data requires improvement, the ETC/BD notifies Member States via Reportnet and provides a report on data suggesting improvements. Steps 2,3,4 are repeated then.
Step 6	<p>The assessments for the conservation status of a habitat type are done at the biogeographical level. The 27 Member States data is merged together and split into 14 files (9 bio-geographical regions and 5 marine regions).</p> <p>This splitting is done in 2 steps, first off the regions a feature occurs in are selected from the tabular data, secondly the grid cells of the feature that occur in a region are extracted from the Member States submission by overlaying the distribution with the bio-geographical regions (spatial boundary) and spatial select all those grids that occur within the region (see Figure 8 and Figure 9). All the datasets per region are merged into one dataset upon which the assessments are carried out. The end product will be merged boundaries for 9 bio-geographical regions and 5 marine regions.</p>
Step 7	The assessment of the conservation status of the features is calculated per biogeographical region, ideally, based on attributes from the tabular data. Where the tabular data is poor, or inconsistent or absent the spatial data is used as one of the parameters to calculate the Conservation Status.
Step 8	Conservation Status calculate (Figure 9).
Step 9	The ETC/BD merges the 9 bio-geographical regions and 5 marine regions into a European dataset, which is disseminated to the public, used in the Natura 2000 viewer etc.
Step 10	ETC/BD produces National reports and a Technical report for DG ENVIRONMENT.

Use Case Description – use case 1	
Step 11	DG ENVIRONMENT produces a Composite Report.
Flow of Events – Alternative Paths	
Step m.	None
Data set: Bio-geographical regions	
Description	Bio-geographical regions according to Habitat Directive.
Type	Intermediate
Data provider	EEA
Geographic scope	EU27
Thematic scope	Bio-geographical regions of Europe.
Scale, resolution	1:1.000.000
Delivery	
Documentation	http://dataservice.eea.europa.eu/dataservice/metadetails.asp?id=1054
Data set: Habitat types distribution	
Description	Distribution of Habitat types listed in Annex I of the Habitats Directive.
Type	Output
Data provider	National
Geographic scope	National
Thematic scope	Habitats
Scale, resolution	10kmx10km (ETRS 89 LAEA 5210 'European grid').
Delivery	
Documentation	http://ec.europa.eu/environment/nature/knowledge/rep_habitats/index_en.htm
Data set: Habitat types distribution	
Description	Distribution of Habitat types listed in Annexes: II, IV and V of the Habitats Directive.
Type	Output
Data provider	National
Geographic scope	National
Thematic scope	Species distribution.
Scale, resolution	10kmx10km (ETRS 89 LAEA 5210 'European grid').
Delivery	
Documentation	http://ec.europa.eu/environment/nature/knowledge/rep_habitats/index_en.htm

This use case highlights the need for a standard, approved, code list of bio-geographical regions (and Marine regions) as well as standard boundaries of these regions.

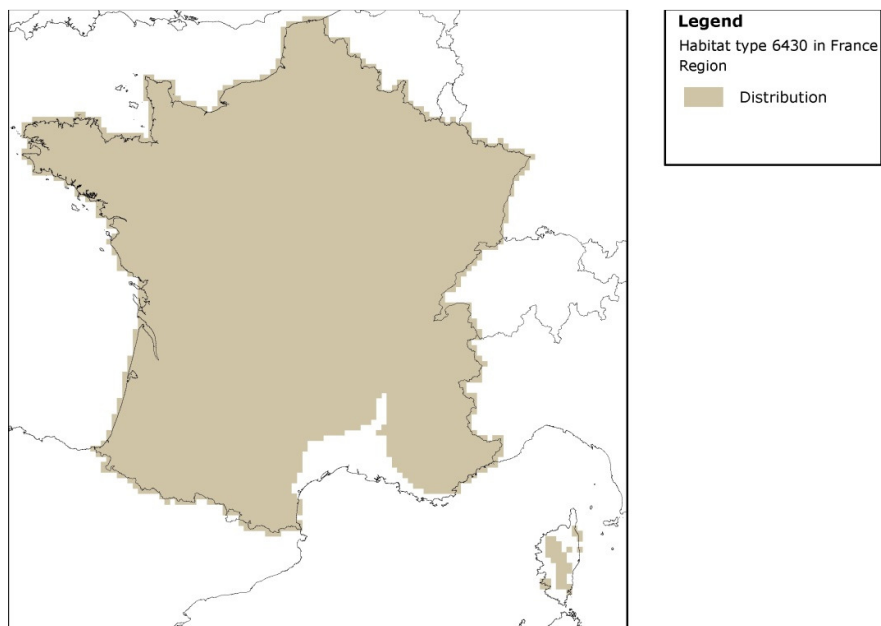


Figure 7 – Distribution e.g. of the wide spread habitat type 6430 in France.

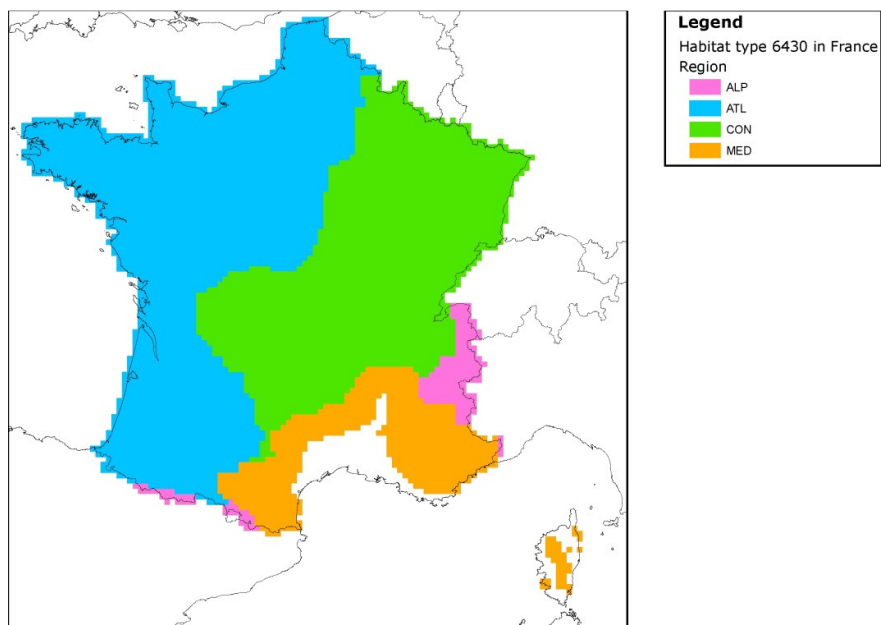


Figure 8 – Distribution split by Bio-geographical region.

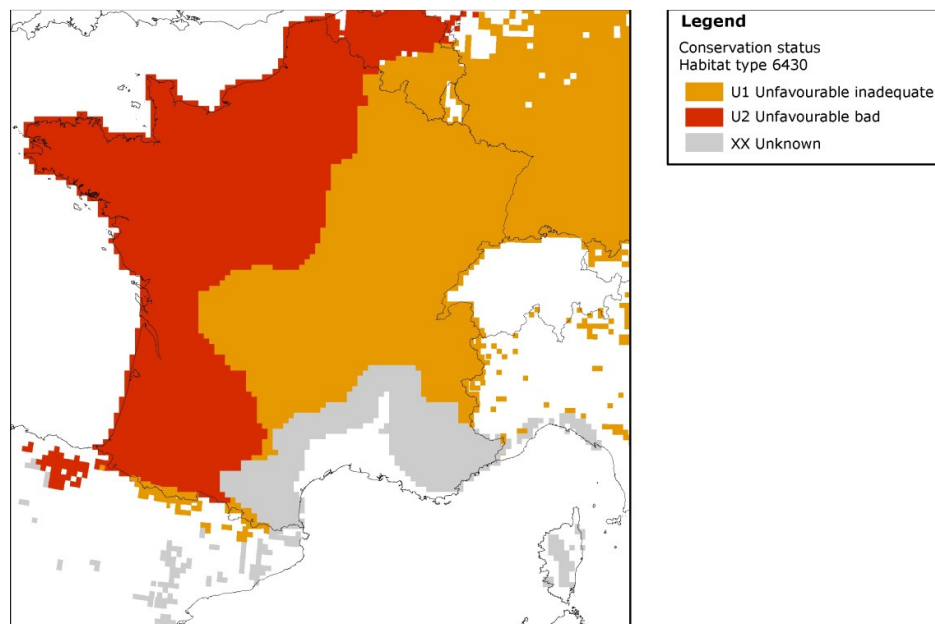


Figure 9 – Conservation Status calculated by Bio-geographical region.

B.2 Evaluation of the Natura 2000 network by bio-geographical region

Use Case Description – use case 2	
Name	Evaluation of the Natura 2000 network by bio-geographical region.
Primary actor	Member state.
Goal	Quality assessment of the Natura 2000 network in terms of protecting the habitat types and species.
System under consideration	Reportnet's CDR.
Importance	High
Description	In order to assess the quality of the Natura 2000 network in terms of protecting the habitat types and species a site is designated for the sites are assessed at the biogeographical level in the for a of bio-geographical seminars. A degree of sufficiency for the network in terms of each designated feature (habitat type or species) is assessed and based on this assessment (Sufficient, Insufficient minor, Insufficient moderate, Insufficient Major or Scientific reserve in case more data is needed) further work may be needed. It is during this process that the quality of protection offered by the sites is assessed and as such is a critical step in the protection of biodiversity in Europe.
Pre-condition	National datasets on Protected sites (Natura 2000), bio-geographical regions.
Post-condition	Published national and EU27 reports.
Flow of Events – Basic Path	
Step 1	Member States upload their Natura 2000 boundaries to CDR.
Step 2	QA/QC process on the Member State deliveries (Link : to another possible use case 'QA/ Natura data; one check is to check the bio-geographical regions).
Step 3	QA/QC reports prepared.
Step 4	Merged European tabular and spatial datasets are prepared.
Step 5	Bio-geographical or bi-lateral meetings are arrange/are undertaken.
Step 6	The tabular data is split by the attribute 'Bio-geographical regions' with all sites in region X being selected. This is cross referenced with the bio-geographical regions map, additionally all sites with the regions are selected and this is cross checked with the tabular data (this is a 2 stage cross referencing process).
Step 7	A list of all sites by the habitat types and species they are designated for is created. The spatial data is split accordingly.
Step 8	Assessment as the quality and coverage of the sites is undertaken with sufficiency's per Habitat type and species being proposed.
Step 9	Report prepared in advance of meetings with Member State. Note reports prepared and discussed on the Bio-geographical region only.
Step 10	Report and sufficiency's discussed at the meeting.
Step 11	Revised sufficiency's incorporated into final report and actions required by MS are noted to improve their assessment – the aim is for all habitat types and species to be deemed 'Sufficient'.
Step 12	These revised assessments feed into the 'Scientific lists ' created for the Commission e.g. the Reference list, Final Conclusions list etc.
Flow of Events – Alternative Paths	
Step m.	None
Data set: Protected sites	

Use Case Description – use case 2	
Description	Natura 2000 boundaries.
Type	Input
Data provider	National
Geographic scope	National
Thematic scope	Habitats
Scale, resolution	
Delivery	
Documentation	
Data set: Biogeographical regions	
Description	Bio-geographical regions according to Habitat Directive.
Type	Output
Data provider	EEA
Geographic scope	EU27
Thematic scope	Bio-geographical regions of Europe.
Scale, resolution	1:1.000.000
Delivery	
Documentation	http://dataservice.eea.europa.eu/dataservice/metadetails.asp?id=1054

B.3 Provide German physiographic units (Naturräumliche Haupteinheiten) to INSPIRE

Germany's landscape can be characterised ecologically and is classified into physiographic units. These are regional divisions defined by the overall character of their natural environment. The classification is based on natural landscape factors such as geology, geomorphology, soil, water and climate (the latter including overall climate character, altitudinal belts and continentality). This is useful for surveys, assessments and planning activities in nature conservation and landscape management, particularly at regional and national level.

Use Case Description – use case 3	
Name	Provide German physiographic units (<i>Naturräumliche Haupteinheiten</i>) to INSPIRE.
Primary actor	Analyst
Goal	Provide INSPIRE compliant German physiographic units.
System under consideration	
Importance	High
Description	The German physiographic units have to be respected e.g. for impact regulation to insure/ re-establish coherence (§15 Federal Nature Conservation Act, <i>Bundesnaturschutzgesetz</i>).
Pre-condition	§ 15(2) ... An impact shall be considered to have been substituted as soon as the impaired functions of the natural balance, in the relevant natural area, have been restored to an equivalent value and landscape appearance has been re-designed in a manner consistent with the landscape....
Post-condition	Conservation Status of impacted species & Habitats re-established, eventually monitored for necessary correction of taken measures.
Flow of Events – Basic path User project planning/ implementation and appropriate Assessment (Natura 2000)	
Step 1	Check project /plan for possible impacts on species and habitats of Annexes of Birds and Habitats Directive (Screening).
Step 2	If negative impact is possible or will occur -> Art. 6(3) procedure, check alternatives, check mitigation measures etc.
Step 3	If plan/project is realized despite negative impacts according to exemption rules of Art. 6(4) Habitats Directive -> plan and execute spatially suitable measures within same physiographic unit to ensure/ re-establish coherence.
Step 4	Inclusion of new site, where the coherence measures have been taken into Natura 2000 – network.
Step 5	Change of Natura 2000-GIS Cover and Community list.
Flow of Events – Alternative Paths	
Step m.	None
Data set: Member State Data Set	
Description	Data set created by BfN for Habitats Directive Assessments in Standard Data Form (97/266/EG) for site proposals (pSCI/SCI) based on Meynen/Schmithüsen et al. (1953-1962). Additional use in legal context of impact assessment and appropriate assessment according to Art. 6(3), (4) Habitats Directive. Dataset is used by Nature Conservation Authorities and Planning Authorities.
Type	Input
Data provider	Federal Agency for Nature Conservation (BfN).

Use Case Description – use case 3	
Geographic scope	Germany
Thematic scope	Physiographic unit.
Scale, resolution	1:1 Mio
Delivery	.shp-file direct to INSPIRE.
Documentation	Flow not documented.

B.4 Use of the Environmental Stratification of Europe (Metzger et al. 2005) in EBONE reporting

Use Case Description – use case 4	
Name	A statistical stratification of the European Environment providing integration of biodiversity information into strata as a hierarchical framework for understanding biodiversity trends in Europe.
Primary actor	Data provider.
Goal	Assessment of the existence and distribution of the selected habitat types at the level of the Environmental Strata.
System under consideration	European Biodiversity Observation Network (EBONE).
Importance	Middle
Description	The European Biodiversity Observation Network defines a procedure to monitor the habitat and species diversity of the wider country side. The mapping and analysis procedure defines an update of the data every 5 to 10 years on a country by country basis. The key outcome of this process is the assessment of the existence and distribution of the selected habitat types at the level of the Environmental Strata (Metzger et al. 2005, Jongman et al 2006).
Pre-condition	Agreement on the Environmental stratification level (Environmental Strata 84 and Environmental Zones 13). Data sets on the diversity of General Habitat Categories based for mapping surveys (EBONE procedure). Specifications for the survey and data input.
Post-condition	
Flow of Events – Basic path	
Step 1	Survey organisation (nationally organised) provides data: one spatial data file and one descriptive data file (tabular format) on the distribution of general habitat categories based on the EBONE observation network of squares. Survey organisation follows the guidelines based on the EBONE field manual.
Step 2	Survey organisation uploads the datasets as MDB to the central EBONE data management.
Step 3	EBONE data management performs a series of quality assessments on the datasets.
Step 4	In case the data requires improvements due to data inconsistencies the survey organisation is contacted and step 1, 2 and 3 are repeated.
Step 5	Analysis of the share and diversity of general habitat categories at the level of the Environmental Zones or Environmental Strata are done.
Step 6	EBONE provides a European data set on the share and diversity of the general habitat categories using the EBONE web viewer.
Step 7	EBONE produces a report on the status and trends of habitats based on the general habitat categories.
Flow of Events – Alternative Paths	
Step m.	None
Data set: Environmental Stratification of Europe	
Description	Environmental Stratification of Europe (Metzger et al. 2005).
Type	Input
Data provider	EBONE
Geographic scope	A 'Greater European Window' with the following boundaries: 11° W, 32° E,

Use Case Description – use case 4	
	34° N, 72° N covering also EU 27.
Thematic scope	Climatic Stratification of the Environment.
Scale, resolution	1 km ²
Delivery	EBONE
Documentation	http://onlinelibrary.wiley.com/doi/10.1111/j.1466-822X.2005.00190.x/pdf
Data set: Habitat distribution	
Description	Distribution of general habitat categories according to the EBONE field handbook.
Type	Output
Data provider	EBONE
Geographic scope	National
Thematic scope	Habitats
Scale, resolution	1x1 km sample squares.
Delivery	National survey organisations.
Documentation	http://www.ebone.wur.nl/UK/Publications/ and http://www.alterra.wur.nl/UK/publications/Alterra+Reports/ and (Report 2154: http://content.alterra.wur.nl/Webdocs/PDFFiles/Alterraraapporten/AlterraRapport2154.pdf)