BOOK OF ABSTRACT

I. SESSION DESCRIPTION

ID: T18c

Title of session:

Implementing Ecosystem Services in policy at national scale

Hosts:

	Title	Name	Organisation
Host:	Dr	Laurence Jones	Centre for Ecology & Hydrology
Host:	Dr	Susan Williams	Natural Resources Wales
Co-host(s):	Prof	Bridget Emmett	Centre for Ecology & Hydrology

Abstract:

Ecosystem services (ES) thinking is influencing policy from national to local scales. At national level, some countries are adopting ecosystem services concepts into the policy arena, but the majority of practical application remains at the local scale. Therefore, with a few exceptions, strategic implementation at a national policy level is still largely lacking.

This session aims to bring together demonstrated application of ES thinking, with an emphasis on cross-sectoral implementation (i.e. not just within single policy departments), and at large scale.

We would particularly value joint contributions from policy makers, academics and practitioners involved in designing or implementing those policies.

Goals and objectives of the session:

The overall goal is to showcase actual implementation of policy and joined-up thinking within governance structures in relation to ecosystem services ways of thinking. This moves beyond implementation of national PES schemes, although those are also of interest, particularly where they encourage cross-sectoral thinking in land management.

It seeks to highlight examples where ecosystem services thinking is starting to become deeply embedded in national policy, to the extent that individual policy areas are working with other policy areas on land management issues, or where different policy areas are working together towards a common goal of integrated resource planning and management.

One example we have in mind is from Wales in the UK. The Welsh Government has enacted two pieces of legislation, the Wellbeing of Future Generations Act and the Environment Act. The first of these mandates that all government activity must consider how it delivers to seven Wellbeing goals, which are broad-ranging and encompass Prosperity, Health, Resilience and Global responsibility among others. The second mandates that management of natural resources should be sustainable, and effectively underpin delivery to the wellbeing goals. These two pieces of legislation place an ecosystem services way of thinking at the heart of government. This has already influenced how agri-environment schemes are designed and implemented, with a broader remit going forward to incorporate social and cultural needs in land use planning.
The session aims to bring together examples from emerging and existing initiatives across Europe, ideally at national but also at local government level, which demonstrate integrated and cross-sectoral thinking in governance.

Planned output / Deliverables:

After the conference, all participants in the session will be invited to contribute to a policy-brief which will highlight leading examples globally where ecosystem services thinking is being actively implemented in policy. The brief will draw out key strengths of these activities and will highlight different approaches taken under different political and socio-economic contexts.

Related to ESP Working Group/National Network:

Thematic working groups: T18 – Governance & Institutional aspects

II. SESSION PROGRAM

Date of session: Tuesday, 16 October 2018
Time of session: 14:30 – 18:00

Timetable speakers

Time	First name	Surname	Organization	Title of presentation
14:30–14:45	Laurence	Jones	Centre for Ecology & Hydrology	Introduction to the aims of the session
14:45–15:00	Bridget	Emmett	Centre for Ecology & Hydrology	Linking modelling, mapping and monitoring of ecosystem services to inform national policy in Wales
15:00–15:15	Rute	Martins	Instituto Superior Técnico, Universidade de Lisboa	ESS in URBAN–RURAL connections in the metropolitan region of Lisbon: lessons from existing experiences
15:15–15:30	Yihe	Lyu	Research Center for Eco-Environmental Sciences, Chinese Academy of Sciences	Scale and landscape attributes matter for understanding the performance of large payments for ecosystem services
15:30–15:45	Giacomo	Cozzolino	Ecolinfa	Payment for Ecosystem Services in Ethiopia: the National Strategic Plan
15:45–16:00	Deanna	Donovan	Joint Nature Conservation Committee	Ecosystem Services Sustainability in Policy and Practice in the UK
16:30–16:45	Olga	Illarianova	Lomonosov Moscow State University	An analysis of ecosystem services' consideration in General Urban Spatial Plans in

Time	First name	Surname	Organization	Title of presentation
				Russia
16:45–17:00	Jan	Danek	Global Change Research Institute, Czech Academy of Sciences	Ecosystem services in environmental and other sectoral policies in the Czech Republic
17:00–17:15	Remi	Jaligot	Swiss Federal Institute of Technology	Conducting participatory mapping of cultural ecosystem services at the national scale: a case of Switzerland
17:15–17:30				Discussion on issues raised
17:30–17:45				Discussion on issues raised, continued
17:45–18:00				Planning Policy Brief

III. ABSTRACTS

The abstracts appear in alphabetic order based on the last name of the first author. The first author is the presenting author unless indicated otherwise.

1. *Type of submission:* ***Abstract***

T. Thematic Working Group sessions:T18c Implementing Ecosystem Services in policy at national scale

Payment for Ecosystem Services in Ethiopia: the National Strategic Plan

First author: Giacomo Cozzolino, Daniel Bazzucchi
Other author(s): Alessandro Piazzi
Affiliation, Country: Ecolinfa, SETIN SrlItaly, Italy

The PES Strategic Plan represents a general policy document in the field of the green economy in Ethiopia; it is developed under the Mainstreaming Incentives for Biodiversity

Conservation in the Climate Resilient Green Economy Strategy GEF Project. CRGE is designed to address this need by putting in place safeguards to ensure that the current high level of growth and planned investments do not impact negatively on biodiversity. In order to address this goal, financing mechanisms and governance tools, like PES, can play an important role. The PES Strategic Plan is designed to provide all the actions needed to create the conditions to design, adopt and implement PES schemes in the Country. The main objectives are to:

- Identify the potential PES schemes and provide some specifications for each of them;
- Outline the opportunities and the challenges of PES implementation in Ethiopia;
- Preliminarily assess the annual value of each kind of scheme;
- Provide a road-map for defining the actions, steps, and roles of each key-player in the implementation of the PES Strategic Plan; it also includes suggestions and recommendations;
- Promote the ownership of the PES system and outline the pillars of good governance of the PES system.

The total estimated financial impact overpass 80 Mln of USD and it represents a significant value for biodiversity conservation policies in the Country. The total value is underestimated as some PES schemes have not been accounted (for lack of baselines data) and the general approach has been conservative. Actions designed by the PES Strategic Plan include the creation of a coordinating body, the updating of the legislative framework, the design and implementation of specific PES and PES-like schemes at national level and the creation of favorable condition for local PES schemes.

Keywords: Payments for Ecosystem Services, Strategic Plan, Biodiversity Conservation, National Policies

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2. Type of submission: ***Abstract***

T. Thematic Working Group sessions:T18c Implementing Ecosystem Services in policy at national scale

Ecosystem services in environmental and other sectoral policies in the Czech Republic

First author: Jan Danek

Affiliation: Global Change Research Institute, Czech Academy of Sciences, Czech Republic

In response to the increasing popularity of the ecosystem services concept among scholars and policy makers on the international level, it has become time to analyse the current state and possibilities for national policies in reflecting this concept. The aim of this research is to assess the level of implementation of the ecosystem services concept in various national policies, mainly focusing on environmental, nature protection, climate change, agriculture including water and forestry, regional development and some other cross-sectoral strategic documents. The content analysis method is used to scan the documents for specific keywords in order to answer the question whether existing policies use the ecosystem services concept or related ecosystem-based approach. A secondary question – how has the level of implementation of the concept in a policy changed in time? – is applied to the cases where it is possible to compare an existing and valid policy with its previous, outdated version. A finer analysis is conducted for selected environmental policies in order to capture implicit notions of the ecosystem services concept or specific ecosystem services. Some policy areas show contrasting results, e.g. with the Strategy on Adaptation to Climate Change in the Czech Republic scoring very high compared to the Climate Protection Policy of the Czech Republic, which almost does not reflect the ecosystem services or related ecosystem approach. Implications of the results and a broader context of the research within a PhD dissertation are discussed in respective sections.

Keywords: ecosystem services, implementation, environmental and sectoral policies, content analysis

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3. Type of submission: ***Abstract***

T. Thematic Working Group sessions:T18c Implementing Ecosystem Services in policy at national scale

Ecosystem Services Sustainability in Policy and Practice in the UK

First author: Deanna Donovan

Affiliation, Country: Joint Nature Conservation Committee, United Kingdom

Consideration of ecosystem services sustainability has been driving the development of the concept of natural capital in national policy throughout the United Kingdom after the UK National Ecosystem Assessment of 2011. Although environmental matters are a devolved responsibility among the four nations of the United Kingdom, overlapping species range as well as cross-boundary beneficiary use and externality impacts demand a sometimes integrated, collaborative approach to environmental management. Sectoral as well as spatial spill-over has prompted environmental managers to reach out to colleagues in different sectors to learn more about the often less visible effects of natural resource use. While the term 'natural capital' may not be employed universally across the UK, the underpinning concepts of ecosystem services, whether in the context of provisioning, regulating or cultural services, is generally well-accepted. The need for environmental management to secure the sustained flow of ecosystem goods and services for present as well as future generations is also now generally recognised at all policy levels. The increasing cooperation of natural resource managers and policy makers to develop a clear understanding of the assets, indicators and metrics evidences a positive embedding of ecosystem services ways of thinking in the administration as well as the private sector. The aim of this presentation is to outline this development and highlight some of the subjects being tackled in current work. Scale, system resilience, trade-offs and accommodating changing demand overtime are being explored by scientists and decision makers in tandem efforts to move ecosystem services considerations into practice. Examples from the four countries will serve to illustrate the progress being made through ecosystem services thinking for better natural resource planning and management in the UK.

Keywords: ecosystem services, natural capital, UK, environmental management

4. Type of submission: ***Abstract***

T. Thematic Working Group sessions:T18c Implementing Ecosystem Services in policy at national scale

Linking modelling, mapping and monitoring of ecosystem services to inform national policy in Wales

First author: Bridget Emmett, ERAMMP Team

Other author(s): S. Anthony, C.Bell , D. Chadwick, E. Connors , B.J. Cosby, I. Dickie, B. Ditchburn, R. Dunford, F. Edwards, E. Finney, A. Garbutt, R. Gooday, P. Harrison, P. Henrys, I. Holman, D. Jones, L. Jones, L. Maskell, R. Mathews, L. Norton, M. Petr, D. Robinson, D. Sanders, R. Scott, J. Skates, S. Smart, G Siriwardena, R. Swetnam, A. Thomas, D. Thomas, M. Vieno, A. Williams, B.Williams, C. Wood

Affiliation, Country: Centre for Ecology & Hydrology, United Kingdom

This will be a two-part presentation covering policy drivers and the implementation of a multi-partner monitoring and modelling evaluation programme to support the policy needs. Policy drivers: In Wales (UK), innovative new legislation is focused on improving the social, economic, environmental and cultural well-being of Wales. The new legislation recognises that ensuring the sustainable management of Wales' natural resources underpins significant economic sectors in Wales including agriculture, fisheries, tourism and forestry, and they also make a significant contribution across government including the health and well-being agenda. Implementation: To support the implementation of the new legislation, Welsh Government has invested in developing a large multi-partner organisation to inform policy development and track policy outcomes using an integrated approach including trade-offs and conflicts. The work includes modelling of future land use scenarios, economic valuation of public goods, and a national integrated monitoring programme to report on the success or otherwise of the new legislation and natural resource policies. Results: We will describe some unexpected results from the rolling national monitoring programme and how this is being used to track the success of government policies. An array of approaches and technologies is being exploited to increase efficiencies, repeatability and provide more direct links to real-time ecosystem functions.Initial results from the integrated modelling work will also be described including the magnitude and spatial distribution of a suite of public goods and benefits in response to future land use scenarios and new farmer payment schemes under consideration by Welsh Government. Plans for a dynamic Integrated Modelling Platform will be described which will provide users with a dynamic interface to explore a range of possible futures for natural resources and the valuation of public goods including cross-sectoral interactions in response to different land use and climate change scenarios.

Keywords: Policy & Legislation, Modelling, Monitoring, Public Goods, Economic valuation

5. Type of submission: ***Abstract***

T. Thematic Working Group sessions:T18c Implementing Ecosystem Services in policy at national scale

Conducting participatory mapping of cultural ecosystem services at the national scale: a case of Switzerland

First author: Rémi Jaligot, Stéphanie Hasler
Other author(s): Jérôme Chenal
Affiliation, Country: Swiss Federal Institute of Technology, Switzerland

A system-based approach may not consider subjective values translated through cultural ecosystem services (CES) to the same extent as a place-based approach. In Switzerland, a national assessment may show strong variations in CES values because of local traditions. The methodology to assess CES should consider the scale of study. Based on literature review and the elicitation of five experts, five CES were selected and assessed at the national scale for the first time. Web-based mapping was suitable because it was possible to zoom in and out to ensure accuracy, and to target the entire study area – including remote alpine areas. The tool Maptionnaire was used for its flexibility. Each participant had to locate his / her residence as a preliminary condition to start the survey. The survey was initially designed to locate CES with points, then to draw polygons around the supply areas. After testing with ten experts, drawing polygons was considered too challenging. The participants graded each area's importance on a scale from one to ten, and specified why in a multiple-choice question. Finally, they answered two multiple-choice questions for each CES about the factors that would lead to a decrease in its value, and the potential mitigation measures. 11,300 email addresses from universities, administrations and environmental associations were put together. 4,342 CES provisioning areas were located. Results showed that the approach was suitable to target all regions. While 20% of the receivers answered the survey, 5% managed to complete it due to the time required to map several provisioning areas for each CES. Most participants who located provisioning areas for at least two benefits completed the survey. We recommend the approach for an ES assessment at the national scale. However, the survey length is a limitation to reach higher response rates.

Keywords:Participatory mapping, national assessment, cultural values, methodology, Switzerland

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T. Thematic Working Group sessions:T18c Implementing Ecosystem Services in policy at national scale

Scale and landscape attributes matter for understanding the performance of large payments for ecosystem services

First author: Yihe Lyu

Other author(s): Ting Li, Charlotte Whitham, Xiaoming Feng, Bojie Fu

Affiliation, Country: Research Center for Eco-Environmental Sciences, Chinese Academy of Sciences, China

Various Payment for Ecosystem Services (PES) programs are becoming common across the globe inspired by ever-strengthening conservation policy and the aspiration for socio-ecological sustainability. Nevertheless, quantifying PES programs' performance at large spatial scales remains a great challenge. Here, a biophysically-based indicator approach is formulated to assess the effectiveness of a new top-down government-to-government large-scale PES program in China. Structural equation modeling was also used to reveal the possible landscape attributes that might have impacts on the PES effectiveness. The simple quantitative approach we proposed can be informative for the planning of large scale PES programs. The results suggest an overall effectiveness of PES implementation. More positive results in terms of PES effectiveness are obtained when using larger assessment units, but this effectiveness representation tends to decrease with increasingly finer spatial scales from the whole PES implementing region down to 100 km2 grids. Selected landscape features combine to explain about one quarter of the variability in PES effectiveness. The effect of land-surface roughness in limiting human pressures and PES effectiveness were also confirmed at the county scale. Therefore, we would suggest that the necessity and rationality of PES programs in general can be verified by assessment at large spatial scales while conservation actions can be directed by small-scale assessments to improve real world performance. In addition, more biophysical and socioeconomic factors at local scale need to be monitored and quantitatively analyzed for understanding the complex mechanisms of PES effectiveness. The spatial scale and landscape dependency of PES effectiveness should provide new insight to support the planning and adaptive management of large PES programs.

Keywords: vegetation change; ecological conservation; governmental payments; restoration trend detection; performance assessment

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7. Type of submission: ***Abstract***

T. Thematic Working Group sessions:T18c Implementing Ecosystem Services in policy at national scale

Ess in urban-rural connections in the metropolitan region of lisbon: lessons from existing experiences

First author: Rute Martins, Maria Partidário

Other author(s): Maria do Rosário Partidário, Isabel Loupa Ramos, Margarida Monteiro, Carlos Pina, Alexandra Almeida

Affiliation, Country: Instituto Superior Técnico, Universidade de Lisboa, Instituto Superior Técnico, Universidade de LisboaPortugal, Portugal

Rural-urban relationships are changing and the connections between these territories are now increasingly the attention of research and policy initiatives. Ecosystem services (ESS) are recognizably relevant in both urban and rural territories and are likely to be a key connecting factor between these territories. While the urbanisation trends still dominate land development with impacts upon land and ecosystem management, and hence on the availability, accessibility and quality of ecosystem goods and services, the sustainable provision of public goods and services from ecosystem is to a considerable extent also a question of the appreciation of these services by the society as a whole. A H2020 European research project - ROBUST - is addressing means of unlocking rural- urban synergies through establishing dialogues across urban and rural areas. ROBUST aims to advance the understanding of the interactions and dependencies between rural, peri-urban and urban areas and identify and promote policies, governance models and practices that foster mutually beneficial relations. Organized around eleven living laboratories (LL) in Europe, ROBUST is looking into five cross-sectional themes, called communities of practice, one of which is ESS. Lisbon Metropolitan Area is one of the ROBUST LL where there is growing evidence of urban-rural synergies motivated by ESS. A rapid appraisal of several on-going projects and initiatives is being undertaken in the context of ROBUST to review what is known about urban - peri-urban - rural relations, exploring key issues and existing governance arrangements. Results are presented and discussed as means to map out the role of ESS in connecting urban and rural territories that contribute to the strengthening of urban-rural linkages in the Metropolitan Area of Lisbon.

Keywords: Ecosystem services, Urban-rural synergies, Living Lab, Governance arrangements

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8. Type of submission: ***Abstract***

T. Thematic Working Group sessions:T18c Implementing Ecosystem Services in policy at national scale

An analysis of ecosystem services' consideration in general urban spatial plans in russia

First author: Olga Illarionova, Oxana Klimanova

Affiliation, Country: Lomonosov Moscow State University, Russian Federation

Recently, the Russian governance has been showing an increased interest in the development of urban green infrastructure, especially concerning its ecosystem services. As a result, in General Cities Plans ("a genplan" – an official document that determines spatial planning) local governments are obliged to dedicate at least one chapter to the benefits of green infrastructure. However, ecosystem services are not always addressed with a due scientific approach. Instead, they are often included solely for the sake of formality. Thus, our research aims to analyze GCPs of fifteen most populated Russian cities to assess a general notion of ecosystem services. Our investigation showed that three out of fifteen genplans (Ekaterinburg, Krasnoyarsk, Samara) do not mention ecosystem services at all. Other plans describe at least two ecosystem services, among which recreation is most common. Seven plans approach air pollution removal. However, only Moscow and Volgograd perform monetary value and pollution removal assessment by green infrastructure. Among most rarely used services are erosion prevention (Kazan, Ufa – though, these plans do not elaborate on specific places or districts where erosion prevention is most needed) and dust deposition (Volgograd, Rostov-na-Donu – situated in an agricultural steppe region). The most detailed ecosystem services chapters that focus on their spatial distribution and quantitative assessment are in Moscow's, Saint Petersburg's and Volgograd's plans. While the first two are the most important administrative and touristic centers and thus develop a well-planned green network, the latter is a relatively "common" city with no exclusive administrative or economic functions. Plans of industrial cities like Chelybinsk and Ekaterinburg, despite their particular need in air pollution removal, barely cover these ecosystem services. Today local administrations perceive green infrastructure mostly like an unnecessary obligation. To make them see it as a beneficial part of urban planning, other instruments, besides legislative, should be applied.

Keywords: ecosystem services, spatial planing, urban green infrastructure, environmental policy

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9. Type of submission: ***Abstract***

T. Thematic Working Group sessions:T18c Implementing Ecosystem Services in policy at national scale

Exploring if and how current policy instruments support joined-up natural resource management

First author: Kerry Waylen

Other author(s): Kirsty Blackstock, Jessica Maxwell, Alba Juarez Bourke, Sophie Tindale

Affiliation, Country: The James Hutton Institute, United Kingdom

There is wide support for the idea that joined-up thinking and management is needed to deliver a balanced mix of ecosystem services. However, existing policies and their subsidiary instruments may not reflect this. Therefore, it is important to understand if and how policy instruments interact, to help identify opportunities to better 'join up' the governance of our natural resources. We analysed ten policy instruments designed to safeguard or improve Scotland's environment. We explored the effects and interactions of these instruments by analysis of official documents and by interviews with stakeholders charged with policy design or delivery. We found that many instruments affect more aspects of the environment than they were originally designed to influence. Furthermore, stakeholders charged with policy implementation use considerable effort, often invisible externally, to avoid duplication or conflict with others. This is good news: current policy delivery already shows some signs of being joined-up. However, there are opportunities to do more, particularly for protection of soils, biodiversity and air quality, and to mitigate climate change impacts. There are relatively few instruments explicitly designed to target some assets, with only partial coverage of relevant settings and activities. For example, biodiversity protection is mostly achieved by regulatory instruments applying only to designated areas, whilst soil management is expected to be achieved almost entirely by voluntary measures. These imbalances in the mix of instruments can make it harder to achieve balanced delivery of ecosystem services. Overall, it seems our current policy instruments can support joined-up management, albeit imperfectly. Changing the mix of policy instruments may be useful, but faces little appetite or ability to do so. The challenge remains as how best to achieve joined-up thinking in a crowded institutional landscape – should we invest solely in processes for collaboration and coordination, or are alterations to formal policy required?

Keywords: coordination, integration, policy, nexus