



## **International Science Policy Society Advisory Board meeting Milestone 05, Part 2**

(Meeting 2 out of 3; 26.09.2016 in Prague)

September 2016

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Dissemination level  
Restricted

**ESMERALDA**

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



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### Background (based on ESMERALDA DoA; state April 2015)

A Science-Policy-Society Advisory Board (SPSAB) will be established to advise the Project Coordinator and the Executive Board on the strategic scientific direction of the Project. The SPSAB will advise the project management on international developments in the scientific field. It will furthermore act as a peer-review panel with respect to new project proposals, the research results as a whole and the training and communication activities.

The SPSAB shall consist of individuals, from either the Parties that are not directly involved in the Project or third parties, who have expertise in the Field. The EB will nominate members of the SPSAB for consideration and approval by the GA. Approved members will be appointed either for the duration of the Project or for the duration of a specific task assigned to the SPSAB. The rules and agreements related to such appointments shall be formulated by the EB, which shall ensure matters of confidentiality and conflict of interest are observed. All third party members of the SPSAB shall be required to sign a non-disclosure agreement. The SPSAB shall elect its own chairperson. The SPSAB shall meet once each year attached to the annual symposium and to an EB meeting. The SPSAB shall advise the PC and the EB on optimisation of resources and strategic scientific choices.

**Table 1: Members for the ESMERALDA Science-Policy-Society Advisory Board (SPSAB).**

Name	Affiliation	Country	Specific expertise
Leon Braat	Alterra	The Netherlands	MAES AB, MESEU
Neville Crossman	CSIRO Adelaide	Australia	Economic ES mapping
Markus Erhard	European Environment Agency	Denmark/EU	MAES AB, ES mapping
Berta Martín-López	Leuphana University Lüneburg	Germany	Social-ecological ES mapping
Anne Teller	DG Environment	EU	EU implementation

The role of the SPSAB shall be to:

- review progress made by the Project towards achieving the specific objectives shown in Annex I of the Grant Agreement;
- make recommendations to the EB and/or the GA with respect to modifications of the implementation Plan;
- make recommendations to the EB and/or the GA with respect to the use or dissemination of Foreground Knowledge; and,
- provide the EB and/or the GA with advice on issues within the field at request of either the EB and/or the GA.

Regular meetings are scheduled for 07/2015, 07/2016, 07/2017. Alternatively, the meetings can also take place in combination with other relevant events (e.g. project Workshops, MAES WG meetings). Milestone 05 is part of ESMERALDA Task 1.1: Overall project coordination, Task 1.2: Project management structures and processes, Task 1.3: Project quality management (lead by CAU in co-operation with all partners).

## 1. Programme and Participants of 2<sup>nd</sup> ESMERALDA SPSAB Meeting

**Time:** September, 26<sup>th</sup> 2016, 16:00-18:00 GMT

**Location:** CzechGlobe Office, Prague, Czech Republic

**Participants:** SPSAB members: Berta Martin-Lopez (BML), Markus Erhard (ME), Neville Crossman (NC)

ESMERALDA EB members: Benjamin Burkhard (BB, CAU), Davide Geneletti (DG, UNITN), Joachim Maes (JM, JRC), Leena Kopperoinen (LK, SYKE), Marion Potschin-Young (MP, UNOTT), Pavel Stoev (PS, Pensoft)

**Apologies:** Fernando Santos (FS, UAM), Leon Braat (Alterra), Anne Teller (European Commission)

**Minutes taken by:** Joachim Maes (JRC)

**Attachments:** none

### Agenda overview

- 15:30 - 16:00 Arrival and coffee
- 16:00 - 17:00 Updates on ESMERALDA progress and Deliverables (by EB)
- 17:00 - 18:30 Questions, discussions and advises (all)
- 19:00 ESMERALDA Workshop Welcome reception (at Pivovar Národní)



From left to right: Joachim Maes, Markus Erhard, Leena Kopperoinen, Berta Martin-Lopez, Neville Crossman, Davide Geneletti, Marion Potschin-Young, Pavel Stoev, Benjamin Burkhard

## 2. Comments and suggestions on the general progress

BB gives a general overview of the project:

- European Commission DG Environment director Humberto Delgado-Rosa has complimented the present progress made and mentioned ESMERALDA as example for a coordination action at his key note speech on the Regional ESP conference in Antwerp on 23/09/2016.
- Country fact sheets as first important output are published on BISE, the information system for biodiversity of the European Commission.
- ESMERALDA measures the progress of the member states at every MAES meeting making use of the methodology of Deliverable D2.1
- Overview of gaps and recommendations: Lacking engagement of national authorities, unsatisfying stakeholder involvement, and capacity gaps lead to poor implementation. Recommendations were formulated how to overcome these (D2.2).
- Overview of the other phases of the project.
- Inter-operability with other platforms (BISE and OPPLA);
- Consortium enlargement. Several countries are ready to join the consortium. This would be considered as a substantial achievement.
- Development of the multi-tiered ES mapping and assessment methodology involves an analysis of the different assessment methods, work on CICES and testing of concepts developed in ESMERALDA through case studies

### On how to engage more countries in the process?

There is still a lack in understanding of how MAES can contribute to conservation or other policies. Here ESMERALDA could be more supportive. However, ESMERALDA as a project cannot put pressure on countries as such. But other incentives are possible including:

- Increasing relevance of MAES in countries: it could be linked to other initiatives such as IPBES in order to convince lagging Member States to comply with MAES.
- Capacity building can be enhanced: e.g., UNCCD land degradation convention has set up a fund to attract private investors to restore land but they require an ecosystem services approach to demonstrate co-benefits from ecosystem services.
- Another way to engage countries is to identify young students from summer schools and stimulate them to be part of ecosystem services programs or networks. ESMERALDA could endorse individual projects of students or young PhD students.
- There are also options in the territorial cohesion funding and TEN-G (policy) but ESMERALDA can provide arguments on why we should do mapping and assessment of ecosystems and their services. Also from the ESP conference (Antwerp 19-23 September), it was apparent that ongoing work should show how ecosystem services mapping can be used in policy.
- Many people think that ecosystem services are equal to valuation and tradeoff with conservation. ESMERALDA could demonstrate how ES approach can help better uptake in implementation: MAES is very much organized in a horizontal way and DG ENV is looking for how to link different directives to the process.

### On the enlargement of the consortium:

- Calls for European neighborhood projects are reactivated and this could be used to organize workshops or to establish relationships.

### On ecosystem services indicators:

- Contact GEOBON and the working group on ecosystem services to see if our products can help them (contact is Patricia Balvanera).
- Tools and methods collected by EU BON could also be harvested for ESMERALDA.

### 3. Comments and suggestions for Work Package 2

- LK presents the tasks and Deliverables of WP2
- **How was the business sector included?** There will be a specific workshop in Budapest in spring 2018. The world business council for sustainable development released a report on natural capital accounting. So this group may be contacted to participate. They are also involved in the natural capital forum. Cement group (Heidelberg) and the sediment group could be invited as well. Also Biodiversa can be asked to provide profiles of business sector companies.
- **What scale of business are we looking at:** multinational or local scale businesses? NC advocates for multinationals given their importance, and impact they have. Having the big players on board should be easy but finding SMEs would please the Commission. One potential idea could be to look at the case study fact sheets and see if business is involved. Another option is to screen the climate adaptation community to find for suitable candidates. They need to know how climate change is a risk to their activities so also land use change may be relevant.

### 4. Comments and suggestions for Work Packages 3/4

- MP (also on behalf of FS) presents the progress made in WP3.
- **What sorts of information (in particular grey literature.) was used to analyse gaps?** The review included grey literature but it is not in the methods overview (matrix) yet.
- **Similar for languages?** But so far, the review did not include other languages. The case study fact sheets are based on local examples which are not necessarily published in the scientific literature.
- BML suggests contacting Ilse Geijzendorffer who analysed indicators applied in almost all ecosystem service assessments (for GEO BON).
- NC suggests developing a decision tree to organize the information. This proposal is generally welcomed by everyone around the table.
- ME asked to check the knowledge collected against the framework for implementing the biodiversity strategy; is there anything foreseen to check if the evidence base can be used to deliver evidence to support other targets such as green infrastructure, restoration targets, accounting, no net loss. BB replies that the workshop in Bulgaria in September 2017 can be used to collect feedback from stakeholders. Commission needs also some guidance on how the information can be used in the policy process. E.g., the decision tree should be used by policy makers as well.

### 5. Comments and suggestions for Work Package 5

- DG gives an update on Work Package 5 and the selection criteria to select case studies.
- ME asks if the different environmental directives are considered in ESMERALDA (e.g. Habitats and Birds directive, Water Framework directive) since member states carry out assessments to evaluate these policies. DG confirms that the directives are on board. ME asks how ecosystem condition can be mapped and how the EU wide assessments are used to do this?
- NC suggests focusing only on policy questions. Geographic distributions are less relevant. But responding to policy questions will be done in the next series of workshops. BML agrees that biomes should be of minor importance but that human-ecosystem interactions are more important. ME suggests however that the biogeographic regions could be used, also in context of the environmental directives.
- NC suggests including the peri-urban zone in the case studies; this will be covered in the workshop in 2018 in Trento/Italy.

- ME likes the spatial distribution of the case studies considered in the different workshops.
- BML suggests that the method cards could be cross-checked with the information collected in OpenNESS. ESMERALDA (FS) can cross-check this with the OpenNESS Deliverables.
- ME asks how the method cards could be extended to link services also to condition and benefits or to synergies and tradeoffs with other services. BB replies that this is still quite difficult to do in the current phase of the project but it is foreseen in task 4.4. NC suggests that e.g., some services are mapped using indicators that are used to quantify a bundle of services so this can be flagged in the main methods collection file (mother matrix).
- NC notes that there is an online search tool by US EPA which links services to methods or models (literature or contacts). Possible tools for inspiration:
  - <https://www.epa.gov/eco-research/ecoservice-models-library>
  - <http://ecosystemsknowledge.net/resources/tools/tool-assessor>

## 6. Comments and suggestions for Work Package 6

- PS highlights the most important tasks and achievements of this Work Package.
- It is presented that a poster or a profile for the advisory board people could be made.
- Link to OPPLA could be strengthened to have more outreach; it could also be in the interest of RTD; it could give ESMERALDA visibility. The next interoperability meeting (MS 31) is in January 2017 where we will ask them to provide more details about the strategy describing the complementarity between ESMERALDA, OPPLA and BISE.

## 7. Next meeting

The next meeting will take place in September 2017 in Bulgaria (back-to-back with the ESMERALDA Workshop).

## Appendix:

Written comments of SPSAB member Neville Crossman (based on questions provided beforehand to SPSAB members)

### 1) ESMERALDA Phase 1: Networking and stakeholder involvement

#### 1.1) Have the right stakeholders, networks, projects and initiatives been identified and appropriately addressed by ESMERALDA?

Are international scale and policy developments relevant? If yes, then it would be worth acknowledging substantial initiatives either assessing or requiring assessment of ecosystems at global level (e.g. Bonn Challenge; SDGs; CBD; UNCCD LDN; Natural Capital Acc – SEEA EEA) or national level (US EPA; China National Ecosystem Assessment). Of course ESMERALDA is supporting EU 2020 Biodiversity Target, but output could be useful to global initiatives, and methods could inform initiatives in non-EU countries/regions.

I suggest for the addition of Cyprus <sup>1</sup>, contact Manfred Lange at the Cyprus Institute (<http://www.cyi.ac.cy/index.php/eewrc/about-the-center/eewrc-our-people/itemlist/user/65-manfred-a-lange.html>)

Can Member States which lack capacity seek to fill those gaps from outside their country? Respectful of political processes and perceptions, I think capacity is available globally and should be engaged.

#### 1.2) How can interaction between science, policy and society be improved?

More side events at big meetings and conferences well attended by policy/society (e.g. COPs; IPBES Plenary; Natural Capital Forum(s); IUCN Congresses; Sustainable Landscapes Forum; London Group and other expert working groups). For more rapid interaction – webinars and deeper engagement with industry professional bodies.

### 2) ESMERALDA Phase 2: Developing flexible tools for mapping and assessment (ongoing)

#### 2.1 During the review of mapping and assessment “methods”, we have encountered different types of tools, methods, models, and measurements. We have defined them as:

- Methodology: a body of methods, rules, and postulates employed by a discipline: a particular procedure or set of procedures.
- Tool: a hardware or software device or conceptual framework used to implement a method, e.g. MSS, InVest or BBN or “economic toolkit”
- Method: is a way of structuring information or data, e.g. Natural Capital Index, NDVI.
- Model: e.g. USLE, SHETRAN (hydrological model).
- Measurement: the result of applying a method in a form of a quantitative or qualitative variable, e.g. (2t/ha)\*year (t/ha/yr), high/low.

**Do you agree with these definitions? What should the criteria be to group them?**

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<sup>1</sup> Response from the EB: Cyprus has been contacted and also represented in WS1 in Riga. WP2 stakeholders in Cyprus are Eleni Stylianopoulou, Antreas Antoniou, Marina Xenophontos, Ioannis Vogiatzakis

These definitions are good and capture all aspects of mapping ES that I can think of.

Presume Crossman et al (2013) was consulted??

**2.2) Is the Tiered ES mapping approach recommended by MAES suitable for all methods' domains (biophysical, economic and social approaches)?**

Generally, yes. Although certain tiers probably more relevant for certain domains (e.g. tier 1 most relevant for social domain<sup>2</sup>, whereas tier 3 most relevant for biophysical domain especially if production functions are the goal). Could ESMERALDA develop a decision tree process that assists Member States choose the appropriate model, tool and tier for each domain? Then resources can be appropriately targeted toward specific tiers in each domain.

**2.3) We have, for example, documented (ESMERALDA matrix, scientific literature review, method cards...) the current use of methods/approaches as a starting point for "Developing a multi-tiered flexible ES mapping and assessment methodology in the EU". What does this really tell us? Can we consider this as an evidence base for the use of methods around which we can develop our "Flexible Methodology"?**

Review of methods currently used is important for baseline. But what exactly is a 'flexible methodology'?

**2.4) What is needed in order to develop the "Guidance for ES mapping and assessment" as the ultimate target of ESMERALDA?**

I suggest a decision-tree approach<sup>3</sup>– this tool would be a step-by-step approach to identifying the specific mapping approach to be used by Member State xx wanting to map ecosystem service yy. We developed such an approach for the IPBES Modelling and Scenarios Assessment, in the chapter on ecosystem services models. The report will be released any day now and I can share when available.

**3) ESMERALDA Phase 3: Testing of the tools at multiple scales for multiple users (just starting)**

**3.1) Do the selected case studies sufficiently represent the variety of geographic conditions, socio-economic settings and policy questions in EU member states?**

Are peri-urban areas represented in case studies? These areas are under significant land use change pressure from urban expansion.

How about problem-based case studies which are not location specific, and rather, investigate what mapping products are needed to solve a problem independent of site-specific nuances – e.g. mapping ecosystem services to mainstream investment in ecological restoration? And also would sectorial-based case studies be possible – e.g. mapping ES for IWRM? And case studies that focus on policy questions such as what mapping processes are needed to support incentive-based (or disincentive

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<sup>2</sup> Comment LK: In my opinion, tier 2 would suit better to be the most relevant for social domain. Social approaches are not mainly very simple and straightforward quick approaches like the famous look-up tables.

<sup>3</sup> A new proposal is " diagnostic tool "

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based, e.g. regulation) conservation/sustainability policies. These types of case studies could produce tools that are more generic and applicable to wider set of problems at continental scale.

**3.2) Is the case study concept (i.e. problem-based, less training) suitable for enabling stakeholders for their Action 5 tasks?**

Yes, but in my opinion only if a wide cross section of case studies are chosen, which truly meet policy stakeholder needs. I think it's less important to get a representative geographic/biome set of case studies, and more important to get a policy problem-based representative set of case studies. It seems that geography/biome representation was the dominant driver in the selection of case studies – is this correct?

US EPA online catalogue of models for quantifying ES – <https://www.epa.gov/eo-research/ecoservice-models-library>