



MAIA

Mapping and Assessment for
Integrated ecosystem Accounting

Report on NCA - SEEA state-of-the-art

Online survey results

Deliverable 3.1

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The responses has been treated in the strictest of confidence in line with current [data sharing practices](#). The data is stored on the servers of Leibniz University of Hannover and used for research purposes only. The information contained in this document are based on the responses of the online survey and so presents the states of the 10 European countries participating in MAIA in July 2019.



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MAIA

Mapping and Assessment for
Integrated ecosystem Accounting

PREFACE

The Horizon 2020 MAIA (Mapping and Assessment for Integrated ecosystem Accounting) project aims to mainstream natural capital and ecosystem accounting (NCA) in EU Member States (MS). MAIA uses the System of Environmental Economic Accounting – Experimental Ecosystem Accounting (SEEA-EEA) as the methodological basis for NCA. The SEEA EEA is a system for NCA developed under auspices of the UN Statistical Commission, and provides a consistent framework for analysing and storing information on ecosystem assets and flows of ecosystem services. The SEEA is part of the System of National Accounts, used by statistical agencies world-wide for the production of economic and other statistics. In MAIA, a flexible approach will be followed, allowing for adaptation of the SEEA EEA framework to the conditions of the individual EU MS. The work is based on the detailed, recent technical recommendations in support of Experimental Ecosystem Accounting, published by UN et al. (2017), recognising the experimental status of the SEEA EEA approach.

The objective of MAIA Work Package 3 is Testing, piloting and mainstreaming NCA in European countries. The project will ensure mainstreaming of NCA (based on the SEEA) and alignment with the identified policy needs (from WP1) within the 10 participating countries (nine in the EU and Norway). The basic rationale behind this WP is that testing and mainstreaming NCA approaches is most effectively done on the basis of concrete pilots, where available methods (principally, but not limited to the SEEA) will be tested, applied and evaluated jointly by a range of relevant partners in each participating EU MS. This WP will be conducted in very close collaboration with statistical agencies and other government offices in charge of or working on natural capital and ecosystem accounts (ministries, state agencies, research organisations with access to data, etc.). Accounts will be developed based on existing large-scale reference data as well as new, additional datasets to be created through data inter- and extrapolation, combining existing datasets and applying spatial and other models available in the consortium.

The aim of this Deliverable 3.1 report is to present the state-of-the-art of Natural Capital and Experimental Ecosystem Accounting (NCA-EEA) in the 10 MAIA countries. This information will be essential in achieving the EU Biodiversity Strategy's Target 2 Action 5 target: *“Member States, with the assistance of the Commission, will map and assess the state of ecosystems and their services in their national territory by 2014, assess the economic value of such services, and promote the integration of these values into accounting and reporting systems at EU and national level by 2020”*.



SUMMARY

The Horizon 2020 MAIA (Mapping and Assessment for Integrated ecosystem Accounting) project aims to mainstream natural capital accounting (NCA) in EU Member States (MS). The objective of MAIA Work Package 3 is Testing, piloting and mainstreaming NCA in European countries. These activities are essential in achieving the EU Biodiversity Strategy's Target 2 Action 5 aims related to mapping and assessment of ecosystems and their services (MAES) in the EU member states. The first task of WP3 is to present what the state-of-the-art of Natural Capital and Experimental Ecosystem Accounting (NCA-EEA) is in the ten countries that are participating in MAIA: Belgium, Bulgaria, Czech Republic, France, Finland, Germany, Greece, Netherlands, Norway and Spain. The collection of related information was accomplished through an online survey.

The survey was conducted with Lime Survey software and included questions on published, ongoing or planned NCA in the ten participating countries. Under NCA (or NCA-like initiatives), any initiative on accounting and/or monitoring the state, trend and use of natural resources and environment, including the use and provisioning of soil, water, environment, biodiversity, food or material production, or natural resources, are included. A specific focus is placed on those aspects of natural capital that are not included in national economic statistics. The survey was distributed amongst MAIA consortium members and stakeholders of each country.

The results show heterogeneities between the ten countries involved in MAIA, especially in the number of submitted records of survey participants and studies reported. The number of records ranges between 1 completed record for Belgium, Finland and Germany and the maximum of 20 completed records for Bulgaria. For the number of respondents, 1 respondent participated in the surveys for Finland and Germany and 53 for Bulgaria. Without the distinction of published, ongoing or planned NCA, a total of 54 studies has been recorded with 1 study for Germany and a maximum of 21 studies for Bulgaria. Except with the highest number of studies recorded for Bulgaria, all other countries (Belgium, Czech Republic, France, Finland, Germany, Greece, Netherlands, Norway and Spain) present a mean of 3,7 recorded studies per country. The recorded studies are mainly at national scale (48 %), regional (29 %), local (18 %) and multinational scale (5 %). In the different types of NCA accounts, ecosystem services supply and use are the most assessed in all recorded studies. Biophysical accounts are indicated in 38 studies and monetary accounts in 19 studies. This heterogeneity of results can be explained by a difference of the number of NCA studies in the ten countries; a lack of involvement of relevant people; a need of better dissemination of the survey or a different understanding of the survey. Indeed, we noted a general confusion regarding the term "studies" used in the survey, as we have records about projects containing several studies and some records about one specific study only.

As a summary of NCA applications in the ten MAIA countries, at least one finished NCA study has been recorded in Bulgaria, Czech Republic, France, Finland, Greece and Netherlands and at least one ongoing NCA study was recorded in Belgium, Germany, Norway and Spain. This online survey allowed to list, besides scientific publications, project reports, grey literature and case studies that are usually not published in scientific journals. The not scientific studies are 76% of the studies reported and 48% are project reports. The online survey did not have information on criteria for repeatability and compliance with accounting standards or whether a statistical office distributed the data.

The following task in MAIA is now to cross-check the results with other available information, originating for instance from a scientific review that is currently in progress, the MAIA stakeholder that was held in Brussels in 09/2019 and with information of each country that is already available, such as information in the ESMERALDA fact sheets (https://biodiversity.europa.eu/maes/maes_countries).



1. ONLINE SURVEY

1.1 Survey implementation and structure

MAIA uses the System of Environmental Economic Accounting – Experimental Ecosystem Accounting (SEEA-EEA) as the methodological basis for NCA. The notions and concepts used are defined in the SEEA-EEA Technical Recommendation, 2017 – BOX 1.

Moreover, the classification used are based on the MAES typology of ecosystems presented in the following website: <https://biodiversity.europa.eu/maes/typology-of-ecosystems>

The survey was conducted with Lime Survey (formerly PHPSurveyor), a free and open source on-line statistical survey web app distributed under the GNU General Public License.

The survey was designed in accordance with the [EU's 2016 General Data Protection Regulation](#) and other EU [guidelines](#). It established the technical and organisational measures that are implemented to safeguard the rights and freedom of the research participants, including informed consent procedures with regards to the processing of personal data.

The survey consisted of 6 blocks; the first and the last two parts were mandatory (Figure 1, Annexe 1 for all the survey).

- Block 1 was about personal data and consent forms.
- Blocks 2 and 3 contained questions on published, ongoing or planned Natural Capital Accounts.
- Block 4 was about given contact persons who could know about published, ongoing or planned Natural Capital Accounts.
- Block 5 was an update for the ESERALDA MAES Barometer with seven new questions (more information http://www.maes-explorer.eu/page/Compete_with_other_countries). The ESERALDA MAES Barometer indicates the state of MAES (Mapping and Assessment of Ecosystem Services) implementation in all EU member states. The barometer is based on the method described in ESERALDA Deliverable D2.3 Final stocktaking of EU member state needs (http://esmeralda-project.eu/getatt.php?filename=ESMERALDA-D2.3_14952.pdf). The results of the Block 5 is not presented in this document.

In total, the survey consisted of 78 questions with open-ended and closed-ended questions, as well as a range of multiple-choice questions.

The survey was organised as a decision tree (Figure 1). Depending on the knowledge of the respondent, different blocks were opened. If the respondent had knowledge on a finished study, block 2.1 was opened; for an ongoing NCA study, block 2.2 and for a NCA-related study block 3 was opened.

So per one record, three studies could be recorded. In order to be recorded as studies, as far as a respondent knew, it was possible that a respondent gave several answers.

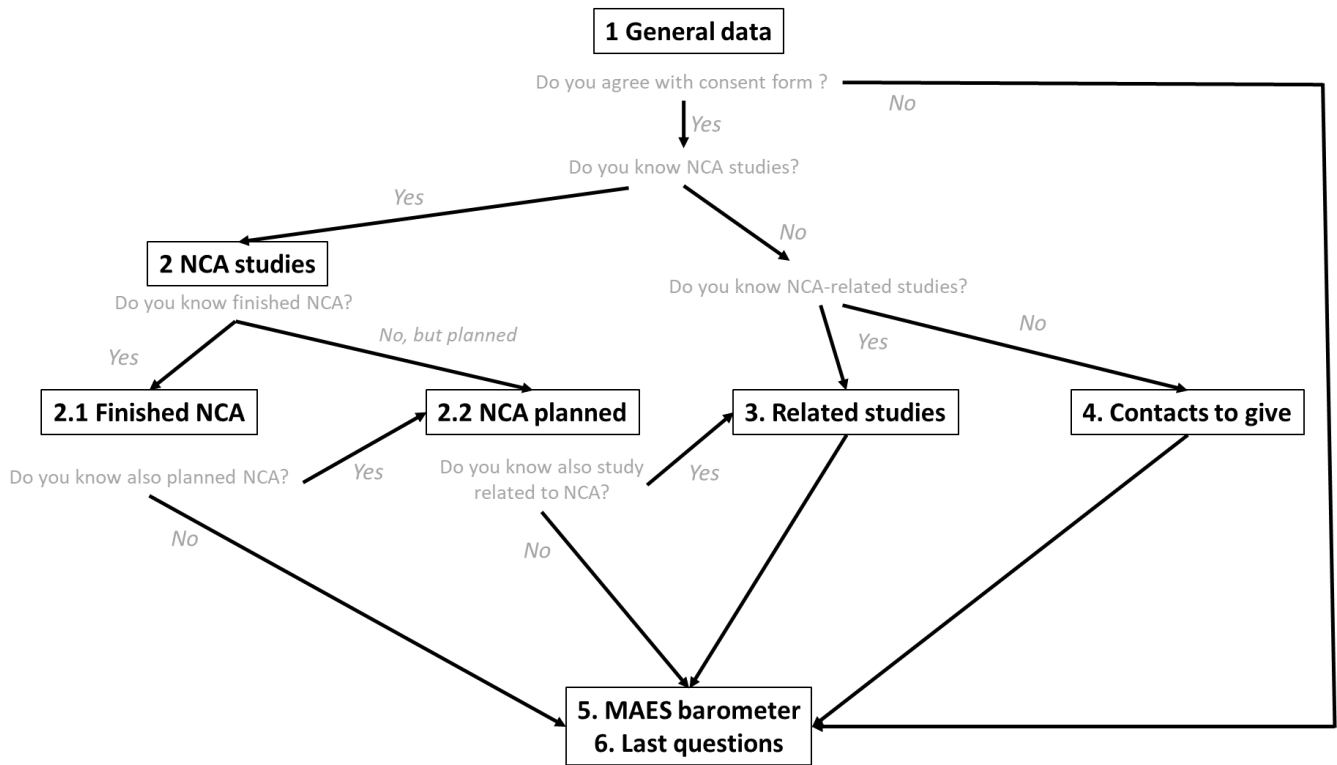


Figure 1: Structure of the online survey as a decision tree

1.4 Data collection

The survey was sent out on June 6, 2019. The survey was distributed amongst consortium members and stakeholders of each country and may have been circulated even more depending on the context of the country.

The first deadline was set at the beginning of July 2019, but due to lack of responses and upon the request of several countries, the survey was finally closed on September 13, 2019.

After the analyses and the data cleaning (described in the next paragraph), the first draft of this deliverable with the results were sent to the participants for validation, completion and addition of other results during 2 weeks in November 2019 (Text template in Annex 2).

1.5 Analyses and data cleansing

Three types of data can be differentiated based on the survey results: the records, the respondents and the recorded studies.

A record is a connection on the survey website saved by Lime Survey. It can be empty, incomplete or complete depending if the blocks 1, 5 and 6 have been filled in.

A participant is identified in block 1 with personal data such as name and institution, and can report several records.

A recorded study is identified by information in blocks 2.1, 2.2 or 3. One study can be recorded by several different respondents. In this case, the different records of the same study are regrouped into one.

In all cases, the data recorded has not been changed and remains as it has been recorded online.



BOX 1: Concepts and definitions based on the SEEA-EEA. Technical Recommendation, 2017

'Mapping' refers to delineation of spatial units (of importance to particular investigation, such as watersheds), including quantification of the geospatial extent of environmental settings, processes or ecosystem services.

'Assessment' refers to the interpretation of scientific results/evidence in non-monetary terms and other form of information that is intelligible and meaningful for business, policy and decision making purposes

'Valuation' refers to the interpretation of scientific results/evidence in monetary terms and other form of information that is intelligible and meaningful for business, policy and decision making purposes,

'Accounting' refers to recording, manipulation, and reporting information from assessment/valuation of environmental settings, processes or ecosystem services, related to national accounting systems

'Assets' – “For accounting purposes, each area covered by a specific ecosystem type is considered to represent an ecosystem asset. Ecosystem assets are considered to be contiguous, and bounded spatially with each asset comprising all of the relevant biotic and abiotic components within those bounds that are required for it to function and to supply ecosystem services”. (SEEA-EEA. *Technical Recommendation, 2017, p.37*)

'Extent account' Ecosystem extent accounts record the compositional changes within an ecosystem accounting area, with information about different ecosystem assets usually grouped to show a summary for the different ecosystem types. (SEEA-EEA. *Technical Recommendation, 2017, p.4*)

'Condition account' - Ecosystem condition reflects the overall quality of an ecosystem asset, in terms of its characteristics. Measures of ecosystem condition are generally combined with measures of ecosystem extent to provide an overall measure of the state of an ecosystem asset. Ecosystem condition also underpins the capacity of an ecosystem asset to generate ecosystem services and hence changes in ecosystem condition will impact on expected ecosystem service flows. (*Natural capital accounting in support of policymaking in Europe, EEA Report No 26/2018*). An ecosystem condition account for each ecosystem asset is structured to record the condition at specific points in time and the changes in condition over time. These changes may be due to natural causes or human/economic intervention. (SEEA-EEA. *Technical Recommendation, 2017, p.4*)

'Services supply account' – “Ecosystem service supply accounts provide information on the quantity and location of the supply of ecosystem services”. (SEEA-EEA. *Technical Recommendation, 2017, p.8*) “Most focus at this time is on the supply of ecosystem services (including provisioning, regulating and cultural services) to economic units, including businesses and households. These are considered final ecosystem services. The ecosystem accounting framework also supports recording flows of intermediate ecosystem services which are flows of services between ecosystem assets. Recording these flows supports an understanding of the dependencies among ecosystem assets, for example within a water catchment.” (SEEA-EEA. *Technical Recommendation, 2017, p.5*)

'Services use account'- “For each recorded supply of ecosystem services, there must be a corresponding use. The attribution of the use of final ecosystem services to different economic units is a fundamental aspect of accounting. In the SEEA EEA, the measurement boundary for final ecosystem services is defined to support data integration with the production of goods and services that is currently recorded in the standard national accounts. (SEEA-EEA. *Technical Recommendation, 2017, p.5*) “These are the flows that reflect the link between ecosystem assets and economic and human activity. The supply and use account records the actual flows of ecosystem services supplied by ecosystem assets and used by economic units during an accounting period and may be compiled in both physical and monetary terms” SEEA-EEA. *Technical Recommendation, 2017, p.23*)

2. GENERAL RESULTS

2.1 Participation

Survey records

The final number of records was 286 (**Figure 2**) with 67 complete records (all questions were answered), 40 incomplete (at least the name was given, not all questions were answered) and 179 empty records (no information recorded: no name and no answers).

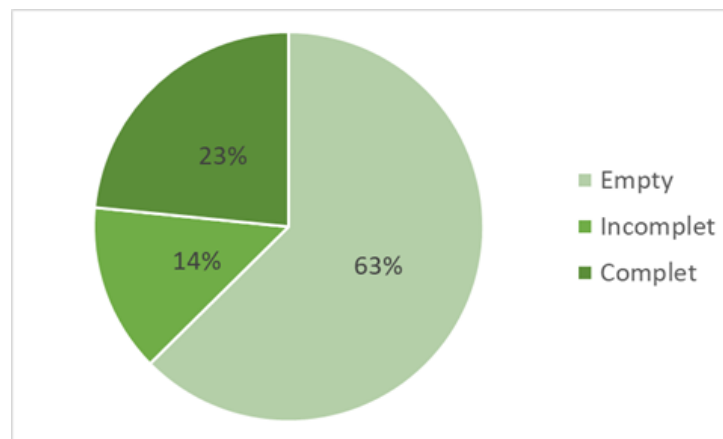


Figure 2: General types of records

From the 107 complete and incomplete records, 58 were from Bulgaria, which represents 54% of all records. All the rest of participating countries range between 9 (Greece) and 1 (Finland) records.

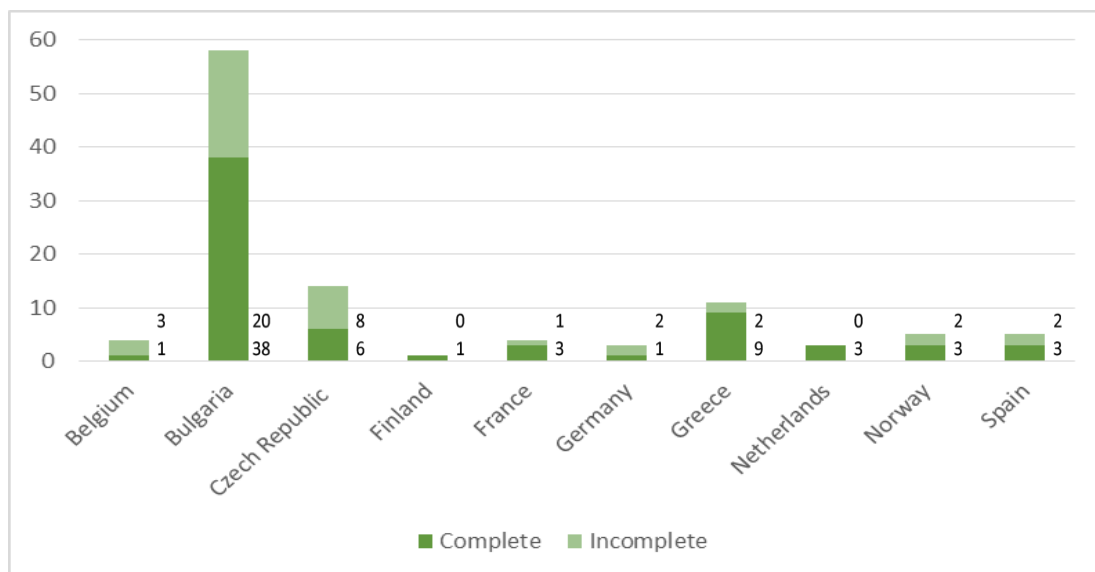


Figure 3: Number of complete and incomplete records per country

Survey respondent

To analyse the number and profile of the different respondents, we did not consider multiple answers from the same participant (same name reported). Instead, we took complete and incomplete answers into account.

In total, 96 different respondents answered (at least on time) to the online survey (Table 1) with the highest participation from Bulgaria with 53 respondents followed by Czech Republic and Greece with, respectively 14 and 10 respondents.

Within the group of the 96 respondents, different institutional sectors are represented (Figure 4) with governmental organisations at 55%, research institutes and academic organisations at 25% and statistical organisations at 13%. The lowest representation are private sectors and non-governmental organisations with respectively 3 and 4%. Associations and official development associations are not represented in the panel of respondents.

Table 1: Number of respondents per country

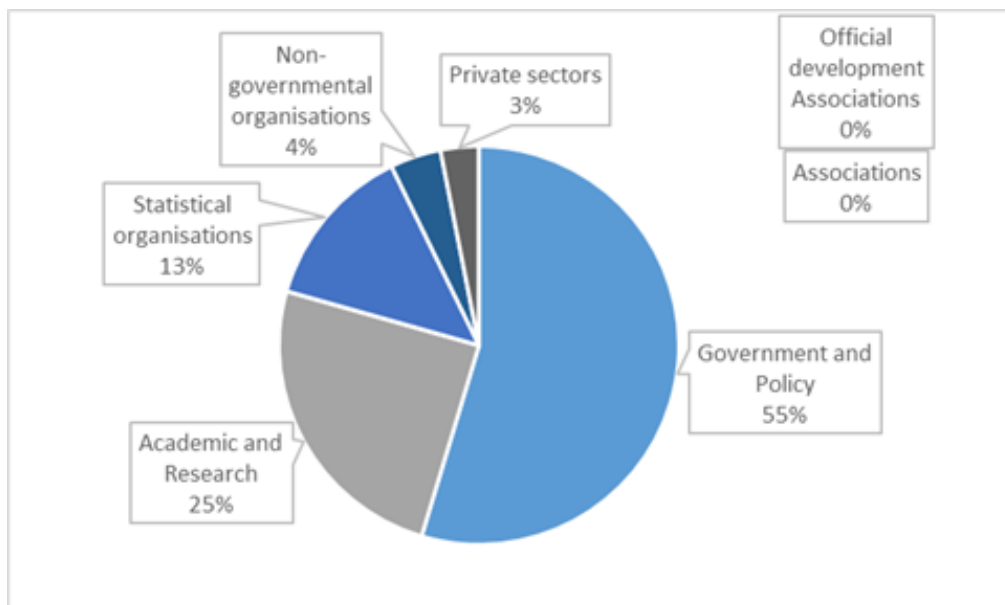


Figure 4: Representation of the different institutional sectors

2.2 Studies recorded

The number of studies recorded are different from the number of records of respondents, as many studies can be recorded in one record or by more than one respondent. A total of 54 different studies was recorded in the 10 MAIA countries (**Table 2**). Per country, the number of studies varies from 21 for Bulgaria to 1 in Germany. Bulgarian records, respondents and studies represent more than half of the overall data.

Table 2: Number of recorded studies (finished, ongoing and related NCA)

	All studies finished, ongoing and related NCA	Finished studies	Ongoing studies	Existing studies related to NCA
Belgium	4	0	1	3
Bulgaria	21	12	9	0
Czech Republic	3	1	1	1
Finland	2	1	1	0
France	3	2	1	0
Germany	1	0	1	0
Greece	8	5	1	2
Netherlands	4	1	1	2
Norway	5	0	2	3
Spain	3	0	3	0
TOTAL	54	22	21	11



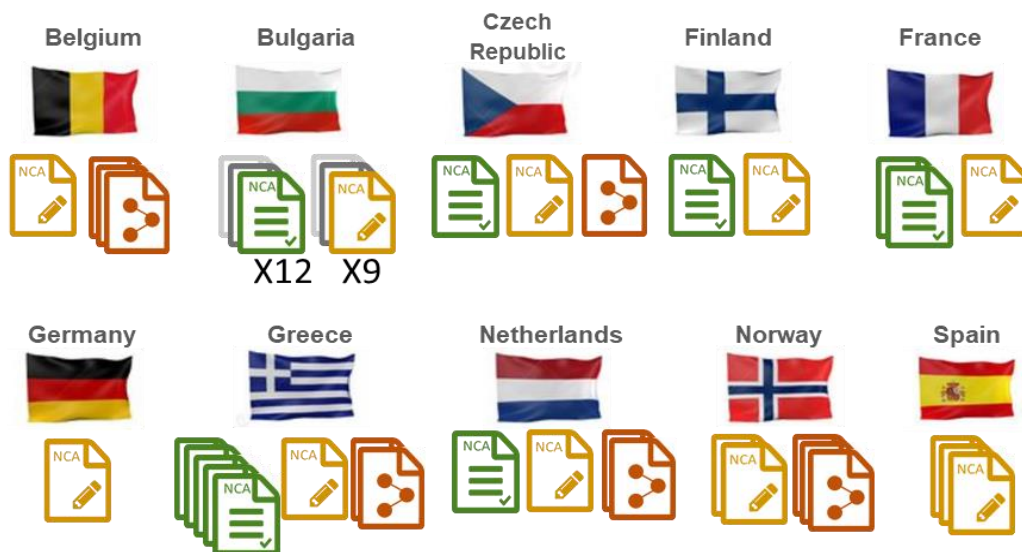
Finished NCA studies
22 in total



Ongoing NCA studies
21 in total



NCA-related studies
11 in total



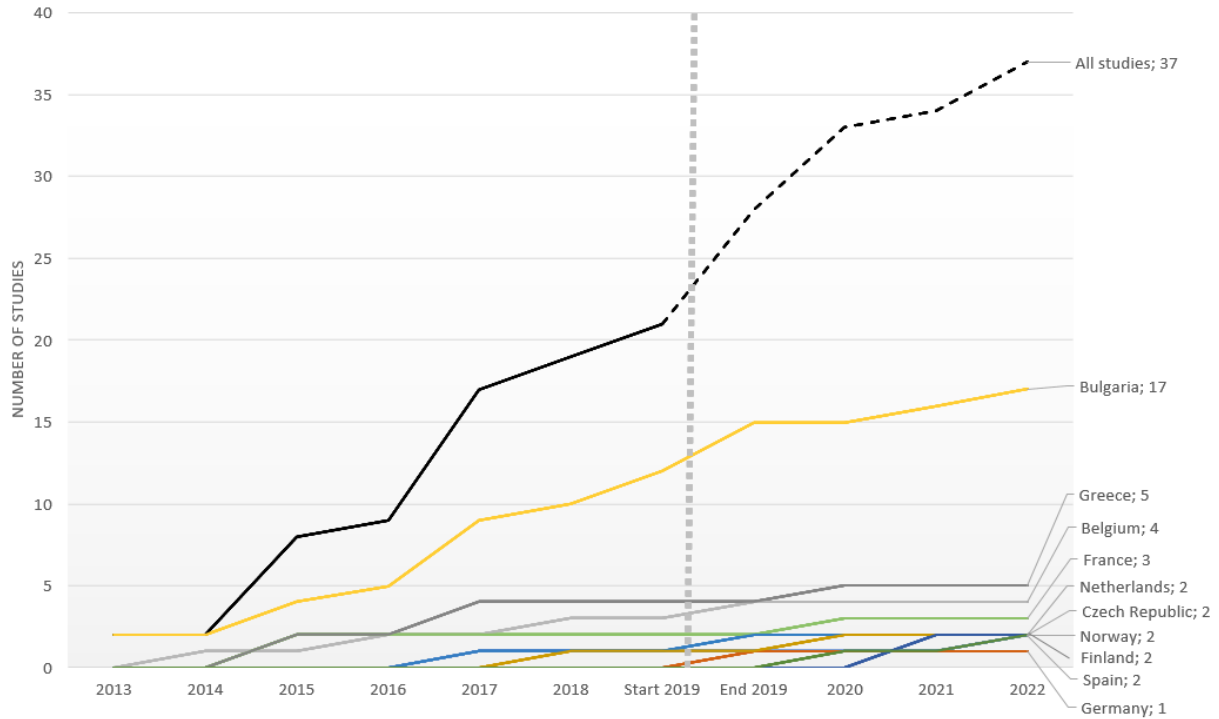


Figure 5: Number of studies per publication year for the finished studies and years of the expected completion of ongoing studies (NCA-related studies are not considered here)

The publication years of the finished studies start in 2013 and increase constantly (Figure 5). 6 studies were recorded with no years.

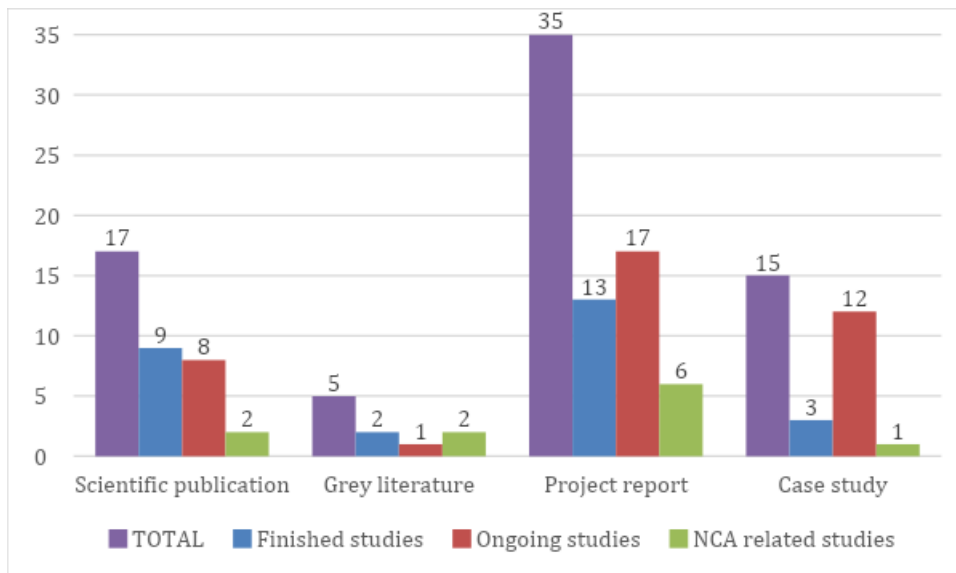


Figure 6: Type of studies

35 studies were recorded as project reports which represent more than the half of the studies (Figure 6). Case study reports and scientific publications are almost equally represented with 17 and 15 studies. Grey literature was represented with 5 studies. Between the finished, ongoing and NCA-related studies we can observe that NCA-related studies are less recorded.

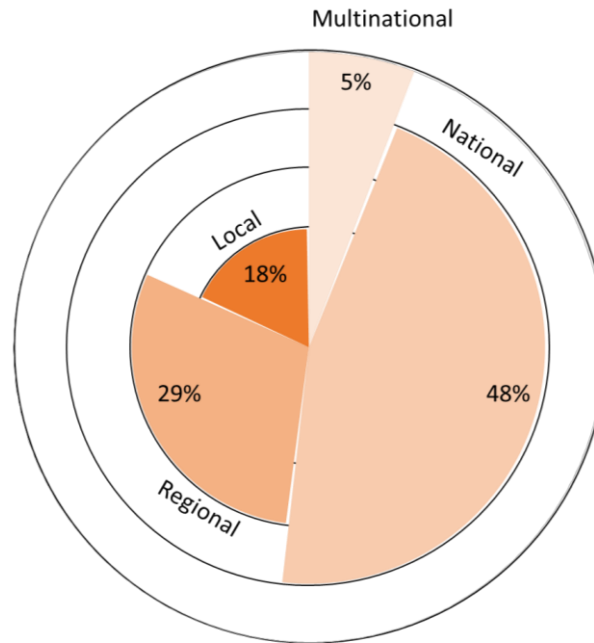


Figure 7: Spatial scale of the studies

The studies recorded are at national scale at 48%, regional at 29%, local at 18% and multinational at 5% (Figure 7).

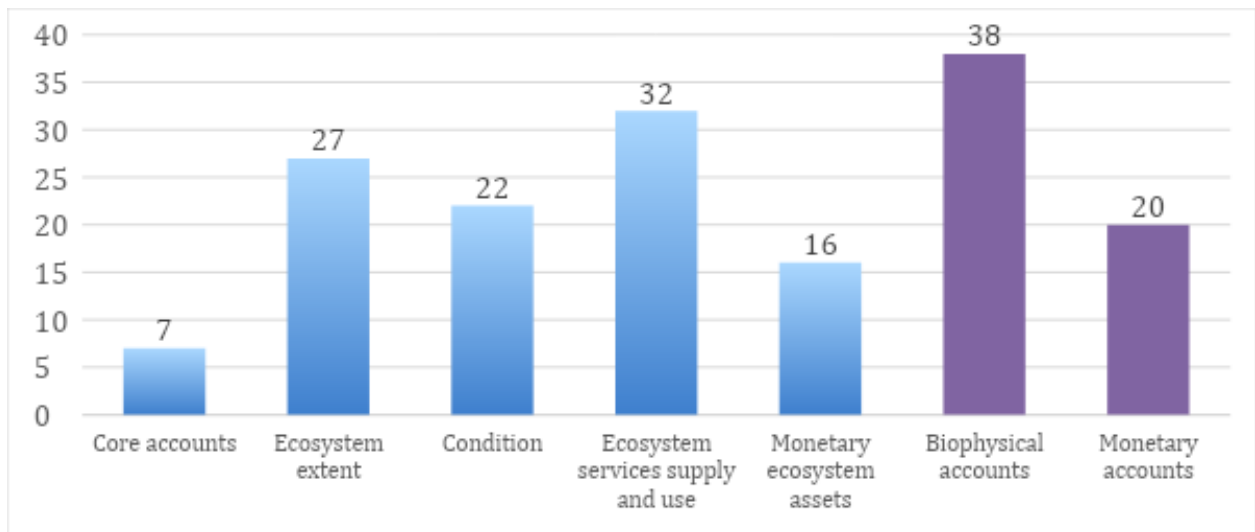


Figure 8: Kind of accounts and units used in finished and ongoing studies recorded

In the different NCA accounts, ecosystem services supply and use are the most assessed in all studies recorded. Biophysical accounts are indicated in 38 studies and monetary accounts in 19. Between the 4 thematic accounts, it is Biodiversity the most studied after Land, Water and Carbon as the less studied (Figure 9). Considering Ecosystem Services assessment, Provisioning and Regulation services are almost equally considered (respectively 32 and 31 studies recorded) but Cultural services are under assessed with 22 studies recorded (Figure 10). In the different ecosystem types, Transitional waters and marine ecosystem are the less assessed and woodland and forest ecosystem are the ecosystem the most (Figure 11).

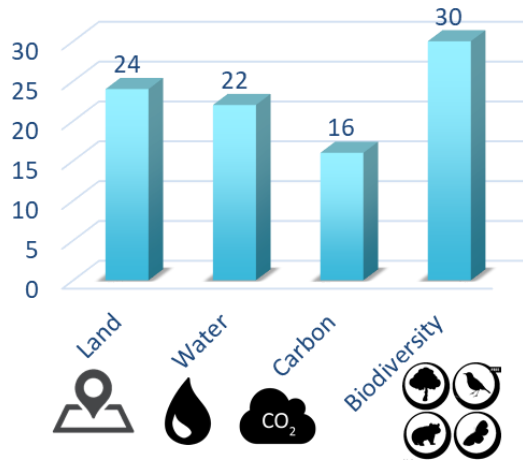


Figure 9: Thematic accounts in finished and ongoing studies

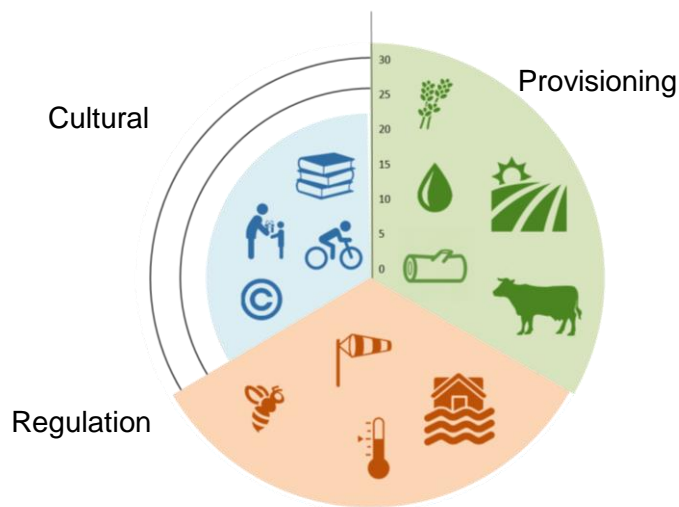


Figure 10: Number of studies with Provisioning, Regulation or Cultural services assessments

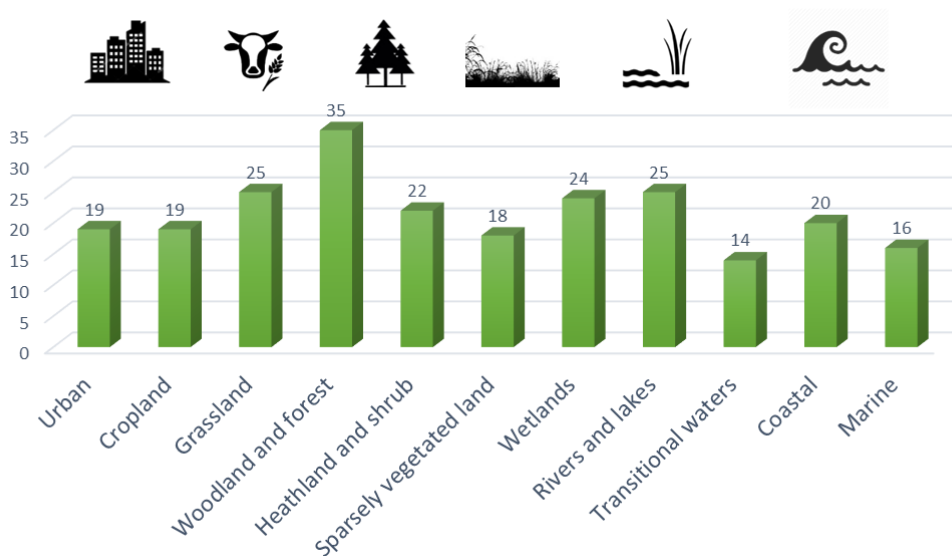


Figure 11: Ecosystem type assessed in the studies recorded



Difficulties recorded

For the ongoing study, we asked participants if they encountered any difficulties during the study. If so, we ask about the type of difficulties and if they want a meeting with the MAIA team in order to find a solution.

3 difficulties were recorded:

- From Bulgaria

Coordinated by DUTH, Greece. Forest Research Institute-BAS involved.

Type of study: Scientific publication, Project report and Case study.

Ecosystem/Habitat type: Urban, Cropland, Grassland, Woodland and forest, Heathland and shrub, Sparsely vegetated land, Wetlands, Rivers and lakes

Data used: GIS data, Statistical data, Expert opinion/Survey, Field Data and Literature

Purpose: Research and Management options

Policy goals: Integrating ecosystem services concept in management plans; sustainable capitalisation of Biodiversity in Forested Areas

Funded by: National Scientific Fund - Ministry of Education and Science of Bulgaria; EU Interreg, Balkan - Mediterranean

Other comments recorded: for Rila and Pirin Mountains

***Difficulties recorded:* related to data availability and needs of working force and training courses.**

- From Bulgaria

Coordinated by Directorate on Foreign affairs. Bulgarian Academy of Sciences involved

(<http://www.bas.bg/en/contacts/>)

Type of study: Project report

Ecosystem/Habitat type: Urban, Cropland, Grassland, Woodland and forest, Sparsely vegetated land, Coastal and Marine Ecosystem

Data used: GIS data, Expert opinion/Survey and Field Data

Purpose: Research and Priority-setting

Policy goals: to define the type of ecosystems and services

Funded by: Norway financing mechanism - Norway GRANTS

***Difficulties recorded:* in the overall study. Needs of training courses and financial resources.**

- From Norway

Coordinated by NINA and involved Statistics Norway and architectural College of Oslo.

Type of study: Project report and case study.

Ecosystem/Habitat type: Urban, Cropland, Woodland and forest, Rivers and lakes and Coastal.

Data used: GIS data, Remote sensing data, Statistical data and Literature

Purpose: Research, Awareness raising, Ecosystem accounting and Management options.

Policy goals: To provide support to municipal authorities for urban nature conservation; Better control and monitoring of loss of urban green infrastructure.

Funded by: Norwegian Research Council

***Difficulties recorded:* Need help for organization, manpower and working force. There is a demand for meeting with the MAIA Team.**

2.3 Limitations

Based on the analyses, we noted several limitations of the online survey and its results.

- Not all studies are included



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It seems not all studies on NCA has been recorded. This can be related to a lack of involvement or a need of better dissemination of the survey. To face this limit, it is possible to repeat the survey in the future with better dissemination.

- Problems in the data

We noted a general confusion regarding the term “studies” used in the survey, as we have records about projects containing several studies and some records about one specific study. The problem is more current in the NCA-related records – here several studies are recorded at one time and with only one detailed information for all studies. As we only used data from the online survey, we present the information as one study, when this situation occurred.

Some respondents recorded what they have planned in MAIA in “on-going studies” but not all MAIA studies planned have been recorded.

The classification between “NCA study” (finished or ongoing) and “NCA-related studies” could be questionable for some studies recorded.

- Respondents limitations

As applies for all surveys, the data is limited by the knowledge of respondents and their honesty in the data recorded. Nevertheless, data recorded can be verified through online support of studies often given in the survey.

- Lack in the online survey questions

The online survey did not have information on criteria for repeatability and compliance with accounting standards or if the data was distributed by the statistical office.

In any case, the data recorded has not been changed and is as it has been recorded online.



3. RESULTS PER COUNTRY

The results are presented per country in the following parts. Table 3 present the general state of NCA application based on the records.

Table 3: State of NCA application per country with the consideration of all studies recorded

	Status of the NCA studies	Scale	Type of accounts	Type of thematic accounts	Ecosystem services categories	Term/units used
Belgium	2. Ongoing; 3. NCA related studies	2. Regional	2. Ecosystem extent; 3. Condition; 4. Ecosystem services supply and use; 5. Monetary ecosystem assets	1. Land; 2. Water; 3. Carbon;	All ES categories	Physical; Monetary
Bulgaria	1. Finished; 2. Ongoing	All scales	All types of accounts	All types of thematic accounts	All ES categories	Physical and Monetary
Czech Republic	1. Finished; 2. Ongoing; 3. NCA related studies	1. National	4. Ecosystem services supply and use	2. Water; 4. Biodiversity	All ES categories	Physical and Monetary
Finland	1. Finished; 2. Ongoing	1. National	2. Ecosystem extent; 3. Condition; 4. Ecosystem services supply and use	2. Water; 3. Carbon; 4. Biodiversity	All ES categories	Physical and Monetary
France	1. Finished; 2. Ongoing; 3. NCA related studies	1. National	2. Ecosystem extent; 3. Condition; 4. Ecosystem services supply and use; 5. Monetary ecosystem assets	1. Land; 2. Water; 3. Carbon; 4. Biodiversity	All ES categories	Physical; Monetary
Germany	2. Ongoing	1. National	2. Ecosystem extent; 3. Condition; 4. Ecosystem services supply and use; 5. Monetary ecosystem assets	1. Land; 4. Biodiversity	PS. Provisioning; CS. Cultural	Physical; Monetary
Greece	1. Finished; 2. Ongoing; 3. NCA related studies	All scales	All types of accounts	1. Land; 2. Water; 4. Biodiversity	All ES categories	Physical; Monetary
Netherlands	1. Finished; 2. Ongoing; 3. NCA related studies	All scales	All types of accounts	All types of thematic accounts	All ES categories	Physical; Monetary
Norway	2. Ongoing; 3. NCA related studies	All scales	2. Ecosystem extent; 3. Condition; 4. Ecosystem services supply and use; 5. Monetary ecosystem assets	All types of thematic accounts	All ES categories	Physical; Monetary
Spain	2. On going	1. Multinational; National	All types of accounts	1. Land; 2. Water; 3. Carbon; 4. Biodiversity	PS. Provisioning; RS. Regulation; CS. Cultural	Physical; Monetary

Legend					
Finished	Multinational or National	More than 3 types of accounts recorded	More than 3 types of thematic accounts	All ES categories	Physical and Monetary
No finished study	No National study	2 types of accounts recorded	2 types of thematic accounts	2 ES categories	
No finished or ongoing study	No National or regional study	1 type of accounts recorded	1 type of thematic accounts	One ES category	Physical or Monetary



Belgium

Respondents to the online survey

The contributions of Belgium are based on 4 records from 2 persons from INBO - Research Institute for Nature and Forest - and VITO Institutes which are considered as part of the following sectors: academic, research, governmental organisation and statistical organisation.

Studies recorded

In the 4 records, 2 were complete and contain one ongoing study and 3 NCA related studies (Table 4).

Table 4: Studies recorded for Belgium

Type of study	Study name or Coordinates by	Scale	Type of accounts	Type of thematic accounts	Ecosystem services categories	Term/units used	Finished in / End planned for
2. On going	<i>Flemish Planning Bureau, INBO and VITO</i>	3. Regional	2. Ecosystem extent; 3. Condition; 4. Ecosystem services supply and use; 5. Monetary ecosystem assets	1. Land; 2. Water; 3. Carbon;	PS. Provisioning; RS. Regulation; CS. Cultural	Physical; Monetary	2019
3. NCA related study	NARA-T2014	3. Regional	2. Ecosystem extent; 4. Ecosystem services	1. Land; 4. Biodiversity	PS. Provisioning; RS. Regulation; CS. Cultural	Physical	2014
3. NCA related study	ECOPLAN	3. Regional	4. Ecosystem services	-	PS. Provisioning; RS. Regulation; CS. Cultural	Physical	2016
3. NCA related study	NARA-S2018	3. Regional	-	4. Biodiversity	-	Physical	2018

Additional information on studies recorded

- One **ongoing NCA** study in Flanders (Regional scale) and supposed to finish in December 2019.

Study coordinated by the Flemish Planning Bureau for the Environment and Spatial Development, INBO and VITO and with the involvement of the Agency for Nature and Forest.

Type of study: project report and case study

Ecosystem/Habitat type: Urban, Cropland, Grassland, Woodland and forest, Heathland and shrub, Sparsely vegetated land, Wetlands, Rivers and lakes, Transitional waters, Coastal. So all except Marine Ecosystem.

Data used: GIS data, Remote sensing data, Statistical data, Expert opinion/Survey, Field Data and Literature

Purpose: Research and ecosystem accounting.

Policy goals: Analysing and presenting the trends of ecosystem condition and services to get a broader understanding of nature conservation, economy and sustainability

Funded by: Flemish Planning Bureau for the Environment and Spatial Development

No difficulties recorded.

Other comments recorded:

This study is a first NCA pilot study. This study should provide us with insights for the development of a NCA system for Flanders in the years to come.



- Three NCA related studies
- Ecosystem services studies:

NARA-T 2014 which was a Regional Ecosystem Assessment for Flanders assessing the state and trends of ecosystems and ecosystem services in Flanders; (<https://www.inbo.be/nl/natuurrapport-2014>),

ECOPLAN which was a 4 year research project on mapping ecosystem services in Flanders (www.ecosysteemdiensten.be and <https://www.uantwerpen.be/nl/onderzoeksgroep/ecoplan/>)

- Green infrastructure study:

NARA-S 2018 which was a scenario analysis for 2050 exploring how green infrastructure could be used to face major challenges like biodiversity loss, climate change, food security... (<https://www.natuurrapport.be/natuurverkenning-2050/>)

These studies involved: academic, Research Institute, Governmental Organisation, NGO and Policy. These are at Regional scale of Flanders.

Ecosystem/Habitat type: Urban, Cropland, Grassland, Woodland and forest, Heathland and shrub, Sparsely vegetated land, Wetlands, Rivers and lakes, Transitional waters, Coastal. So all except Marine Ecosystem.

Data used: GIS data, Remote sensing data, Statistical data, Expert opinion/Survey, Field Data and Literature

Purpose: Research and ecosystem accounting.

Policy questions mentioned in NARA-S 2018 wanted to explore how green infrastructure could be used to face major challenges like biodiversity loss, climate change, food security...

Research questions mentioned in The Ecoplan project was a research oriented mapping project wanting to be policy relevant, but not answering specific policy questions

Other comments recorded:

The NARA studies were executed by INBO on its own budget. Ecoplan was funded by the Flemish government (Flanders Innovation and Entrepreneurship):



Respondents to the online survey

56 answers from 53 persons from the following institutions: Biological Diversity Unit, National Nature Protection Service Directorate, Ministry of Environment and Water; Black Sea Basin Directorate; Bulgarian Academy of Sciences (Forest Research Institute; Institute of Biodiversity and Ecosystem Research at the Bulgarian Academy of Sciences (IBER); National Institute of Geophysics, Geodesy and Geography (NIGGG-BAS)); National Statistical Institute; Central Balkan National Park; Danube River Basin Directorate; denkstatt Bulgaria; Directorate of Vrachanski Balkan Nature Park; East Aegean River Basin Directorate; Executive Environment Agency by the MoEW; Executive forest agency; Ministry of Environment and Water (one person from the regional inspectorate Haskovo); Ministry of regional development and public works; Persina Nature Park Directorate; Regional Forest Directorate; Regional Inspectorate for Environment and Water (one person from the Blagoevgrad; RIOSV (one person from the Montana); Sofia University "St. Kliment Ohridski"; University of Architecture, Civil Engineering and Geodesy; West Aegean Basin Directorate; WWF Bulgaria; Регионална дирекция по горите (Regional Forest Directorate).

These institutions are considered as part of the following sectors: academic, research, governmental organisations, statistical organisations, non-governmental organisations, private sectors, associations, official development associations, policy institutions

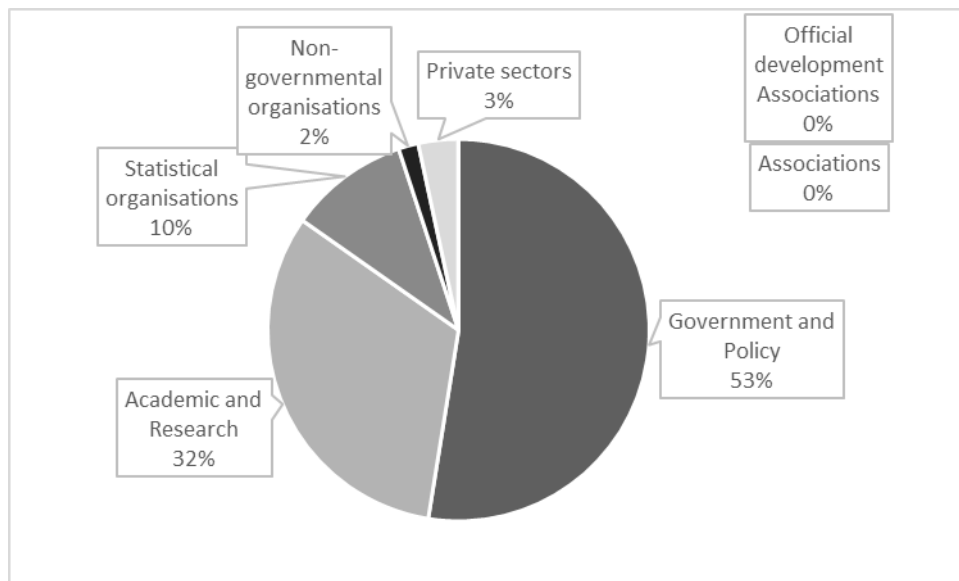


Figure 12: Representation of the different institutions' sector in the Bulgaria participants

Studies recorded

In the 21 studies recorded, 12 are finished studies and 9 are ongoing studies but the records cited 30 studies in total (many records present several studies which we can't differentiate based on the data recorded). There are no recorded NCA related studies. On record of finished studies included information about 7 finished studies. There are presented as one as the record doesn't allowed to differentiate information about each study. Table 5 presents the results from the online survey In Bulgaria.

Table 5: Studies recorded for Bulgaria

Type of study	Study name or Coordinates by	Scale	Type of accounts	Type of thematic accounts	Ecosystem services categories	Term/units used	Finished in / End planned for
1. Finished	Forest inventory	2. Regional	2. Ecosystem extent; 4. Ecosystem services supply and use	4. Biodiversity	RS. Regulation	Physical	2013
1. Finished	-	1. National; 2. Regional	2. Ecosystem extent; 4. Ecosystem services supply and use; 5. Monetary ecosystem assets	1. Land; 2. Water; 4. Biodiversity	PS. Provisioning; RS. Regulation; CS. Cultural	Physical	2013
1. Finished	Bulgarian co-chairmanship in the 2013 MAES NCA pilot, ...	1. National	1. Core accounts 2. Ecosystem extent; 3. Condition; 4. Ecosystem services supply and use; 5. Monetary ecosystem assets	1. Land; 2. Water	PS. Provisioning; RS. Regulation; CS. Cultural	Physical; Monetary	2015
1. Finished	Valuation of ecosystem services provided by forests of...	2. Regional	2. Ecosystem extent; 4. Ecosystem services supply and use	1. Land; 2. Water; 3. Carbon; 4. Biodiversity	PS. Provisioning; RS. Regulation; CS. Cultural	Physical; Monetary	2015
1. Finished	Research of the Biotope Diversity for the Purposes of...	3. Local	5. Monetary ecosystem assets	4. Biodiversity	PS. Provisioning	Physical; Monetary	2016
1. Finished	Freshwater ecosystem services mapping and assessment in Bulgaria	1. National	4. Ecosystem services supply and use	2. Water; 4. Biodiversity	PS. Provisioning; RS. Regulation; CS. Cultural	Physical	2017
1. Finished	Main insect pests and fungal pathogens on tree and shrub vegetation in urban ecosystems	1. National	3. Condition; 4. Ecosystem services supply and use	4. Biodiversity	PS. Provisioning; RS. Regulation; CS. Cultural	Physical	2017
1. Finished	MetEcoSMap	1. National	4. Ecosystem services supply and use	1. Land; 4. Biodiversity	PS. Provisioning; RS. Regulation; CS. Cultural	Physical	2017
1. Finished*	URBANECO-MAP, TUNESinURB, FEMA, IBER GRASS, WEMA, SHE-BG, FOR OUR FUTURE,	1. National	2. Ecosystem extent; 3. Condition; 4. Ecosystem services supply and use	1. Land; 2. Water; 4. Biodiversity	PS. Provisioning; RS. Regulation	Physical	2017



	MetEcoSMap, SPA-EcoServices						
1. Finished	ESMERALDA	2. Regional 3. Local	-	1. Land; 2. Water; 3. Carbon; 4. Biodiversity	PS. Provisioning; RS. Regulation; CS. Cultural	Physical; Monetary	2018
1. Finished	BioProspect	2. Regional	3. Condition; 4. Ecosystem services supply and use; 5. Monetary ecosystem assets	3. Carbon; 4. Biodiversity	PS. Provisioning; RS. Regulation	Physical; Monetary	2019
1. Finished	Pilot test of ecosystem extent and condition account in physical unit	1. National	1. Core accounts 2. Ecosystem extent; 3. Condition	-	-	Physical	2019
2. Ongoing	Agrobioinstitute	2. Regional	2. Ecosystem extent; 4. Ecosystem services supply and use; 5. Monetary ecosystem assets	1. Land; 3. Carbon; 4. Biodiversity	PS. Provisioning; RS. Regulation; CS. Cultural	Physical; Monetary	Oct 2019
2. Ongoing	NIGGG-BAS	3. Local	2. Ecosystem extent; 3. Condition; 4. Ecosystem services supply and use	1. Land; 2. Water; 3. Carbon; 4. Biodiversity	PS. Provisioning; RS. Regulation; CS. Cultural	Physical	Nov 2019
2. Ongoing	DUTH, Greece	2. Regional	2. Ecosystem extent; 3. Condition; 4. Ecosystem services supply and use	1. Land; 3. Carbon; 4. Biodiversity	PS. Provisioning; RS. Regulation; CS. Cultural	Physical; Monetary	2021
2. Ongoing	Wageningen University, Netherlands	1. National	4. Ecosystem services supply and use; 5. Monetary ecosystem assets	1. Land; 2. Water; 3. Carbon; 4. Biodiversity	PS. Provisioning	Physical	2022
2. Ongoing	Denkstatt	1. Global	5. Monetary ecosystem assets	-	-	-	Ongoing
2. Ongoing	Ministry of the environment and waters.	3. Local	1. Core accounts 2. Ecosystem extent; 3. Condition; 4. Ecosystem services supply and use	1. Land; 2. Water; 4. Biodiversity	PS. Provisioning; RS. Regulation; CS. Cultural	Physical	Planned
2. Ongoing	-	2. Regional	4. Ecosystem services supply and use	1. Land; 2. Water; 3. Carbon; 4. Biodiversity	RS. Regulation	Physical	-
2. Ongoing	Directorate on Foreign affairs.	1. National	2. Ecosystem extent	1. Land; 4. Biodiversity	PS. Provisioning;	Physical	-



					RS. Regulation		
2. Ongoing	<i>Forest Research Institute</i>	1. National	2. Ecosystem extent; 3. Condition; 4. Ecosystem services supply and use	-	-	-	-

*Note: One record presents 7 finished studies that we can't differentiate based on the records.

Additional information on studies recorded

- Finished study: Forest inventory (2013)

Authors: инж. Людмила Димитрова „Екоиновации“ ООД (eng. Lyudmila Dimitrova, “Ecoinnovations” Ltd.)

These studies involved: Academic and NGO

Type of study: Project report

Ecosystem/Habitat type: Woodland and forest

Data used: GIS data, Statistical data and Literature

Purpose: Management options

Funded by: Operational programme Environment 2007/2013

Other comments recorded: for the territory of Central Balkan National Park

- Finished study: Not specified, “there are many in the links and different projects” (2013)

Authors: “All in practice Market (Пазари)”

These studies involved: Research Institute, Governmental, NGO and Private sector

Type of study: Project report and Case study

Ecosystem/Habitat type: Grassland, Woodland and forest and Wetlands. Comment on the classification used: TEEB

Data used: GIS data, Statistical data and Expert opinion/Survey

Purpose: Research, Awareness raising and Policy

Policy questions: Yes*

Funded by: GEF (Global Environment Facility)

Available on: http://www.wwf.bg/news_facts/publications/ and

http://www.wwf.bg/what_we_do/policy_and_green_economy/pes/project/

Notes: *Not specified in the comment section.

- Finished study: Bulgarian co-chairmanship in the 2013 MAES NCA pilot, resulting in publication: EU reference document on Natural Capital Accounting, Prepared as part of the EU MAES process. Copenhagen (2015)

Authors: Petersen, Jan-Erik – European Environment Agency, Gocheva, Kremena – Ministry of Environment and Water, with the support of Institute for European Environmental Policy (IEEP) – Daniela Russi and Patrick ten Brink

These studies involved: Governmental Organisation, Statistical Organisations and Policy

Type of study: EU reference document

Ecosystem/Habitat type: Urban, Cropland, Grassland, Woodland and forest, Heathland and shrub, Sparsely vegetated land, Wetlands, Rivers and lakes, Transitional waters, Coastal. Marine Ecosystem. Comment on the classification used: Habitats were not specifically referenced, so no habitat classification was used. On ecosystem classification, EU classification was used

Data used: Literature. Comment: Surveys filled by MS

Purpose: Priority-setting and Policy. Comment: EU level overview

Policy questions: A number of policy questions as raised by participating Member States

Funded by: “Not sure but I suppose the consultant's payment was handled by the EEA. Member State contributions were unpaid.”



MAIA

Mapping and Assessment for
Integrated ecosystem Accounting

Available on: [https://projects.eionet.europa.eu/ecosystem-capital-accounting/library/reference-document-natural-capital-accounting/final-revised-reference-document-nca-consultation-january-2015/download/en/1/NCA_draft reference document for consultation 06-01-2015.pdf](https://projects.eionet.europa.eu/ecosystem-capital-accounting/library/reference-document-natural-capital-accounting/final-revised-reference-document-nca-consultation-january-2015/download/en/1/NCA_draft%20reference%20document%20for%20consultation%2006-01-2015.pdf)

- Finished study: Valuation of ecosystem services provided by forests of Central Balkan National Park (2015)

Authors: Dimitrova L., Petrova D., Belev T., Todorov T., Grigороva-Ivanova J., Shuleva N

These studies involved: Academic, Governmental Organisation, NGO, Private sector and Policy

Type of study: Project report

Ecosystem/Habitat type: Woodland and forest. Comment on the classification used: biome types - Olson et al., 2001. Terrestrial ecoregions of the world: a new map of life on Earth. Bioscience 51(11):933-938

Data used: Statistical data

Purpose: Awareness rising, Management options and Policy

Policy questions: the long-term vision for the management of the national park - land use, nature conservation and ecologically sustainable socio-economic development

Funded by: Operational Program "Environment 2007–2013", Grant: DIR-5113325-12-109

Available on:

http://visitcentralbalkan.net/assets/userfiles/%D0%91%D0%B0%D0%BB%D0%BA%D0%B0%D0%BD%D1%8A%D1%82/NPCB_EcosystemServices.pdf

Other comments recorded: for the scale of the study: "Central Balkan" National Park (II cat. IUCN), <https://visitcentralbalkan.net/-2.html>

- Finished study: Research of the Biotope Diversity for the Purposes of Economic Valuation of Ecosystem Services in Chepelare Municipality (The Rhodopes Region of Bulgaria) (2016)

Authors: A. Assenov, K. Vassilev, H. Padeshenko, B. Koulov, E. Ivanova, B. Borisova

These studies involved: Academic

Type of study: Scientific publication

Ecosystem/Habitat type: Woodland and forest. Comment on the classification used: EUNIS

Data used: GIS data, Statistical data, Expert opinion/Survey and Field Data

Purpose: Research

Policy questions: How to reach sustainable management of the local forests

Business questions: What is the value of biodiversity in the local forest?

Funded by: "National, European, and Civilizational Dimensions of the Culture – Language – Media Dialogue" Program of the "Alma Mater" University Complex in the Humanities at Sofia University "St. Kl. Ohridski", funded by the Bulgarian Ministry of Education and Science – Bulgarian Science Fund

Available on: <https://www.researchgate.net/publication/311741935> and

Doi: 10.14207/ejsd.2016.v5n4p409

Other comments recorded: "Chepelare" and "Hvoina" State Forestries in Chepelare municipality, Bulgaria

- Finished study: Fresh water ecosystem services mapping and assessment in Bulgaria (2017)

Authors: Institute of Biodiversity and Ecosystem Research (IBER-BAS)

These studies involved: Academic, Research Institute, NGO and Association

Type of study: Scientific publication and Project report

Ecosystem/Habitat type: Rivers and lakes, Marine Ecosystem

Data used: GIS data, Remote sensing data, Statistical data and Field Data

Purpose: Research and Awareness raising

Policy questions: Making use of the data collected will enable the integration of biodiversity and ecosystems services as settled in the EU Biodiversity strategy 2020 int

Funded by: EEA Grants

Available on: <http://freshwater-ecoservices-bg.eu/index.php/en/partners-menuen/iber-bas-menuen>

<https://eeagrants.org/project-portal/project/BG03-0020>

<https://eeagrants.org/project-portal/project/BG03-0019>





- Finished study: Main insect pests and fungal pathogens on tree and shrub vegetation in urban ecosystems. Kitanova S. (Ed.). Hlorind Ltd., Sofia, 54 pp. ISBN 978-619-7228-04-5 (2017)

Authors: Georgiev, G., M. Georgieva, P. Mirchev, M. Zhiyanski

These studies involved: Research Institute

Type of study: Scientific publication, Project report and Case study

Ecosystem/Habitat type: Urban. Comment on the classification used: EUNIS Habitat Classification

Data used: GIS data, Remote sensing data, Expert opinion/Survey, Field Data and Literature

Purpose: Research and Policy

Policy questions: Measurements for management and protection of healthy green infrastructure in urban area

Funded by: EEA Grants

- Finished study: Methodological Support for Ecosystem Services Mapping and Biophysical Valuation (MetEcoSMap) (2017)

Authors: Ministry of Environment and Water, Executive Forest Agency, Institute for Biodiversity and Ecosystem Research – Bulgarian Academy of Sciences, Norwegian Institute of Nature Research

These studies involved: Academic, Research Institute, Governmental Organisation

Type of study: Project report. Comment: Methodological guidance

Ecosystem/Habitat type: Urban, Cropland, Grassland, Woodland and forest, Heathland and shrub, Sparsely vegetated land, Wetlands, Rivers and lakes, Transitional waters, Coastal and Marine Ecosystem

Data used: No. Comment: The documents are methodological guidance.

Purpose: No. Comment: Assessment methodology development

Policy and business questions: "I have no information on this"

Funded by: European Economic Area Financial Mechanism 2009–2014

Available on: https://biodiversity.europa.eu/maes/maes_countries/bulgaria and http://www.iber.bas.bg/sites/default/files/2018/MAES_2018/

- Finished study: URBANECO-MAP, TUNESinURB, FEMA, IBER GRASS, WEMA, SHE-BG, FOR OUR FUTURE, MetEcoSMap, SPA-EcoServices (2017)

Authors: IBER-BAS, Forest Research Institute – Bulgarian academy of sciences, Sofia University "St. Kliment Ohridski", EXECUTIVE FOREST AGENCY, NINA, Bulgarian Biodiversity Foundation

These studies involved: Academic, Research Institute, Governmental Organisation, NGO and Policy

Type of study: Scientific publication and Project report

Ecosystem/Habitat type: Urban, Grassland, Woodland and forest, Heathland and shrub, Wetlands, Rivers and lakes, Coastal

Data used: GIS data, Remote sensing data, Statistical data and Field Data

Purpose: Research and Management options.

Funded by: Norwegian Financial Mechanism - EEA Grants; MOEW

Available on: <https://old.eeagrants.bg/bg/2009-2014/%D0%BF%D1%80%D0%BE%D0%B3%D1%80%D0%B0%D0%BC%D0%B8/%D0%B1%D0%B303-%D0%B1%D0%B8%D0%BE%D1%80%D0%B0%D0%B7%D0%BD%D0%BE%D0%BE%D0%B1%D1%80%D0%B0%D0%B7%D0%B8%D0%B5-%D0%B8-%D0%B5%D0%BA%D0%BE%D1%81%D0%B8%D1%81%D1%82%D0%B5%D0%BC%D0%BD%D0%B8-%D1%83%D1%81%D0%BB%D1%83%D0%B3%D0%B8.html>

Note: 7 different studies included in this record. One of them (MetEcoSMap) already exists in the previous record.

- Finished study: ESMEALDA Project (2018)

Partners: National Institute of Geophysics, Geodesy and Geography (NIGGG), BAS and the associate researchers from other institutes of the Bulgarian Academy of Sciences (FRI, IBER) and Sofia University "St. Kliment Ohridski"

These studies involved: Academic and Research Institute



Type of study: Scientific publication and Project report

Ecosystem/Habitat type: Urban. Comment: watershed

Data used: GIS data, Remote sensing data, Statistical data, Expert opinion/Survey, Field Data and Literature

Purpose: Research and Policy

Policy and business questions: "Don't know"

Funded by: EU Horizon 2020

Available on: <http://www.esmeralda-project.eu/>

Other comments recorded: case study in Bulgaria: Central Balkan area

- Finished study: BioProspect (2019)

Authors: Giorgos Mallinis et al.

These studies involved: Academic, Research Institute and NGO

Type of study: Project report and Case study

Ecosystem/Habitat type: Woodland and forest. Comment on the classification used: EUNIS

Data used: GIS data, Statistical data, Expert opinion/Survey and Literature

Purpose: Awareness raising

Policy questions: Integration of protected areas in management at municipal level

Funded by: INTERREG Balkan-Med

Available on: <http://balkanmed-bioprospect.eu/deliverables/> and

<http://balkanmed-bioprospect.eu/2018/07/02/protected-area-of-rodopi-zapadni-bulgaria-2/>

Other comments recorded: for Bulgaria - the region of Velingrad municipality including two N2000 sites - Yadenitza and western Rhodopes

- Finished study: Pilot test of ecosystem extent and condition account in physical unit (2019)

Authors: Final Technical Report on implementation of the Project № 05122.2017.003-2017.644, named Pilot test of ecosystem extent and condition account in physical unit was prepared by Stefan Tsonev, Ivaylo Rangelov, Lyuba Yaneva. Project Leader – Peter Petrov

These studies involved: Statistical organisation

Type of study: Project report

Ecosystem/Habitat type: Urban, Cropland, Grassland, Woodland and forest, Heathland and shrub, Sparsely vegetated land, Wetlands, Rivers and lakes, Transitional waters and Marine Ecosystem. Comment on the classification used: 44 Corine Land Cover (CLC) classes corresponding to 10 MAES ecosystem types Level 2

Data used: GIS data and Statistical data. Comment: All available data including georeferenced data on EU and National level

Purpose: Research

Funded by: Eurostat under Grant Agreement № 05122.2017.003-2017.644

Available on: <https://ec.europa.eu/eurostat/web/environment/overview> and

https://circabc.europa.eu/sd/a/521ef181-ad94-4e05-8ab5-34a160693cb6/BG-2017-Ecosystem_accounts.pdf

Other comments recorded: No thematic accounts were in the scope of the Project. No Ecosystem Services valuation was in the scope of the Project. No business questions.

- Ongoing study: - (Planned to end October 2019)

Coordinates by Agrobiointitute. Forest Research Institute - Bulgarian Academy of Sciences involved.

Type of study: Project report

Ecosystem/Habitat type: Wetlands

Data used: GIS data, Remote sensing data, Statistical data, Field Data and Literature

Purpose: Research, Awareness raising, Ecosystem accounting, Priority-setting, Management options and Policy



Policy goals: To integrate economic valuation in operational management of forested areas and policy initiatives of Balkan Mediterranean area

Funded by: European regional development fund - Interreg programme

Available on: <http://www.interreg-balkanmed.eu/approved-project/7/>

Other comments recorded: Balkan Mediterranean area. Comment on the accounts kind: operational models. Comment on thematic accounts: forests.

No difficulties recorded.

- Ongoing study: - (Planned to end November 2019)

Coordinates by NIGGG-BAS. Sofproekt - Sofia municipal company involved.

Type of study: Project report and Case study

Ecosystem/Habitat type: Urban

Data used: GIS data, Remote sensing data, Statistical data, Expert opinion/Survey, Field Data and Literature

Purpose: Awareness raising, Priority-setting, Management options and Policy

Policy goals: The results of study will be used for Sofia urban planning

Funded by: Sofia municipality

Other comments recorded: The hunting park area in the city of Sofia.

No difficulties recorded.

- Ongoing study: - (Planned to end 2021)

Coordinates by DUTH, Greece. Forest Research Institute-BAS involved.

Type of study: Scientific publication, Project report and Case study.

Ecosystem/Habitat type: Urban, Cropland, Grassland, Woodland and forest, Heathland and shrub, Sparsely vegetated land, Wetlands, Rivers and lakes

Data used: GIS data, Statistical data, Expert opinion/Survey, Field Data and Literature

Purpose: Research and Management options

Policy goals: Integrating ecosystem services concept in management plans; sustainable capitalisation of Biodiversity in Forested Areas

Funded by: National Scientific Fund - Ministry of Education and Science of Bulgaria; EU Interreg, Balkan - Mediterranean

Other comments recorded: for Rila and Pirin Mountains

Difficulties recorded: Data availability. Needs of working force and training courses.

- Ongoing study: - (Planned to end 2022)

Coordinates by Университета във Вагенинген, Нидерландия (Wageningen University, Netherlands). 19 partners from 10 member states of the EU involved.

Type of study: Scientific publication

Ecosystem/Habitat type: Urban, Grassland, Woodland and forest, Marine Ecosystem

Data used: GIS data, Statistical data and Field Data

Purpose: Ecosystem accounting

Policy goals: Включване в системите от националните сметки на държавите-членки на ЕС на интегрирани сметки за природния капитал и екосистемите (Integrated accounts for natural capital and ecosystems to be included in the systems of national accounts of EU member states)

Funded by: Програмата за изследвания и иновации "Хоризонт 2020" (EU Horizon 2020)

No difficulties recorded.

- Ongoing study: - (Ongoing, *no record for planned end*)

Coordinates by denkstatt conducts NCA studies, mostly for private international clients. "We've worked with a number of companies including Coca-Cola, Metro AG."

Type of study: Project report and Case study.



MAIA

Mapping and Assessment for
Integrated ecosystem Accounting

Other comments recorded: For the scale study - Clients' supply chain (de-facto global).

No difficulties recorded.

Note: There are no records for *Ecosystem/Habitat type; Purpose of the study; Policy goals; Data used and Funded by.*

- Ongoing study: - (Planned)

Coordinates by Ministry of the environment and waters.

Type of study: Project report

Ecosystem/Habitat type: Urban, Cropland, Grassland, Woodland and forest, Heathland and shrub, Wetlands, Rivers and lakes

Data used: GIS data and Statistical data

Purpose: Awareness raising and Management options

Policy goals: Introducing ecosystem services at municipal level

Funded by: EU through national Operational program "Environmental protection". In Municipality level.

No difficulties recorded.

- Ongoing study:

Coordinates by different institutions and organizations. Different institutions and organizations involved.

Type of study: Project report and Case study.

Ecosystem/Habitat type: Cropland, Grassland, Woodland and forest, Heathland and shrub, Rivers and lakes

Data used: Remote sensing data, Statistical data, Expert opinion/Survey, Field Data and Literature

Purpose: Management options

Policy goals: Identify how effective proven models used in other countries can be applied at regional level

Funded by: project

No difficulties recorded.

- Ongoing study: -

Coordinates by Directorate on Foreign affairs. Bulgarian Academy of Sciences involved

(<http://www.bas.bg/en/contacts/>)

Type of study: Project report

Ecosystem/Habitat type: Urban, Cropland, Grassland, Woodland and forest, Sparsely vegetated land, Coastal and Marine Ecosystem

Data used: GIS data, Expert opinion/Survey and Field Data

Purpose: Research and Priority-setting

Policy goals: to define the type of ecosystems and services

Funded by: Norway financing mechanism - Norway GRANTS

Difficulties recorded: in the overall study. Needs of training courses and financial resources.

- Ongoing study: -

Coordinates by Forest Research Institute - BAS: Assoc. Prof. Miglena Zhiyanski. Geografika Ltd., Sofia University 'St. Kliment Ohridski' and NIBIO, Norway involved.

No difficulties recorded.

Note: No other answers included. The record is unfinished.

Czech Republic



Respondents to the online survey

The contributions of Czech Republic are based 14 records from 14 persons from CENIA; ČHMÚ; Czech Society for Ornithology; Czech Statistical Office; Czech University of Life Sciences Prague; FoE CZ; Ministry of Industry and Trade; Ministry of the Environment; Nature Conservation Agency of the Czech Republic; Povodí Vltavy, state enterprise and Prague Hall.

These institutions are considered as part of the following sectors: academics, research, governmental organisation, statistical organisation and non-governmental organization.

Studies recorded

In the 14 records, 6 were complete and, with some repetitions, they presented 3 studies: one finished, one ongoing and one related NCA study.

Table 6: Studies recorded for Czech Republic

Type of study	Study name or Coordinates by	Scale	Type of accounts	Type of thematic accounts	Ecosystem services categories	Term/units used	Finished in / End planned for
1. Finished	Methodology for ecosystem accounting at the national level	1. National	4. Ecosystem services supply and use	.*	PS. Provisioning; RS. Regulation; CS. Cultural	Monetary	2017
2. On going	<i>CULS Prague</i>	1. National	4. Ecosystem services supply and use	-	PS. Provisioning; RS. Regulation; CS. Cultural	Physical; Monetary	2022
3. NCA related study	-	1. National	-	2. Water; 4. Biodiversity	-	-	2019

*The respondent specified "ecosystem" accounts

- **One finished** : Methodology for ecosystem accounting at the national level

These studies involved: Research Institute.

Type of study: Certified methodology

Ecosystem/Habitat type: another classification as the one proposed in the online survey but no more information has been recorded.

Data used: none – "It is methodology"

Purpose: Policy

Funded by: TAČR

- **Ongoing**

Coordinated by the CULS Prague

Type of study: Project report

Ecosystem/Habitat type: Woodland and forest (Focus on Forestry)

Data used: Field Data

Purpose: Research

Policy goals: Optimizing of ecosystem services



MAIA

Mapping and Assessment for
Integrated ecosystem Accounting

Funded by: Ministry of Education Operational Program
No difficulties recorded.

- 2 NCA related studies in one record

Studies presented as “a monitoring initiative resulting besides others to the country reports according to the Art 17 of Habitats directive”.

2 kind of NCA related study recorded:

- *Biodiversity* : by Nature Conservation Agency of the Czech Republic
- Water quality- regulation <http://hydro.chmi.cz/hydro/>

These studies involved: Governmental organisation

Type of study: grey literature

Ecosystem/Habitat type: Grassland, Woodland and forest, Heathland and shrub, Sparsely vegetated land, Wetlands, Rivers and lakes.

Data used: GIS data and Field Data

Purpose: “EU reporting obligation”

Funded by: Czech government

www.biomonitoring.cz;

https://portal.nature.cz/publik_syst/ctihtmlpage.php?what=6130&nabidka=rozbalitModul&modulID=465

Finland



Respondents to the online survey

The contributions of Finland are based on 1 record from 1 person from the Finnish Environment Institute - research Institute.

Studies recorded

In the 2 studies recorded, 1 is a finished study and 1 is an ongoing study.

Table 7: Studies recorded for Finland

Type of study	Study name or Coordinates by	Scale	Type of accounts	Type of thematic accounts	Ecosystem services categories	Term/units used	Finished in / End planned for
1. Finished	Improving data quality, applicability and transparency of national water accounts - A case study for Finland	1. National	-	2. Water	PS. Provisioning	Physical	2019
2. Ongoing	<i>Finnish Environment Institution (SYKE)</i>	1. National	2. Ecosystem extent; 3. Condition; 4. Ecosystem services supply and use	2. Water; 3. Carbon; 4. Biodiversity	PS. Provisioning; RS. Regulation; CS. Cultural	Physical; Monetary	2019

Additional information on studies recorded

- **Finished study:** Improving data quality, applicability and transparency of national water accounts - A case study for Finland

From Salminen, J., Veiste, P., Koskiaho, J. & Tikkanen, S.

These studies involved: Research Institute

Type of study: Scientific publication

Ecosystem/Habitat type: another classification not specify

Data used: Statistical data, Expert opinion/Survey and Literature. Other data has been used: VAHTI database based on environmental permits, confidential data from enterprises and organizations

Purpose: Research, Awareness raising, Management options and policy.

Policy questions: How sustainable are our patterns of consumption and production in terms of water? Water in the context of circular economy

Business questions: industry-specific water use/pollution efficiencies

Funded by: Maj and Tor Nessling Foundation, Nordic Council of Ministers

Available on: <https://www.sciencedirect.com/science/article/pii/S2212428417301639>

- *Ongoing study:*

Coordinates by Finnish Environment Institution (SYKE) and involving also Natural Resources Institute Finland (Luke)



MAIA

Mapping and Assessment for
Integrated ecosystem Accounting

Ecosystem/Habitat type: Woodland and forest, Rivers and lakes, Coastal and Marine

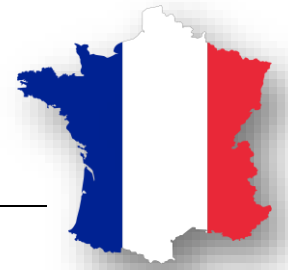
Data used: GIS data, Remote sensing data, Statistical data, Expert opinion/Survey and Literature

Purpose: Research, Awareness raising, Conflict identification, ecosystem accounting, Management options, Conflict resolutions and Policy.

Policy goals: The goal of the study is to develop and apply natural capital accounting such that it can be utilized in policy planning e.g. in the context of Marine Strategy Framework (MSFD), Water Framework Directive (WFD) and HELCOM (Baltic Sea Marine Environmental Protection Commission) and in forest policy to manage forests producing multiple services with trade-offs and synergies in a sustainably and cost-efficiently.

Funded by: Eurostat

No difficulties recorded.



France

Respondents to the online survey

The contributions of France are based on 4 answers from 3 persons from MTES/CGDD; AgroParisTech; one from the CIRED. These organisations are considered as part of the following sectors: academic, research, governmental organisations and statistical organisation.

Studies recorded

In the 3 studies recorded, 2 is finished studies and 1 is ongoing studies.

Table 8: Studies recorded for France

Type of study	Study name or Coordinates by	Scale	Type of accounts	Type of thematic accounts	Ecosystem services categories	Term/units used	Finished in / End planned for
1. Finished	VALMER	3. Regional	4. Ecosystem services supply and use; 5. Monetary ecosystem assets	2. Water; 4. Biodiversity	CS. Cultural	Monetary	2015
1. Finished	Nature and the Wealth of Nations (2015)	2. National	/**	2. Water; 3. Carbon	RS. Regulation;	Physical; Monetary	2015
2. Ongoing	Finnish Environment Institution (SYKE)	2. National	2. Ecosystem extent; 3. Condition; 5. Monetary ecosystem assets*	4. Biodiversity	PS. Provisioning; RS. Regulation; CS. Cultural	Physical; Monetary	2020

* Unpaid ecological cost account

** Satellite account of unpaid ecological cost

- Finished study: VALMER

Authors: Pedro Cabral, Jean-Christophe Martin, Rémi Mongruel, Harold Levrel

These studies involved: Academic and Research Institute

Type of study: Scientific publication

Ecosystem/Habitat type: Coastal and Marine

Data used: Statistical data, Expert opinion/Survey and Literature

Purpose: Research and Management options

Funded by: EU project

Available on: https://www.marine-ecosystem-services.eu/en/documents_en/project-summary-valuing-marine-ecosystem-services.pdf

- Finished study: Nature and the Wealth of Nations (2015)

Authors: André Vanoli, Association de comptabilité nationale, President of Honour, Jean-Louis Weber, European Environment Agency Scientific Committee, Jérémy Devaux, CGDD

These studies involved: academic, Research Institute, Governmental Organisation, Private sector, Association and Policy.

Type of study: Grey literature.

Type of accounts: "satellite account of unpaid ecological cost".



MAIA

Mapping and Assessment for
Integrated ecosystem Accounting

Ecosystem/Habitat type: Rivers and lakes. Comments about the ecosystem/habitat classification "air", "carbon", "water".

Data used: Statistical data and Literature.

Purpose: Research, Awareness raising and Policy.

Funded by: French ministry for the environment (CGDD).

Policy question: account for natural degradation and protect natural capital.

Available on: <http://temis.documentation.developpement-durable.gouv.fr/document.html?id=Temis-0083488>

France also publishes environment accounts, forest accounts, and carbon accounts. France published a study on the measurement of Economic performance and Social Progress (Stiglitz, Sen, Fitoussi, 2009).

- Ongoing study: EU H2020 (MAIA project)

Coordinates by Finnish Environment Institution (SYKE) and involving also Natural Resources Institute Finland (Luke).

Type of study: Scientific publication, project report and case study.

Ecosystem/Habitat type: Coastal and Marine Ecosystem.

Data used: GIS data, Remote sensing data, Statistical data, Expert opinion/Survey, Field Data and Literature

Purpose: Research, Ecosystem accounting, Priority-setting, Management options and Policy.

Policy goals: Proposing and refining a complementary methodology for the development of ecosystem accounts aligned with actual ecosystem management and the principles of strong sustainability.

Funded by: EU H2020 (MAIA project).

No difficulties recorded.

Germany



Respondents to the online survey

The contributions of Germany are based on 3 records from one person from the Bundesamt für Naturschutz BfN (Federal Nature Conservation Agency), which is considered as research, governmental organisations and policy institutions.

Studies recorded

Table 9: Studies recorded for Germany

Type of study	Coordinates by	Scale	Type of accounts	Type of thematic accounts	Ecosystem services categories	Term/units used	Finished in / End planned for
2. Ongoing	Technische Universität Berlin, Fachgebiet Landschaftsökonomie, Jesko Hirschfeld	2. National	2. Ecosystem extent; 3. Condition; 4. Ecosystem services supply and use; 5. Monetary ecosystem assets	1. Land; 4. Biodiversity*	PS. Provisioning; CS. Cultural	Physical; Monetary	2019

* Other: Soil fertility / agricultural use; green urban areas

Additional information on studies recorded

- **Ongoing study**

This study is coordinated by Technische Universität Berlin, Fachgebiet Landschaftsökonomie, Jesko Hirschfeld and involved the Institut für Ökologische Raumentwicklung, Karsten Grunewald. Freie Universität Berlin, Forschungszentrum für Umweltpolitik, Klaus Zieschank. Bundesamt für Naturschutz, Burkhard Schweppe-Kraft. Statistische Bundesamt, Katharina Schlesag.

Type of study: Scientific publication, project report and case study.

Ecosystem/Habitat type: Urban, Cropland, Grassland, Woodland and forest, Heathland and shrub, Sparsely vegetated land, Wetlands, Rivers and lakes, Transitional waters, Coastal and Marine

Data used: GIS data, Remote sensing data, Statistical data, Expert opinion/Survey

Purpose: Awareness raising and ecosystem accounting,

Policy goals: Analysing and presenting the trends of ecosystem condition and services to get a broader understanding of nature conservation, economy and sustainability

Funded by: Bundesamt für Naturschutz (= Federal Agency for Nature Conservation) with resources from the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety.

No difficulties recorded.

Greece



Respondents to the online survey

The contributions of Greece are based on 11 records from 10 persons from Management Body of Parnon, Moustow, Mainalon & Monemvasia,; Directorate of Forest Coordination and Supervision / Decentralized Administration of Peloponnese, Western Greece and the Ionian; Decentralized Administration of Peloponnese, Western Greece and the Ionian; Decentralized Administration of Peloponnese, Western Greece & Ionian; Directorate of Forest Coordination and Supervision / Decentralized Administration of Peloponnese, Western Greece and the Ionian; Management Body of Chelmos-Vouraikos; Directorate of Forest Coordination and Supervision; Management Body of Kotychi Strofylia Wetlands & Kyparissian Bay; Upat.

These institutions are considered as part of the following sectors: academic, governmental organisations and non-governmental organisations.

Studies recorded

In the 11 studies recorded, 5 are finished studies 1 are ongoing studies and 2 are NCA related studies.

Table 10: Studies recorded for Greece

Type of study	Study name or Coordinates by	Scale	Type of accounts	Type of thematic accounts	Ecosystem services categories	Term/units used	Finished in / End planned for
1. Finished	Forest Map	1. National	2. Ecosystem extent ¹	1. Land	-	Physical	
1. Finished	1st update of river basin management plans river basin district of western Sterea Ellada	2. Regional ³	2. Ecosystem extent; 3. Condition; 4. Ecosystem services supply and use; 5. Monetary ecosystem assets	2. Water; 4. Biodiversity	PS. Provisioning ; RS. Regulation;	Physical; Monetary	2017
1. Finished	1st Update of River Basin Management Plans River Basin District of Northern Peloponnese (EL02)	2. Regional ⁴	1. Core accounts 2. Ecosystem extent; 3. Condition; 4. Ecosystem services supply and use; 5. Monetary ecosystem assets	2. Water	PS. Provisioning ; RS. Regulation; CS. Cultural	Physical; Monetary	2017
1. Finished	Management study NE Nafaktias	3. Local	2. Ecosystem extent; 4. Ecosystem services supply and use;	1. Land	PS. Provisioning ; RS. Regulation	Physical	2015
1. Finished	Management Plan of the Protected Area	3. Local	2. Ecosystem extent; 3. Condition; 4. Ecosystem services supply and use;	1. Land; 2. Water; 4. Biodiversity	PS. Provisioning ; RS. Regulation	Physical	2015
2. Ongoing	Management Body of Chelmos-Vouraikos	2. Regional	3. Condition; 4. Ecosystem services supply and use	1. Land; 4. Biodiversity	PS. Provisioning ; RS. Regulation	Physical	2020



3. NCA-related studies	-	1. National	-	4. Biodiversity	-	Physical	-
3. NCA-related studies	Monitoring study of quality parameters of the Moustos wetland	3. Local	-	2. Water	-	Physical	-

¹ Land cover; ² Partially completed and on-going; ³ Western Central Greece; ⁴ River Basin District of Northern Peloponnese

Additional information on studies recorded

- Finished study: Forest Map

Authors: Hellenic Cadastre / Ministry of Environment and Energy

Type of study: Other “Forest cadastre”

Ecosystem/Habitat type: Other “Forest areas and non-forest areas based on greek legislation”

Data used: GIS data, Remote sensing data, Expert opinion/Survey, Field Data and Literature

Purpose: Management options, Conflict resolutions and Policy.

Policy goals: -

Funded by: Hellenic Cadastre / Ministry of Environment and Energy

<http://gis.ktimanet.gr/wms/forestsuspension/default.aspx>

- Finished study: 1st update of river basin management plans river basin district of western sterea ellada (EL04)

Authors: Ministry of Environment & Energy, Special Secretariat For Water

These studies involved: Governmental Organisation

Type of study: project report

Ecosystem/Habitat type: Wetlands, Rivers and lakes, Transitional waters, Coastal and Marine.

Classification used: Following Directive 2000/60/EC Guidelines

Data used: GIS data, Remote sensing data, Statistical data, Expert opinion/Survey, Field Data and Literature

Purpose: Awareness raising, Conflict identification, Priority-setting, Management options, Conflict resolutions and Policy

Policy questions: Directive 2000/60 EC

Funded by: Ministry of Environment & Energy, Special Secretariat For Water

<http://wfdver.ypeka.gr/en/home-en/>

- Finished study: 1st Update of River Basin Management Plans River Basin District of Northern Peloponnese (EL02)

Authors: Ministry of Environment & Energy, Special Secretariat For Water

These studies involved: Governmental Organisation

Type of study: Other “Management plan”

Ecosystem/Habitat type: Wetlands, Rivers and lakes, Transitional waters, Coastal and Marine.

Classification used: Following Directive 2000/60/EC Guidelines

Data used: GIS data, Statistical data, Expert opinion/Survey, Field Data and Literature

Purpose: Awareness raising, Conflict identification, Priority-setting, Management options, Conflict resolutions and Policy

Policy questions: Directive 2000/60 EC

Funded by: Ministry of Environment & Energy, Special Secretariat For Water



<http://wfdver.ypeka.gr/en/home-en/>

- Finished study: Management study NE Nafpaktias

These studies involved: Governmental Organisation

Type of study: Other “Management plan”

Ecosystem/Habitat type: Grassland, Woodland and forest, Heathland and shrub and Sparsely vegetated land

Data used: Statistical data, Expert opinion/Survey and Literature

Purpose: Management options

Funded by: Ministry of Environment and Energy

- Finished study: Management Plan of the Protected Area

Collaborating Scholars: Kontos Konstantinos-Mandana Vasiliki-Theocharis Nikolaos

These studies involved: Private sectors

Type of study: Scientific publication Grey literature and project report.

Ecosystem/Habitat type: Cropland, Grassland, Woodland and forest, Heathland and shrub

Data used: GIS data, Expert opinion/Survey, Field Data and Literature

Purpose: Management options

Policy goals: Analysing and presenting the trends of ecosystem condition and services to get a broader understanding of nature conservation, economy and sustainability

Funded by: FP7 project of the axis 9 on the “Protection of Natural Environment and Biodiversity” of the Business Plan “ENVIRONMENT AND SUSTAINABLE DEVELOPMENT 2007-2013.

- On-going study

Coordinated by: Management Body of Chelmos-Vouraikos and involved Decentralized Administration of Peloponnese western Greece and Ionian

Study area: Western Greece

Type of study: Other “Management plan”

Ecosystem/Habitat type: Grassland, Woodland and forest and Heathland and shrub.

Data used: GIS data, Field Data and Literature

Purpose: Management options and Policy

Policy goals: It is a necessary management tool for the areas of the park, a means of assessing and ensuring the sustainability of grazing crops and a handbook on ecosystem protection.

Funded by: Business plan “Transport Infrastructure, Environment and Sustainable Development”

No difficulties recorded.

- NCA-related study

Ministry of Environment & Energy, Management Bodies did a study on Biodiversity, Ecological footprint and ecosystem management.

These studies involved: academic, Research Institute, NGO and Private sector.

Type of study: project report

Ecosystem/Habitat type: Woodland and forest, Wetlands, Coastal and Marine Ecosystem.

Data used: GIS data, Remote sensing data and Field Data

Purpose: Management options

Funded by: Operational Program Environment and Sustainable Development 2014-2020 funded by the Ministry of Environment & Energy

- NCA-related study: Monitoring study of quality parameters of the Moustos wetland

Record in Greek : Μελέτη παρακολούθησης ποιοτικών παραμέτρων υγροτόπου Μουστού

Authors: Z. Γκάγκας



MAIA

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Integrated ecosystem Accounting

Water quality- regulation study

These studies involved: Governmental organisation and Private sector.

Type of study: Grey literature

Ecosystem/Habitat type: Wetlands – “Moustos wetland”

Data used: Field Data

Purpose: Management options

Funded by: Management Body of Parnon, Moustos, Mainalon & Moenmvasia (former mount Parnon and Moustos wetland)



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 817527

The Netherlands



Respondents to the online survey

The contributions of The Netherlands are based on 3 records from 3 persons from RIVM; Wageningen Environmental Research (part of WUR); Ministry of Agriculture, Nature and Food Quality are considered as part of the following sectors: research and governmental organisation.

Studies recorded

In the 3 studies recorded, 1 is a finished NCA study, 1 is ongoing study and 2 are NCA related studies.

Table 11: Studies recorded for The Netherlands

Type of study	Study name or Coordinates by	Scale	Type of accounts	Type of thematic accounts	Ecosystem services categories	Term/units used	Finished in / End planned for
1. Finished	The SEEA EEA biophysical ecosystem service supply-use account for the Netherlands	1. National	2. Ecosystem extent; 4. Ecosystem services supply and use	3. Carbon	PS. Provisioning; RS. Regulation; CS. Cultural	-	2018
2. Ongoing	Central Bureau of Statistics Netherlands and WUR	1. National	1. Core accounts 2. Ecosystem extent; 3. Condition; 4. Ecosystem services supply and use; 5. Monetary ecosystem assets	1. Land; 4. Biodiversity	PS. Provisioning; RS. Regulation; CS. Cultural	Physical; Monetary	2019 to 2020
3. NCA-related ¹	-	1. National 2. Regional 3. Local	3. Condition; 4. Ecosystem services	2. Water; 3. Carbon; 4. Biodiversity	-	-	-
3. NCA-related	Amsterdam's Green Infrastructure : Valuing Nature's Contributions to People	3. Local	4. Ecosystem services supply and use;	2. Water; 4. Biodiversity	RS. Regulation; CS. Cultural	Physical; Monetary	2019

¹ One record presents several existing studies that we can't differentiate based on the records.

Additional information on studies recorded

- Finished study: The SEEA EEA biophysical ecosystem service supply-use account for the Netherlands

Authors: Roy Remme, Marjolein Lof, Linda de Jongh, Lars Hein, Sjoerd Schenau, Rixt de Jong, Patrick Bogaart



MAIA

Mapping and Assessment for
Integrated ecosystem Accounting

These studies involved: Academic, Research Institute, Governmental Organisation, Statistical organisation and Policy.

Type of study: Scientific publication and Project report.

Ecosystem/Habitat type: Urban, Cropland, Grassland, Woodland and forest, Heathland and shrub, Sparsely vegetated land, Wetlands, Rivers and lakes, Transitional waters and Coastal.

Data used: GIS data, Remote sensing data, Statistical data, Field Data and Literature

Purpose: Research and awareness raising

Policy goals: Analysing and presenting the trends of ecosystem condition and services to get a broader understanding of nature conservation, economy and sustainability

Funded by: LNV en I&W

https://www.cbs.nl/-/media/pdf/2018/23/psu_ess_nl.pdf

- On-going NCA study

Study coordinated by Linda de Jongh, Rixt de Jong; Central Bureau of Statistics Netherlands and WUR and involved WENR, RIVM, PBL.

Type of study: scientific publication, grey literature, project report and case study.

Ecosystem/Habitat type: Urban, Cropland, Grassland, Woodland and forest, Heathland and shrub, Sparsely vegetated land, Wetlands, Rivers and lakes, Transitional waters, Coastal and Marine Ecosystem.

Data used: GIS data, Remote sensing data, Statistical data, Expert opinion/Survey, Field Data and Literature

Purpose: Research, awareness raising, conflict identification, ecosystem accounting and Policy.

Policy goals: integrating natural capital accounting in national and regional policy-development and economic- and infrastructural planning, in order to sustain biodiversity-conservation policies

Funded by: Ministry of Agriculture, Nature and Food quality

No difficulties recorded.

- NCA-related Studies

One record presents several existing studies that we can't differentiate based on the records. This studies are on Ecosystem condition, Biodiversity, Ecosystem services, Ecosystem based adaptation, Ecological footprint, Ecosystem management, water quality-regulation, carbon emission-sequestration. The record specifies that more information is available if we contact bart.deknegt@wur.nl.

These studies involved: academic, Research Institute, Governmental Organisation and Statistical organisation.

Type of studies: scientific publication, project report and case study.

Ecosystem/Habitat type: Urban, Cropland, Grassland, Woodland and forest, Heathland and shrub, Sparsely vegetated land, Wetlands, Rivers and lakes, Transitional waters and Coastal.

Data used: GIS data, Remote sensing data, Statistical data, Expert opinion/Survey and Literature.

Purpose: Research, Awareness raising, Conflict identification, Priority-setting, Management options, Conflict resolutions and Policy

Policy goals: state and trend of Natural Capital, identification of opportunities, Natural Capital as a solution

Funded by: Ministry of agriculture

- NCA-related Study: Amsterdam's Green Infrastructure, Valuing Nature's Contributions to People

Authors: M. Paulin, R. Remme, T, de Nijs

These studies involved: Research Institute, Governmental Organisation, NGO and Policy.

Type of study: project report

Ecosystem/Habitat type: Urban

Data used: GIS data, Statistical data, Field Data and Literature

Purpose: Research, Awareness raising, Priority setting and Management options.



MAIA

Mapping and Assessment for
Integrated ecosystem Accounting

Policy goals: Influence of Green Infrastructure on Urban Living conditions

Funded by: Municipality of Amsterdam

<https://www.rivm.nl/en/news/nature-and-green-in-city-contribute-to-well-being-of-citizens-of-amsterdam>

Other comments recorded: [this study contains] SEEA-EEA Experimental Biodiversity Account + Urban (Amsterdam) Green Infrastructure and Health + Survey of Natural Capital Accounting in the North Sea + Monetisation Experimental monetary Evaluation of ecosystem services and assets



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 817527

Norway



Respondents to the online survey

The contributions of COUNTRY are based on 5 records from 4 persons from Ministry of Climate and Environment and Norwegian Institute for Nature Research. These institutions are considered as part of the following sectors: academic, research, governmental organisation, non-governmental organization, private sector, association, official development association, policy institution.

Studies recorded

In the 5 studies recorded, 2 is ongoing studies and 3 are NCA related studies.

Table 12: Studies recorded for Norway

Type of study	Study name or Coordinates by	Scale	Type of accounts	Type of thematic accounts	Ecosystem services categories	Term/units used	Finished in / End planned for
2. Ongoing	URBAN EEA project	3. Local	2. Ecosystem extent; 3. Condition; 4. Ecosystem services supply and use; 5. Monetary ecosystem assets	1. Land; 2. Water; 3. Carbon; 4. Biodiversity ¹	PS. Provisioning; RS. Regulation; CS. Cultural	Physical; Monetary	2020
2. Ongoing	Test of the system for assessing ecological condition for terrestrial ecosystems in Trøndelag	1. National 2. Regional	2. Ecosystem extent; 3. Condition	1. Land; 4. Biodiversity ²	-	- ³	2020
3. NCA-related	Norwegian Nature Index	1. National	-	4. Biodiversity	-	Physical	-
3. NCA-related	Ecosystem services provided by Norwegian wetlands	1. National	-	-	-	-	2018
3. NCA-related	Many studies	1. National	2. Ecosystem extent; 3. Condition; 4. Ecosystem services supply and use; 5. Monetary ecosystem assets	1. Land; 4. Biodiversity	PS. Provisioning; RS. Regulation; CS. Cultural	Physical; Monetary	-

¹ Other thematic accounts specify: "Urban trees"

² Other thematic accounts specify: "Thematic accounts for seven ecosystem characteristics (or classes) relating to: 1) biodiversity, 2) abiotic factors, 3) primary production, 4) functional groups within trophic levels, 5) biomass composition across trophic levels, 6) functionally important species and structures, and 7) landscape ecological patterns"

³ Standardised index, scaled in relation to reference levels (based on a reference condition = intact nature) and limits for good ecological condition.

Additional information on studies recorded



- On-going study: URBAN EEA project

Coordinated by NINA and involved Statistics Norway and Architectural College of Oslo.

Type of study: Project report and case study.

Ecosystem/Habitat type: Urban, Cropland, Woodland and forest, Rivers and lakes and Coastal.

Data used: GIS data, Remote sensing data, Statistical data and Literature

Purpose: Research, Awareness raising, Ecosystem accounting and Management options.

Policy goals: To provide support to municipal authorities for urban nature conservation; Better control and monitoring of loss of urban green infrastructure.

Funded by: Norwegian Research Council

Difficulties are recorded. Need of help for organization and manpower, and working force. There is a demand for meeting with the MAIA Team.

<https://www.nina.no/english/Fields-of-research/Projects/Urban-EEA>

- On-going study: Test of the system for assessing ecological condition for terrestrial ecosystems in Trøndelag

Norwegian Environment Agency coordinates the system for ecological condition accounting, whereas the Norwegian Institute for Nature Research coordinates the specific study described below).

The study is a pilot study on an index-based ecological condition assessment (not NCA per definition) at county scale in Norway. The results from the pilot study are published in Norwegian (<https://brage.nina.no/nina-xmlui/handle/11250/2599977>). The pilot was one of two (the other being of expert panel type) for evaluation for national scale implementation in 2020, and decisions on the future of this ecological condition work are still to be made.

Type of study: Scientific publication, Project report and case study

Ecosystem/Habitat type: Grassland, Woodland and forest, Heathland and shrub, Sparsely vegetated land and Wetlands. Other ecosystem in the study: Mountain.

Data used: GIS data, Remote sensing data, Statistical data, Expert opinion/Survey, Field Data and Literature: Comments: Remote sensing data to be used for update in 2020. Expert judgements used for setting reference levels and estimating uncertainty in relation to indicator values.

Purpose: Research, Awareness raising, Ecosystem accounting, Priority-setting, Management options, and Policy

Policy goals: To propose a framework that can be used to assess the ecological condition at national, regional and possibly also local scales across Norway. The ecological condition account highlights the ecological condition for individual indicators, thematic accounts (ecosystem characteristics) and an overall condition assessment. The condition accounts will serve to inform management and policy priorities concerning measures to mitigate negative and promote positive ecological changes.

Funded by: Norwegian Environment Agency

No difficulties recorded.

<https://brage.nina.no/nina-xmlui/handle/11250/2599977> Link to publication of pilot study (in Norwegian, report summary in English)

- NCA-related study: Norwegian Nature Index

Many publications. *Authors:* Bård Pedersen, Signe Nybø and Stein Are Sæther

Also a scientific publication from the 2010 update of the index:

<https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0018930>

<https://brage.nina.no/nina-xmlui/handle/11250/2374610>

<https://www.nina.no/english/Environmental-monitoring/The-Norwegian-Nature-Index>

These studies involved: Academic, Research Institute and Governmental Organisation.

Type of study: project report and online platform

Ecosystem/Habitat type:, Cropland, Grassland, Woodland and forest, Heathland and shrub, Sparsely vegetated land, Wetlands, Rivers and lakes, Transitional waters, Coastal and Marine Ecosystem. Other ecosystem in the study: Mountain.



MAIA

Mapping and Assessment for
Integrated ecosystem Accounting

Data used: GIS data, Remote sensing data, Statistical data, Expert opinion/Survey, Field Data and Literature

Purpose: Awareness raising, Management options and Policy

Policy goals: Describing the state of nature in terms of biodiversity (indicator species abundances).

It is a tool for evaluating and formulating policy strategies and communicating with the public from a wide range of society sectors, including environmental protection and environmental management and economics

Funded by: Norwegian Environment Agency

- NCA-related study: Ecosystem services provided by Norwegian wetlands

Published by Menon Economics. *Authors:* Kristin Magnussen, Jarle W. Bjerke, Camilla Brattland, Signe Nybø og Jan Vermaat

<https://www.menon.no/wp-content/uploads/2018-42-Verdien-av-%C3%B8kosystemtjenester-i-v%C3%A5tmark.pdf>

These studies involved: Research Institute and Governmental Organisation.

Type of study: Project report.

Ecosystem/Habitat type: Wetlands as defined in the white paper 'Nature for life (meld st. 2015-2016).

Data used: Literature

Purpose: Research, Awareness raising, Management options and Policy.

Policy goals: What are possible measures for improved management and conservation of wetlands, and how can the ecosystem service approach contribute to this?

Funded by: Norwegian Environment Agency

- NCA-related studies

Others NCA-related studies recorded but not detailed:

- Ecosystem services provided by Norwegian wetlands - [https://www.nibio.no/publikasjoner/nibio-rapport?q=&year\[\]=2016-2016&filters=1&page=2&division\[\]=1b965a42-38f4-44b1-8d4c-3ea4acf31157](https://www.nibio.no/publikasjoner/nibio-rapport?q=&year[]=2016-2016&filters=1&page=2&division[]=1b965a42-38f4-44b1-8d4c-3ea4acf31157)
- Nou 2013:10 Natural benefits – on the values of ecosystem services - <https://www.regjeringen.no/contentassets/c7ffd2c437bf4dcb9880ceeb8b03b3d5/en-gb/pdfs/nou201320130010000engpdfs.pdf>
- NIBIO report 34 (2016) Economic consequences of banning cultivation of wetlands - https://nibio.brage.unit.no/nibio-xmlui/bitstream/handle/11250/2415674/NIBIO_RAPPORT_2016_2_43.pdf?sequence=3&isAllowed=y
- Method for good ecological condition – <https://www.regjeringen.no/no/dokumenter/fagsystem-for-fastsetting-av-god-okologisk-tilstand/id2558481/>
- Ecosystem Services: Urban ecosystem services, see: <https://brage.nina.no/nina-xmlui/handle/11250/2472113> and <https://brage.nina.no/nina-xmlui/handle/11250/2476674?locale-attribute=en>
- Green infrastructure: Planning stage, see summary in report: <https://brage.nina.no/nina-xmlui/handle/11250/2495195>
- Ecosystem Management: Several theoretical projects on ecosystem-based management, no practical implementation yet as far as I know.
- Ecosystem extent: Ecological base map, Nature types in Norway: <https://www.biodiversity.no/Pages/135563>



Respondents to the online survey

The contributions of Spain are based on 5 records from 5 persons from Ecoacsa Reserva de Biodiversidad S.L.; Universidad Rey Juan Carlos Madrid; INE which are considered as part of the following sectors: academic, governmental organisation, statistical organisation and private sector.

Studies recorded

The 3 studies recorded are ongoing studies.

Table 13: Studies recorded for Spain

Type of study	Study name or Coordinates by	Scale	Type of accounts	Type of thematic accounts	Ecosystem services categories	Term/units used	Finished in / End planned for
2. Ongoing	Ecoacsa	1. Multinational	2. Ecosystem extent; 3. Condition; 4. Ecosystem services supply and use; 5. Monetary ecosystem assets	1 Land; 2. Water; 3. Carbon; 4. Biodiversity	PS. Provisioning; RS. Regulation; CS. Cultural	Physical; Monetary	2019
2. Ongoing	MAIA - University of Madrid	1. National	1. Core accounts; 2. Ecosystem extent; 3. Condition; 4. Ecosystem services supply and use	4. Biodiversity	PS. Provisioning; RS. Regulation; CS. Cultural	Physical	2022
2. Ongoing	Eurostat	1. Multinational	1. Core accounts	1 Land; 2. Water; 3. Carbon; 4. Biodiversity	PS. Provisioning; RS. Regulation	Physical	-

Additional information on studies recorded

- On-going study: Ecoacsa

Coordinates by Ecoacsa *and involves* Typsa, LafargeHolcim, Red Electrica de España.

Type of study: Case study

Ecosystem/Habitat type: Cropland, Grassland, Woodland and forest, Heathland and shrub, Sparsely vegetated land, Wetlands and Rivers and lakes.

Data used: GIS data, Statistical data, Expert opinion/Survey, field Data and Literature

Purpose: Management options

Policy goals: It's not linked with policy goals. Otherwise it could contribute both to Action Plan on Sustainable Finance and SDG's reporting.

Funded by: Private companies

<https://ecoacsa.com/>

- On-going study: MAIA

Coordinates by King Juan Carlos University of Madrid / Fernando Santos Martin *and involves* Spanish National Research Council (CSIC) / Alejandro Caparros

Type of study: Scientific publication, Project report and case study.



MAIA

Mapping and Assessment for
Integrated ecosystem Accounting

Ecosystem/Habitat type: Cropland, Grassland, Woodland and forest, Heathland and shrub, Sparsely vegetated land, Wetlands, Rivers and lakes, Transitional waters

Data used: GIS data, Remote sensing data, Statistical data, Expert opinion/Survey

Purpose: Research, Awareness raising, Conflict identification, Priority-setting, Management options, Conflict resolutions and Policy

Policy goals: Research, Awareness raising, ecosystem accounting,

Funded by: - assess policy priorities for accounting

- test, pilot and mainstream NCA in Spain

- test innovative approaches for NCA in Spain

- support NCA in Spain through various communication and dissemination activities.

Funded by: EC (H2020 grants).

<http://maiaportal.eu/home/>

- On-going study: Eurostat

Type of study: Project report.

Ecosystem/Habitat type: Cropland, Woodland and forest, Wetlands, Rivers and lakes.

Data used: GIS data, Remote sensing data, Statistical data and Expert opinion/Survey.

Purpose: ecosystem accounting,

Policy goals: Establish a sound method for natural capital accounting.

Funded by: Eurostat.



CONCLUSIONS

The main goal of the online survey was to assess the state-of-the-art of natural capital and ecosystem accounts in the 10 countries participating in MAIA. The survey included questions on published, ongoing or planned Natural Capital Accounts.

The results show heterogeneities between the ten countries involved in MAIA, especially in the number of submitted records of survey participants and reported studies. The number of records ranges between 1 completed record (Belgium, Finland, Germany) and the maximum of 38 completed records (Bulgaria) and a total of 54 studies being recorded. Most studies were carried out at the national scale considering ecosystem services supply and use.

As in every survey, different reasons can be behind a heterogeneous distribution of answers in this survey. Results can be biased for instance because of a different number of NCA studies in the ten countries, a lack of involvement of people in the survey, a need of better dissemination of the survey or a different understanding of the survey. Indeed, a general confusion regarding the term “studies” that was used in the survey had to be noted. There were for instance records about projects containing several studies and some records about one specific study only.

In general, the survey showed different stages of natural capital and ecosystem accounting implementations in the 10 countries participating in MAIA. Some countries seem rather advanced, while others just started individual studies. However, in order to achieve in Action 5 of the EU Biodiversity Strategy’s Target 2 and to deliver for the MAES (Mapping and Assessment of Ecosystems and their Services) parts of ecosystem accounting, a mainstreaming of related methods, respective data and better knowledge sharing are urgently needed. This is where the MAIA project as a Coordination and Support Action can provide respective support by bringing people together, collecting and sharing related knowledge and by moving the implementation of MAES one step further to integrate ecosystem accounting also. These works should then be integrated with prior MAES activities on ecosystem type, condition and services mapping and assessment (see conceptual models of MAES implementation and integration in Maes et al. 2013 and Burkhard et al. 2018).

It seems that the survey only revealed very selected parts of the NCA-related MAES work that is currently going on in the EU member states. Therefore, the following tasks in MAIA include a cross-check of the survey results with other available information, originating for instance from a scientific review (considering also (grey literature, project reports, databases) that is currently in progress, Information from EU member state representatives collected during the MAIA stakeholder workshop that was held in Brussels in 09/2019, the available report from national NCA workshops (MAIA Deliverable D5.1), information of each country that is already available, such as information in the ESMERALDA fact sheets complemented by the regular updates provided by the member states to the MAES Working Group and the MAES website (https://biodiversity.europa.eu/maes/maes_countries).



MAIA

Mapping and Assessment for
Integrated ecosystem Accounting

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Annex 1: The online survey

Natural Capital Accounting activities in EU member states

With this survey we would like to kindly ask you about published, ongoing, planned or desired Natural Capital Accounts in your country

Under Natural Capital Accounts (NCA) or NCA-like initiatives, we understand ANY initiative on accounting and/or monitoring the state, trend and use of natural resources and environment; including the use and provisioning of soil, water, environment, biodiversity, food or material production, or natural resources. We specifically focus on those aspects of natural capital that are not included in national economic statistics.



<http://maiaportal.eu/home/>

MAIA is a Horizon 2020 project aimed at promoting and developing the System of Environmental Economic Accounting – Experimental Ecosystem Accounting (SEEA-EEA) in the EU and associated countries. MAIA is coordinated by Wageningen University and has 18 partners in 10 countries. The project is implemented from 1 November 2018 to 31 October 2022.

SEEA - EEA is a system for Natural Capital Accounting (NCA) developed under auspices of the UN Statistical Commission, and provides a consistent framework for analysing and storing information on ecosystem assets and flows of ecosystem services.

The specific objectives of MAIA are to:

- assess policy priorities for accounting
- test, pilot and mainstream NCA in EU Member States
- test innovative approaches for NCA in the European context
- Support NCA in EU Member States through various communication and dissemination activities.

The questionnaire is made up of 4 main parts:

Finished NCA / NCA planned / NCA-related studies / MAES Barometer.

Depending on your situation, you can give information on one, two or all parts: Finished NCA / NCA planned / NCA-related studies.

1 General data

Consent Form

One objective of MAIA is to ensure that the project adheres to the [EU's 2016 General Data Protection Regulation](#) and other EU [guidelines](#). It establishes the technical and organisational measures that will be implemented to safeguard the rights and freedom of the research participants, including informed consent procedures with regards to the processing of personal data.



Your responses will be treated in the strictest of confidence in line with current [data sharing practices](#). It will not be used in a manner which would allow identification of your individual responses. The data will be stored on the servers of Leibniz University of Hannover and used for research purposes only.

A. Have you already signed an informed consent form during a previous MAIA project activity?

Yes => question B

No => question AA

AA Do you agree with the Data Protection Regulations and agree with [the consent MAIA form](#)?

Yes => question B and following questions

No => question Part 5

B Name:

[FIRSTNAME] [SURNAME]

C Your country:

[Drop-down list of all EU member states]

D Name of Institution (Affiliation):

[Free text box]

E In which sector is our institution?

- Academic
- Research Institute
- Governmental organisation
- Statistical organisation
- NGO,
- Private sector
- Association
- Official development Association
- Policy institution
- Other: [Free text box]

F Do you know of or are you involved in planned, ongoing or finished studies, projects, or recent publications about Natural Capital Accounts / Ecosystem Accounting in your country?

F Do you know or are you involved in planned, ongoing or finished studies, projects, or recent publications about [Natural Capital Accounts / Ecosystem Accounting](#) in our country?

- YES => questions in section 2 about existing NCA (finished, ongoing or planned studies)
- NO but there are others studies related => question G

G We are interested for ANY initiatives accounting or monitoring the state, trend and use natural resources and environment; including the use and provision of soil, water, environment, biodiversity, food or material production, or natural resources. We specifically focus on these aspects of natural capital which are not included in national economic statistics.

Do you know or are you be involved in NCA-related study (linked to the accounts) in your country?

Yes => Section 3

No => Section 4

2 Existing NCA in the country

We need your input of ongoing studies or projects, or recent publications about Natural Capital Accounts in our country no matter the scale of the study.

A2: Are you aware of any finished and/or published NCA study(ies)?

Yes => Finished NCA questions No => Ongoing NCA questions



- YES => section 2.1.
- NO => section 2.2.

2.1. Finished, published or available NCA study

(Please fill this section 2.1. once. If you have many references, please fill this section 2.1 for the more complete study and give links of others studies at the end of this section 2.1)

A21 Title of the finished, published or available study:

[Free text box]

B21 Authors of the finished, published or available study:

[Free text box]

C21 Who was involved in the study? (Multi choice question)

- Academic
- Research Institute
- Governmental organisation
- Statistical organisation
- NGO,
- Private sector
- Association
- Official development Association
- Policy
- Other: [Free text box]

D21 if any, please provide the URL:

[Free text box]

E21 Year of publication of the published document:

[Free text box]

F21 What type of study was it? (One choice question)

Scientific publication / Grey literature / project report / case study / other:

G21 What was the scale of the study? (One choice question)

- National,
- regional,
- local

HG21 If it was not at national scale, could you kindly provide the name of the area? (Name of the area)

[Free text box]

I21 What kind of accounts did this study included? (Multi choice question)

- Core accounts:
- Ecosystem extent;
- Condition;
- Ecosystem services supply and use;
- Monetary ecosystem assets
- What is it about?

J21 Thematic accounts:

- land,
- water,
- carbon
- biodiversity
- Other:[Free text box]

K21 What categories of Ecosystem Services were included in the study? (Multi choice question)

- Provisioning
- Regulation
- Cultural
- [supporting services / functions]



L21 What were the term/units used in the study? (Multi choice question)

- Physical
- Monetary

M21 Which ecosystem/habitat type was described? (Multi choice question)

Further information on the different ecosystem types can be found on the following website:

<https://biodiversity.europa.eu/maes/typology-of-ecosystems>

- Urban
- Cropland
- Grassland
- Woodland and forest
- Heathland and shrub
- Sparsely vegetated land
- Wetlands
- Rivers and lakes
- Transitional waters
- Coastal
- Marine
- not defined
- M211 we used another classification [Free text box]
- Other: [Free text box]

N21 What kind of input data were used for the quantification? (Multi choice question)

- GIS data
- Remote sensing data
- Statistical data
- Expert opinion/Survey
- Field Data
- Literature
- Other:[Free text box]

O21 What was the purpose of the study? (Multi choice question)

- Research
- Awareness raising
- Conflict identification
- Priority-setting
- Management options
- Conflict resolutions
- Policy

P21 Are (policy/business) questions mentioned?

Comment only when you choose an answer.

- Yes, specify policy question

Make a comment on your choice here: [Free text box]

- Yes, specify business question

Make a comment on your choice here: [Free text box]

- No

Q21 Who financed this study?

[Free text box]

R21 If known, please provide the link of this study, of the data and/or of other finished studies

[Free text box]

S21 Do you have a planned, in process or not yet published NCA in your country?



- No => section 5
- Yes => section 2.2

2.2. NCA study planned, in process, not yet published

A22 Who coordinates the ongoing NCA study? (Institution and/or contact)

[Free text box]

B22 Who else is involved in the ongoing NCA study? (Institution and/or contact)

[Free text box]

C22 If available, please provide the URL of the ongoing NCA:

[Free text box]

D22 When is this NCA study supposed to be finished or published?

[Free text box]

E22 What type of study is it? (One choice question)

Scientific publication / Grey literature / project report / case study / other:

F22 What is the scale of this study? (One choice question)

- *National*
- *regional*
- *local*

G22 If it is not at national scale, could you kindly provide the name of the area? (Name of the area)

[Free text box]

H22 What kind of accounts does this study include? (Multi choice question)

- *Core accounts:*
- *Ecosystem extent;*
- *Condition;*
- *Ecosystem services supply and use;*
- *Monetary ecosystem assets*

I22 And which thematic accounts:

- *land,*
- *water,*
- *carbon*
- *biodiversity*
- *Other: : [Free text box]*

J22 What categories of Ecosystem Services were included/examined in the study? (Multi choice question)

- *Provisioning*
- *Regulation*
- *Cultural*
- *[supporting services / functions]*

K22 What term/unit is used in the study? (Multi choice question)

- *Physical*
- *Monetary*

L22 Which ecosystem/habitat type is described in this study? (Multi choice question)

- *Urban*
- *Cropland*
- *Grassland*
- *Woodland and forest*
- *Heathland and shrub*
- *Sparsely vegetated land*
- *Wetlands*
- *Rivers and lakes*
- *Transitional waters*
- *Coastal*
- *Marine/ Coral Reef*



- *not defined*
- *we used another classification [Free text box]*
- *Other: [Free text box]*

Further information on the different ecosystem types can be found on the following website:
<https://biodiversity.europa.eu/maes/typology-of-ecosystems>

M22 What kind of input data is used? (Multi choice question)

- *GIS data*
- *Remote sensing data*
- *Statistical data*
- *Expert opinion/Survey*
- *Field Data*
- *Literature*
- *Other:[Free text box]*

N22 What is the purpose of this ongoing study? (Multi choice question)

- *Research*
- *Awareness raising*
- *Conflict identification*
- *Ecosystem Accounting*
- *Priority-setting*
- *Management options*
- *Conflict resolutions*
- *Policy*

O22 What are the policy goals of this study?

[Free text box]

P22 Who financed this study?

[Free text box]

Q22 Do you have difficulties to finish this study?

- *No* => question Q221
- *Yes* => the following questions from R22

R22 In which part of the NCA do you need help?

- *the overall study*
- *one specific part: [Free text box]*

S22 What kind of expertise would you need?

[Free text box]

Or

- *working force*
- *training / courses*
- *financial resources*

MAIA is an EU coordination and support action with different expertise, which aims at mainstreaming NCA implementation and knowledge exchange across EU members' states. We would like to offer you to interact through an online meeting in order to discuss in more details how we could collaborate in this NCA study.

T22 Would you be interested in an online meeting with the MAIA team?

- *YES*

U22 Please provide your email and availability for an online meeting: *[Free text box]*

- *NO* please precise why *[Free text box]*

Q221 Do you know other existing studies related to NCA in our country?

- *No* => section 5. Final questions
- *Yes* => section 3.

3 Other existing studies related to NCA in the country



We are interested for ANY initiatives **accounting or monitoring the state, trend and use natural resources and environment**; including the use and provision of soil, water, environment, biodiversity, food or material production, or natural resources. We specifically focus on these aspects of natural capital which are not included in national economic statistics.

A3 What kind of NCA-related study (linked to the accounts) exists in your country?

Thank you to provide links or contacts for each study.

- *Ecosystem condition* [Free text box]
- *Biodiversity* [Free text box]
- *Ecosystem Services* [Free text box]
- *Ecosystem-based adaptation* [Free text box]
- *Green infrastructure* [Free text box]
- *Ecological Footprint* [Free text box]
- *Ecosystem Management* [Free text box]
- *Water quality- regulation* [Free text box]
- *Carbon emission - sequestration* [Free text box]
- *Other:* [Free text box]

Thank you for giving more information about one of the NCA related studies (One you are involved in or you have more knowledge on)

B3 Title of the existing related study:

[Free text box]

C3 Authors of the finished, published or available study:

[Free text box]

D3 Who was involved on the study? (Multi choice question)

- *Academic*
- *Research Institute*
- *Governmental organisation*
- *Statistical organisation*
- *NGO,*
- *Private sector*
- *Association*
- *Official development Association*
- *Policy*
- *Other: [Free text box]*

E3 if available, please provide the URL:

[Free text box]

F3 Year of publication (if published):

[Free text box]

G3 What type of study was it? (One choice question)

Scientific publication / Grey literature / project report / case study / other:

H3 What was the scale of the study? (One choice question)

- *National,*
- *regional,*
- *local*

If not at national scale, where was the study? [Free text box]

I3 Which ecosystem/habitat type was described? (Multi choice question)

Further information on the different ecosystem types can be found on the following website:

<https://biodiversity.europa.eu/maes/typology-of-ecosystems>

- *Urban*
- *Cropland*
- *Grassland*
- *Woodland and forest*
- *Heathland and shrub*



- *Sparsely vegetated land*
- *Wetlands*
- *Rivers and lakes*
- *Transitional waters*
- *Coastal*
- *Marine*
- *not defined*
- *Other: [Free text box]*

J3 What kind of input data were used for the quantification? (Multi choice question)

- *GIS data*
- *Remote sensing data*
- *Statistical data*
- *Expert opinion/Survey*
- *Field Data*
- *Literature*
- *Other:[Free text box]*

K3 What was the purpose of the study? (Multi choice question)

- *Research*
- *Awareness raising*
- *Conflict identification*
- *Priority-setting*
- *Management options*
- *Conflict resolutions*
- *Policy*

L3 Are policy/business questions mentioned?

Comment only when you choose an answer.

- *Yes, specify policy question*

Make a comment on your choice here: [Free text box]

- *Yes, specify business question*

Make a comment on your choice here: [Free text box]

- *No*

M3 Who financed this study?

[Free text box]

4 You don't know if there is ongoing or finished NCA studies in our country

In the final questions, please give us person contact or institutions names that can know about NCA in your country.

5 ESMERALDA MAES Barometer

With this survey, we take also this opportunity to update the ESMERALDA MAES Barometer with the following 7 questions.

The ESMERALDA MAES Barometer indicates the state of MAES implementation in all EU member states.

The barometer is based on the method described in ESMERALDA Deliverable D2.3 Final stocktaking of EU member state needs.

http://www.maes-explorer.eu/page/Compete_with_other_countries

For economic valuation processes at the national level:

1. Is there at least one nationwide economic value available for one ecosystem service in each broad category (provisioning, regulating and cultural) for communicating the broad stakes of ecosystem services?
 - *yes*



- *no*
1. Is at least one economic value for one ecosystem service in each broad category (provisioning, regulating and cultural) mapped at the national level so that localized stakes are properly recognised?
 - *yes*
 - *no*
 1. Are there any completed or ongoing projects which have developed or used economic values for informing planning processes at different policy levels?
 - *yes*
 - *no*
 1. Are there actions taken to include ecosystem service values into the decision-making processes or in policy impact assessment (in particular cost-benefit analysis and environmental impact assessment)?
 - *yes*
 - *no*

For promoting the integration of these values into accounting and reporting systems at EU and national level:

1. Is there at the competent governance level a natural capital committee or working group which oversees the implementation of natural capital accounts in the country or region?
 - *yes*
 - *no*
1. Are there any pilot accounts on economic valuation of natural capital taking place in your country (including the grants from Eurostat)?
 - *yes*
 - *no*
1. Are any of the following accounts available at the national level: Ecosystem extent, ecosystem condition, ecosystem services (with at least an account for one service) or thematic accounts on biodiversity or carbon?
 - *yes*
 - *no*

6 Final questions

A6 Do you have any remarks - questions or thoughts - on this survey or on the MAIA project in general?

[Free text box]

B6 Our goal is to make an exhaustive review of the current NCA-related studies and activities taking place in your country.

Who / which organisation in your country could also be linked / or works on NCA?

[Free text box]

C6 Could you indicate another expert who would have information on NCA in your country? (Please provide names and emails if possible)

[Free text box]

D6 Do you know of other data that relates to NCA in your country? If so, can you provide a link?

[Free text box]

E6 Would you like to be informed about the results of this survey?

If yes, please provide your email.

[Free text box]

THANKS A LOT FOR YOUR TIME AND PARTICIPATION IN THIS SURVEY!

For more information on MAIA: <http://maiaportal.eu/home/>

Person contact Sylvie Campagne: campagne@phygeo.uni-hannover.de



Annex 2: Text template to complete the survey results

To complete this review of NCA studies,
you have until **November 22** to add studies not already recorded.

Please use the “**SUGGESTION**” mode
to suggest modifications and comments.

Thank you to note that the results of the survey can not be changed
but you can add information through comments or at the end of each
country paragraph.

If you want to add another studies - not recorded in the survey -
please add it at the end of the paragraph of the country concerned after:
[Please add other NCA studies here]
and follow this template:

Type of study: [1. Finished- 2. Ongoing- 3. NCA-related studies]

Study name: [free text]

Scale: [1. Multinational or National - 2. Regional - 3. Local]

Type of accounts: [1. Core accounts 2. Ecosystem extent; 3. Condition; 4. Ecosystem services supply and use; 5. Monetary ecosystem assets]

Type of thematic accounts: [1. Land; 2. Water; 3. Carbon; 4. Biodiversity]

Ecosystem services categories: [PS. Provisioning; RS. Regulation; CS. Cultural]

Term/units used: [Physical; Monetary]

Finished in / End planned for: [Year]

These studies involved: [Academic, Research Institutes, Governmental Organisations, Statistical organisations, Private sectors, Associations, Official development Associations NGO and Policy institutions.]

Type of study: [Scientific publication, Grey literature, Project report and case study]

Ecosystem/Habitat type: [Urban, Cropland, Grassland, Woodland and forest, Heathland and shrub, Sparsely vegetated land, Wetlands, Rivers and lakes, Transitional waters, Coastal, Marine Ecosystem]

Data used: [GIS data, Remote sensing data, Statistical data, Expert opinion/Survey, Field Data and Literature]

Purpose: [Research, Awareness raising, Conflict identification, Priority-setting, Management options, Conflict resolutions, Policy, Other: Free text.]

Policy goals: [Free text]

Funded by: [Free text]

Difficulties recorded. [None, Yes] If yes, Need help for [working force, training, financial resources, other].

Other comments: [Free text]