



## **Project Kick-off Meeting**

### **Milestone 01**

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Dissemination level  
Restricted

**ESMERALDA**

**Enhancing ecosystem services mapping  
for policy and decision making**



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## Summary

The aims of the Kick-off Meeting were the public project launching and internal activity arrangements. The meeting was held at Kiel University, Germany, from May 04<sup>th</sup> - 07<sup>th</sup>, 2015. It started in the evening of day 1, followed by two full workshop days (including WP-related breakout sessions) and ended with an excursion including ecosystem service assessments (see Programme overview below).

Altogether 70 people from 20 different European countries participated in the meeting (see Participants list). All ESERALDA partner institutions were represented by at least one person, furthermore one representative from the project's Science-Policy-Society Advisory Board was present as well as several experts representing the national stakeholders for ecosystem service mapping in the host country Germany and in the hosting federal state of Schleswig-Holstein.

This Milestone report gives an overview of the event and includes the protocols from the different breakout sessions. The breakout sessions aimed at fine-tuning the work in WPs 2-5, distribute tasks and develop the working plans for the first 18 months of the project. More information, all given presentations as well as further pictures can be downloaded from the Project's Internal Communication Platform at: <http://esmeralda-project.eu>.



**Figure 1: Group Photo on Workshop day 1** (Photo credit: Christian Urban, Kiel University).

## 1. Programme of the Kick-off meeting

The programme overview shows the general structure of the meeting, starting with an Executive Board meeting followed by a welcome reception on day 1, two full workshop days and the excursion on the last day. After welcome speeches by representatives of Kiel University, the introduction of all participants and the project background, each ESMERALDA Work Package was introduced by its Work Package leader. The more integrative Work Packages 1 (Coordination & Integration) and 6 (Dissemination & Knowledge exchange) were presented more in detail to the whole audience, Work Packages 2-5 were also introduced to the audience and more detailed discussions followed in the related breakout sessions (see Chapter 2). Project-related financial and administrative information were provided to the whole group in the morning of day 2.

	<b>Monday May 04</b>	<b>Tuesday May 05</b>	<b>Wednesday May 06</b>	<b>Thursday May 07</b>
<b>Morning</b> <i>(incl. coffee break)</i>	<i>Travel day</i>	<a href="#">ZMB Kiel University</a> 08:30 <b>Registration</b>	<a href="#">ZMB Kiel University</a> 9:00-10:30 <b>Financial &amp; administrative information</b>	9:00-15:30 <b>Excursion</b> to areas around Kiel, including "rapid ES assessments" of different sites around Kiel/Baltic Sea
		9:00-12:00 <b>Welcome speeches</b> <b>Introductory thematic talks</b> <b>Media contacts</b>	10:30-11:30 <b>Thematic talks &amp; Discussion</b>	
			11:30-12:30 <b>Breakout sessions</b> WPs 4 & 5	
<i>Lunch</i>	12:30-13:30 University canteen Mensa 2	12:30-13:30 University canteen Mensa 2		
<b>Afternoon</b> <i>(incl. coffee break)</i>	Kiel University 14:00-17:30 <b>Executive Board meeting</b>	<a href="#">ZMB Kiel University</a> 14:00-15:30 <b>Thematic talks &amp; Discussion</b>	<a href="#">ZMB Kiel University</a> 13:30-14:30 <b>Breakout sessions</b> continue	
		16:00-18:00 <b>Breakout sessions</b> WPs 2 & 3	15:00-16:00 <b>Next steps</b>	
<b>Evening</b> Venue	18:00 <b>Welcome reception</b> Roof-deck University main building	19:30 <b>Joint dinner</b> Restaurant " <a href="#">Pennekamp</a> "	19:00 <b>Dinner</b> Restaurant " <a href="#">Forstbaumschule</a> "	<i>Departure</i>

## 2. Protocols from the WP Breakout sessions

In the following, the results from the Breakout session of Work Packages 2-5 are given in the form of protocols. One key task was to distribute tasks and to develop the working plans for the first 18 months of the project. The outcomes of the Breakout sessions and the 18 months plans for each Work Package were presented to the whole consortium on the last workshop day. The Work Package plans were accepted by the project representatives that were present.

The protocols were prepared by the respective Work Package leaders based on notes of the Breakout sessions which were taken by Claudia Dworczyk (WP2), Marina Sheviakova (WPs 3 and 4) and Mahmoud Nady (WP5) (all three are students at Kiel University and carrying out their MSc thesis studies within the ESMERALDA project). All presentations can be downloaded from the internal library of the projects ICP at <http://esmeralda-project.eu/library/>.

### 2.1. Work Package 2: Stakeholder network & implementation (Chaired by Leena Kopperoinen)

#### 2.1.1. Agenda items

- Welcoming words by the WP2 leader (Leena Kopperoinen)
- State of the art of mapping activities (Joachim Maes)
- Stakeholder involvement in the project (Joachim Maes)
- Status of mapping in EU member states and stakeholder contact information (Leena Kopperoinen)
- ESMERALDA Workshop 1 in Riga, Latvia (Leena Kopperoinen)
- WP2 researchers contact information and involvement in individual Tasks (Leena Kopperoinen)

#### 2.1.2. Key objectives of the session

- To present WP2 work and targets
- To present what had already been done during the first months of the project in WP2
- To motivate in stakeholder involvement
- To motivate and integrate individual researchers in WP2 Tasks' work

#### 2.1.3. Presentations and discussions

##### Presentation and discussion 1. State of the art of mapping activities: Joachim Maes (JRC)

The state of the art of mapping activities of some member states in Europe was presented by Joachim Maes and the participants. Not all countries were mentioned. A discussion about mapping activities in Romania came up.

Some examples of the status of mapping and assessment of ES in member states:

- Germany: basic state; beginning of the process.
- Italy: in the process of mapping.
- Portugal: finished a regional assessment for the Alentejo region.
- United Kingdom: assessment national ecosystem assessment is available.

- Czech Republic: assessment for grassland ecosystems is available; also a national map of monetary values is published.
- Bulgaria: started a national mapping project, funded by Norway

Notes and suggestions:

- ESMEALDA consortium should offer help to all member states.
- Focus: should be on a national assessment; further activities can be on other scales.

## **Presentation and discussion 2. Stakeholder involvement in the project: Joachim Maes (JRC)**

The identification of relevant stakeholders is important to enhance mapping and assessment of the ecosystem services in all EU member states. Development of a stakeholder engagement plan is one of the main objectives of WP2.

Joachim Maes told about a stakeholder involvement project in Belgium (related to BEES project, <http://www.beescommunity.be/en-us/>) and tried to show a short film by the BEES project in Belgium, but due to technical problems he had to describe the film verbally. (<http://streamer.podcast.ulg.ac.be:8080/webTV/Campus/Divers/MarcheNoelGembloux/MarcheNoelGemblouxHD.mp4>).

The film describes an example of a national MAES network with regular meetings and discussions for better understanding about local / national procedures. It shows a network, which supports ecosystem services.

At the moment, there are similar initiatives in Scotland, Germany and Italy. The experience can be a basis for involving other EU states to set up MAES working groups. The Ecosystem Services Partnership ESP can facilitate the creation of national ESP networks.

Joachim Maes also presented an ES mapping related training event in 2014 and experiences gained in training.

- MAES working group has an official list of representative EU-stakeholders (official communication and member states).
- Identification of relevant stakeholders helps to detect the requirements of each member state. The information is necessary to develop the best possible stakeholder engagement plan, which is important in order to achieve the EU 2020 targets.
- Some countries send representatives to the mapping workshop, but not every country.
- MESEU-JRC training workshop in February 2014: Stakeholders, scientists and GIS experts from Czech Republic, the Netherlands, Italy and France were invited to the workshop in Italy.
- Aim of the workshop: To train member states how to map ecosystem services. The workshop was divided in two sessions:
  - Session about relevant policy themes like biodiversity and use of timber.
  - Mapping exercise: Participants mapped ecosystem services. The exercise started from simple models and ended up to advanced models (like habitat maps). Various mapping methods were applied.
- The main result of the training was awareness raising. It showed stakeholders the importance of data quality and availability and how problems with data and lack of data influence mapping projects. The mapping session made also clear that mapping can be hard work but produces useful information.
- Results: stakeholders from member states got a good overview about mapping and went home with a good feeling about it.

- Experience shows that a workshop involving 3 – 5 member states is very good to get the best results.
- More workshops have been arranged under the TRAIN project to continue mapping exercise and get more information / knowledge about ES mapping and assessment activities and also related research and policy activities in the member states.
- Top of the MAES contract by Alterra survey: every member of the consortium should ask people about stakeholder contact information and state of data. At this moment, the amount of information has not been properly synthesized.

→ Information about each member state needs to be updated.

Ireland, Cyprus, and Greece are missing from the EU countries represented by partners in the project. There have also been problems with contacting those countries. Slovakia is not also in the consortium (and not invited yet), nor Croatia that has been invited into the training workshops, and there are some contacts, too.

Primary contact points for ESMERALDA are the national stakeholders. Every member state should know about ES mapping and assessment methodologies and therefore it is necessary to contact and inform stakeholders.

Joachim Maes suggested:

- To ask partners of the consortium to contact member states and also member states, which are not in the consortium. Invite them to the meetings.
- To include fact sheets including official objectives and implementation in the invitations.

The Ecosystem Service Partnership (ESP) network is very important to the ESMERALDA project in stakeholder involvement and in sharing and learning ES mapping and assessment related knowledge. ESP will organise the 8<sup>th</sup> ESP World Conference, 9 – 13 November 2015 in Stellenbosch, South Africa. In 2016 there will be a regional ESP Conference in Europe.

### **Presentation and discussion 3. Status of mapping in EU member states and stakeholder contact information: Leena Kopperoinen (SYKE)**

Leena Kopperoinen presented work already undertaken in WP2 during the first months of the project. Due to the tight time schedule this initial work had been carried out at SYKE, Finland. In the next phases also other partners will have a chance to work for WP2 Tasks according to the person months allocated to this work package.

As one of the first things to do in Task 2.1 a Stakeholder network review had been carried out and a respective table containing stakeholder contact information produced. In addition to this the table contains an initial assessment of the status of mapping and assessment activities in every member state.

Detailed contents of the stakeholder network table are as follows:

- Member state
- Member state acronym
- Status of mapping in the country
  1. In initial phase, much support needed
  2. On-going, still support needed
  3. Advanced, only little support needed
- Scale of mapping

1. National
  2. Regional
  3. Local
- Type of support needed
    1. Setting up a national network
    2. Policy and stakeholder identification
    3. Technical mapping support (data, GIS, mapping methods)
    4. Lacking personnel with appropriate expertise
    5. Other
  - Needed support relates to
    1. WP2 stakeholder mapping / networking
    2. WP3 ES mapping methods
    3. WP4 ES assessment methods / tools
  - Names of key people in the country related to ES mapping and assessment
    - Organisation
    - Email
    - Activity involved in - now or in previous years (e.g. MAES, MESEU, TRAIN, other)
    - Stakeholder group
      1. Scientific
      2. Administration
      3. Private enterprise
      4. National funding body
      5. International funding body
  - Existing contact between the stakeholder and ESMERALDA consortium
    - Y - YES
    - N - NO
    - Name of the contact person in ESMERALDA consortium

Leena Kopperoinen promised to send the stakeholder network table to the partners by 31 May 2015. All missing information was asked to be filled in by partners by mid-June. Every member of the ESMERALDA consortium can add new stakeholder contact information in the table. Finding stakeholders might need unofficial talks and writing with the ministry responsible for MAES activity. Representatives from spatial planning institutes are also looked for, as ESMERALDA searches for a link between spatial planning and mapping.

#### **Presentation and discussion 4. ESMERALDA Workshop 1 in Riga, Latvia: Leena Kopperoinen (SYKE)**

Leena Kopperoinen presented the forthcoming Workshop 1 in Riga, Latvia. Participants will arrive on the 13 October, and the workshop will take place on 14-16 October 2015. Each consortium partner should send a representative to the Workshop. Stakeholders – national MAES contact points from each EU member state will be invited to participate, as well as some representatives of the European Commission. ESMERALDA will bear part of the costs for official country representatives.

Action plan for the process of the stakeholder invitation to the Workshop 1:

- ESMERALDA invites relevant national stakeholders from each member state. Stakeholders can be from ministry, environmental institutes, environmental agencies, from the MAES implementation, spatial planning institutes or spatial mapping institutes.
- There are (double) representatives of MAES and ESMERALDA consortia in Spain, Hungary, Portugal, Sweden, UK and Finland.



- Poland can be represented by the Polish ESMERALDA partner although it is not an official MAES contact.
- Suggestions for who shall be invited will be formulated before summer.
- ESMERALDA will identify the most relevant stakeholders and send an official invitation to the selected stakeholders and the ESMERALDA consortium.

### **Presentation and discussion 5. WP2 researchers contact information and involvement in individual Tasks: Leena Kopperoinen (SYKE)**

Leena Kopperoinen circulated a partner contact information list to be filled in by partners working for WP2. This information will be used for creating the actual WP2 team contact list.

Kopperoinen told about a change in SYKE's project team. Pekka Itkonen who was supposed to work for ESMERALDA had got a new position and had left SYKE. This has direct consequences for SYKE's planned work schedule in the project, in addition to other indirect impacts. A new researcher to replace Itkonen was going to be hired.

Kopperoinen circulated also a list, in which partners were asked to mark, in which Tasks of WP2 they were most willing to contribute:

Task 2.1 Stakeholder identification and initial analysis of activities

Task 2.2 In-depth evaluation of stakeholder needs

Task 2.3 Network development

Task 2.4 Creating content by identifying ES mapping and assessment solutions and support mechanisms.

The completed list will be available at the ESMERALDA internal website in the WP2 folder.

#### **2.1.4. 18 months work program**

<b>Month:</b>	<b>Activity:</b>	<b>Partners:</b>
<b>M2</b>	Development of stakeholder network and status of ES mapping table.  Collecting MAES activities and stakeholders related documents.	SYKE, JRC  CAU, UAM, UNOTT, UNITN, Pensoft
<b>M3</b>	Draft compilation of MAES related activities in EU member states and in a number of other countries, based on MAES, MESEU, TRAIN and some other documents. First assessment of the status of mapping by EB members. Collecting the stakeholder network information based on the documents.	SYKE, JRC

<b>M4</b>	First meeting of WP2 partners in the kick-off meeting in Kiel, Germany, 4-7 May 2015. Collecting WP2 team contact information. Forming common understanding of the WP2 work.	SYKE, JRC All partners
<b>M5</b> <b>(M3 in DoA)</b>	MS7 Stakeholder survey method ready for implementation.	SYKE, JRC All partners
<b>M5</b>	Checking of the draft compilation of MAES related activities, stakeholders and the status of ES mapping in member states by ESMERALDA partners.	SYKE All partners
<b>M5-6</b>	Planning of Workshop 1, making the programme and sending the invitations to MAES contacts.	SYKE, BEF, CAU, JRC, UAM, UNOTT, UNITN, Pensoft
<b>M6</b>	Carrying out the survey and checking the EU member state fact sheets, case study fact sheets and stakeholder information based on the responses.	SYKE
<b>M6</b>	MS8 EU member state profiles completed.	SYKE, JRC All partners
<b>M6</b>	MS9 Fact sheets per member state / case study available.	SYKE, JRC All partners
<b>M8</b>	MS10 Engagement plan for collaboration, networking and synergies. This will be discussed further in Workshop 1.	JRC, SYKE Task 2.3 partners
<b>M8</b>	MS11 Draft stocktaking of EU member state needs. Information is used for preparing for the Workshop 1.	SYKE All partners
<b>M9</b>	Draft clustering of EU member states based on compiled member state fact sheets. The draft clustering is used for break-out groups in Workshop 1 and for preparing for the Workshop.	SYKE Task 2.4 partners
<b>M9</b>	MS12 Workshop 1 in Riga, Latvia, 13-16 October 2015. Gap analysis and identification of solutions with official MAES contacts in EU member states. Starting to prepare for the establishment of supporting groups in each member state.	SYKE, BEF All partners

	Start writing the text for Deliverable 2.1.	
<b>M10</b>	<p>Process of writing the text for Deliverable 2.1.</p> <p>Start also writing the text for Deliverable 2.2.</p> <p>D2.1 Clustering of all 28 EU member states according to their prerequisites and needs to perform ES mapping and assessment. This will feed into WP5 testing workshop preparation.</p>	SYKE, Task 2.4 partners
<b>M11</b>	<p>Process of writing the text for Deliverable 2.2. to produce a draft by mid-December 2015.</p> <p>MS13 Supporting stakeholder groups in each member state established.</p>	SYKE, JRC, FSD
<b>M11-M12</b>	Support groups evaluate the draft of D2.2. by mid-January 2016.	
<b>M12</b>	<p>Finalizing the text for Deliverable 2.2 based on the evaluations by country-wise support groups.</p> <p>D2.2 Overview of gaps and recommendations to overcome them. This will feed into WP3, WP4 and WP5.</p>	SYKE, Task 2.4 partners, WP3, WP4 and WP5 leads
<b>M13</b>	Assisting WP5 in selecting suitable case studies for testing ES mapping and assessment methodologies (WP5: MS23).	SYKE, WP2 partners
<b>M13</b>	Planning means of continuous communication with stakeholders (support groups and other stakeholders), by considering e.g. use of webpage / open access platform, regular newsletter and RSS feeds.	SYKE, JRC Task 2.4 partners
<b>M13-M18</b>	<p>Building further stakeholder network and maintaining continuous connection between stakeholders (using the help of support groups in member states) and ESMERALDA project.</p> <p>Keeping stakeholder network information and fact sheet information up-to-date.</p> <p>Supporting WP3, WP4 and WP5 in terms of stakeholder and member state information and connections.</p> <p>Starting the evaluation of various types of supporting actions, including twinning, knowledge transfer, training and other capacity-building and learning mechanisms.</p> <p>Considering suitable supporting actions along with the evaluation.</p>	SYKE, JRC Task 2.4 partners

## 2.2. Work Package 3: Mapping methods (Chaired by Fernando Santos)

### 2.2.1. Agenda items

- Introduction to the session (Fernando Santos -UAM 10 Min)
- Mapping information and methods at EU Level (Markus Erhard - EEA & Grazia Zulian-JRC) (15 min)
- Biophysical Methods (Petteri Vihervaara- SYKE) (10 min)
- Economic Methods (Luke Brander-VU) (10 min)
- Social Methods (Henrik Vejre- UCPH 10 Min)
- Integration methods (Benjamin Burkhard - CAU) ( 10 min)

### 2.2.2. Key objectives of the session

- Description of the work for each Task
- First discussion and integration of ideas
- Work input by partner – who does what when?

### 2.2.3. Presentations and discussions (all presentations are available in the project's internal ICP library at <http://esmeralda-project.eu/library/> )

#### Presentation 1: Fernando Santos Martín (UAM)

Firstly it was confirmed that everyone will be asked to fill their basic information in the contacts list. Secondly, the main tasks for WP 3 (mapping methods) were described (objectives, steps, methods, and deliverables) as they are in the DoA / proposal. For more details for tasks please check the presentation. Finally, the time line needs to be discussed for the targeted milestones and how each partner will be involved in each task and when.

Notes and questions:

Q1\_ Are we using the database which is available by the EC Biodiversity strategy?

A1\_ We will assess different methodologies that has been done by diverse assessments (i.e. National, Local, EU) and not just give an overview but also we will offer a recommendations and input of these methodologies.

Q2\_ Is the tier approach already fixed?

A2\_ No it is just a draft, we just gave some examples and we should discuss for further development.

Q3\_ How do the three tiers work, how will be distinguished between the different tiers?

A3\_ The tier approach is just a strategy to engage all partners with different realities. That is also connected to WP2, the cluster of what level different states are, some are very advanced, some did not even start yet and the tiers approach will help us to start the process and implement what is more suitable of the tiers to them.

Q4\_ The boundary between the WPs 3 & 4 is not clear yet.

A4\_ We all agree that it was a more artificial division for writing the proposal. We should work very close to the process because at the end the overall final output will be together.

**Presentation 2. Mapping and Assessing Ecosystem at the EU level: Markus Erhard (EEA)**

EEA is an associated partner to ESERALDA because they work on mapping ecosystem conditions. Based on EEA's work, 12 ecosystems were mapped and presented at EU level and also classified according to the main policy lines. Standard methods were used to map different ecosystems and habitats. The presentation gives a brief look at the versions of the European ecosystem map, e.g. based on the EUNIS habitat map.

The EEA has used this ecosystem map to perform a spatial assessment using the DPSIR framework. For example, the EEA has mapped the main pressures (e.g. WFD Good Ecological Statuses) and impact (e.g. Nitrogen deposition) and how they have change over time. On the EEA website (see presentation) you can find a user manual and many case studies and you can log in the platform to download all data and reports.

Notes and question:

Q1\_Who are the users for this data?

A1\_ All these data can be used for decision in many topics, i.e. in green infrastructure in different Member States (France, Belgium, Germany etc.). And they are using this information to meet the targets of the biodiversity convention (50 % of restoration of ecosystem and no net loss), that's why the EU commission is looking to this ecosystems data for a common platform for policies.

**Presentation 3. Mapping Ecosystem Services at the EU level: Grazia Zulian (JRC)**

ESTIMAP- Ecosystem Services Mapping Tool was developed to map and assess ecosystem services at European scale. It is framed under the CICES classification. It has 8 models, all running at EU scale and dynamically linked to the Land use integrated platform, with the aim of assessing trends in ecosystem services provision. This means that one of the key inputs is the land use map, but any land use data set can be used. Applications presented:

- EU level – Trends in ecosystems and ecosystem services in the European Union (2000 – 2010). Pan European assessment of Ecosystem and Ecosystem Services changes. Methodologically interesting for: the range of inputs combined, the results and the communication strategy (communication is a key point to be considered in ESERALDA).
- Different models (recreation, pollination and air quality regulation) have been downscaled using detailed datasets and applying the ESTIMAP framework. The models were tested in the framework of the OPENNESS project on 8 case studies (Management of mixed rural landscapes; Integrated River Basin Management and Urban cluster).
- TRAIN workshops – recreation and pollination were applied during the 3 workshops organized in Wageningen in January, February, and March with groups of Member States.

Conclusions: ESTIMAP can be a useful framework to be used during the workshops. It can be proposed as a TIER 1 (pan European scale approach) and downscaled using detailed local data, TIER 2 or 3 (local approach). Guidelines are ready for two of the models. It has been already tested during 3 workshops under the TRAIN project, and the experience can be useful as a starting point.

Notes and questions:

Q1\_What do we attend to achieve (if we are talking about ES maps), what are the ideas behind combining all these information (to combine all member states data and put it in a maps)?

A1\_ Member states have better data than EU level, however in form EU side we try to use all information available. During the communication was presented: 1. The general framework, 2. methodologies 3. applications. Applications at different scales (the more local the more detailed the data used). MS and local authorities have more detailed data; we can collect and propose a spectrum of model and approaches. We got from EU member states to catch the biodiversity goals in this case, and it's different from one to one because of the data availability. But in the following years we will have a series of national assessments that will help to compare our results with the others.

Grazia's suggestions:

- List of approaches and models already available for TIER 1, TIER 2, TIER 3
- List of guidelines and examples already available
- Clarify what are the overall and specific objectives of the workshops (together with WP 5)
- Define clearly how the methods can be applied and shared during the workshops
- Organize a Skype meeting or a work session together with WP5 in order to clarify common objectives and working strategies

#### **Presentation 4. Biophysical Methods: Petteri Vihervaara (SYKE).**

We need to provide an overview, identifying where are the gaps and difficulties to map the biophysical dimension and provide solutions on how to overcome them. A tiered methodology will be developed that can be tested in the case studies. We will need to better identify all the tiers and what are the differences between them. Other important issue will be to search what kind of data will be needed for each tier. For example different models will be used within the different tiers and this needs to be clearly identified. About biodiversity data, there's a lot of data but how can we use it in the best way (e.g. EBV concept).

Notes and suggestions:

We can start with frame of indicators. About the guidelines, we should be careful with the models that we are not directly linked (e.g. InVest) and remember that the data preparation takes some time. We need to discuss of the all approaches and Tiers, and how they will be used. A pragmatic ways should be found to define the proposed tiers. We have to go for the operational part not to repeat the guidelines (for instance those done already in other projects). We can start with a synthesis analysis and we all can collaborate together.

#### **Presentation 5. Economic Methods: Luke Brander (VU)**

Gives a theoretical framework what is meant by economic ES valuation. Key issues of economic ES mapping and which methods of economic mapping can be used in this multitier approach are shown. Steps and deliverables of the economic mapping work plan are presented.

Notes and question:

Q1\_Are the used concepts of economic mapping the same as the one used for assessment?

A1\_Yes they are. And although the methodological approach might be different for mapping and assessment, the conceptual framework might be similar.

### **Presentation 6. Social Methods: Henrik Vejre (UCPH)**

There are ecosystems and landscapes with high iconic and social values (e.g. monument valley has been used as background for famous trade marks). Issues: how do they measure these services, how can we actually tackling these problems and the general idea behind it is not objective at all. These services are linked to time, if they lose their value over time, how can we value that? Some methods of how to map social values for ES already exist (e.g. Public participation GIS as applied by Nora Fagerholm). This can be used to provide information on mental models, give perceptions of what is good, bad and beautiful and make these attributes spatially explicit (e.g. beauty and other recreational values).

Notes:

It is different to map cultural ES and to map social values. It is just an example how to value intangible values.

### **Presentation 7. Integrative Mapping Methods: Benjamin Burkhard (CAU)**

Discussion is needed what the tiered approach of ES mapping is. We should follow the MAES recommendation (also in our DoA) with different levels of complexity (Tier 1 rather simple, e.g. land cover used as proxy for ES supply, to Tier 3 very complex models). ES matrix approach (integrating expert based, biophysical quantification and empirical model results) can be used to integrate results of different Tiers. Some examples of mapping methods and studies are presented. Confirms the importance to integrate all methods (social, economic and biophysical) together to get more realistic results.

No time for questions or comments.

#### **2.2.4. 18 months work program**

- Design of work program (Month 3-4)
- Participants' full integration in individual Tasks (Month 3-6)
- Design of potential tier methodologies for each Tasks (Month 4-6)
- Design of individual consortium interviews to assess the status of their mapping activities (Month 8)
- Discussion with stakeholders from EU Member states about social, biophysical and economic mapping methods (Month 9)
- Clustering of all 28 EU member states according to their needs to perform social, biophysical and economic mapping methods (Month 10)
- Selection of suitable case studies for testing the methodology completed (Month 12)

- 1st version of flexible methodology for ES mapping and assessing ES (Month 15)
- Revise and improve the 1st version of methodology across Europe (Month 15-18)
- CICES-consistent library of indicators for biophysical, social and economic ES dimensions (Month 18)

### 2.2.5. WP3 List of Tasks

#### **Task 3.1: Scoping Exercise on Mapping Approaches**

Leader: UAM Contributors: SYKE, UNOTT, UNITN, VU, BEF CAU, ETH, IST, NIGGG BAS, PLUS, UB, UPOZ, JTC, WCMC.

##### **Objectives:**

- Provide an overview of past and current mapping research activities.
- Understand which are the main gaps of ES mapping within member states considering their needs to achieve Action 5.

##### **Working steps:**

Review of information created by other European, international and national projects as MAES, MESEU, OPERAs and OpenNESS.

- Individual consortium interviews to assess the status of their mapping activities
- Meta-analysis of existing information

#### **Task 3.2: Social Mapping Methods**

Leader: UAM Contributors: UPCH, VU, UNOTT, SYKE, UNITN, BEF, CAU, CVGZ, MCAST

##### **Objectives:**

Provide a spatial distribution of ES based on perceptions and motivations behind stakeholders' value setting of ecosystem services.

##### **Working steps (18th months):**

- Propose a multi-tiered approach on social methods
- Discussion with stakeholders from EU Member states about social mapping methods
- Clustering EU member states according to their social mapping methods
- 1st version of flexible methodology for social mapping methods

#### **Task 3.3: Economic Mapping Methods**

Leader: VU Contributors: UAM, UNOTT, SYKE, UNITN, BEF, CAU, CVGZ, VITO, MCAST

##### **Objectives:**

Generate spatial information on ES benefits to better understand where are received or enjoyed and what values are attributed by beneficiaries.



**Working steps (18th months):**

- Propose a multi-tiered approach on economic methods
- Discussion with stakeholders from EU Member states about economic mapping methods
- Clustering EU member states according to their economic mapping methods
- 1st version of flexible methodology for economic mapping methods

**Task 3.4: Biophysical Mapping Methods**

Leader: SYKE Contributors: UAM, VU, UNOTT, UNITN, BEF, CAU, CVGZ, NIGGG BAS, IRSTRA, MCAST, SEPA

**Objectives:**

Map the type of ecosystem (e.g. wetland), the spatial arrangement (well-connected vs. patches), the productivity (nutrient-rich vs. nutrient-poor systems) and the condition (healthy vs. degraded) to understand the influence on their capacity to deliver ecosystem services.

**Working steps (18th months):**

- Propose a multi-tiered approach on biophysical methods
- Discussion with stakeholders from EU Member states about biophysical mapping methods
- Clustering EU member states according to their biophysical mapping methods
- 1st version of flexible methodology for biophysical mapping methods

**Task 3.5. Development of a multi-tiered flexible methodology for mapping ecosystems services integrating the three value domains.**

Leader: UAM Contributors: VU, UNOTT, SYKE, UNITN, BEF, CAU, ETH, IST, NIGGG BAS, UPCH, WCMC, MCAST, SEPA, UB, PLUS

**Working steps (18th months):**

- Propose a multi-tiered approach on integrative mapping methods
- Discussion with stakeholders from EU Member states about integrative mapping methods
- 1st version of flexible integrative methodology for mapping ES

### 2.3. Work Package 4: Assessment methods (Chaired by Marion Potschin)

This working document summarizes the contributions and progress made by WP4 during the “Official Kick-off Meeting of the ESERALDA project”, held in Kiel on May 05-07, 2015, as well as the subsequent decisions. The document is structured as follows:

- Key messages
- Work plan for the first 18 months with list of activities and partner involvement
- Minutes of the break-out session held on May 6
- Commented Presentations shown during plenary and break-out session

#### 2.3.1. Key messages

##### Task 4.1 Designing integrated assessment frameworks

- We work with CICES V4.3. This is the basis for MAES and so that the outset there is not much scope for discussion about its structure or content. Basically we need to review applications.
- We can therefore try to link published case studies to CICES in a systematic review
- We will elaborate a CICES-EU and a set of guidelines for CICES customization by member states

##### Task 4.2 Economic assessment methods

- Economic assessment frameworks that potentially use ecosystem service mapping as input include:
  - Cost-Benefit Analysis (CBA)
  - Multi-Criteria Analysis (MCA)
  - Cost-Effectiveness Analysis (CEA)
  - Ecosystem Service Assessment
  - National Accounting
- In each case the challenge is to link biophysical ES assessment with economic information.
- A further challenge is to better understand and agree on how ES values determined at the local level can be scaled up for larger geographical regions.

##### Task 4.3: Social assessment methods

- The situation in each member state is different, so the identification of stakeholder groups and their prioritization will be necessary
- Social perception of priority ES will be done through individual interviews,
- ES trade-off will be identified by focusing on the conflicts that emerge among different stakeholder groups

##### Task 4.4: Integrated Assessment Methods and Guidelines

- Although the focus of ESERALDA is mapping, because spatial analyses form part of a broader assessment process, the non-spatial context in which it is done needs to be made clear. The task will focus on this issue.
- We also need to take account of the fact that assessments, and the mapping done as part of such work, are undertaken in different contexts. We need to understand how these contexts

shape the kinds of mapping we do, and how do mapping methods need to vary depending on contexts. For example within the context considered by ESMERALDA, decisions in relation to the EU Biodiversity Strategy are set against the needs to:

- develop Europe’s green infrastructure;
- identify areas for ecosystem restoration; and,
- assess the goal of ‘no net loss of BD and ES’.
- In terms of developing the guidelines for a flexible, integrated assessment methodology that can be tested in WP5, the key task is to understand how, for a given assessment purpose, particular mapping methods produce relevant evidence in practical and cost effective ways.

### 2.3.2. WP4 Work Plan for the first 18 months

(Interactive version on ESMERALDA intranet)

ESMERALDA - WP4 Gantt chart			duration																																	
			MS/Del																																	
			Project month	M4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24												
			calendar year	2	0	1	5																		2	0	1	6								2
			calendar month	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1												
Task 4.1	step 1	Systematic review																																		
		First results of the syst review (for MS19)										MS19																								
		Preparing a report on the systematic review results (for D4.1)																																		
		Compiling a CICES-consistent library of indicators (for MS20)																																		
		Writing publications																																		
	step 2	Internal CICES consultation																																		
	step 3	preparing finalized D4.1 report																																		
	step 4	Customised CICES-EU and guidelines																																		
Task 4.2	step 1	Review of economic assessment methods																																		
		Review example applications																																		
		Consultation with user communities																																		
		Methodology for econoic assesment methods																																		
	step 2	Review of economic assessment methods																																		
	step 3	Review example applications																																		
	step 4	Consultation with user communities																																		
	step 5	Methodology for econoic assesment methods																																		
Task 4.3	step 1	Individual interviews																																		
		Characterization of Stakeholder Groups																																		
		Prioritization of the stakeholder																																		
		ES Trade-Offs among stakeholder group																																		
		Methology of Social assessment methods																																		
	step 2	Individual interviews																																		
	step 3	Characterization of Stakeholder Groups																																		
	step 4	Prioritization of the stakeholder																																		
	step 5	ES Trade-Offs among stakeholder group																																		
	step 6	Methology of Social assessment methods																																		
Task 4.4	step 1	Workshop 2 felxible methods for ES mapping and assessing																																		
		compiling a list of good practices (for MS22)																																		
		Prepare guidelines for flexible, integrated assessment methodology that can be tested in WP5																																		

### 2.3.3. Agenda and notes from the WP4 related meetings

#### 2.3.3.1 WP4 plenary presentation and discussion (5<sup>th</sup> May, morning, plenary hall)

The presentation of the general objectives in the Work Package 4 was made by Roy Haines-Young, representative of University of Nottingham. It has been pointed out that there is a big difference between mapping and assessment, in the project there is a need to explore this difference. Mapping ecosystems is about mapping stock and flow. Assessment is about setting a value; during the assessment one can get beyond just maps during the interpretation. Starting point is the social process that discovers the concerns about ecosystem services which can then feed into decision making. Although maps play the key role in the decision-making process, the non-spatial aspects of assessment also need to be covered so that the links are understood; WP4 will clarify the distinction.

In the Work Package 4 it is important to clarify:

- How do different decision-making stages affect the mapping and how do maps need to vary according to the different stages of this decision-making process.
- The role that CICES plays. How the mapping does comes together with assessment. How to make decisions in case where people need to look at things like linkages and trade-offs. The non-spatial aspects that need to be taken into account.
- Integrated assessment
- Production of guidelines tested in WP5

The challenge to ensure that CICES is understood and used in flexible ways so that it shall meet the needs of users. There is a need to define the scale of assessment (local, regional, or global), and also clarify who the beneficiaries are. This could be done by extending the classification tables. There is also a need to understand the relationships between beneficiaries and values. CICES should help to integrate the relationship between economic and biophysical values. In the project monetary and non-monetary valuation methods can measure individual values and social values and how they change in different contexts.

### 2.3.3.2 Participants of the WP4 breakout Sessions

Partner no	Abbreviation	Representative
1	CAU	Marion Kruse, Marina Sheviakova and Claudia Dworczyk
2	SYKE	Petteri Vihervaara
3	UAM	Fernando Santos Martin
4	UNOTT	Marion Potschin and Roy Haines-Young
5	UNITN	Apologies (running WS in parallel)
6	Pensoft	Pavel Stoev
7	VU	Luke Brander
8	VITO	Steven Broekx
9	NIGGG BAS	Stoyan Nedkov
10	CVGZ	Jana Frélichová
13	BEF	Anda Ruskule
15	MTA OK	Bálint Czucz
16	IST	Cristina Marta-Pedroso
17	UB	Mihai Adamescu
18	UNEP WCMC	Claire Brown
20	UPOZ	Andrej Mizgarski
21	IRSTEA	Philip Roche
22	MCAST	Mario Balzan
24	SEPA	Hannah Östergår
25	JRC	Joachim Maes
	EEA	Markus Erhard

It is satisfactory to note that all Partners having time allocated in WP4 were represented at least with one person.

### 2.3.3.3 Notes on the presentations and following discussions

#### Presentation of the Task 4.1: Designing integrated assessment frameworks

The presentation was made by Bálint Czúcz, the representative of Hungarian Academy of Sciences. It has been pointed out that the main focus of this task is doing more collaboration with CICES, going into details on CICES using some sort of internal respect to the CICES framework based on review of the current state of CICES. The question is how to review CICES. CICES should be flexible; addition of several classes is possible. However, the addition of abiotic services to CICES might be too complicated. The flexibility needs to be proven in ESMERALDA. There are several approaches limiting the consultation process review. On a small scale, a review can be done with a link to WP2, identification of key stakeholders. A medium solution would be to do a systematic review on what has been done in terms of ES and link it with CICES. One may try to get a perspective on CICES, define how to make it more suitable for the needs of the project. The questionnaire about CICES might help to fulfill the medium step. As a maximum solution a systematic review on indicators, how they are used in general in terms of ES should be undertaken.

An integrated framework will be developed further, assessment methods will be made in different ways, and it will be done during a first workshop. CICES is a common tool to build an integrated framework, however an integrated framework won't just focus on CICES, CICES is just a technical tool in the project to communicate with different people and stakeholders.

#### Presentation of the Task 4.2: Economic assessment methods

Presentation made by Luke Brander, representative of Free University of Amsterdam. It had been pointed out, that there are two main challenges to work on in Task 2. The first challenge is linking biophysical ES assessment with economic information. There is a need to identify and link biophysical and economical information. Now the biophysical assessment tries to produce evaluation units. Looking how ES change it is possible to define the economic values. This challenge is important, because it is necessary to think of capable units, units what are used in economic valuation studies evaluation of ES, which can also link to the environmental part.

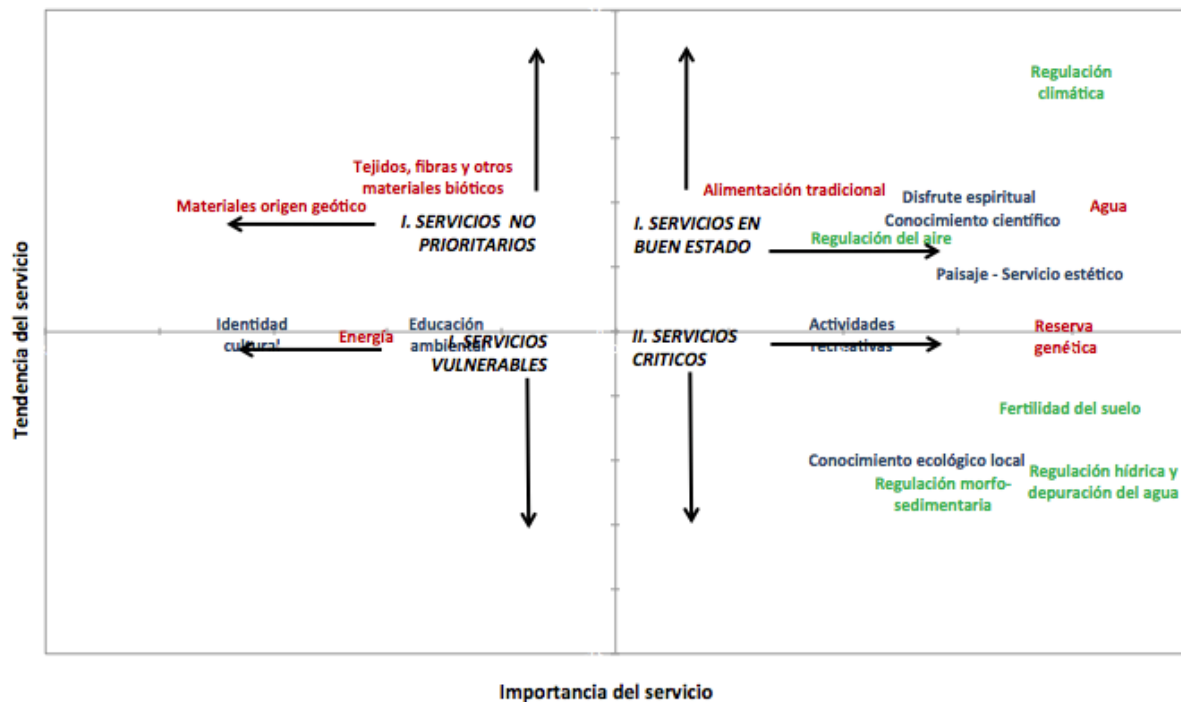
The second challenge is to identify the issue of scaling up ES values. Most ES assessments are taking information from small scale studies. So scaling up is way you transfer to a larger geographic scale, from ES stock to ES capacity, with scaling up one can take an information from study sides, to try to say something about large number of policy side. In this challenge it is all about looking at particular change, with policy, impact on climate change, ecosystems on entire region, whole Europe, large ecosystems across large geo area. There is an economic information about the value of ecosystem, how do values change across large geographic area. There is a need to adjust values which are used to reflect simultaneous changes availability of ES from other side and abundance and scarcity of ES on a larger scale assessment.

The final step is to produce the guidelines.

### Presentation of Task 4.3: Social assessment methods

The presentation was made by Fernando Santos Martin, representative of University of Madrid. It had been pointed out, that Task 3 is about socio-cultural assessments that can help identifying priority ES for decision-making process which is quite different from assessing non market valuation methods. It was proposed four potential working steps to accomplish this task:

(1) Social perception will be done through individual interviews, to explore which factors influence motivations behind stakeholders' value-setting of ecosystem services. Classification of ES will be divided into four types using an importance-vulnerability.



(2) Characterization of Stakeholder Groups to determine which social actors are affected by changes to ES delivery and how influential they are on the ES decision-making processes (capacity to affect policies). Method: develop a matrix with different degrees of dependence on ES generated and with different degrees of influence over their management.

(3) Prioritization of the stakeholder groups with the aim to focus on the most relevant stakeholders according to the degree on how they can affect or be affected by a problem or action and making explicit power dynamics among them.

(4) Uncover ES trade-offs among stakeholder group to show that socio-cultural valuation can substantially contribute to identify ES trade-off by focusing on the conflicts that emerge among different stakeholder groups.

The situation in each member state is different, so different kind of stakeholders will be involved in the decision-making process. There is no clear answer how to work with them, however it is important

to define the characteristics of stakeholder groups, depending if they have high influence on ES policy or low. There is a need to clarify their roles, power and relationships. All guidelines should be applicable for people who want to use this information from the project on daily basis. The workshops will be used to work with stakeholders.

Finally it was presented that this task will have close links with Tasks 4.2 and 3.2.

#### **Presentation of the Task 4.4: Integrated Assessment Methods and Guidelines**

The presentation was made by Roy Haines-Young, representative of University of Nottingham. It has been pointed out, that an assessment is a social process used for decision making. There is a need to define what assessment proposes are and what kind of evidence can be provided in relation to that. Mapping is the main focus of the project, but non-spatial methods are also important. It is essential to find what is considered relevant for stakeholders and for different social processes. As a result, the ESMERALDA project can help people to navigate between purposes, methods in practical ways; one could begin to think of approaches to integrated assessment which could cover all types of assessment. That is the bottom line what task 4.4 is.

#### **General Discussion points in the WP breakout session**

- Abiotic won't be included in CICES. ESMERALDA project has a focus set on CICES.
- Within ESMERALDA the aim is to find where the difficulties are and how it is possible to help member states to work with CICES.
  - There is a need to clarify what is meant exactly by "integrated assessment" and by
- "integration", there are also different ways of integration:
  - Guidelines made for policy makes should be short and clear, adjusted to their needs, guidelines should be able to provide all required information.
  - It is important to look at interrelations between different ES
  - It is important to make a difference between guidelines WP3 task 4 and WP 4 task 4.
- Biophysical mapping will be identifying things one can measure in ES, in task 4 however it is more about other values, for example social value, integration of services by biophysical attributes.
  - There is a distinction between ecosystem condition and ecosystem service and this should be taken into account.
  - All participants need to respond on the CICES questionnaire, come to a workshop, and give a reflection on what is produced.
  - Assessment methods need to be distinguished between ecosystem and ES, maybe clarification paper is needed.

## 2.4. Work Package 5: Methods testing (Chaired by Davide Geneletti)

This working document summarizes the contributions and progress made by WP5 during the “Official Kick-off meeting of the ESMERALDA project”, held in Kiel on May 05-07, 2015, as well as the subsequent decisions. The document is structured as follows:

- Key messages
- Work plan for the first 18 months with list of activities and partner involvement
- Minutes of the break-out session held on May 6
- Presentations shown during plenary and break-out session

### 2.4.1. Key messages

**Definition of “stakeholders” in the context of WP5.** Here, stakeholders are not limited to people and national agencies responsible for the implementation of Action 5 of the EU Biodiversity Strategy (as in WP2). Instead, stakeholders are all individuals or organizations that may benefit from the inclusion of methods for “ES mapping & assessment” developed by ESMERALDA in their own activities (planning, decision-making, applications, etc). Hence, stakeholders could be beneficiaries of ES or policy and decision-makers involved in planning and management of ES. They can be private or public, individuals or organizations.

**“Testing” and “Training” in WP5 workshops.** The objective of WP5’s workshops is twofold: testing the methods developed by WP3 and WP4 in real-world case studies, and training stakeholders. The “testing” component will be more prominent in the first set of workshops, where the first version of the methods will be used, and the workshop outcomes are expected to provide feedback for improvement.

**What type of training?** WP5 aims to build stakeholders capacity in understanding:

- The different methods for ES mapping and assessment, and their pros and cons;
- The results that can be expected from the ES mapping and assessment exercises;
- The requirement in terms of data, expertise, technology;
- The contribution that ES mapping and assessment can provide in different decision-making contexts.

Stakeholders will be actively involved during the case studies. The “lessons learned” will be generalized and disseminated to a larger audience by preparing guidelines.

It is expected that simulations and modeling analyses will be run during the training. However, the objective does not consist in training stakeholders in the operational (step-by-step) use of specific methodologies or software tools.

**Characteristics of the set of case studies.** Building also on the outputs of WP2 (i.e. clustering of MS and case studies, mainly based on readiness of implementation of Action 5), WP5 will identify the case studies that will be used during workshops. These case studies need to be representative of the variety of different conditions across Europe (see details in Section 2). In general, WP5 will consider two sets of case studies for testing, respectively, the first and the final version of the flexible methodology for “ES mapping & assessment” to be developed by WP3 and WP4. The first set of case studies will be



used to test the methodology considering different: conditions of MS, cross-EU themes and geographical regions and biomes. The second set will serve to test the final version of the methodology considering (real-world) planning and decision-making processes, as well as application by businesses and citizens.

**Proposal and selection of case studies.** All ESERALDA partners are encouraged to propose one or more case studies. In particular, partners who are hosting a workshop are expected to propose and prepare at least one case study. The final selection of case studies will be an iterative process, which will consist in balancing the proposal by partners with the need to cover all the requested “varieties” of conditions. In the coming months, this iterative process will start and partners will be involved as appropriate (see work plan for the first 18 months). The number of case studies that will be used during the WP5 workshops is set: 3 case studies each for the first 3 workshops, and 2 case studies each for the latter 2 workshops. However, we could have additional case studies included in the final reports and guidelines, but not used during the workshop. This will depend upon the availability and interest of the consortium members.

**Case study requirements.** For each case study, the proposer is expected to coordinate the activities required to make the case study usable during the workshop, such as data collation and preparation, background information, stakeholders’ involvement, design goals, etc. The case study coordinator, jointly with WP3 and WP4 experts, will propose how to adapt the methods for ES mapping and assessing to fit the needs and characteristics of the case study.

#### 2.4.2. Work Plan for the first 18 months (+2)

**Table 1: WP5 Work Plan until September 2016.**

Project Month (actual date)	WP5 activity	Description and remarks	Project input	Partners Involved
5 (Jun 2015)	<b>1. Prepare the case study survey</b>	The structure for the survey of case studies by ESERALDA partners will be prepared. This includes: - Identifying biomes, EU regions, themes of interest for ES - Setting minimum requirements for case studies - Preparing instructions for compilation of the survey	-	UNITN
6-8 (Jul-Sept. 2015)	<b>2. Conduct the case study survey</b>	All partners to propose case studies for potential inclusion in the ESERALDA workshops, and ESERALDA reports and other outputs (eg, guidelines). The idea is to have two sets of case studies, one to be used in the workshops and one to be used independently from the workshops. At this stage, case studies will be described (very shortly) using a pre-defined table to collect all information needed to decide in which set they better fit.	-	All partners
6-12 (Jul-Dec 2015)	<b>3. Review applications of ES across themes</b>	Review (scientific + gray literature) the applications of ES mapping and assessment to case studies in the themes that ESERALDA intends to address (water, CAP, energy, etc). The purpose is twofold: - Identify themes that are less covered to steer our selection of case studies	-	UNITN, FSD, JRC + other interested partners

		<p>- Identify critical issues associated to each theme to help us to better design our case studies (eg, what are the critical decisions, scale of analysis, types of assessment, etc, stakeholders, categories of ES).</p> <p>This activity is carried out <b>in parallel</b> to activities 2 and 4</p> <p>-</p>		
10-11 (Nov-Dec 2015)	<b>4. Match case studies with Member States clusters</b>	<p>The results of the Member States clustering exercise performed in WP2 will be matched with the case studies survey to determine if our case studies are well distributed in the different clusters</p> <p>The preliminary identification of the two sets of case studies will be performed</p>	<b>D2.1</b>	<p>UNITN, SYKE, JRC</p> <p>Workshop hosts (CVGZ, VU+FSD, UAM)</p> <p>Case study proposers (ideally all partners!)</p>
12 (Jan 2016)	<b>5. Final selection of case studies</b>	<p>The selection of 9 case studies for testing the methodology in the first 3 workshops will be finalised (<b>Milestone 23</b>)</p> <p>The outcomes of the gap analysis performed in WP2 will contribute to the final selection of case studies.</p> <p>A case study coordinator will be identified for each selected case study</p>	<b>D2.2</b>	<p>UNITN, SYKE</p> <p>CVGZ, VU+FSD, UAM, JRC</p> <p>Case study coordinators</p>
13 (Feb 2016)	<b>6. Write report for D5.1</b>	<p><b>Deliverable 5.1:</b> Interim report illustrating the themes and regions selected for testing the methods across Europe and across themes</p> <p>The report will contain the process followed for the selection of the case studies and also a brief description of the selected cases</p>	<b>D2.1</b> <b>D2.2</b>	<p>UNITN and Case study coordinators, with some support from all partners</p>
14-15 (Mar-Apr 2016)	<b>7. Design the workshop content and structure</b>	<p>Drafting a format for the workshops</p> <p>Initiating key activities, such as data collation, stakeholder involvement coordination, production of background information and detailed description of case studies</p>	-	<p>UNITN, SYKE</p> <p>CVGZ, VU+FSD, UAM, JRC, UNOTT</p>
16-17 (May-Jun 2016)	<b>8. Prepare templates for the application of the flexible methods</b>	<p>Using the preliminary outputs from WP3 and WP4, a template describing how to apply the methods in the 3 case studies selected for Workshop 3 (Month 20, Czech Republic) will be drafted</p> <p>The three case studies should provide for different levels of details (eg., different “tiers”), so as to test the flexibility of the methods</p>	<b>D4.2,</b> <b>D4.3</b> + Similar advances from WP3	<p>UNITN, SYKE, UNOTT</p> <p>CVGZ, VU-FSD, UAM</p> <p>Case study coordinators</p>
18-19 (July-Aug 2016)	<b>9. Finalise preparation of Workshop 3</b>	<p>Preparing workshop agenda and materials, stakeholder involvement, logistics (eg, interpretation services), testing of the data and methods, etc</p>	-	<p>UNITN, SYKE, UNOTT, UAM, JRC, CVGZ</p> <p>Case study coordinators</p>

20 (Sep 2016)	<b>10. Methods testing in Workshop 3</b>	Running Workshop 3, where the preliminary methods will be tested in 3 different case studies (Milestone 24)	-	UNITN, SYKE, UNOTT, UAM, CVGZ, JRC Case study coordinators All other partners will participate
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**2.4.3. Minutes of WP5 sessions** (all presentations are available in the project’s internal ICP library at <http://esmeralda-project.eu/library/> )

#### **Presentation “Work package 5: Methods Testing”, Davide Geneletti - Plenary session**

This presentation, held during a plenary session, gives an overview of WP5; it highlights its **three** main objectives (*testing, providing feedback* and *training/dissemination*) and the **five** tasks to achieve them. The objectives of WP5 include *testing* the flexible methodology for “ES mapping and assessment” to be developed by WP3 and WP4; hence, *providing feedback* for further improvements. Testing is carried out through **five** workshops, in which at least **thirteen** case studies will be analyzed. The case studies should fulfil some basic requirements (defined by WP5 based on the outputs of WP2) and are to be selected from a pool of case studies proposed by the partners of ESMERALDA. Finally, workshops and guidelines provide an opportunity for *training* and *building capacity* of stakeholders, as well as *disseminating* the results of ESMERALDA.

Of particular importance is a distinction made between two sets of case studies that aim to test, respectively, the *first* and the *final version* of the flexible methodology for “ES mapping and assessment”. The first set will be used to test the methodology considering different: *conditions of MS* (WS3-CVCZ, month 18, 3 case studies), *cross-EU themes* (WS4-VU, month 24, 3 case studies) and *geographical regions and biomes* (WS5-UAM, month 27, 3 case studies). The second set will serve to test the final version of the methodology in (real-world) *planning* and *decision-making processes* (WS7-UNITN, month 36, 2 case studies) and in applications by *businesses* and *citizens* (WS8-REC, month 38, 2 case studies). Finally, a timeline shows *Milestones* and *Deliverables* of WP5 and the interactions with other WPs; thus highlighting the need for an active engagement of all the partners.

#### **Presentation “Tasks 5.1 and 5.2 - Steps and partners contributions”, Davide Geneletti - Breakout session**

This presentation was given during the breakout session involving half (20) of the participants of the kickoff meeting. The presentation addressed **Task 5.1** and **Task 5.2**, for each task focusing on the main steps and the expected contributions from partners.

Task 5.1, coordinated by UNITN, is about **identifying the case studies** that exemplify different: *conditions of MS*, *cross-EU themes* and *geographical regions and biomes*. **Task 5.1 builds** on the outputs of WP2 (Task 2.2) to define the basic requirements for case studies. Moreover, the task involves partners and networks to create a pool of candidate case studies, of which some (at least 12) will be actually addressed during one of the workshops.

Task 5.2, coordinated by SYKE, aims to **test the first version** of the ESMERALDA methods across Europe, using the case studies identified in Task 5.1. Accordingly, the main steps and contributions of partners are as follows:

- a) *Design workshop content and structure Coordinate data collation for the case studies*
- b) *Coordinate stakeholders’ involvement*

c) *Provide a template for the methods adapted to the different case studies*

Following the presentation, the participants raised several question, which helped clarify and gain a common understanding of concepts and terms such as *case study, stakeholders, and training*. In particular, an example was given to summarize a possible evolution of a case study (Box 1).

**Box 1: Example of case study evolution**

- What is the case study? e.g. *infrastructure in Finland*
- What level or scale is it? *Local*
- Formulate questions of ES mapping and assessment:
- Organize the workshop
- Offer all approaches, methods and tiers
- Finally, the output could be *“we could/couldn’t answer these questions using these methods”*

Questions and answers:

**Q1: How does the case study selection process work?**

It will be iterative process, which starts with a definition of clusters of case studies (based on WP2) and the identification of the basic requirements (e.g. data, tools, expertise). Hence, all members, especially hosts of workshops, are strongly encouraged to propose case studies.

**Q2 What is the size of a case study?**

They will differ, from the local scale to the national one. We need to show how the methods can work at different scales.

**Q3 Can case studies from other EU projects (e.g. Oppla, TRAIN) be considered in ESERALDA?**

Generally, it is a good idea to encourage other “already funded” case studies to use ESERALDA methods. ESERALDA is a coordination action and as such does not have resources to develop new case studies; instead, it has to build on existing ones.

When case studies are borrowed from other projects, it should be possible to make comparison between the methods proposed by ESERALDA and those already being implemented (E.g. Kiel, Bornhöved Lakes).

However, it will be good to have at least a few “ESERALDA branded” case studies, i.e. cases that do not appear in any other project.

**Q4 How to deal with language-barriers, especially for case studies?**

Generally, the language barrier should not hinder selection of case studies, although it should be kept present.

Decisions on requirements in terms of translation, etc. will be taken on a case-by-case basis, depending on issues such as the number of participants, availability of resources, etc.

**Q5 Can a case study include official ongoing planning/decision-making processes?**

Yes, as long as we identify one or more steps of the processes, in which the concept of ES can play a crucial role adding value to the process.

**Q6 Who are the stakeholders in a case study?**

There is relative freedom in defining the stakeholders in a case study. They include beneficiaries of ES or policy and decision-makers dealing with ES.

Most importantly, the stakeholders should be realistically reachable and manageable.

**Q7 Who will pay the stakeholders?**

Generally, each partner should use his own funds. However, budget could be made available to cover some travel expenses, for instance (B. Burkhard).

Possibly, stakeholders should be encouraged to cover their own expenses (for e.g. members of EU Commission are not allowed to receive money).

**Q8 Do workshops include running models? If yes, who will prepare the data?**

Generally, each proposer of a case study should make all the necessary arrangements to achieve the goal of the workshops, which is to test the methodology developed by ESMERALDA.

Moreover, it depends on the case study; some will be used to test the simpler version of the methodology, others will serve to test the more complex final version of the methodology.

Data preparation is up to the proposer of a case study and may include involvement of students.

**Q9 What do we mean by training of the workshop participants? Are we training so they gain the skills to use the methods developed by ESMERALDA (e.g. using a simple matrix), or are we doing the mapping and assessment ourselves and just showing them the results?**

There is no general rule, depends on which cluster of case studies is considered (E.g. we cannot go Belgium or Netherlands and teach them what they already know). Hence, the importance of clearly defining the clusters.

Detailed and binding agreements will have to be made as workshops approach. In particular, data preparation can be time consuming, so has to be properly addressed.

**Presentation “How a workshop might look”, Bettina Weibel and Grazia Zulian - Breakout session**

Bettina (ETH) and Grazia (JRC), who have been previously involved in a joint organization of workshops, gave this presentation. Mainly, they shared their experience of organizing workshops within “TRAIN”, an EU project with objectives comparable to ESMERALDA. The TRAIN workshops often consisted of “hands on” training of participants using two software tools Quicksan (Wageningen) and ESTIMAP (JRC). The objective of the workshops was not to produce a “perfect” map, rather to train the participants on “how to produce” such maps. The opportunities and challenges in organizing workshops are very context or country-specific. Most important, is the need to tailor the mapping and assessment methods to the specific needs of the case study, thus, including local knowledge and expertise. Pre-workshop arrangements are particularly important, especially, data preparation in the case of use of modeling.

Following the presentation, participants agreed on possibly including in the workshops all the countries that are not in ESMERALDA.

Other questions raised by participants and related answers are summarized in the following.

**Q1: What is the optimal duration of a workshop?**

2-3 days

Out of presented examples, it was too long to do it for more than two or three days as you are not mapping all services. The idea is to put hands on the problem.

We need to find the way how ESMERALDA focusing on stakeholders and using maps, for knowing a kind of data set and knowing what can be done after.

In principles, all stakeholders must be covered and it will not be just one scale used for all case studies.

**Q2 Does making the analysis for the stakeholders hinders the transfer of knowledge? In addition, what does ESMERALDA do?**

The ESMERALDA approach is different; we develop methods for “ES mapping and assessment”, hence, we tailor and apply them to specific case studies using their data.

Accordingly, the proposer of a case study is expected to put in place all the needed arrangements, in collaboration with the organizers and hosts; this includes data preparation and stakeholder involvement.

Ultimately, stakeholders (any one that may benefit from the ESMERALDA methods) can learn methods during the workshops, hence, adapt them to their own needs and data.

In general, the aim of the workshops is to train stakeholders how they can use the methods of “ES mapping and assessment” developed by ESMERALDA (what information is needed, how to use them, etc...). At the same time, workshops should highlight shortcomings and points of strength of the ESMERALDA methods as feedback.

**Q3 Was there any follow up after the TRAIN workshops? Did you measure impact of training?**

Not actually but because of the obligation of Action 5 they already know that they have to do it.

A short feedback can offered two months later

### 3. ESMERALDA Kick-off meeting participants list

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## 4. Press releases

Press releases from the project Kick-off meeting were disseminated by Kiel University (in German and in English) and by Pensoft (WP6) via EurekaAlert!.



### Mapping and assessment of Europe's ecosystems and their services International conference at Kiel University for the start of the ESMERALDA project



Around 70 representatives of 25 partner organisations from 20 European countries are currently meeting at Kiel University (CAU) for the start of the EU-wide Horizon 2020 cooperation project "ESMERALDA – Enhancing ecosystem services mapping for policy and decision making". The meeting, which runs until Thursday 7 May, is the kick-off for the three-and-a-half-year joint project, which aims to achieve European mapping and assessment of ecosystems and their services to society ("Ecosystem Services" or ES). The participating states hope to develop methods, build knowledge bases and develop baselines for finalising the new EU Biodiversity (BD) Strategy 2020. "The ESMERALDA project is essential for future Europe-wide cooperation in biodiversity protection and for the consideration of environmental interests during political planning. That we are able to coordinate and operate it at Kiel University is a big responsibility, but also a great success," said CAU Vice President Professor Karin Schwarz.

The ESMERALDA project should thereby serve as an important basis for implementing the European Commission's Biodiversity Strategy 2020, adopted in 2011, which aims to stem the loss of biological diversity, and to improve the state of European species, living areas, ecosystems and ecosystem services. This strategy comprises a number of primary goals, which should reduce the most important strains on nature and ecosystem services in Europe. These include, amongst others, complete implementation of the EU conservation legislation, better protection of ecosystems, and more sustainable methods in agriculture, forestry and fishing. "The data collected during ESMERALDA will assist the European states involved towards reaching the goals of the EU Biodiversity Strategy, step by step," said the project coordinator, Dr Benjamin Burkhard, of the Institute for Natural Resource Conservation at Kiel University.

The kick-off conference is also the first working group meeting for the EU project, which should plan the further steps involved for the various sub-projects, and organise the international cooperation between the participating nations. The implementation of the individual measures is largely in the hands of universities and research institutes, but the involvement of politics and society from the very beginning remains an important element. Following the kick-off event in Kiel, there will be a series of workshops spread over the entire duration of the project, with the next meeting taking place in October 2015 in Riga, Latvia. Burkhard and his team landed the ESMERALDA project as the first Horizon 2020 project at Kiel University. It is funded by the Commission of the European Union with a total budget of a good three million Euros, of which around 600,000 Euros go to Kiel University.

#### Figure 1: English version of Kiel University's press release

(<http://www.uni-kiel.de/pressemeldungen/index.php?pmid=2015-146-esmeralda-start&lang=en&pr=1> ).

PUBLIC RELEASE: 12-MAY-2015

## Mapping and assessing ecosystems and their services for policy and decision making

PENSOFT PUBLISHERS



IMAGE: THIS IMAGE SHOWS THE ESMERALDA CONSORTIUM GROUP PHOTO. [view more >](#)

CREDIT: CHRISTIAN URBAN, KIEL UNIVERSITY

Humankind benefits in multitude ways from biodiversity, ecosystems and the services they provide. Such services include for example the provisioning of drinking water, food security, air quality regulation or recreation.

The new collaborative EU Horizon 2020 funded project "ESMERALDA - Enhancing ecosystem services mapping for policy and decision making" looks into the needs of policy and decision-makers in EU member states for flexible methodologies, tools and data for sustainable management of ecosystems and their services.

The project held its official kick-off meeting from 5 to 7 May 2015 at Kiel University (CAU), Germany.

Around 70 representatives, including scientists, experts and stakeholders of 25 partner organisations from 20 European countries met for the start of the three and a half year coordination and support action.

The ESMERALDA project is planned to serve as an important basis for implementing the European Commission's Biodiversity Strategy 2020, adopted in 2011, which aims to prevent the loss of biological diversity, and to improve the state of European species, living areas, ecosystems and ecosystem services.

The project will create flexible methodologies to provide the building blocks for pan-European and regional assessments of ecosystems and their services as an essential part for informed decision making and a core of the EU Biodiversity Strategy.

"The data collected during ESMERALDA will assist the European states involved towards reaching the goals of the EU Biodiversity Strategy, step by step," said the project coordinator, Dr Benjamin Burkhard, of the Institute for Natural Resource Conservation at Kiel University.

"This first meeting puts the initial building blocks into a three-and-a-half-year joint research initiative that will provide important milestones for a more sustainable future of our ecosystems and the services they provide to humankind."

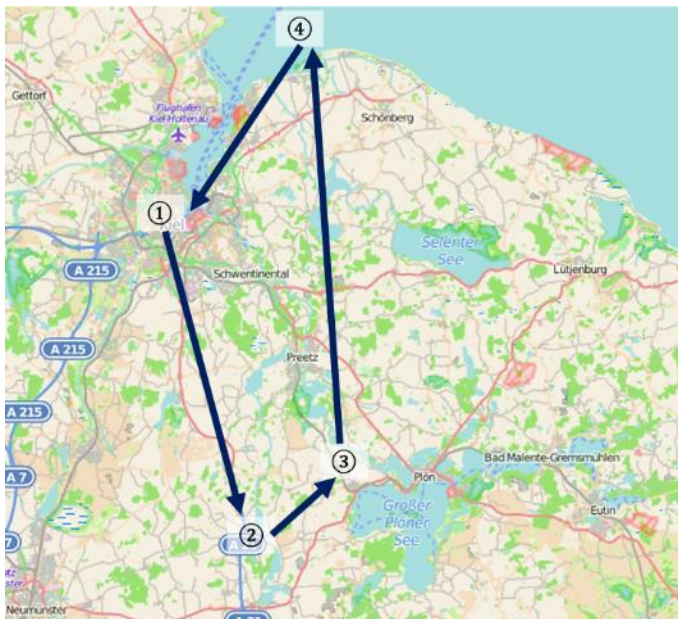
### Figure 1: Pensoft's press release via EurekAlert!

([http://www.eurekalert.org/pub\\_releases/2015-05/pp-maa051215.php](http://www.eurekalert.org/pub_releases/2015-05/pp-maa051215.php)).



## 5. Excursion

The after-workshop excursion on May 7<sup>th</sup> has been arranged to show key landscapes and ecosystems around Kiel and to discuss and assess ecosystem services supplied at the five different sites that were visited. The tour was guided by Felix Müller, Marion Kruse, Benjamin Burkhard (all CAU Kiel) and Jörg Priess (UFZ Leipzig). Besides the observation of ecological and cultural features of the visited landscapes, items and methodological issues relevant for ES MERALDA were studied and discussed. At each site, a rapid ecosystem service assessment related to different ecosystem/land use types was carried out using the MapNat Smartphone App and analogue assessment tables.



Excursion route map

- 1) Kiel
- 2) Bornhöved lakes district (Sites 1-3)
- 3) Ascheberg/Lake Plön (Site 4)
- 4) Bottsand/Baltic Sea (site 5)

For the assessment of the visited sites' capacities to supply selected ecosystem services it was discussed in the beginning:

- What to assess? ES potential supply, ES flow (actual use), or ES demand?
- Where to assess? Which are the spatial boundaries of each site?
- When to assess? Just this specific moment, annual average rates or which temporal scale?



at site 1



at sites 2-3



at site 4



at site 5

(all pictures by Linda Scholten, FSD)

The group decided to assess the potential ES supply within a one year time period. The different sites' ES supply capacities were assessed on the scale from 0 (no relevant capacity) to 5 (maximum capacity). For the MapNat App, the currently used ES were assessed on a similar scale and then submitted from the Android devices to the server at the UFZ Leipzig. The ES have in both cases been selected from CICES.

The results from the ES potential supply assessments were filled into the prepared ES matrix tables which were collected after the excursion. Altogether 10 filled assessment tables were collected. The following Figures show the results of the assessments. The mean values show that the highest potential ES supply values were given for timber in forests, crops on arable land, physical use of lake Plön and for landscape aesthetics at the Bottsand area. The lowest values were given for provisioning ES at the Bottsand area and at lake Plön (here except animals from aquaculture). The supply of most of the provisioning ES is of course restricted to specific systems such as crops on arable land, aquaculture in lakes, timber in forests and no cultivated crops in lakes, forests or coastal areas and no aquaculture in terrestrial systems respectively. These results could certainly be expected, nevertheless the emerging pattern reveals an interesting overview and enables a comparison of the different systems based on relatively rapidly collected information. The next step of the assessment should of course integrate more detailed information.

Mean values (n=10)	Regulating and maintenance ES			Provisioning ES	Cultivated crops	Animals from <i>in-situ</i> aquaculture	Materials: timber	Plant) Biomass-based energy sources	Cultural ES	
	Mass stabilisation and control of erosion rates	Flood protection	Micro and regional climate regulation						Physical use of land-/seascapes in different environmental settings	(Landscape) aesthetic
Site 1: <b>Bornhöved beech forest</b>	3,2	2,7	4,3	0,2	0,2	4,5	3,0	3,7	4,2	
Site 2: <b>Bornhöved arable land</b>	1,0	1,0	1,2	4,6	0,3	0,2	3,4	1,4	2,3	
Site 3: <b>Bornhöved grassland</b>	2,5	1,7	1,8	2,0	0,8	0,3	2,3	2,4	3,2	
Site 4: <b>Lake Plön</b>	1,8	2,4	2,9	0,1	3,8	0,7	0,6	4,6	4,4	
Site 5: <b>Bottsand</b>	3,0	3,2	2,5	0,0	0,7	0,2	0,4	3,2	4,6	

**Mean values of all collected assessment tables (n=10).**

The variance calculation was used to illustrate variations between the individual respondents' answers. It shows low variances for the landscape aesthetic assessments at all sites, for almost all ES site 2 (arable land) and for animals from in-situ aquaculture. The relatively high variance of the answers for aquaculture at the grassland site are surprising. One could assume that grasslands are not suitable for this kind of use. High variance was also found for physical use at the Bottsand site. Large parts of the area are nature reserve with very restricted access for humans. Thus, no physical use is possible here which should result in a "0" value here. Possible explanations for variant answers can be the delineation of the site, which was decided to include also the public beach located in the southeast of the nature reserve or the unclear definition of the access restrictions. Also cultivated crops on grassland and flood protection in forests showed high variances. Maybe an unclear definition of the ecosystem services was the reason.

Variances (n=10)	Regulating and maintenance ES			Provisioning ES	Cultural ES				Physical use of land/seascapes in different environmental settings (Landscape) aesthetic	
	Mass stabilisation and control of erosion rates	Flood protection	Micro and regional climate regulation		Cultivated crops	Animals from in-situ aquaculture	Materials: timber	Plant) Biomass-based energy sources	Physical use of land/seascapes in different environmental settings	(Landscape) aesthetic
Site 1: Bornhöved beech forest	2,4	4,0	0,6	0,2	0,2	0,9	2,2	0,8	0,4	
Site 2: Bornhöved arable land	0,7	1,3	0,8	0,2	0,9	0,4	2,2	0,5	1,1	
Site 3: Bornhöved grassland	0,9	1,4	1,4	4,4	2,8	0,4	2,2	1,4	0,4	
Site 4: Lake Plön	3,6	2,2	2,5	0,1	1,0	1,0	1,4	0,4	0,2	
Site 5: Bottsand	1,4	2,6	3,5	0,0	0,9	0,2	0,2	4,8	0,2	

**Variances of all answers in the collected assessment tables (n=10).**