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1. Aim and set-up

The main aim of the conference is to provide a forum for researchers, practitioners and policy-makers to exchange information and ideas about new developments and pressing issues on the Science and Practice of Ecosystem Services (ES). In addition, this 4th International Conference aims to strengthen the Ecosystem Services Partnership (ESP) as a global platform for dialogue on this important topic.

During the conference, science and practice are linked by the presence of key-stakeholders representing the views from policy makers, NGO's and the business-community who have ample opportunities for attending presentations and discussions by scientists, and practitioners, during workshops and special sessions. Distinguished speakers will present the latest state-of-the-art on 6 main topics which will be discussed in greater detail in 6 parallel workshop-sessions on two afternoons:

1. Quantifying, mapping, and modeling of ES (incl. selection of ES indicators)
2. Valuation of ES and use in trade-off analysis and other decision support systems
3. Use of ES in planning & management: concepts, tools and guidelines
4. Financing mechanisms for ES, including investment opportunities and economic instruments
5. Role of ES in policy making and institutional aspects (incl. networking and communication)
6. Case studies on the practical use of ES in planning, management and capacity building

In addition to several special issues of international scientific journals, key-outputs of the conference will be:

- The launch of an ESP database on Ecosystem Services linked to a global network of expert-groups and key-sites in all major biomes on ecosystem services research, management and restoration
- Discussions on knowledge sharing and capacity building on the science and practice of ecosystem services through (inter)national networks and initiatives
- The presentation on progress made with, and plans for National TEEB studies

2. Organisation

Executive Committee and Local organizers

Rudolf de Groot (Chair ESP Conference 2011/ ESP Chair), Wageningen University, NL

Robert Costanza (ESP Co-Chair) Portland State University, USA

Felix Müller (Chair ESP Conference 2010) Kiel University, Germany

Leon Braat, Alterra, WUR, NL

Sander van der Ploeg (ESP Secretary), Wageningen University, NL

Phuong Bui and Tuyen Tran (internship students), Wageningen University, NL

Alexander van Oudenhoven (PhD-student), Wageningen University, NL

Katalin Petz (PhD-student), Wageningen University, NL

Scientific Committee

Workshop 1 (Quantifying, mapping, modeling & indicators): Benjamin Burkhard (Kiel University, Germany), Neville Crossman (CSIRO Ecosystem Sciences, Australia), Stoyan Nedkov (Bulgarian Academy of Sciences, Bulgaria)

Workshop 2 (Valuation and tradeoff analysis): Felix Müller (Kiel University, Germany), Josh Farley (University of Vermont, USA), Giovanni Zurlini (University of Salento, Italy)

Workshop 3 (Planning & management): Marion Potschin (University of Nottingham, UK), Roy Haines-Young (University of Nottingham, UK), Kurt Jax (UFZ, Germany)

Workshop 4 (Financing mechanisms): Erik Gómez-Baggethun (Autonomous University of Barcelona, Spain), James Blignaut (University of Pretoria, South Africa), Roldan Muradian (University of Nijmegen)

Workshop 5 (Policy making and institutional aspects): Robert Costanza (Portland State University, USA) Ida Kubiszewski (Portland State University, USA), Irene Petrosillo (University of Salento, Italy)

Workshop 6 (Case studies): Leon Braat (Alterra, WUR, NL), Simone Maynard (SEQ Catchments, Brisbane, Australia), James Aronson (CNRS, Montpellier, France)

Assisted by Derek van Berkel, Anne Böhnke-Henrichs, Claudia Carvalho dos Santos, Monique Gulickx, Ralph van Krimpen, Alexander van Oudenhoven, Katalin Petz, Roy Remme, Johann Schild, Matthias Schröter, Yafei Wang, Emma van der Zanden

International Advisory Committee

Rob Alkemade (PBL – Netherlands Environmental Assessment Agency),

Neville Ash (Chief Biodiversity Unit, UNEP),

Ian Bateman (Director CSERGE, Chair Valuing Nature Network, UK),

Willem Ferwerda (Director IUCN-Committee, The Netherlands),

Rik Leemans, (Chair Earth Systems Science Partnership)

William Mitch (Chair EcoSummit 2012, Ohio State University, USA)

Paulo Nunes (Mediterranean Science Commission, CIESM, Monaco)

Linwood Pendleton (Chair Marine Ecosystem Services Partnership)

Rosimeiry Portella (Conservation International)

3. Conference Program

Program overview

	Day 1 (Tues 4 Oct)	Day 2 (Wed 5 Oct)	Day 3 (Thu 6 Oct)	Day 4 (Fri 7 Oct)
Plenary sessions				
09:00	8:00 Registration Opening Martin Kropff, Rector Magn. Dolf de Groot, Conf. Chair	8:00 registration 8:30 start of program 8:45 2 keynotes (related to workshops 1 & 2)	8:00 registration 8:30 start of program 8:45 2 keynotes (related to workshops 3 & 4)	8:00 registration 8:45 start of program
09:30	3 Keynotes on state-of-the-art and challenges: Ecosystem Services (ES) in science Robert Costanza (Inst. for Sust. Solutions, Portland State Univ, USA) ES in practice Rosimeiry Portela (Conservation Int., USA)	Measuring, modeling & mapping of ES Matt Walpole (UNEP-WCMC, UK) Valuation of ES and trade-offs Joshua Farley (UVM, USA)	Incorporating ES in landscape planning and design Paul Opdam (WUR, NL) Investing in ES restoration pays ! James Blignaut (Pretoria Univ., SA)	9:00 Creating the enabling environment, views from: Policy makers 9:00-9:45 -Laure Ledoux, EC -Henk de Jong, Min EL&I, NL -Christo Marais, SA Business 9:45-10:00 -Mikkel Kallesoe, Shell NGO's 10:00-10:30 -Willem Ferwerda, IUCN -Rosimeiry Portela, CI Institutions 10:30-11:00 -Rik Leemans (ESSP) -Neville Ash, IPBES (VC)
	10:30-11:00 BREAK	10:00 10:30 BREAK	10:00 10:30 BREAK	11:00 – 11:30 Break
11:30	ES in policy Patrick ten Brink (IEEP, Belgium)	Semi-Plenary Sessions		Panel Session
12:00	Panel Session Brief introduction of workshops & Special Sessions	A. National TEEB Studies	B. ES Data base and Expert Groups development	<i>"what needs to be done to better integrate ecosystem service science and practice"?</i>
			C. Knowledge Sharing & capacity building	
lunch	12:30 – 13:30	12:30 -13:30		12:30 – 14:00 Lunch & time to view posters & displays
13:30	6 PARALLEL-WORKSHOPS (3 hrs each)			14:00 – 15:30 Plenary presentation & discussion of Workshop & Session Results <i>Key issues, concluding statements "what works, what not; way forward"</i>
1	Quantifying, mapping, modeling and indicators of ecosystem services			15:30 – 16:15 Special lecture (& movie) "What is the economy for anyway?" Dave Batker (EE, USA)
2	Valuation of Ecosystem Services and use in trade-off analysis and other decision support instruments		Fieldtrip to two examples of the use of "Ecosystem Services in practice:	
3	Use of ecosystem Services in Planning and management: concepts & tools		"Gelderse Poort" (restoring river ecosystem services)	
4	Financing instruments and investment opportunities for ecosystem services		"Burgers Bush" (imitating ecosystem services of tropical forests, desert and oceans)	16:15 – 16:30 Closing remarks and future plans
5	Role of ecosystem services in policy making and institutional aspects			
6	Case studies: use of Ecosystem Services in practice			
16:30	Break / time to go to Special Sessions:			
17:00	a) Are we missing values? (IUCN) b) Food security, ES & protected areas (JRC & IUCN-CEM) c) Knowledge network on ES (UFZ & BBP) d) Restoring ES in Baviaanskloof (Living Lands, SA)	OPEN SPACE (5 rooms available)	ESP Member Session 17:00 – 18:00	Farewell drink & DEPARTURE
-				
19:00			Including Conference Dinner "Dutch Jungle Buffet"	
> 19:00	"FREE" (or continue Special Sessions)	"FREE" (or continue Special Sessions)		

Detailed program overview

Day 1 (Tuesday)

Day chair: Rudolf de Groot

8.00 Registration

Morning: 9.00-12.00

Room: Haakzaal (main lecture hall)

- 9.00 Welcome** Martin Kropff,
Rector Magnificus of Wageningen University
- Introduction to the conference** Rudolf de Groot
*Environmental Systems Analysis Group,
Wageningen University, the Netherlands*
- 9.30 Ecosystem services in science** Robert Costanza
*Institute for Sustainable Solutions,
Portland State University, USA*
- Ecosystem services in practice** Rosimeiry Portela
*Conservation International, Washington D.C.,
USA*
- 10.30 Break**
- 11:00 Ecosystem services in policy** Patrick ten Brink
*Institute for European Environmental Policy
Brussels, Belgium*
- 11.30 Panel Session with morning speakers**
- 12.00 Introduction to Workshops and Special Sessions**
Short introductions and description of workshops by the chair and the session organisers

12.30-13.30 Lunch

Afternoon: 13.30 – 17.00 (or 19:00)

13.30 6 parallel Workshops

For detailed description of the workshops, and rooms, see appendices

WS1 - Quantifying, mapping, and modeling of ecosystem services

Organisers: Benjamin Burkhard, Neville Crossman, Stoyan Nedkov

WS2 - Valuation of ecosystem services and trade-off analysis (incl. decision support systems)

Organisers: Felix Müller, Josh Farley, Giovanni Zurlini

WS3 - Ecosystem services in planning & management: concepts & tools

Organisers: Marion Potschin, Roy Haines-Young, Kurt Jax

WS4 - Financing mechanisms and investment opportunities for ecosystem services

Organisers: Erik Gómez-Baggethun, James Blignaut, Roldan Muradian

WS5 - Policy & institutional aspects: i.e. creating the “enabling environment”

Organisers: Robert Costanza, Ida Kubiszewski, Irene Petrosillo

WS6 - Case studies: use of ecosystem services in practice

Organisers: Leon Braat, Simone Maynard, James Aronson

The goal of the parallel workshop is to give participants the opportunity to present their research and engage in discussions on gaps and challenges as input into the policy day on Friday. It is planned to publish presented abstracts and posters in special issues of selected journals.

We would appreciate if participants stay with one workshop because this will lead to more in-depth discussion and innovation

16.30 Break / time to go to Special Sessions

17.00 Special Sessions (in parallel)

a) Are we missing values?

Organisers: Gisella Cruz Garcia, Bas Verschuuren, Katja Heubach
IUCN, CVSP and BiK-F

b) Food security, ES & protected areas

Organisers: Louise Willemen, Jelena Ilic, Benis Egoh, Evangelia Drakou,
Piet Wit, Joachim Maes
JRC and IUCN-CEM

c) Knowledge network on ES

Organisers: Marie Vandewalle, Estelle Balian, Angelique Berhault
UFZ and BBP

d) Restoring ES in Baviaanskloof

Organisers: Dieter van de Broeck, Christo Marais, Odirilwe Selomane,
Maura Andrew, Alexander van Oudenhoven, Jasper de Vries
Living Lands, PRESENCE and WUR

19.00 “FREE”

Day 2 (Wednesday)

Day Chair: Robert Costanza

Morning: 8.30-12.30

Room: Haakzaal (main lecture hall)

8:30 Start of program

8.45 Measuring, modeling & mapping of ecosystem services

Matt Walpole
UNEP-WCMC, UK

9:20 Valuation of ecosystem services and trade-offs

Joshua Farley
University of Vermont, USA

10.00 Break

10.30 Semi-Plenary Sessions

For detailed description of these sessions and rooms see appendices

A. National TEEB studies

Organiser: Leon Braat

B. Development of ES Database(s) & Biome Expert Groups

Organisers: Dolf de Groot, Sander van der Ploeg, Jelena Ilić, David Vačkar

C. Knowledge Sharing, Networking & Capacity Building

Organisers: James Aronson, Simone Maynard, Dixon Landers

The goal of the semi-plenary sessions is to provide an overview of current research, practice, tools and/or networks on these topics. Each session consists of an introduction and several selected presentations and is concluded with a general discussion.

We would appreciate if participants stay with one session because this will lead to more in-depth discussion and less disturbance.

12.30-13.30 Lunch

Afternoon: 13.30 – 19.00

13.30 6 parallel Workshops

For details see afternoon program of Day 1

16.30 Break / time to go to Open Space or ESP member session

17.00 OPEN SPACE
(5 rooms available)

ESP Member Session
Program will be provided later

19.00 "FREE"

Day 3 (Thursday)

Day Chair: Felix Müller

Morning: 8.30-12.30

Room: Haakzaal (main lecture hall)

- 8:30 Start of program**
- 8.45 Incorporating ecosystem services in landscape planning and design** Paul Opdam
Wageningen UR, The Netherlands
- 9:20 Investing in ecosystem services restoration pays!** James Blignaut
Pretoria University, South-Africa
- 10.00 Break**
- 10.30 Poster Sessions (10:30 – 12:15)**
The poster sessions are organised as part of the workshop. For detailed overview, location of the session and list of posters see appendices.
- NOTE: Session ends 12:15 because the busses for the excursion leave 12:30 sharp !**
- 12:30 LUNCH**
Excursion participants will get a lunch-package for underway. For those who do not join the excursion, lunch will be in the conference centre.
- 12.30 Excursion (busses leave 12:30 sharp)**
- Fieldtrip to two examples of the use of "Ecosystem Services in practice":
- "Gelderse Poort" (*restoring* river ecosystem services)
 - "Burgers Bush" (*imitating* ecosystem services of tropical forests, desert and oceans)
- Including Conference Dinner "Dutch Jungle Buffet"
- For details see the excursion hand-out*
- NOTE:** *On the conference website several alternative excursion possibilities have been listed. Both in Wageningen, its surroundings and other cities (Amsterdam, Nijmegen, Utrecht).*

Day 4 (Friday)

Day Chair: Leon Braat

Room: Haakzaal (main lecture hall)

Morning: 8.30-13.00

8.00 *Registration*

8:45 *Start of program*

9.00 **Short keynotes with views from:**

Policy makers

- Laure Ledoux, *Biodiversity Unit, DG Environment, EC*
- Henk de Jong, *Dutch Min. Environment, Agriculture & Innovation*
- Christo Marais, *Dept. of Environmental Affairs, South-Africa*

Business-community

- Mikkel Kallesoe, *Biodiversity Advisor, Shell*

NGO's

- Willem Ferwerda, *International Union for the Conservation of Nature, The Netherlands (IUCN-NL)*
- Rosimeiry Portela, *Conservation International, USA*

Institutional perspective

- Rik Leemans, *Earth System Science Partnership (ESSP)*
- Neville Ash, *Intergovernmental Platform on Biodiversity and Ecosystem Services (IPBES) – Video connection from Nairobi*

11.00 **Break**

11.30 **Panel Session**

"what needs to be done to better integrate ecosystem service science and practice"?

12.30-14.00 **Lunch and time to view posters**

Afternoon 14.00-16.30

14.00 **Plenary presentation & discussion of Workshop & Session Results**

Key issues, concluding statements "what works, what not; way forward"

15.30 **Special lecture & film** *"What is the economy for, anyway?"*

Dave Batker, *Earth Economics, USA*

16.15 **Closing remarks and future plans**

16.30 **Farewell drink & Departure**

4. Practical Information

Map of Wageningen

Conference location: Hof van Wageningen

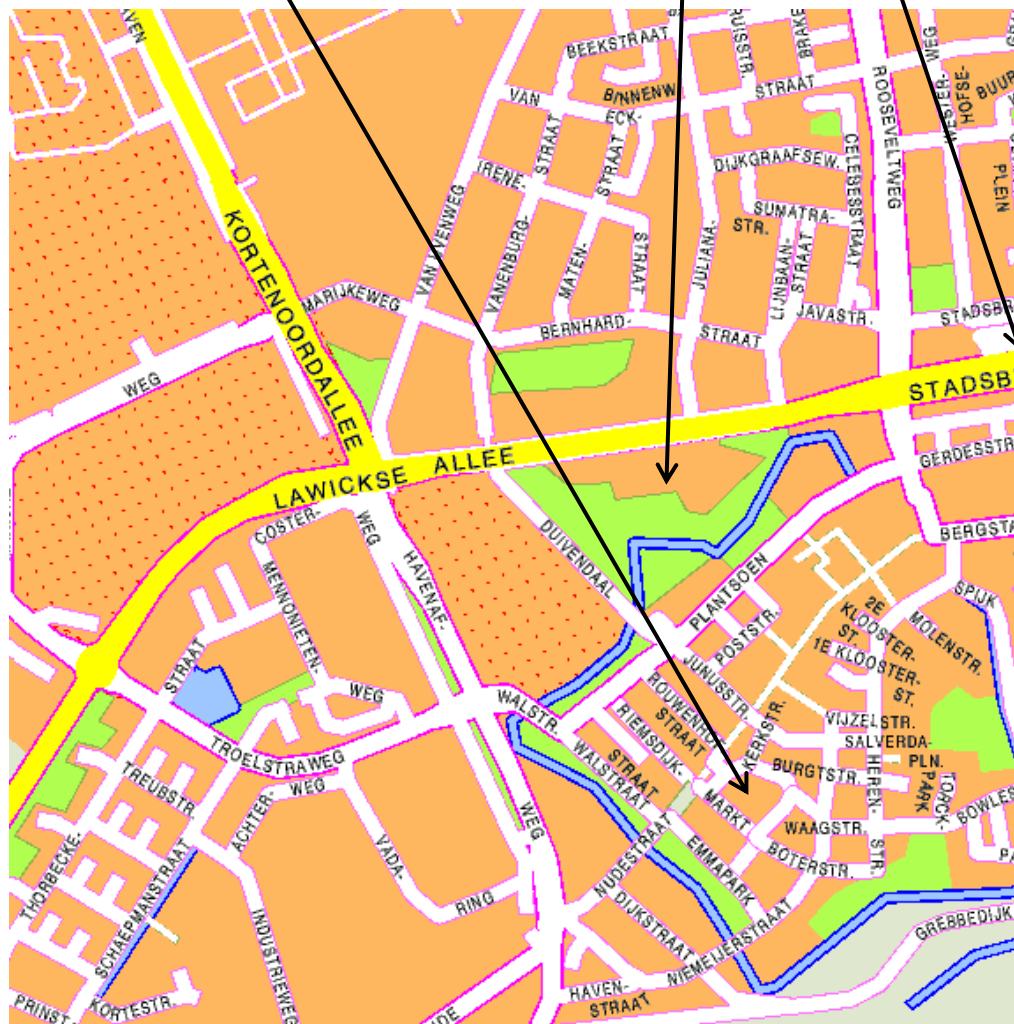
(Lawickse Allee 9, 6701 AN, Wageningen;

T +31 (0) 317 490 133; +31 (0) 317 490 133;

F +31 (0) 317 426 243; **E** info@hofvanwageningen.nl

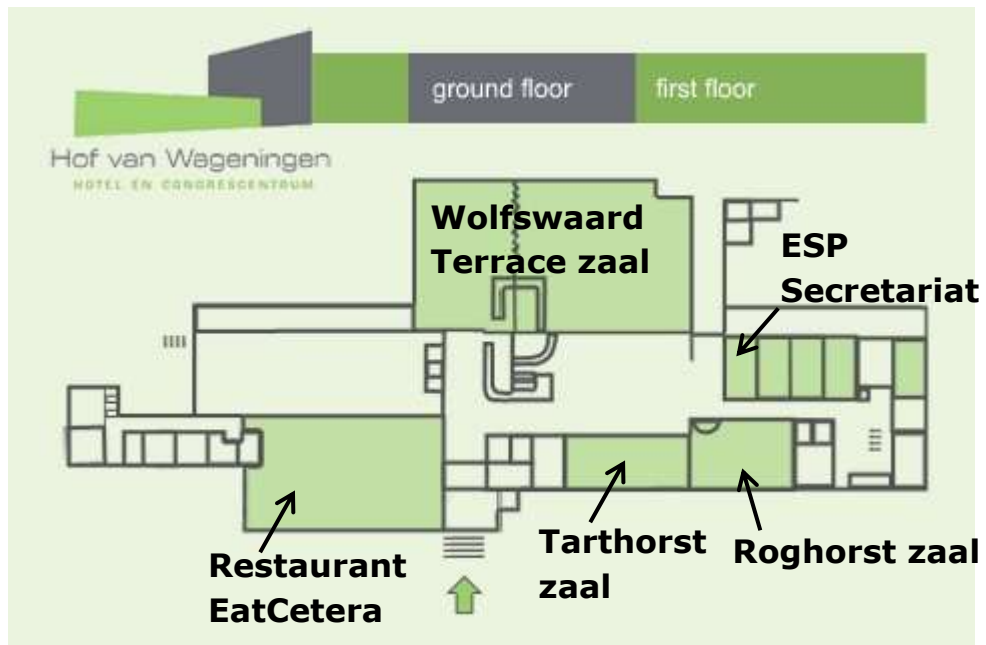
Centrum (market square with restaurants)

Main bus station



Location of Conference Rooms

Ground Floor



First Floor



Appendices

Appendix 1 - Detailed workshop description

WS 1 - Quantifying, mapping, and modeling of ecosystem services

Workshop organizers: Benjamin Burkhard (bburkhard@ecology.uni-kiel.de), Neville Crossman (Neville.Crossman@csiro.au) & Stoyan Nedkov (snedkov@abv.bg)

In order to make ecosystem services a useful framework and applicable tool for environmental management and policy making, the services first need to be quantified and visualized appropriately. Suitable ecological and socio-economic indicators and quantitative as well as qualitative models have to be derived and applied for sound quantification. The results then can be used to understand, indicate and map stocks, demands and flows of ecosystem services on different spatial and temporal scales. Therefore we need to know where ecosystem services actually are provided (supply) and which is the ecological and biodiversity base (ecosystem functions) for this provision. Then we need information and data on ecosystem service beneficiaries (demand), their actual rates of consumption and how these components are interconnected (flows). Available tools like GIS, remote sensing, multicriteria analysis, biophysical and decision process models support the analysis, integration and representation of data of different quality and quantity.

Policy that commodifies the production of ecosystem services, such as Payments for Ecosystem Services (PES), biodiversity and wetland banking, carbon offsets and trading, and conservation auctions, depend on robust quantification and information about flows of goods and services. At a broader level of decision making and sustainability policy, we need to understand where and what services are provided by a given piece of land, landscape, region, state, continent and globally, so that we can monitor and manage budgets of supply and demand of selected or whole bundles of goods and services. We need to know the condition of natural capital providing those services so that finite resources can be targeted to where the enhancement of services is needed most.

Maps allow the assignment of ecosystem service supply and demand data to spatially explicit biophysical units. Thus, they are a good model of real conditions and a very powerful tool to process complex data and information of interdisciplinary indicators. By using maps, aggregations of data on current land cover or land use conditions and their changes over space and time can be visualized. Such comprehensive integrative assessments of ecosystem services and their dynamics will help in the evaluation of trade-offs between different services' provision in multifunctional landscapes.

This workshop will discuss some of the latest methods in quantifying, modeling and mapping ecosystem services and the development of associated indicators for informing decision making. It is divided in four sessions: 1a) quantifying ES and indicators, 1b) mapping ES, 1c) modeling ES, and 1d) integrated ES modeling and mapping

Many contributions in workshop 1 have already been submitted for the Special Issue "Quantifying and Mapping Ecosystem Services" (edited by Crossman, Burkhard & Nedkov) in the *International Journal of Biodiversity Science, Ecosystem Services and Management* (Taylor & Francis). Two further follow-up Special Issues are planned from the workshop, one with special focus on ES indicators/quantification in *Ecological Indicators* (Elsevier) and one about ES modeling/mapping applications in the new journal *Ecosystem Services* (Elsevier).

Order of presentation

Tuesday 4 October (13:30-15:00)		
1a - Quantifying ecosystem services and indicators Chair: Benjamin Burkhard		
Presenting author	Title	time
<i>Benjamin Burkhard</i>	<i>Workshop Introduction</i>	13:30
David Vačkář	Commensurability of ecosystem services: sustainability indicators and environmental accounting perspective	13:45
David Barton	The Nature Index – a new method to communicate and measure state and trends of biodiversity	14:00
Christian Schlatter	Measuring Ecosystem Goods and Services on a national level - the Case of Switzerland	14:15
Derek van Berkel	Spatial quantification of cultural ecosystem services in a Dutch case area	14:30
Henrik Vejre	Quantification and indicator development for intangible ecosystem services	14:45
	BREAK : 15:00 – 15:15	
Tuesday 4 October (15:15-16:45)		
1b - Mapping ecosystem services Chair: Neville Crossman		
Sander Jacobs	Landscape-scale mapping of potential versus actual ecosystem services in freshwater ecosystems	15:15
Ingrid Jaquemin	Biophysical valuation of ecosystem services in the VOTES project: use of a dynamic vegetation model	15:30
Ralf-Uwe Syrbe	Mapping of Ecosystem Services for changing landscapes in the Görlitz District	15:45
Said, Mohammed	Mapping Ecosystem Services in the Ewaso Ng'iro Catchment of Northern Kenya	16:00
Jeremy de Valck	Mapping the effect of substitutes on the perceived value of nature areas	16:15
<i>Neville Crossman</i>	<i>Concluding remarks day 1 (5 minutes)</i>	16:30
Wednesday 5 October (13:30-15:00)		
1c - Modeling ecosystem services Chair: Stoyan Nedkov		
Christin Haida	Are there any regional and temporal variabilities in the societal relevance of ecosystem services?	13:30

Roelof Boumans	The Multiscale Integrated Model of Ecosystem Services (MIMES): the Classification, Dynamics, Modeling and Valuation of ecosystem services.	13:45
Hermann Klug	Assessment of Alpine Blue Ecosystem Services using a WebGIS for information distribution	14:00
Katalin Petz	Spatial modeling of land management, ecosystem functions and services at landscape scale: a case study of the Groene Woud, The Netherlands	14:15
Wim de Vries	Modeling impacts of changes in climate, nitrogen deposition, ozone and CO2 exposure on carbon sequestration in European forests	14:30
Bhopal Pandeya	Crop-evapotranspiration based ecosystem services – is it worth to consider as a major hydrological ecosystem services?	14:45
BREAK : 15:00 – 15:15		
Wednesday 5 October (15:15-17:00)		
1d - Integrated ecosystem service modeling and mapping Chair: Rob Alkemade		
Nynke Schulp	Mapping and Modeling ecosystem functions and services in Eastern Europe	15:15
Olaf Bastian	Space and time aspects of ecosystem services using the example of aims and actions of the EU – Water Framework Directive	15:30
Peter Verburg	Mapping and modeling the influence of land change on the provision of ecosystem services	15:45
John Dymond	Spatial assessment of multiple ecosystem services in New Zealand, with a case study in the Manawatu Catchment	16:00
Renate Bürger-Arndt	"Forest Functions" - concept and mapping in Germany and its relevance concerning Forest Ecosystem Services	16:15
Vicenc Acuna and Marta Terrado	Impact of climate extremes on the delivery of hydrological services in a semi-arid river basin	16:30
<i>WS organizers</i>	<i>Final discussion & conclusion</i>	16:45

Thursday 6 October (10:30 - 12:15)		
Poster session; Chairs: <i>Benjamin Burkhard, Neville Crossman, Stoyan Nedkov, Rob Alkemade</i>		
In alphabetical order: (will be organised in 4 sub-sessions during the conference)		
Anders, Ulrike	Less bread – more stones: land use change from the late 18th century to the beginning of the 21st century and consequences for landscape functions and ecosystem services- a regional study based on the example of Göttingen	
Balthazar, Vincent	Mapping of indicators for ecosystem services in mountain areas using high and very-high resolution remote sensing data: natural hazard regulation and carbon storage support	
Beltrame, Coralie	Selecting Ecosystem Services indicators for monitoring systems	
Boerema, Annelies	Ecosystem services in Flanders: an exploratory inventory of ecosystem services and potential ecosystem benefits	
Carvalho-Santos ,	Illustration of the conceptual framework for forests hydrological	

Claudia	services - water supply and soil erosion control in Northern Portugal
Hattam, Caroline	Ecosystem Services and Vectors of Change in the Marine Environment
Hermann, Anna	Assessment of Landscape Services in Central European transnational ecological networks
Immerzeel, Desirée	Biodiversity indicators to assess regional impacts of biomass production
Ivanov, Emil	Development of the Ecosystem Accounting Approach, LEAC
Jacobs, Sander	Mapping , quantifying and managing Ecosystem Services of freshwater ecosystems: first results from the ECOFRESH project
Jacobs, Sander	Belgium Ecosystem Services (BEES): a vision on nature-society interactions
Kandiziora, Marion	Comparing data for mapping ecosystem services in Northern Germany
Kienast, Felix	Mapping ecosystem services at large scales
Larrazábal, Alejandra	Community-based Assessment of Potentials for Mapping, Monitoring and Managing Carbon and related Environmental Services: western central México
Mahrane, Yannick	"What you do not measure you do not manage". A history of the quantification of biodiversity and ecosystems services.
Levrel, Harold	Ecosystem service losses in the coastal zone: estimating the impacts of freshwater scarcity with a system dynamic model
Ojeda, Gerardo	Soil slaking process as a regulator of nutrient flux ecosystem service
Oladimeji, Bakare Hakeem	Geographic Targeting of Land Grab and Ecosystem Change hotspot in Southwest Nigeria
Oosterlee, Lotte	Evaluation of ecosystem services of a fresh water (inter)tidal restoration project
Petz, Katalin	(How) can we model land management effects on ecosystem services?
Pradhan, Prajal	Global mapping of ecosystem services bundles
Rodríguez-Loinaz, Gloria	Mapping Ecosystem Services in the Urdaibai Biosphere Reserve (Northern of the Iberian Peninsula)
Sirina, Natalia	Biorefineries of the future and ecosystem services: an exploration within the agricultural region of Champagne-Ardenne, France
Smith, Ron	Towards a global set of ecosystem services indicators
Sumarga, Elham	ECOSPACE: Spatial modeling and valuation of ecosystem services
Tappeiner, Ulrike	Assessing multiple ecosystem services in mountain grasslands
Tardieu, L.	Integrating ecosystem services in transport infrastructure projects
Tsonkova, Penka Blagoeva	Selection of indicators to assess ecosystem services provided by alley cropping systems
Van der Laan, Carina	Balancing the needs for food, feed and fuel with the provision of critical ecosystem services in local land-use planning
Van der Zanden, Emma H.	A framework for the development of an EU wide map of linear landscape elements
Van Krimpen, Ralph	A framework for agent-based modeling of ecosystem services provisioning on continental scale
van Oudenhoven, Alexander	Quantifying Management and EcoSystem Services: towards a MESS database
van Reeth, Wouter	Ecosystem service indicators: Are we ready to measure ecosystem performance?
Vangoidsenhoven,	An ecosystem services approach to assess the impact of forestry-

Marieke	based mitigation policies in developing countries
Villarroel, Olivera and Larrazábal, Alejandra	Exploitation of Non-renewable resources within Protected Areas. Valuation of Protected Areas in Bolivia

WS 2 – Valuation of ecosystem services and use in trade-off analysis and other decision support systems

Workshop organizers: Felix Müller (fmuller@ecology.uni-kiel.de), Josh Farley (joshua.farley@uvm.edu) and Giovanni Zurlini (giovanni.zurlini@unile.it)

Ecosystem services are becoming increasingly threatened globally (MEA, 2005). This trend is partially due to a lack of valuation because resources that are not valued in the market and are ignored in management decisions (Costanza et al., 1997). Referring to environmental assets as 'priceless' and 'invaluable' has proven insufficient in terms of reducing or halting ecosystem degradation. The challenge then is to acknowledge the multiple contributions of ecosystem services to human wellbeing while managing them as public goods. Ecosystem Services Valuation (ESV) is the process of assessing the contributions of ecosystem services when managing for sustainable scale, fair distribution, and efficient allocation (Liu et al., 2010). The concept of ecosystem service is anthropogenic, as is the process of ESV. However, the fact that ecosystem services have an economic value does not mean that economic benefits are the only focus for ESV. On the contrary, nature is vital to human survival and well-being for several reasons and, therefore, forcing all values into a single economic indicator is not realistic. Recognizing the existence of multiple values and encouraging open and pluralistic discussion of values will lead to new solutions for conservation. In addition, ESs may interact with one another in complex and unpredictable ways, and knowledge of the interactions among ESs is necessary for making sound decisions about how society manages the services. Trade-offs occur when the provision of one ES is reduced as a consequence of increased use of another ES. ESV provides a tool that enhances the ability of decision makers to evaluate trade-offs between alternative ecosystem management regimes in order to meet a set of goals, namely, sustainable scale, fair distribution, and efficient allocation. Monumental efforts such as the Millennium Ecosystem Assessment (MEA, 2003, 2005) and The Economics of Ecosystems and Biodiversity (Sukhdev, 2008), increasingly recognize the critical role of ecosystem service valuation and trade-off analysis for sustainable development.

Aim: The main purpose of the symposium is to gather contributions on recent issues of ESV and trade-off analysis to define an overall state of the art toward a science of sustainability.

Output: a special issue in an international Journal

Statement: Ecosystem services valuation and trade-off analysis are the basis for a sustainable humans-in-nature development

Order of presentation

Tuesday 4 October (13:30-16:30)		
2a. World tour of applied valuation studies		
Chair: Felix Müller		
Presenting author	Title	time
<i>Felix Müller</i>	<i>Workshop Introduction</i>	13:30
Neville Crossman	Using ecosystem services to measure the benefits of reducing diversions of freshwater in the Murray-	13:45

	Darling Basin, Australia	
Tabitha Muriuki	Economic Valuation of Mangrove Ecosystem Services in Africa	14:00
Joachim Maes	Water purification by river networks in Europe: mapping, valuation and scenario assessment	14:15
Nur Belkavali	Estimating the use value of ecosystem services in the yalova thermal spring, Turkey	14:30
Tom Margules	Valuing Ecosystem Services in Uluwatu, Bali, Indonesia	14:45
	BREAK	15:00
2b Basic strategies and problems of ecosystem valuation Chair: Joshua Farley		
Joachim H. Spangenberg	Disputed values: The distinct logics of ecological and economic systems	15:15
Piran White	Alternative approaches to the valuation of ecosystem services in marine and coastal ecosystems	15:30
Sebastian Villasante	Ecosystem valuation, synergies and trade-offs of marine social-ecological systems in Peninsula de Valdés (South Patagonia, Argentina)	15:45
Stefan Schmidt	Usage and usefulness of quantitative reviews of ecosystem service studies for ecosystem service valuation	16:00
David Barton	Economic valuation of regulating ecosystem services: the difficult story of substitution	16:15
	Wednesday 5 October (13:30-16:30)	
2c. Tools and integrative valuation frameworks (1) Chair: Joshua Farley		
Erik Gómez-Baggethun	Towards an integrative framework for the valuation of ecosystems services in monetary and non-monetary terms: lessons from TEEB	13:30
Jennifer Harrison-Cox	SERVES: Simple and Effective Resource for Valuing Ecosystem Services	13:45
Steven Broekx	A manual and web based tool to support the valuation of ecosystem services in Flanders, Belgium	14:00
Annelies Boerema	Valuation of ecosystem services for management techniques at the catchment scale: case-study for aquatic vegetation removal (Belgium)	14:15
Arjan Ruijs	Performance differences and trade-offs in the provision of ecosystem goods and services	14:30
Cecilia Håkansson	Non-market valuation of coastal environment - uniting political aims, ecological and economical knowledge	14:45
	BREAK	15:00
2c Tools and integrative valuation frameworks (2) Chair: Felix Müller		
Corentin Fontaine	Valuation Of Terrestrial Ecosystem Services in a multifunctional peri-urban space: the VOTES	15:15

	framework	
Allyson Marek	Economic valuation of ecosystem services – Moving from the literature to the implementation of techniques within the VOTES project	15:30
Jan Cools	Evaluation of management solutions and trade-offs on ecosystem services in support of wetland management. Lessons learnt from the European 7FP WETwin project	15:45
Laetitia Schmitt and Cecile Brugere	Incorporating ecosystem services values, preferences and trade-offs in decision support systems: an application to coastal resources use and management in a developing country	16:00
	General discussion/wrap-up	16:15

Poster session: Thursday 6 October (10:30 - 12:15)		
In alphabetical order:		
Abdullah, Sabah	Meta-analysis of international coral reefs: a revisit to recreational values	
Casado-Arzuaga, Izaskun	Perception and valuation of ecosystem services in peri-urban green spaces: Bilbao metropolitan's greenbelt case study (northern Spain).	
Frelichova, Jana	An appraisal of a national climate adaptation strategy: the case of the Czech republic	
Ghaley, Bhim Bahadur	Emergy signature as a basis for sustainability valuation of agro-ecosystems	
Noring, Maria and Cecilia Håkansson	Non-market valuation of the coastal environment- ecosystem services and ecotoxicity	
Lakerveld, Roan	Interpretative and political ecology methods for ecosystem services research: Understanding how people value and relate to ecosystems, an M.Sc. thesis proposal	
López-Santiago, César Agustín	Visual perception of ecosystem services associated with transhumant pastoralist landscapes in Mediterranean Spain	
Palacios-Agundez, Igone	Local participatory scenario planning under the Millennium Ecosystem Assessment Framework: the case study of Biscay and its ecosystem	
Radtke, Anna	A multicriteria decision analysis (MCDA) of land-use change in the Southern Alps, North Italy: comparing traditional larch meadows to alternative land uses	
Schirpke, Uta	GIS-based modeling of ecosystem services of grassland in Alpine regions: case study Stubai Valley (Austria)	

WS 3 – Use of ecosystem services in planning & management: concepts, tools and guidelines

Workshop organizers: Marion Potschin (Marion.Potschin@Nottingham.ac.uk) and Roy Haines-Young (University of Nottingham, UK) and Kurt Jax (UFZ, Germany)

Context:

The assessment of ecosystem services is currently the focus of intense policy and management interest. The promise it holds for making economic arguments about the importance of environment to people has perhaps, most of all stimulated interest amongst decision makers. As G. Daily and others have noted, we are at a point where it is 'time to deliver'. However, the analysis of ecosystem services is much wider than the valuation problem. In this workshop we will therefore consider some of the other concepts and tools that are needed in the contemporary management and policy arenas.

The workshop is divided into three parts. The first looks at tools and methods for planning, and draws on a range of spatial analysis techniques relevant to identifying how ecosystem services can support sustainable development strategies. The second part involves a critical reflection on key concepts, and will consider ethical issues as well ways of approaching the multi-functionality of ecosystems and the use of participatory methods. The final part of the workshop moves on to look at application issues, and particular the inter-relationships between biodiversity and the management of ecosystem services, and how to deal with services in dynamic ecosystems.

Outcome: To be discussed with participants during the workshop.

Order of presentation

Tuesday 4th October 2011		
Topic 1: Methods and Tools		
Chair: Marion Potschin		
Presenter	Title	Time
Haines-Young and Potschin	Introduction to workshop	13.30
Jennifer Birch	Methods for assessing and monitoring ES at the site scale	13.40
Damian Smith	Incorporating ES into environmental planning and management: translating a conceptual framework into decision making in a social-ecological system	13.55
Anja Brüll	Landscape Quality Management: A standardized adaptive mechanism to assessing and developing sustainable land-use	14.10
Florence Landsberg	An ES approach to EIA: a guidance note	14.25
Jan Staes	Planning for ES: The Flemish climate adaptation strategy	14.40
Short Break		14.55
Suzanne Van der Meulen	ES as a common language to facilitate participatory processes in water management	15.00
Claudia Schröder	Development of a holistic evaluation method for ES or peatlands	15.15
Christine Fürst	Multi-criteria assessments – integrated land-use strategies on provision of ES on a regional scale	15.30

Fernando Santos Martin	Millennium ecosystem assessment of Spain: managing biodiversity and ecosystem services for human well-being	15.45
Dick Melman	ES as inspiration for the Dutch Nature Exploration 2011	16.00
General Discussion on Methods and Tools		16.15
Wednesday 5th October 2011 – Topic 2: Concepts – a critical reflection Chair: Roy Haines-Young		
Presenter	Title	Time
Kurt Jax	Ethical challenges related to applying the ES concept: a stimulus introduction	13.30
Christain Albert	ES in practice: Methods and lessons learned from assessing multifunctionality in landscape planning	13.45
Arjen Buijs	Participatory ES research for sustainable landscape planning	14.00
Uyttendaele, Trui Paula	Bringing ES into practice for Africa	14.15
Francis Turkelboom	Biodiversity conservation and optimizing ES: two sides of the same coin	14.30
Claire Vos	Green Infrastructure: an integrated concept for sustainable climate change adaptation?	14.45
BREAK		15:00
Topic 3: Applications Chair: Kurt Jax		
Leena Kopperoinen	The current state and future potential of identifying and mapping ES in land use planning	15.15
Patrick Meire	Restoring heavily impacted estuary: the curial role of ES	15.30
Justine Cordingley	ES provision on dynamic ecosystems	15.45
Anik Schneider	Biodiversity and ES: complementary approaches for ecosystem management?	16.00
General Discussion Topic 2 and 3		16.15
Thursday 6 October (10:30 - 12:15) Poster session; Chairs: Marion Potschin, Roy Haines-Young and Kurt Jax In alphabetical order		
Ceballos, Alejandro	Consequences of bioenergy production on ecosystem services	
Gomes, Rita Catarina	Ecosystem Services Conservation as a Valuable Asset to Local Communities Sustainability	
Guerra, Carlos	Promoting ecosystem services where they count the most: do protected areas and conservation measures make a difference?	
Gulickx, Monique	Mapping landscape functions: Integrating governmental and scientific approaches	
Said, Mohammed	Continual engagement between policy makers and researchers around ecosystem services spatial planning in Kenya	
Salmanmahiny, Abdolrassoul	Linking Urban Sprawl to Surface Runoff and Potential for Soil Erosion through SLEUTH, L-THIA and RUSLE models- The Case of Gorgan Township in North East of Iran	
Siew, Tuck Fatt	Actor-based modeling for eliciting stakeholder perspectives and integrating ecosystem services in land and water management in the Tarim River Basin, Xinjiang/China	
Smith, Ron	Developing environmental decision tools using Bayesian belief networks	
Syrbe, Ralf-Uwe	A new landscape management strategy for Saxony (Germany) based on cost calculation for public welfare	

WS 4 – Financing mechanisms for ecosystem services, including business opportunities and economic instruments

Workshop organizers: Erik Gómez-Baggethun (erik.gomez@uam.es), James Blignaut (james@jabenzi.co.za) and Roldan Muradian (R.Muradian@maw.ru.nl)

Financial instruments for conservation have become increasingly popular among policy-makers and practitioners, particularly in the developing world. These mechanisms include Payments for Ecosystem Services (PES), Markets for Ecosystem services (MES), and Reduced Emission for Deforestation and forest Degradation (REDD), and so called green business. This workshop offers an arena to present theoretical and empirical advancements in the field of financial instruments and market-based instruments for ecosystem services management and governance.

The aim of the workshop 'Financing instruments & investments opportunities' is to advance our understating of the potential and limits of market-based instruments in environmental policy drawing on both theoretical insights and empirical case studies. In doing so, the workshop aims at looking beyond theory, investigating the different actors and the institutional arrangements through which these financial mechanisms for conservation are articulated in practice. Relevant question we aim to address include: How can market forces be used for ecosystems services conservation? Are there flaws in the theory behind these mechanisms or do their success depend exclusively on an appropriate design and implementation? What are the key characteristics of a successful financial or market-based scheme? What should be the role of public bodies, private actors, and community-based institutions in the design of financial instruments for conservation? Can economic incentives crowd out non-economic motivations for conservation?

Workshop 4 is divided in three sessions, two for oral presentations and one for poster presentations. Session 4.1, entitled 'Payments for Ecosystem Services' bring insights from theoretical analysis and practical experiences from PES schemes in Africa, Asia and the European Union. Session 4.2, entitled 'Economic instruments and investment opportunities' brings theoretical and empirical insights from experiences with MES and REDD. Finally, the poster session 4.3 will address business opportunities related to ecosystem services. Each presenter will be allocated 15 minutes, including space for at least one or two questions. Thus, presentation should be prepared so as to last no longer than 10-12 minutes. Each sub-session will be followed by a 15 panel discussion min break and a 15 minutes break.

A special issue is planned for publication in *Ecological Economics* or in the new Elsevier Journal *Ecosystem Services*. Moreover, papers presented in this workshop will be invited as candidates to the special issue 'In markets we trust? Contrasting views on the adequacy of market-based policy instruments in reconciling environmental protection and rural development' (Roldan Muradian and Erik Gómez-Baggethun eds.) to be published in a leading international journal.

Order of presentations

4.1 Payments for Ecosystem Services (PES) Tuesday 4 October (13:30-16:30h) Chair: Erik Gómez-Baggethun; Notes: James Blignau		
<i>Erik Gómez-Baggethun</i>	<i>Introduction to the workshop Financing mechanisms in environmental policy and conservation</i>	<i>13:30</i>
4.1.1 PES experiences in the European Union		
Roldan Muradian	Payments for Environmental Services or the Fallacy of Simplicity	13:45
Mattijs van Maasakkers	Protocol Development for Ecosystem Services Markets in Practice: Science, Policy or Advocacy?	14:00
Gregory Valatin	Carbon sequestration, ecosystem services, and incentives for climate change mitigation by the UK forest sector	14:15
Eeva Primmer	Institutional evolution in forest biodiversity conservation payments	14:30
<i>Panel discussion</i>		<i>14:45</i>
BREAK		15:00
4.1.2 PES experiences in Africa and Asia		
Maura Andrew	Can PES schemes really solve our environmental and social problems? A consideration of the potential limitations of PES interventions in the Baviaanskloof World Heritage Area of South Africa	15:15
Eveliëne Steingröver	Guidelines how to do business with ecosystem services provided by green infrastructure	15:30
Beria Leimona	Fairly efficient or efficiently fair: success factors and constraints of payment and reward schemes for env. services in Asia	15:45
Basak Avcioğlu Çokçalışkan	The Role of Ecosystem Services in Increasing Management Effectiveness in Kure Mountains National Park, Turkey	16:00
<i>Panel discussion</i>		<i>16:15</i>
4.2 Economic instruments and investment opportunities Wednesday 5 October (13:30-16:30h), Chair: James Blignaut, Notes: Roldan Muradian		
4.2.1 Reduced Emission for Deforestation and forest Degradation (REDD)		
<i>James Blignaut</i>	<i>Introduction to workshop day 2</i>	<i>13:30</i>
Torsten Krause	From global to local – REDD+ as an economic instrument for forest conservation and the challenge of benefit sharing mechanisms	13:45
Swapan Mehra	Realising REDD+ in North East India: Case study of Meghalaya	14:00

Anthony Collen	Exploring Institutional Safeguards for Effective Community Participation in "REDD+": A Case Study in the Ecuadorian Amazon	14:15
<i>Panel discussion</i>		<i>14:30</i>
BREAK		15:00
4.2.2 Markets for Ecosystem Services		
Hein Korevaar	Experiences with a payment system for green-blue services in Winterswijk	15:15
Alexey A. Kotko	Preconditions and ways of occurrence of the global market of ecosystem services (preliminary Russian case-study)	15:30
Gisele Alarcon	Conservation Credit System to ecosystems services provision in southern Brazil.	15:45
<i>Panel discussion</i>		<i>16:00</i>
4.3. Poster session on business opportunities Thursday 6 October (10:30-12:15h), Chair: Roldan Muradian, Notes: Erik Gómez-Baggethun		
<i>Roldan Muradian</i>	<i>Wrap-up of the previous two workshop sessions</i>	<i>10:30</i>
Leen Gorissen	Nature at the design table: The action logic and potential of Biomimicry for eco-innovation	10:45
Bart Vollaart	Business cases for biodiversity: the smallholders perspective	11:00
	BREAK	11:15
Rounds for other poster presentations		11:30

WS 5 – Role of ecosystem services in policy making and institutional aspects

Workshop organizers: Robert Costanza (Robert.Costanza@pdx.edu), Ida Kubiszewski (ida.kubiszewski@pdx.edu) & Irene Petrosillo (irene.petrosillo@unile.it)

Institutions take the shape of rules, social conventions, norms and laws. Thus, institutions help us understand *what is* (the cognitive aspects) and *what should be* (the normative aspects). Human perception affects both decision-making processes as well as analytical studies. On the other hand, ecosystem services are recognized as interacting with one another in complex, nonlinear and often unpredictable ways across spatial and temporal scales. Therefore, to incorporate ecosystem services into policy-making and institutions, requires: (1) flexible institutions, very often they represent a rigidity trap, because of mismatches between institutional levels and the spatial and temporal scales of ecological processes; (2) policy-makers who are aware of ecosystem services; (3) policies (environmental, agricultural, energy, tourism etc.) that are integrative at the same scale and across scales

The aims of this workshop are:

- (1) to analyze how institutions (rules, laws,...) should change to better incorporate ES;
- (2) to take into consideration the possibility for an adaptive policy-making process;
- (3) to examine how policy-makers can become more aware of ecosystem services and how they can include them in the policy-making process;
- (4) to identify possible temporal and spatial scales more suitable for the different institutional levels

Set-up: For this workshop we will be, roughly, using a presentation style named "PechaKucha". PechaKucha is a worldwide phenomenon that began in 2003 in Tokyo. It offers the opportunity for a broad range of participants to present their projects and ideas, in a fast-paced fashion, leaving more time for discussion. Drawing its name from the Japanese word for the sound of "chit chat," PechaKucha uses a quick and concise format that allows presenters to show 20 slides, each for 30 seconds. This means each person has 10 minutes to present. In the original set-up of the PechaKucha style, slides are advanced automatically but we want to give you some flexibility so we will not do that, but your presentation will have to stop after 10 min sharp!

This session is divided into 4 groups of 4-5 talks. A 30-minute discussion period after each group of talks will allow us to spend significant time on questions, discussion and synthesis.

Output: We are hoping that the authors and audience participants will conceive new ideas and produce papers stimulated by their presentations and the following discussions.

Order of presentations

Workshop 5: Tuesday 4 October (13:30-16:30) Role of ES in Policy Making and Institutional Aspects <i>Chairs: Robert Costanza, Ida Kubiszewski</i>		
Presenting author	Title	time
Robert Costanza	<i>Introduction</i>	13:30
Jennifer Hauck	Challenges and potentials of integrating the concept of ecosystem services in European policy. Experiences from a stakeholder process on different governance levels.	13:40
Volker Mauerhofer	Ecosystem Services in EU nature conservation policy & practice: non-existing or hidden?	13:50
Joke van Wensem	Ecosystem services in soil policy: an example	14:00
Ian Campbell	Turning scientific and economic research into policy advice on ecological services in Canadian agricultural landscapes	14:10
Discussion	<i>(30 minutes)</i>	14:20
Break		14:50
Bettina Matzdorf	The relevance of the Ecosystem Service concept for water and biodiversity policy-making in the EU and the US - A comparative case study	15:20
Piwowarczyk	ES in marine special planning in the Polish Exclusive Economic Zone: obstacles for their inclusion in the legal and institutional frameworks	15:30
An Cliquet	Integrating science in law: the protection of ecosystem services in European Union legislation	15:40
Rocco Scolozzi	Real space for Ecosystem Services Assessment (ESA) in the Italian local governance and territorial public institutions? An expert-based application and an exploratory survey	15:50
Discussion	<i>(30 minutes)</i>	16:00
Wednesday 5 October (13:30-16:30) Role of ES in Policy Making and Institutional Aspects <i>Chairs: Robert Costanza, Ida Kubiszewski</i>		
Carla Gomez Creutzberg	Colombia's Natural Capital Strategy: An institutional articulation for constructing a Natural Capital public policy by integrating ecosystem services with economic	13:30

	development and human well-being	
Nico Polman	Ecosystem services: governance on distance	13:40
Esther Turnhout	The science and politics of ecosystem services: IPBES, commodification of nature, and the management of the science policy interface	13:50
David Batker	Spearheading Natural Capital Accounting: Water Utility Case Study	14:00
Dixon Landers	A Proposed Ecosystem Services Classification System to Support Green Accounting	14:10
Discussion	<i>(30 minutes)</i>	<i>14:20</i>
	Break	14:50
Leen Gorissen	The Quest to Carbon Neutrality: Opportunity Knocking on Ecosystem Service Door?	15:20
Filip Aggestam	Wetland restoration and the involvement of stakeholders: An analysis based on value-perspectives	15:30
Rob Bugter	Investigating and improving the usability of ES for biodiversity policy making in the EU framework projects RUBICODE and BESAFE	15:40
Johannes Förster	TEEB for Local and Regional Policy Makers: application and research needs	15:50
Discussion	<i>(30 minutes)</i>	<i>16:00</i>
Thursday 6 October (10:30 - 12:15)		
Poster session		
In alphabetical order:		
Aggestam, Filip	Effects of project managers value orientations in stakeholder participation: At the frontlines of policy implementation	
Bastian, Olaf	Land Use Management, Ecosystem Services and Biodiversity - Developing Regulatory Measures for Sustainable Energy Crop Production	
Domeignoz Horta, Luiz	How to ensure a credible and efficient IPBES?	
Dunbar, Martha	Synergies between ecosystem services, biodiversity and habitat conservation in Europe	
Kochmer, Jonathan	Watershed Investment District: A Natural Capital Institution for the 21st Century	
Rahman, Mofizur	Ecological Struggle : Peoples Fight for Access to and Control over Ecosystem Services in Bangladesh	

WS 6 – Case studies on the practical use of ecosystem services in planning, management and capacity building

Workshop organizers: James Aronson (james.aronson@cefe.cnrs.fr), Leon Braat (Leon.Braat@wur.nl) and Simone Maynard (SMaynard@seqcatchments.com.au)

Ecosystem services (ES) have been studied for some time under different names (e.g. ecological functions, renewable resources), both human-dominated and so-called 'natural' ecosystems. In this workshop a range of case studies will be presented to illustrate the richness of the ES concept, the variety of methods employed to quantify and value services, and the ways in which science supports application as well as policy and planning processes.

The Workshop includes three sessions. Sessions 6.1, entitled 'Ecosystem studies: Aquatic and terrestrial', includes reports of a dozen projects in progress across a large gamut of ecosystem types around the world. Session 6.2, brings together seven case studies specifically addressing 'Regional and Urban Planning and Policy'. Finally, in Session 6.3, four additional case studies on transversal themes related to biodiversity and protected areas will be presented.

A good amount of time for discussion will be reserved during and at the end each of the three sessions. For the first session, discussion time will be made after the first two clusters of case studies: wetlands and rivers, and again at the end, for marine, grasslands and forests, as well as the whole gamut.

Output: a Special Issue in an international journal

Order of presentations

Tuesday 4 October (13:30-16:30h)		
6.1 Ecosystem case studies		
<i>Introduction. 10 min.</i>		
6.1.1 Wetlands		
Anne Böhnke-Henrichs	Restoration pays! The case of the Dutch South-West Delta restoration	13:40
Remi Declercq	Assessing wetland ecosystem services for catchment planning: Olifants catchment, South Africa	13:50
Pierre Defrance	From the MEA to the valuation of ecosystem goods and services	14:00
6.1.2 Rivers		
Emmanuelle Cohen-Shacham,	Ecosystem service tradeoffs in wetland management: drainage and rehabilitation of the Hula, Israel	14:10
Jeroen Arends	Putting a price tag on the Multi-Functional Use of Ecosystem Services: The case of Morača River and Skadar Lake in Montenegro	14:20
Johnathan Kochmer	The economic value of the Mississippi River Delta	14:40

Wendy Chen	Ecosystem services of urban river revitalization in Guangzhou: A contingent valuation	14:50
	Discussion	15:00
	BREAK	15:15
6.1.3 Marine systems		
Davide Geneletti ,	Modeling the effect of spatial policies on ecosystem services and wellbeing: A case study in southern Chile	15:30
6.1.4 Grassland systems		
Eliska Lorencova	Assessment of Grasslands ES: Czech Republic	15:40
Traci Birge	Searching for Ecosystem Services in Semi-Natural Meadows and Grazed Forests in SW Coastal Finland	15:50
6.1.5 Forests		
Mesfin Gelaye Tilahun	Valuing dry land forest ecosystem services: a case of rural households' willingness to pay and contribute labor for frankincense forest conservation in Ethiopia	16:00
	<i>Discussion</i>	16:15
Wednesday 5 October (13:30-16:30h)		
6.2 Case studies in Regional and urban planning and policy		
Simone Maynard	Integrating ecosystem services into natural resource management, policy and planning in South East Queensland, Australia	13:30
Helen Smith	The perception and knowledge of farmers on the relationship of ecosystem services and agriculture in the Wilsons River catchment, Northern Rivers, Australia	13:40
Susanne Frank	Standardized integration of landscape aesthetics into regional development planning – application in a case study	13:50
Robbert Snep	The international SUPER project: Sustainable Urban Planning for Ecosystems services and Resilience	14:00
Noah Gaetz	Valuation and compensation of ES_in urban southern Ontario, Canada.	14:10
Tommer Vermaas	Mapping the potential of Green Urban Areas to provide recreation ecosystem services: a case study for the Netherlands	14:20
C.Y. Jim	Assessing and valuating ES air pollution abatement by urban forest Hong Kong	14:30
Rik de Vreese	A forest isn't a forest – towards an explanatory framework on views on nature, ecosystem services assessment and use of nature in the peri-urban area	14:40
Jakub Kronenberg	Barriers to the preservation of trees in cities and ways to overcome these	14:50

	Discussion	15:00
	Break	15:15
6.3 Miscellaneous cases concerning biodiversity and protected areas		
Paloma Alcorlo	Ecosystem services associated with a mosaic of alternative states in a Mediterranean wetland. The Doñana marsh (SW Spain) case study	15:30
Ignacio Palomo	Influence on ecosystem services provision of two Mediterranean protected areas (Doñana and Sierra Nevada).	15:40
Petteri Vihervaara	Detailed biotope data linking biodiversity with ecosystem services: Finnish nature protection areas	15:50
Mirja Rantala	Assessing socio-cultural impacts of ecosystem services – a Finnish case study related to biodiversity maintenance projects	16:00
FINAL Panel session – 20 min		16:10

Thursday 6 October (10:30 - 12:15)	
Poster session	
In alphabetical order:	
Andrew, Maura	Can PES schemes really solve our environmental and social problems? A consideration of the potential limitations of PES interventions in the Baviaanskloof World Heritage Area of South Africa
Eriksson, Annukka	Concept for marine ecosystem service assessment: bridging the gap between ecology, economics and management
Fongwa, Ernest	Balancing Ecosystem services in Northern Cameroon: The need for sustainability measures on Land Degradation
Giergiczny, Marek and Kronenberg, Jakub	The value of street trees in the centre of Lodz, Poland
Khan, Shujaul	The Ethnobotanic importance of mountain ecosystems: a case study of Naran Valley in the Western Himalayas
Luong, Le	Inner city parks' benefits approaching ecosystem services
Martin, Philip	What are the consequences of plant invasions for ecosystem function and services?
Peña, Lorena	Ecosystem Services: Urdaibai Biosphere Reserve
Sebesvari, Zita	Increasing salinity intrusion in the Mekong Delta, Vietnam: how could the recognition of ecosystem services approach make a difference?
Selomane, Odirilwe	Establishing the basics: science for restoration of ecosystem services
Van den Broeck, Dieter	Testing, applying and refining the Trans-disciplinary Assessment and Implementation Framework for the ecosystem services approach
Van Loon-Steensma, Jantsje	Growing interest in the Netherlands for contribution of salt marshes to water safety
Vrebos, Dirk	Evaluation of water quality and demand for ecosystem service restoration/creation within the Nete catchment

Appendix 2 – Special sessions

Special Session A: Are we missing the values that really matter? Taking a socio-ecological perspective on the ecosystem services approach.

Session organisers: Gisella Cruz Garcia¹, Bas Verschuuren², Katja Heubach³

¹ Plant Sciences Department, Wageningen University, the Netherlands

² EarthCollective, IUCN Specialist group on Cultural and Spiritual Values of Protected Areas, Wageningen, Netherlands.

³ LOEWE-Centre for Biodiversity and Climate, Frankfurt Germany.

The ecosystem services approach views ecosystems based on the importance of the goods and services they deliver to humans. This utilitarian approach suits global neoliberal economic trends but tends to overlook the option to view ecosystems as part of socio-ecological systems in which their value consist of the relationships between humans and nature.

Socio-ecological systems encompass some of the most biodiverse ecosystems on the planet and play an essential role for in situ conservation, sustainable development and the maintenance of ecosystem services alike. The many human cultures and societies that inhabit this world also constitute a diversity of world views with different conceptualizations of nature and ecosystem services. This has resulted into adaptive and resilient Socio-ecological systems, such as agro-forestry systems, poly-cultural production systems and home gardens which are in turn dependant on local knowledge, governance and value systems. These have long been insufficiently taken into account by scientists, planners and policy makers working with the ecosystem services approach.

As recent research shows that cultural and biological diversity have likely co-evolved and are mutually interdependent it is timely to review the importance given to human, social and cultural interactions within the ecosystem services approach. The aim of this special session is to explore the ecosystem services approach through the lenses that are applied in other interdisciplinary sciences such as ethno-biology, cultural anthropology, bio-cultural diversity and socio-ecological systems theory.

How it links to the conference theme:

To this end session will explore new ways for bringing the diversity of human nature relationships back into the ecosystem services approach and discuss the implications for decision making and conservation practice.

Set up: Several short presentations will introduce the participants to session's topic taking an interdisciplinary approach using case studies as examples.

A plenary session will be used to tap into the groups' expertise by answering questions that relate to the following 3 objectives of the session:

1. Think critically of the socio-cultural, philosophical and psychological underpinnings of ecosystem services theory,
2. Draw out some of the intrinsic limitations to the ecosystem services approach in planning and management with implications for valuation and decision making.
3. Explore ways of representing different human-nature relationships in the ecosystem services approach especially relating to "cultural services".

The output: A summary of the plenary output will be used to develop a letter to a journal to help spark debate.

Special Session B: Safeguarding ecosystem services and food security: opportunities and constraints of protected areas

Session organisers: Louise Willemen¹ & Jelena Ilic², Benis Egoh¹, Evangelia Drakou¹, Piet Wit², Joachim Maes¹

¹ Institute for Environment and Sustainability, Joint Research Centre - European Commission. Ispra, Italy

² IUCN Commission on Ecosystem Management

Securing food is one of the many benefits from ecosystems to people. According to the WRI and the MA, human well-being is threatened as ecosystems are globally declining and/or being used unsustainably. Around the world, these declines are mostly associated with land-use and land management practise. There is an urgent call for behaviour change to avert the negative consequences of land use on ecosystem services. But what's the deal?

Currently, food security has become one of the hottest issues on the development agenda while biodiversity conservation strategies policies are being explored to safeguard ecosystem services. An important conservation strategy is the setting of protected areas by restricting and controlling human activities and uses. This strategy has been partially successful for biodiversity conservation but its role in safeguarding ecosystem services including food security still needs to be explored. Certainly, protected areas benefit some ecosystem services associated with natural areas such as soil and water regulation but do not directly benefit those associated with human-transformed areas such as crop production. Despite the benefits, the value of ecosystem services is in their use, posing a potential conflict with maintaining areas in natural conditions. Ecosystem services operate at different spatial scales with beneficiaries, presenting a complex situation where not only the land has to be managed but also the management of benefits is an important component. Additionally the increasing population pressure and social inequality interweave complexities in biodiversity conservation strategies.

In this session, we discuss the potential benefits and conflicts at different spatial levels of conservation strategies, notably protected areas, on ecosystem services and its implications for securing food on the long -term. First we present how protected areas are selected to meet biodiversity conservation goals and the potential for including ecosystem services, second, we present the genetic resources conservation and land tenure issues in Africa, third, we present how land management in one area could produce potential conflict amongst beneficiaries, and lastly we discuss the role of conservation policies and schemes to safeguards ecosystem service and food security at different locations.

Session set-up:

- Setting the scene; general overview and summary of research activities on ecosystem services and the different scales of beneficiaries (Organizers)
- Presentations (80 min)
- Interactive discussion forum; Safeguarding ecosystem services and food security: what's the deal? How could we better understand and manage trade-offs in ecosystem service benefits.

Planned output: Publication of a 'short communication' in an international journal

Special Session C: Networking the knowledge on biodiversity and ecosystem services in Europe

Session organisers: Marie Vandewalle¹, Estelle Balian², Angelique Berhault²

¹ Helmholtz Centre for Environmental Research (UFZ), Germany

² Belgian Biodiversity Platform, Belgium

The area of biodiversity and ecosystem services faces some major challenges when it comes to linking science and policy. From the science-side, although major steps of integration have been achieved over the last decades, knowledge is still scattered and not easily accessible. From the policy-side a clear link to science, as well as an overview of existing knowledge is still missing. Although institutions like the EEA and national agencies play important roles, the problems we face call for shorter ways of dialogue between science and society.

The session will discuss these challenges based on a presentation of a prototype for a network of knowledge on biodiversity and ecosystem services in Europe, called *BiodiversityKnowledge*. The project is currently in its design stage and aims for broad input from knowledge holders and decision makers in the design of how a network could look like, that would better link existing knowledge to a possible science-policy interface.

Session set up:

* Presentation on BiodiversityKnowledge and its prototype of Network of Knowledge (20 minutes)

* Discussion will be organized in a world café approach with round tables addressing various aspects of this prototype e.g: ensuring quality of knowledge, transparency of processes, methodological questions.

Planned output: Results of the discussions will feed in the consultation on the Prototype BiodiversityKnowledge to further develop it and submit it as a possible way of networking knowledge of biodiversity in Europe.

Special Session D: Practicing what we preach: Learning how to create sustainable landscapes in the Baviaanskloof, South Africa

Session organizers: Dieter van de Broeck^{1,2}, Christo Marais³, Odirilwe Selomane^{1,2}, Maura Andrew^{1,2,4}, Alexander van Oudenhoven^{1,2,5}, Jasper de Vries^{1,6}

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² Living Lands, Patensie, South Africa

³ Department of Water Affairs, Cape Town, South Africa

⁴ Rhodes University, Grahamstown, South Africa

⁵ Environmental Systems Analysis group, Wageningen University, Netherlands

⁶ Land Use Planning group, Wageningen University, Netherlands

PRESENCE is a collaborative learning network in the Eastern Cape, South Africa, and it stands for 'Participatory Restoration of Ecosystem Services and Natural Capital'. It aims at guiding ecosystem management and restoration of 'living landscapes'. The Network was initially started as a research programme to respond to a decline in natural capital and ecosystem services derived thereof, in order to investigate the consequences of degradation on the greater socio-economic constraints upon the area and its people. Soon afterwards, members realized that it needs to be further developed into a learning network in order to avoid establishing another 'science party'.

The network approach acknowledges and asserts that the traditional differences in vision between various stakeholders on the landscape render the concept of knowledge transfer (i.e. producing research and hoping it will be useful to managers and implementers) much less useful than the concepts of information transfer. Instead of knowledge transfer, we propose that "co-creation" of knowledge through integrated social learning between various stakeholders is a more suitable approach to building a knowledge system for the sustainable management of ecosystems (Roux et al 2006). This can be achieved through knowledge interfacing and sharing, and also requires viewing knowledge as a process of relating. We recognize the role of a facilitator on the landscape as a crucial one, to coordinate the initial processes towards this transition. Since the beginning of 2011, several PRESENCE partners are exploring the potentials of explicitly using the MIT developed theory U to embark on a journey to create collective awareness and action (strategic alliance) for social learning to create living landscapes. It is the intention to combine the 'Spearhead' Ecosystem and Landscape Services (SELS) ecosystem approach with this social technology. The process entails the following; co-sensing (assessment of ecosystem properties & services), presencing (determining ecosystem values and trade-offs) and co-creating (scenario and strategy development) and co-evolving (exploring incentive schemes, learning organizations). Ultimately, it is envisaged that collective understanding, awareness and action can be encouraged through an intertwined application of research and theory U.

How it links to the conference theme: By encouraging co-creation of knowledge and partnerships through social learning and networks, the session is relevant to the conference. The crux is in encouraging transdisciplinary applied research while simultaneously working on the ground actively with stakeholders on a continuous basis. The network brings together landowners, research institutes, universities, natural resource managers as well as programme implementers at various levels of governance.

Set up: A series of presentations through an interactive process: 1. General outlook on South Africa's natural resource management, 2. The PRESENCE approach, 3. Ecosystem services valuation, 4. Role of trust on the landscape, 5. Challenges on PES and institutions.

The output can be a journal letter, a paper or even special issue

Appendix 3 – Semi plenary sessions

SPS-Session A: National TEEB studies

Session organizer: Leon Braat, Alterra, Wageningen UR, Netherlands

In October 2010 the results of the global study of The Economics of Ecosystems and Biodiversity (TEEB) were presented at the 10th Conference of Parties of the Convention for Biological Diversity in Nagoya, Japan. The study is generally considered as the economic follow-up of the Millennium Ecosystem Assessment. Both were conducted under the umbrella of the United Nations Environment Program. At the Nagoya conference, plans were developed to proceed with TEEB studies at the national level, and focus on national, regional and local issues, as well as on business and biodiversity and trade flows issues.

In the past year, several countries have taken up this challenge, notably in Europe the Netherlands, Germany and the Nordic Council, while the UK published its National Ecosystem Assessment with economic analyses, which had started earlier. India and Brazil have developed initiatives, and scientists and NGO's in Flanders (Belgium) and Austria are preparing TEEB like analyses as well.

The Special Session aims at presenting a survey of initiatives, preliminary results and plans and providing a platform for exchange of approaches, methods and knowledge.

PROGRAM (Version 26 Sept. 2011)		
Wednesday 5 October (10:30 – 12:30)		
Presenting author	Title	time
Leon Braat	National TEEB studies: an introduction	10:30
Kees Hendriks and Petra van Egmond	TEEB Netherlands	10:45
Sonja Macke	Natural Capital Germany (TEEB-DE)	11:00
Sander Jacobs	Towards a TEEB Belgium – The BEES project	11:15
Mike Christie	TEEB in the UK: the UK National Ecosystem Assessment (NEA)	11:30
	OPEN SPACE: Short communications on TEEB like initiatives and experiences	11:45
	- Fernando Santos Martin: Spanish MA follow-up initiative <i>OTHERS: can sign up at registration desk on Tuesday</i>	
Leon Braat	PLENARY DISCUSSION	12:00-12:30

SPS-Session B: Development of ES Database(s) & Biome Expert Groups

Session organisers: Dolf de Groot¹, Sander van der Ploeg¹, Jelena Ilic², David Vačkář²

¹ Environmental Systems Analysis Group, Wageningen University, Netherlands

² IUCN Commission on Ecosystem Management

Research and practical application of the concept of Ecosystem Services (ES) has surged over the past decade and there are now literally thousands of groups around the world working on various aspects of the issue. To make all the data and application experiences better available a 'Clearing House' is needed to coordinate data collection and analysis.

ESP is working hard on the development of an interactive, web-accessible database on Ecosystem Services and Values (ESVD) which build on previous efforts (notably work from Univ. Vermont, now Portland State Univ. (Costanza et al), COPI (Braat et al) and the TEEB project) and now contains over 1350 records on monetary values for specific ES, organised by biome, region and other descriptors. The idea is to develop a global Review Committee to screen existing data, add new data, and develop guidelines that will enable authoritative assessments of the services and values of particular ecosystems.

These need to be developed, and tested in practice. ESP therefore stimulates and coordinates the development of a world-wide network of 'Biome ES Expert Groups' and "best-practice" case studies ('show cases') on ES assessments and applications in actual management. This network is being developed in collaboration the Commission on Ecosystem Management of the International Union for Conservation of Nature (IUCN-CEM) and the TEEB-office in Geneva.

Participants are welcome to take part in the discussions and use the Open Space part for brief introductions on their own initiatives.

Aim: This session will give a brief overview of the ESP activities on database development and the creation of ES Biome expert groups, and the main partners involved, and come to agreement on the future steps to be taken.

Output: It is planned to produce a Special Issue in the new (Elsevier) Journal on Ecosystem Services to present an overview of all the existing and planned database initiatives

PROGRAM (DRAFT 19 Sept. 2011)		
Wednesday 5 October (10:30 - 12:30)		
Presenting author	Title	Remarks
Dolf de Groot	Introduction	10:30
<i>B.1 Ecosystem Services Valuation Database (ESVD):</i>		
Sander vd Ploeg and Ida Kubiszewski	Ecosystem Services Valuation Database (ESVD): current functions and future plans regarding Database and web-support	10:40

Jennifer Harrison-Cox and Jonathan Kochmer	SERVES: Simple and Effective Resource for Valuing Ecosystem Services - Formalizing a web-based tool for natural resource accounting	11:10
<i>B.2 Ecosystem Services Biome Expert groups:</i>		
Jelena Ilic and David Vačkář	Introduction and relation with IUCN program and Commission on Ecosystem Management (CEM) Theme on Ecosystem Services Biome Groups	11:30
Linwood Pendleton	Marine Ecosystem Services Partnership (MESP)	11:50
<i>B.3 Discussion</i>		12:10 – 12:30

SPS-Session C: Knowledge Sharing, Networking & Capacity Building

Session organisers: James Aronson¹, Simone Maynard², Dixon Landers³

¹ Centre national de la recherche scientifique, Montpellier, France

² SEQ Catchments, Brisbane, Australia

³ Environmental Protection Agency, Western Ecology Division, Oregon, USA

Ecosystem services is an emerging conceptual and policy tool showing great versatility and promise in a huge array of contexts around the world. When linked to the concept of natural capital, it can be especially effective in drawing together and focusing efforts to rationalize and better manage a coherent program or policy initiative. However, the idea is progressing far more quickly in the academic literature than anywhere else, and ideas and knowledge are disconnected. Networks of self-organizing groups that find common ground are a vital way to tackle this problem. Capacity-building is the other critical linchpin that must be addressed if ecosystem services and natural capital concepts are to be mainstreamed in the science, business, policy and practice in environmental and ecosystem arenas in the decades to come.

This vision calls for concerted collaboration among the public, private, and NGO sectors that use and manage natural capital, to be facilitated by nested governance and vertical integration to ensure the equitable distribution of ecosystem benefits. None of this will happen by itself, either in a top-down or a bottom-up scenario. Networking among people and groups of people with shared values is key to knowledge-sharing and capacity-building locally, nationally and internationally. It will also lead to multiple tests of ideas, approaches and information systems relevant to ecosystem services and natural capital.

Output: Arising from this Special Session, we plan to produce a Special Issue in the new (Elsevier) Journal on Ecosystem Services. Content, organization, and leadership will be discussed during the Conference. All those interested in

participating should please contact the session organizers or the Conference organizers.

PROGRAM		
Wednesday 5 October (10:30 – 12:30)		
Presenter	Title	Time
James Aronson	Introduction	10:30
Simone Maynard and Dixon Landers	The Challenges and Opportunities of Integrating Ecosystem Services into Australian Decision Making	10:40
Ian Bateman	Valuing Nature Network (VNN), UK	11:00
	OPEN SPACE (short 5-10 min presentations)	11:20
Piran White, Dave Raffaelli	Biodiversity and Ecosystem Service Sustainability (BESS)	
Marion Potschin	Knowledge Exchange on Ecosystem Network (KEEN)	
Marie van de Walle	Knowledge Network on Biodiversity and Ecosystem Services in Europe (KNEU)	
Johannes Förster	Sustainable land management for ecosystem services: Scientific coordination and synthesis of a research programme with place-based case studies (GLUES)	
Simon Moolenaar, Hans Keune	Making the best of the science-policy-interface potential of ecosystem services: building a Community of Practice regarding application of ESS concepts in Belgium and the Netherlands	
Dieter vd Broeck	Baviaanskloof Learning Village	
Damian Smith	New Network of Early Career Researchers on Ecosystem Services (NECRES)	
	Discussion / conclusions	12:20

Appendix 4 - List of Participants (24-09-2011)

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