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**Individual consortium interviews to assess the status of their mapping and assessment activities**

**Milestone 15**

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**ESMERALDA**

**Enhancing ecosystem services mapping**

**for policy and decision making**

**Table of contents**

Preface 3

Summary 3

1. Methods 3

2. Results 4

2.1. Case study countries 4

2.2. Study duration 5

2.3. Focus of the work/activities 5

2.4. Dimensions of the study 6

2.5. Scale of mapping 7

2.6. Spatial extent (size) 8

2.7. Stakeholders involved 8

2.8. Stakeholder involvement 9

2.9. Theme of the study 9

2.10. Biomes 10

2.11. Ecosystems 11

2.12. System used to name or classify ecosystem services/benefits 12

2.13. Ecosystem services 13

2.14. Focus of the analysis 16

2.15. Quantification method used 16

2.16. Sources of data 17

2.17. Description of spatial data used and the level of details 17

2.18. Have these results been used for the EU Biodiversity Strategy 2020? 18

3. Next Steps 18

Annex 1: Original Questionnaire

Annex 2: Full list of case studies used in ESMERALDA

# Preface

The overall objective for WPs 3 and 4 is to develop a multi-tiered flexible methodology for mapping and assessment of ecosystems and their services in Europe. To achieve this general objective, the first step was to analyse the current state of the art of mapping and assessment activities in EU through *Task 3.1: Scoping Exercise on Mapping and Assessment Approaches.* This task was designed to provide an overview of past and current mapping and assessment research activities describing some key characteristics such as: dimension covered, methods used and spatial distribution at EU level and in individual Member States. Results presented in this Milestone were done through a close collaboration between WPs 2, 3 and 4 and it is anticipated that these results will also be useful for WP5 for the testing phase of the methodology.

# Summary

The information presented here summarises the case studies fact sheets that were developed in WP2 under *Task 2.2: In-depth evaluation of stakeholder needs.* Task 2.2 targets for developing case study profiles of implemented mapping and assessment studies as well as EU Member States profiles and producing a compilation of EU-wide development needs based on thematic structures. Is important to clarify for this report “case studies” refers to any on-going or finalized mapping and/or assessment study that was identified and described in WP 2[[1]](#footnote-1).

The objective of WP5 is to identify case studies and testing will enable the refinement of the methods, and the final development of guidelines to support users in the application of the methods to deliver under Action 5 of the EU Biodiversity Strategy. Testing activities will be conducted through a series of workshops in different European contexts, each addressing a different set of themes and regions.

The case study fact sheets that were developed in Task 2.2 were coded into a database using a Webropol survey system. Through this system, a questionnaire to simplify the data input and to store the data directly to one location was created. The same database will be expanded with additional studies for further analyses for other project milestones. Altogether 60 case study fact sheets were coded in the system.

The results presented in this report identify the different conditions, themes and geographical contexts in Europe, with the objective to be used as background information that can help at the development process of creating a flexible methodology to map and assess ecosystem services in Europe. In a later stage of the project, the results presented here would be useful for specific case studies in particular for ecosystems and to identify gaps in mapping and assessment activities of ES in Europe. This document at the moment describes the potential use of the database and highlights some challenges for future activities on mapping and assessment of ES.

# Methods

As described in the report of Milestone 8, the Member States fact sheets developed within ESMERALDA were produced based on the initial analysis of Member States profiles and a stakeholder network review carried out in June 2015. Information from the partners were compiled in July 2015. From September to December 2015, all case studies fact sheets were complied, reviewed and coded into a database.

The case study fact sheet data was coded using the Webropol survey system through a questionnaire to simplify the data input and to store the data directly to one location. For the full questionnaire that was used to code the information from case study fact sheets see Annex 1. For further case studies, the data input can be directly done by using the link and by filling the questionnaire. Link to the questionnaire:

<https://www.webropolsurveys.com/S/A6E503677BAC35DC.par>

Altogether 60 case study fact sheets were coded in the database. A full list with the names of the case studies, their first authors and links to the published outcomes of the studies can be seen in Annex 2.

# Results

The questionnaire was structured following 30 questions. Results presented here answer to each of those questions keeping the information on a general level and at the same time providing enough knowledge that can help to understand the state of the art of mapping and assessment activities in EU.

## Case study countries

Altogether 24 countries (including 2 Baltic and 2 western Balkan countries linked via regional hubs) within Europe are participating in the ESMERALDA project. The returned case study fact sheets indicated that ES mapping and assessments have been conducted in 22 countries. Several ES studies have been done in Belgium (9), Poland (8) and the Netherlands (7). It is worth noticing that assumingly not all ES studies have been covered in these fact sheets and the database will be expanded with additional studies from grey literature and scientific publications.

Responses: 60/60.



Figure 1. Number of case study fact sheets in ESMERALDA project countries.

## Study duration

From the total 60 mapping and assessment studies that were collected in the ESMERALDA project countries, 20 studies (33%) are still ongoing in 2016 while 39 studies (66%) have already been finished in 2015 (Table 1). This result is important to keep in mind because the proposed methodology will have some influence only in 1/3 of the studies that are currently being implemented. Additionally, in some cases the answers only indicated that the study is still ongoing without the ending year. In these cases, the studies were considered as ongoing.

Responses: 59/60.

Table 1. Number of ended and ongoing studies of ES studies in Esmeralda project countries

|  |  |
| --- | --- |
|  | Number of studies |
| Finished | 39 |
| Ongoing | 20 |

## Focus of the work/activities

The majority of the studies (41/60) used a combination of mapping and assessment methods. In the context of this activity 'Mapping' stands for the spatial delineation of ecosystems as well as the quantification of their condition and the services they supply. While 'Assessing' refers to the translation of scientific evidence into information that is understandable for policy and decision-making. Based on these definitions: just 9 studies focused on mapping approaches only and another 10 studies were purely considered as assessments with no spatial information.

Responses: 60/60.

Figure 2. Number of studies categorized to mapping, assessments and combinations of both.

## Dimensions of the study

When looking at “Dimension of the study”, people were asked to choose between the options of ‘biophysical[[2]](#footnote-2)’, ‘social’[[3]](#footnote-3) and ‘economical[[4]](#footnote-4)’; multiple options were possible too. As a result, nearly half (49%) of the studies have worked within the biophysical dimension only while the social and economic dimensions were equally represented (25%) in the case studies (Figure 3).

Responses: 60/60.

Figure 3. Dimensions (Social, Biophysical and Economic) that were covered in the study. Total number of answers 114.

Further examination of the results show that there were 17/60 integrated studies which covered all three dimensions (social, biophysical and economic). One-dimensional studies had mainly a biophysical focus (Figure 4). Nearly all two-dimensional studies included the biophysical dimension (Figure 5). Only 2 studies had the combination of social and economical dimensions.

Figure 4. One-dimensional studies (N=24) were mainly focused on the biophysical dimension.

Figure 5. Two-dimensional studies (N=20) in their study perspective.

## Scale of mapping and assessment

Most of the studies (50/60) focused on one scale in their study only, while 10 studies covered multiple scales. In total, the ‘Regional scale’ (31/60) was the most common scale used within the case studies (Figure 6). National studies (17/60) were also well-represented.

Responses: 60/60.

Figure 6. Scales that were involved in the different studies.

## Spatial extent (size)

The size of the study area was clearly indicated in approximately half of the cases. They were distributed into four categories. In 11 cases, the study area was larger than 10,000 km2. In 8 studies, the study area size was below 100 km2.

Responses 35/60.

Table 2. Number of cases categorized to groups by their study area size

|  |  |
| --- | --- |
| Size | Number of cases |
| - 100 km2 | 8 |
| 100 - 1 000 | 9 |
| 1 000 - 10 000 | 5 |
| 10 000 km2 - | 11 |

##  Stakeholders

Case studies performers were asked which stakeholders were involved in their activities. In most of the cases, researchers and scientific experts were involved (Figure 7). Authorities and practitioners were also well represented in the studies. Only few studies (10/60) had politicians involved.

Responses: 60/60.

Figure 7. Stakeholders that were involved in case studies. Category ‘Others’ include groups such as NGO’s, managers, farmers and forest owners. Note: Multiple options could be selected.

## Stakeholder involvement

Almost half (47%) of the stakeholders were actively involved in the case studies, primarily through consultation or engagement in some aspects of the mapping/assessment activities (Figure 8). The other half of the studies (53%) had a more passive involvement or had just a punctual level of participation.

Responses: 41/60.

Figure 8. Stakeholder involvement in the case studies conducted in ESMERALDA partner countries.

##  Theme of the study

Case study representatives were asked about the main “theme” in their study (i.e. agricultural, forestry, energy…). Most of the case studies seem to involve only one or few themes in one study (Figure 9). However, quite a few studies were considering multiple themes simultaneously in their ecosystem services mapping/assessment study. Figure 10 shows that the themes recreation, protected areas, agriculture and forestry were clearly the most covered themes.

Responses: 41/60.

Figure 9. Number of themes covered in each case study.

Figure 10. Themes represented in the case studies.

## Biomes

“Temperate broadleaf & mixed forests” was the most covered biome (38/60) of the analysed case studies. Many case studies were also conducted in other forest biomes such as “temperate conifer forests” and “boreal forests/taiga”. The least covered biomes were deserts and xeric shrublands (2/60) and tundra (3/60).

Responses: 58/60.

Figure 11. Biomes covered in the studies. “Other” category includes: Marine regions, Wetland and coastal ecosystems, Marine and Freshwater biomes, Micronesian. Note: Multiple options could be selected.

## Ecosystems

Most of the case studies had “woodland” and “forest ecosystems” as target ecosystem in the assessment (Figure 12). “Grasslands” and “croplands” were also covered well. Only 8/60 of the case studies focused on one ecosystem in their mapping/assessment (Figure 12.).

Responses: 60/60.

Figure 12. Ecosystems covered in the case studies. Note: Multiple options could be selected.

Figure 13. Number of ecosystems covered in the case studies.

## System used to name or classify ecosystem services/benefits

CICES was the most used classification system with a total of 23/60 of the case studies. Combinations of multiple classifications were also used. As only one option could be selected here, the combination options are marked in the option of “Others”.

Responses: 59/60.

Figure 14. Classification systems for ecosystem services that were used in the case studies.

## Ecosystem services

The different types of ecosystem services (provisioning, regulating and cultural) that have been mapped/assessed within the case studies are listed in Figures 15, 16, 17. “Aesthetic”, “global climate regulation” and “cultivated crops” were the most mapped/assessed ecosystem services.

Figure 15. Number of studies that assessed provisioning services.

Figure 16. Number of studies that assessed regulating and maintenance services.

Figure 17. Number of studies that assessed cultural services.

## Focus of the analysis

Ecosystem service supply was the main focus of the study in most of the cases (Figure 18). Only 6 studies evaluated the demand side of ecosystem service. The combinatory studies of supply & demand reached the number of 23 studies.

Responses: 58/60.

Figure 18. Focus of the analysis in terms of ecosystem service supply or demand side.

## Quantification method used

The majority of the case studies (36/60) used a combination of qualitative and quantitative methods to quantify ecosystem services in their mapping and assessment activities (Figure 19). Only two studies used entirely qualitative information while 17 used only quantitative information.

Responses: 57/60.

Figure 19. Quantification method used in case studies to measure ecosystem services in mapping and assessment activities.

## Sources of data

Only 29% of the studies have collected new data for their mapping and assessment activities (Figure 20). On the other hand, the majority of the studies used existing data from different sources or for one specific dataset.

Responses: 58/60.

Figure 20. Sources of data used/collected for mapping and assessment activities.

## Description of spatial data used and the level of details

Three main blocks of spatial data have been used: (1) Environmental data (e.g. land cover data, recreation areas, hydrological data); (2) Built environment data (roads, houses); (3) Population data (e.g. population density). “Other” spatial information that was mentioned refers to in-situ measurements or statistics.

Responses: 51/60.

Figure 21. Spatial data used in the case studies.

## Have these results been used for the EU Biodiversity Strategy 2020?

Only 32% of the case studies acknowledged that the study has been used to fulfil some of the actions included in the EU Biodiversity Strategy (Table 3). Therefore, the majority of the studies do not believe that their results have been used or they do not have a clear vision/perception.

Table 3. Number of studies that believe that their results have been used for the EU Biodiversity Strategy 2020.

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| Size | Number of answer | % |
| Yes | 16 | 32 |
| No | 25 | 42 |
| Unclear | 15 | 26 |
| Total | 56 | 100 |

# Next Steps

This activity was developed to provide an overview of past and current mapping research activities describing their temporal evolution, methods used and spatial distribution at EU level and in individual Member States. However to have a full picture of the state of the art of mapping and assessment activities there are a few new steps that need to be done:

1. Complement our database with scientific publications and grey literature that will provide a more realistic and consistent result.

2. Further analysed specific mapping and assessment methods that were used in relation to a set of individual variables (i.e. study dimension, scales, ecosystems or ecosystem services).

3. Identify possible methodological or thematic gaps and look for potential solutions on how to overcome them.

4. Identify main opportunities for alignment and development of commonalities between different study characteristic as methods, studies or scales.

5. Present all these results as a baseline information to the rest of ESMERALDA partners to trigger the process of developing the flexible methodology for mapping and assessment activities.

**ANNEX 1.** The questionnaire form that was used to code the information from case study fact sheets.

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| **Individual Consortium interviews to assess the status of their mapping and assessment activities** |
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| **2.** Authors  |
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| Include full list or authors (e.g. Laura Mononen, Fernando Santos Martin) |

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| **3.** Corresponding author  |
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| (e.g. Fernando Santos Martin/ Institution: Universidad Autonoma de Madrid/ Contact e-mail: fernando.santos.martin@uam.es) |

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| **4.** Type of information  |
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| Basic facts of the case study  |

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| **6.** Study duration (e.g. 2000-2005)  |
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| Include the probable year of ending if the project is still on-going |

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| **7.** Focus of the work/activities  |
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| 'Mapping' stands for the spatial delineation of ecosystems as well as the quantification of their condition and the services they supply.'Assessing' refers to the translation of scientific evidence into information that is understandable for policy and decision-making. |

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| **8.** Dimension of the mapping/activities  |
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| Choose one or more options.*Biophysical* = An assessment of the biological and physical element s of an ecosystem, including geology, topography, hydrology and soils.*Social* = Different methods that analyze human preferences (as well as people’s cognitive, emotional, ethical responses to nature) towards ecosystem services in non-monetary terms.*Economical* = The process of expressing a value for a particular service in a certain context (e.g., of decision-making) in monetary terms. |

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| **9.** Scale of mapping / assessment  |
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| **10.** Spatial extent (size)  |
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| **11.** Parties involved  |
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| Researchers  |

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| Scientific experts  |

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| Other experts (i.e. Managers of protected area)  | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

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| --- |
| **12.** Description of stakeholder involvement  |
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| --- |
| Choose one or more options. |

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|  |  |
| --- | --- |
|  | [x] |
|

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| --- |
| Presentation of results  |

 |   |
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| --- |
| Consultation, engagement in the mapping / assessment activity  |

 |   |
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| --- |
| Gathering of citizen knowledge  |

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| --- | --- |
| Other  | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

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| --- |
| **13.** Theme of the case study  |
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| --- |
| Choose one or more options. |

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| --- | --- |
|  | [x] |
|

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| --- |
| Agriculture  |

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|  |
| --- |
| Forestry  |

 |   |
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|  |
| --- |
| Fish farming, fishing  |

 |   |
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|  |
| --- |
| Energy  |

 |   |
|

|  |
| --- |
| Business, industry  |

 |   |
|

|  |
| --- |
| Green infrastructure  |

 |   |
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|  |
| --- |
| Spatial planning  |

 |   |
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|  |
| --- |
| Protected areas  |

 |   |
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| --- |
| Recreation  |

 |   |
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| --- |
| Biodiversity/Conservation  |

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| --- | --- |
| Others  | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

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| --- |
| **14.** Biome  |
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| --- |
| Choose one or more options. |

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| --- | --- |
|  | [x] |
|

|  |
| --- |
| Temperate Broadleaf & Mixed Forests [4]  |

 |   |
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|  |
| --- |
| Temperate Conifer Forests [5]  |

 |   |
|

|  |
| --- |
| Mediterranean Forests, Woodlands & Scrub [12]  |

 |   |
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|  |
| --- |
| Boreal Forests/Taiga [6]  |

 |   |
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|  |
| --- |
| Temperate Grasslands, Savannas & Shrublands [8]  |

 |   |
|

|  |
| --- |
| Tundra [11]  |

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| --- |
| Tropical & Subtropical Moist Broadleaf Forests [1]  |

 |   |
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| --- |
| Deserts and xeric shrublands [13]  |

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| --- |
| Mangrove [14]  |

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| --- | --- |
| Other  | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

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| --- |
| **15.** Ecosystem  |
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| --- |
| Choose one or more options. |

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|  |  |
| --- | --- |
|  | [x] |
|

|  |
| --- |
| Urban  |

 |   |
|

|  |
| --- |
| Cropland  |

 |   |
|

|  |
| --- |
| Grassland  |

 |   |
|

|  |
| --- |
| Woodland and forest  |

 |   |
|

|  |
| --- |
| Heathland and shrub  |

 |   |
|

|  |
| --- |
| Sparsely vegetated land  |

 |   |
|

|  |
| --- |
| Wetlands  |

 |   |
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|  |
| --- |
| Rivers and lakes  |

 |   |
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| --- |
| Marine inlets and transitional waters  |

 |   |
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| --- |
| Coastal  |

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| --- | --- |
| Other  | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

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| --- |
| **16.** System used to name or classify ecosystem services/benefits  |
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| --- | --- |
|   | CICES |

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| --- | --- |
|   | TEEB |

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| --- | --- |
|   | MA |

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| --- | --- |
|   | No specific classification was used |

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| --- | --- |
|   | Other, what?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

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| **17.** What ecosystem services were mapped or assessed?  |
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| --- |
| Tick and write the correct ES categories. In free text box describe (1) the name of ES in question; (2) Indicator(s) used for it; (3) Quantification unit; (4) Quantification method (case specific field work / statistics / interpolation modelling / other].e.g. Cultivated crops [x]  Crop production; Crop yield statistics; t/ha/y; Statistics  |

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| --- |
| **17.** What ecosystem services were mapped or assessed?  |
|

|  |
| --- |
| Tick and write the correct ES categories. In free text box describe (1) the name of ES in question; (2) Indicator(s) used for it; (3) Quantification unit; (4) Quantification method (case specific field work / statistics / interpolation modelling / other].e.g. Cultivated crops [x]  Crop production; Crop yield statistics; t/ha/y; Statistics  |

 |
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|  |  |
| --- | --- |
|  |  x |
|

|  |
| --- |
| Cultivated crops  |

 |   |
|

|  |
| --- |
| Reared animals andtheir outputs  |

 |   |
|

|  |
| --- |
| Wild plants, algae andtheir outputs  |

 |   |
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|  |
| --- |
| Wild animals and theiroutputs  |

 |   |
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|  |
| --- |
| Plants and algae fromin-situ aquaculture  |

 |   |
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|  |
| --- |
| Animals from in-situaquaculture  |

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| --- |
| Surface water for drinking  |

 |   |
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|  |
| --- |
| Ground water for drinking  |

 |   |
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| --- |
| Fibres and other materialsfrom plants, algae and animalsfor direct use or processing  |

 |   |
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| --- |
| Materials from plants, algaeand animals for agricultural use  |

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| --- |
| Genetic materials fromall biota  |

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| --- |
| Surface water for non-drinkingpurposes  |

 |   |
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|  |
| --- |
| Ground water for non-drinkingpurposes  |

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| --- |
| Plant-based resources  |

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| --- |
| Animal-based resources  |

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| --- |
| Animal-based energy  |

 |   |
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|  |
| --- |
| Bio-remediation bymicro-organisms, algae,plants, and animals  |

 |   |
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|  |
| --- |
| Filtration/sequestration/storage/accumulation by micro-organisms,algae, plants, and animals  |

 |   |
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|  |
| --- |
| Filtration/sequestration/storage/accumulation by ecosystems  |

 |   |
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| --- |
| Dilution by atmosphere, freshwater andmarine ecosystems  |

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| --- |
| Mediation of smell/noise/visual impacts  |

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| --- |
| Mass stabilisation andcontrol of erosion rates  |

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| --- |
| Buffering and attenuation ofmass flows  |

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| --- |
| Hydrological cycle andwater flow maintenance  |

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| --- |
| Flood protection  |

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| --- |
| Storm protection  |

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| --- |
| Ventilation and transpiration  |

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| --- |
| Pollination and seed dispersal  |

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| --- |
| Maintaining nurserypopulations and habitats  |

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| --- |
| Pest control  |

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| --- |
| Disease control  |

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| --- |
| Weathering processes  |

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| --- |
| Decomposition and fixing processes  |

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| --- |
| Chemical condition of freshwaters  |

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| --- |
| Chemical condition of salt waters  |

 |   |
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| --- |
| Global climate regulationby reduction of greenhousegas concentrations  |

 |   |
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| --- |
| Micro and regional climate regulation  |

 |   |
|

|  |
| --- |
| Experiential use of plants,animals and land- /seascapesin different environmental settings  |

 |   |
|

|  |
| --- |
| Physical use of land- /seascapes in differentenvironmental settings  |

 |   |
|

|  |
| --- |
| Scientific  |

 |   |
|

|  |
| --- |
| Educational  |

 |   |
|

|  |
| --- |
| Heritage, cultural  |

 |   |
|

|  |
| --- |
| Entertainment  |

 |   |
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|  |
| --- |
| Aesthetic  |

 |   |
|

|  |
| --- |
| Symbolic |

 |   |
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|  |
| --- |
| Sacred and / or religious |

 |   |
|

|  |
| --- |
| Existence  |

 |   |
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| --- |
| Bequest  |

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| --- |
| Cultivated crops\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| Reared animals and their outputs\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| Wild plants, algae and their outputs\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| Wild animals and their outputs\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| Plants and algae from in-situ aquaculture\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| Animals from in-situ aquaculture\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| Surface water for drinking\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| Ground water for drinking\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| Fibres and other materials from plants, algae and animals for direct use or processing\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| Materials from plants, algae and animals for agricultural use\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| Genetic materials from all biota\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| Surface water for non-drinking purposes\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| Ground water for non-drinking purposes\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| Plant-based resources\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| Animal-based resources\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| Animal-based energy\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| Bio-remediation by micro-organisms, algae, plants, and animals\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| Filtration/sequestration/storage/accumulation by micro-organisms, algae, plants, and animals\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| Filtration/sequestration/storage/accumulation by ecosystems\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| Dilution by atmosphere, freshwater and marine ecosystems\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| Mediation of smell/noise/visual impacts\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| Mass stabilisation and control of erosion rates\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| Buffering and attenuation of mass flows\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| Hydrological cycle and water flow maintenance\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| Flood protection\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| Storm protection\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| Ventilation and transpiration\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| Pollination and seed dispersal\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| Maintaining nursery populations and habitats\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| Pest control\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| Disease control\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| Weathering processes\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| Decomposition and fixing processes\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| Chemical condition of freshwaters\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| Chemical condition of salt waters\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| Global climate regulation by reduction of greenhouse gas concentrations\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| Micro and regional climate regulation\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| Experiential use of plants, animals and land- / seascapes in different environmental settings\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| Physical use of land- / seascapes in different environmental settings\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| Scientific\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| Educational\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| Heritage, cultural\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| Entertainment\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| Aesthetic\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| Symbolic\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| Sacred and / or religious\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| Existence\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| Bequest\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

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| **18.** Focus of the analysis  |
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| --- | --- |
|   | Capacity of ecosystems to supply services |

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|  |  |
| --- | --- |
|   | Demand for ecosystem services |

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|  |  |
| --- | --- |
|   | Both |

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| **19.** Type(s) of mapping/assessment method used  |
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|   | Qualitative |

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|   | Quantitative |

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|   | Combination of qualitative and quantitative |

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| **20.** Sources of data  |
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| Choose one or more options. |

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| Use of an existing dataset  |

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| Combining existing data from different sources  |

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| Collecting new data  |

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| **21.** Description of spatial data used and the level of details  |
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| Choose one or more options. Explain details in the open box (e.g. pixel size)E.g. Remotely sensed [x] Landsat images (30m pix) |

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| Environmental data (e.g. land cover data, recreation areas, hydrological data)  | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

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| Built environment data (e.g. roads, houses)  | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

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| Population data  | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

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| Other spatial data (e.g. RS data, in-situ measurements, statistics)  | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

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| **22.** Have these results been used for the EU Biodiversity Strategy 2020?  |
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| **23.** Was uncertainty handled in the study?  |
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|   | Yes, how?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

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| **24.** Link for the publication  |
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| The following questions are not part of fact sheets but please answer these questions if the answers can be interpreted from the case study sheets or from the publication.  |

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| **25.** Funding source  |
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|   | Voluntary |

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| **26.** Type of project  |
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| Choose one or more options. |

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| Research  |

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| Education  |

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| Policy focus  |

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| Management focus  |

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| Other  | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

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| **27.** Tier approach used for mapping/assessment  |
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| Choose one or more options. Describe in the text box how it was conducted. e.g. Tier 1: Rather simple [x]. An expert questionnaire results were linked with Corine Land Cover classes in GIS software. |

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| Tier 1: Rather simple(e.g. from the land cover map)  | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

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| Tier 2: incorporating extra data to add detail and accuracy(e.g. Statistical data)  | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

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| Tier 3: Complex (e.g. process-based model)  | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

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| Other (none of the previous are applicable)  | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

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| **28.** Was scenarios / futures thinking part of the mapping/assessment?  |
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| **29.** Were policy implications/recommendations derived based on this study?  |
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|   | Yes, what?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

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| **30.** What were the major impacts of the study?  |
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| **31.** Name of the transcriber  |
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| [ ]  | I want to submit my answers  |

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**ANNEX II**. Names of the case studies, their first authors and links to the published outcomes of the studies.

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| Name of the case study | Authors | Link for the publication |
| Mapping and valuation of ecosystem services in a national Danish network | Vogdrup-Schmidt | http://curis.ku.dk/ws/files/115733799/IFRO\_Rapport\_228.pdf |
| Sierra Nevada Protected Area | Berta Martín-López | http://www.openness-project.eu/node/39http://uam.es/gruposinv/socioeco/en/default.htm |
| ASSESSMENT of ecosystem services of the NATURA 2000 network in Flanders | Broekx Steven | www.natuurwaardeverkenner.be |
| Ecosystem services of the land dune region Midden-Kempen | Katrien Van der Biest | http://www.provincieantwerpen.be/aanbod/dlm/samenwerkingsverbanden/ankona/natuurstudieartikels.html |
| Study of the socio-economic impacts and ecosystem services of the Life+ Nature project “Flemish and North French Dunes Restoration" | Leo De Nocker | - |
| COPLAN – Planning For Ecosystem Services in the Flemish Region | Dr. Staes Jan | http://www.ecosysteemdiensten.behttp://www.ecosysteemdiensten.be/geoloket/https://www.uantwerpen.be/en/rg/ecoplan/ |
| Malki Iskar basin | Stoyan Nedkov | - |
| Assessing the impact of land consolidation thanks to ecosystem services | Yvan Brahic | - |
| Cost-benefit analysis of the SIGMAPLAN | Inge Liekens | http://www.sigmaplan.be/en |
| Ogosta basin – Stara Planina | Stoyan Nedkov | - |
| Walloon Platform on Ecosystem Services, WalES | Laura Maebe |  |
| Survey on grassland ecosystem services | Iva Hönigová, | http://www.teebweb.org/wp-content/uploads/2013/01/Survey-on-grassland-ES\_2011\_final-report\_ISBN.pdf |
| Regional and local case studies from ETHZ, feasibility study | Bettina Weibel | www.palm.ethz.ch >> web-based platform for building zone allocationhttp://www.visasim.ethz.ch/ >> 3D visualizations of wind farmshttp://www.supat.ethz.ch/ >> developing sustainable urban patternshttp://hydroserv.ch/ >> hydrological ecosystem services in the UNESCO Biosphere Entlebuch |
| Multifunctional Landscape Services (MUFLAN) | Michael Weiss, | http://www.umweltbundesamt.at/muflan |
| Assessing the potential for mapping ecosystem services in England based on existing habitats | Jane Lusardi, | http://publications.naturalengland.org.uk/publication/5280919459987456?category=38019 |
| Landscape-ecological planning in urban and peri-urban areas - Model area Trnava, Slovakia (OpenNESS Case Study 02) | Peter Bezák | www.uke.sav.skhttp://www.openness-project.eu/node/36 |
| Pilot study on benefits from cultural services provided by natural city park in Bratislava | Eva Streberová | http://www.ieep.cz/download/publikace/Managing\_1.pdfhttp://www.ieep.cz/cz/publikace.html |
| ADAPTIVE MANAGEMENT OF MOUNTAIN ECOSYSTEM SERVICESCarbon Management – Solution for Wellbeing of European Mountain Regions? (AMES) | Stanislava Brnkalakova | Not published yet |
| National monitoring for assessing and valuating ecosystem services in Fennoscandian alpine and boreal landscapes (NILS ESS) | Ola Inghe  | http://www.slu.se/en/departments/ecology/research/grimso-wildlife-research-station/research-projects/ecosystem-services-in-northern-sweden/http://www.slu.se/Documents/externwebben/nj-fak/ekologi/nils-ess/ESS\_ansokan-Mikusinski.pdf |
| Ekosystemtjänster i svenska hav / Ecosystem services in Swedish seas | Andreas Bryhn | - |
| Het Groene Woud | Dr. Katalin Petz | http://www.fsd.nl/sels/76968/5/0/30 http://www.sense.nl/research/dissertations/10844213/Katalin-Petzhttps://www.pik-potsdam.de/news/public-events/archiv/alter-net/former-ss/2010/06.09.2010/posters/poster\_petz\_katalin.pdfhttp://www.google.nl/url?sa=t&rct=j&q=&esrc=s&frm=1&source=web&cd=1&ved=0CCMQFjAAahUKEwithdvy1v3HAhXCuRQKHfl9CLk&url=http%3A%2F%2Fprevious.espconference.org%2Fdownloadattachment%2F79519%2F64742%2FPetz\_Spatial%2520modeling%2520Groene%2520Woud.pdf&usg=AFQjCNH-ITbqObnIs-5Eu-CPG6oWGdSXWg&sig2=3oyad2UnIRMGUXI6MkUb3w |
| Mapping and assessment of ecosystem services on Natura2000 areas along Niraj and Tarnava-Mica rivers (Niraj-MAES) | Kelemen Katalin, | http://www.milvus.ro/ecoservices/index.php/en/http://www.okologia.mta.hu/en/node/7474 |
| Mapping and Assessment of Ecosystem Services in Portugal, Alentejo NUTS II case study (ptMAES Alentejo) | Cristina Marta Pedroso | - |
| Water footprint as an indicator of water supply – ecosystem services. A case study for urban municipalities of Wielkopolska region | Małgorzata Stępniewska | http://geokompleks.amu.edu.pl/data/stepniewska.pdfhttp://www.fe.org.pl/uploads/ngrey/eis42.pdf |
| Ecosystems’ local recreational services valuation.Krajenka municipality case study | Piotr Lupa | http://geokompleks.amu.edu.pl/data/Lupa.pdf |
| Land prices as an indicator of the recreational services of ecosystems | Damian Łowicki | http://geokompleks.amu.edu.pl/data/lowicki.pdfhttp://www.fe.org.pl/uploads/ngrey/eis42.pdf |
| Monetary valuation of road noise. Residential property prices as an indicator of the acoustic climate quality | Damian Łowicki | http://www.sciencedirect.com/science/article/pii/S1470160X15000035 |
| The use of Integrated Environmental Programme for ecosystem services assessment  | Małgorzata Stępniewska | http://www.fe.org.pl/uploads/ngrey/!%20eis51.pdf |
| Resources of the Polish official statistics for valuation of provisioning ecosystem services  | Małgorzata Stępniewska | http://www.fe.org.pl/uploads/ngrey/!%20eis51.pdf |
| Doñana Protected Area (case study 19-OpenNESS) | Ignacio Palomo,  | http://www.openness-project.eu/node/45http://uam.es/gruposinv/socioeco/en/default.htm |
| The influence of the data analysis scale on the estimated size of ecosystem services | Piotr Lupa | http://geokompleks.amu.edu.pl/data/13.pdf |
| Integrated Assessment of Ecosystem Services in the Czech Republic (EKOSERV) | Jana Frélichová | http://www.ecosystemservices.cz/ |
| Walloon Platform on Ecosystem Services, WalES | Laura Maebe | Website under construction |
| Flanders Regional Ecosystem Assessment, Flanders REA | Maarten Stevens | https://www.inbo.be/en/flanders-regional-ecosystem-assessment-state-and-trends-synthesis-reporthttps://www.inbo.be/nl/publicatie/flanders-regional-ecosystem-assessment-state-and-trends-ecosystems-and-theihttps://data.inbo.be/ecosysteemdiensten/  |
| Climate change in agriculture and forestry: an integrated assessment of mitigation and adaptation measures in Austria (CAFEE) | Mathias Kirchner | doi:10.1016/j.ecolecon.2014.11.005 |
| Ecosystem services assessment for Poland - challenges and possible solutions  | Małgorzata Stępniewska | http://www.fe.org.pl/uploads/ngrey/eis42.pdf |
| Indicator status and trend of ecosystem services in the Netherlands | Bart de Knegt,  | http://themasites.pbl.nl/natuurlijk-kapitaal-nederland/http://www.compendiumvoordeleefomgeving.nl/link for ecosystem indicators - language barrier:https://www.wageningenur.nl/upload\_mm/9/3/9/b0a5ebe4-3152-4fc6-833b-bbed26bbc314\_WOt-technical%20report%2013%20webversie.pdf |
| Winterswijk | Peter H. Verburg | http://project2.zalf.de/claimknowledgeplatform/claim.7.4.phphttp://www.google.nl/url?sa=t&rct=j&q=&esrc=s&source=web&cd=9&ved=0CEwQFjAIahUKEwj3rvWF5aDIAhVJtxQKHevzCbo&url=http%3A%2F%2Fwww.previous.espconference.org%2Fdownloadattachment%2F83098%2F92751%2F52%2520Boris%2520presentatie.pdf&usg=AFQjCNEbMjPxruRrFM4vAzpSu9AtmKUiAA&bvm=bv.104226188,d.bGQ |
| GERMANY, DEBornhöved lakes district, BHD | Benjamin Burkhard | http://www.ecosystem-management.uni-kiel.de/ |
| GERMANY, DELeipzig-Halle (PLUREL) | Benjamin Burkhard | http://www.plurel.net/ |
| Development of methods for assessment and mapping of ecosystem Services of marine and Inland waters | Lauri Klein | http://www.ctc.ee/running/ecosystem |
| Germany (DE) : Assessing, mapping, and quantifying cultural ecosystem services at community level (CES) | Tobias Plieninger | www.ecosystemservices.de |
| Beklemeto | Stoyan Nedkov | - |
| Spanish national ecosystem assessment | Fernando Santos Martin | http://www.ecomilenio.es/ |
| ESLab (virtual laboratory of ecosystem services) test site: VANAJAVESI CATCHMENT | Petteri Vihervaara | http://dx.doi.org/10.1007/s10980-014-0122-z http://dx.doi.org/10.1007/s10980-014-0137-5 Forsius, M., Akujärvi, A., Mattsson, T., Holmberg, M., Punttila, P., Posch, M., Liski, J., Repo, A., Virkkala, R. & Vihervaara, P. 2015: Modelling impacts of forest bioenergy use on ecosystem sustainability: Lammi LTER region, southern Finland. Ecological Indicators. |
| France, Camargue wetlands | Driss Ezzine del Blas | http://www.eea.europa.eu/highlights/understanding-the-full-value-of-biodiversity-loss/ecosystem-accounting-for-the-cost-of-biodiversity-losses-framework-and-case-study-for-coastal-mediterranean-wetlands-abstract-2013-31-march-2008http://www.eea.europa.eu/publications/ecosystem-accounting-and-the-costhttp://www.eea.europa.eu/highlights/understanding-the-full-value-of-biodiversity-loss/accounting-for-wetland-socio-ecological-systems-in-the-mediterranean-region/view |
| De Peel - Netherlands | Monique Gulickx | https://www.wageningenur.nl/en/Publication-details.htm?publicationId=publication-way-343237363935 |
| Developing national indicator set for state and trends of Ecosystem Services in Finland FESSI | Petteri Vihervaara | www.biodiversity.fi/ecosystemservices |
| Mapping green infrastructure based on ecosystem service supply and demand in the Helsinki-Uusimaa Region, Finland | Leena Kopperoinen | http://www.uudenmaanliitto.fi/en/development\_and\_planning/regional\_land\_use\_planning/under\_way\_phased\_regional\_land\_use\_plan\_4http://www.uudenmaanliitto.fi/aluesuunnittelu/valmistelussa\_4.\_vaihemaakuntakaava/viherrakenne |
| Valuing ecosystem services on mires and peatlands - ecosystem services to practice | Jäppinen Jukka-Pekka | http://www.syke.fi/fi-FI/Tutkimus\_\_kehittaminen/Tutkimus\_ja\_kehittamishankkeet/Hankkeet/Soiden\_ja\_turvemaiden\_ekosysteemipalveluiden\_arviointi\_ja\_arvottaminen\_\_ekosysteemipalveluista\_kaytannon\_toimintaan\_ekosysteemilahestymistavan\_kautta\_SuoEko |
| Finnish Forest Lapland | Laura Mononen | Not published yet |
| It-BeechForest - Italian Forests Ecosystems Services | Mattia Martin AZZELLA | www.pcn.minambiente.it/GN |
| It-LakES - Italian Lakes Ecosystem Services | Mattia Martin AZZELLA, | www.pcn.minambiente.it/GN |
| National study on the distribution and state of the main ecosystem services on Lithuanian territory | Vytautas Naruševičius | - |
| OpenNESS Kiskunság Case Study (OKCS) | Miklós Kertész, Réka, Aszaloós, Bálint Czúcz | - |
| LIFE+ funded project: "Assessment of ecosystems and their services for nature biodiversity conservation and management" (LIFE Ecosystem Services) | Liga Brunina | http://ekosistemas.daba.gov.lv/public/eng/ |
| Restoring the Haringvliet estuary (Haringvliet) | Pieter van Beukering | http://www.postcodeloterij.nl/goede-doelen/bijzondere-projecten/droomfonds/Wereld-Natuur-Fonds-Natuurmonumenten-ARK-en-Vogelbescherming-Nederland.htm |
| Hoeksche Waard | Michiel Rutgers | https://www.wageningenur.nl/nl/Publicatie-details.htm?publicationId=publication-way-343132363934http://sesss05.setac.eu/embed/sesss05/SESSS05\_Michiel\_Rutgers\_poster.pdf |
| Wadden Sea | Robbert Jak (previously Chris Klok, Charlotte Deerenberg) | http://www.openness-project.eu/node/63 |
| Mapping of marine ecosystem services for Latvian Maritime Spatial Planning (MSP) | Anda Ruskule | http://www.balticscope.eu/events/latvian-case-1st-planners-meeting/http://jurasplanojums.net/ |

1. In the context of ESMERALDA the term “case studies” is also used for WP5 in relation to a list of studies that will selected to test the flexible mapping and assessment methodology of ecosystem. [↑](#footnote-ref-1)
2. Biophysical = An assessment of the biological and physical element s of an ecosystem, including geology, topography, hydrology and soils. [↑](#footnote-ref-2)
3. Social = Different methods that analyze human preferences (as well as people’s cognitive, emotional, ethical responses to nature) towards ecosystem services in non-monetary terms. [↑](#footnote-ref-3)
4. Economical = The process of expressing a value for a particular service in a certain context (e.g., of decision-making) in monetary terms. [↑](#footnote-ref-4)