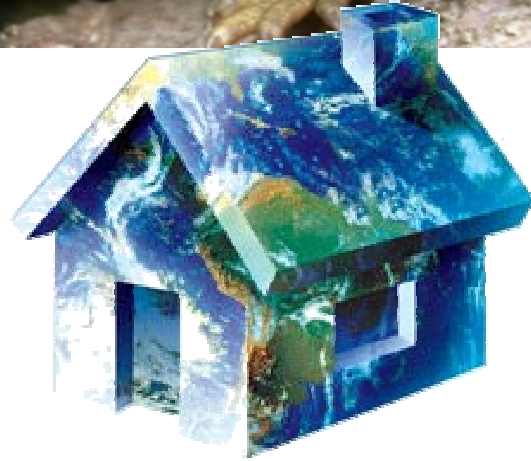




# Ecosystem Services Seminar

« Belgian Contribution to an European Ecosystem Assessment »



## Ecosystem Services Seminar

**Brussels, Wednesday October 22<sup>nd</sup>, 2008**

Palace of the Academies  
1, Rue Ducale / Hertogstraat 1

Organized by  
The Belgian Biodiversity Platform  
The Royal Academies of Sciences and the Arts of Belgium  
The Flemish Research Institute for Nature and Forest

## Programme

- 9 :00 –Registration
- 9 :30 – Introduction – Philippe Bourdeau
- 9 :40 – International context – Jurgen Tack
- 10:00 – View of the EC – Anne Teller & Martin Sharman
- 10:20 – The European Ecosystem Assessment – Jock Martin
- 10:50 – The Economics of Ecosystems and Biodiversity – Carsten Neßhöver
  
- 11:10-11:40 – Coffee

### *Relevance of the European Ecosystem Assessment to regional reporting*

- 11:40 – Assessing ecosystem services in Flanders: challenges and opportunities – Francis Turkelboom and NARA team
- 12:00 – Reports on the state of environment in Wallonia and ecosystems services assessment – Vincent Brahy & Edwin Zaccai
- 12:20 – Stakeholder involvement in ecosystem assessments: the "watersysteemkennis" experience and the "Congres Water en Klimaatverandering" – Patrick Meire
- 12:40 – A strategy to assess and promote ecosystem services in the Belgian agricultural context - Marc Mormont & Alain Peeters
  
- 13:00-14:00 – Lunch
  
- 14:00 – Message from the Federal Minister of Science Policy - D. Hellin

### Round table discussions (parallel sessions):

- ✓ Defining research priorities for a future call on Ecosystem Assessments in Belgium – Hendrik Segers
- ✓ Ecosystem assessment methodologies – Sybille van den Hove
- 15:30 – Presentation of results / adaptation of texts



## Abstracts of presentations

### Ecosystem Services: the international context

J. Tack

*Research Institute for Nature and Forest*

*European Platform for Biodiversity Research Strategy*

During the 1980s and 1990s major advances had been made in ecological sciences, resource economics and other fields. However these new findings appeared to be poorly reflected in policy discussions concerning ecosystems. Recognizing these shortcomings, a panel of 40 leading scientists prepared a draft international assessment - "Protecting our Planet, Securing our Future: Linkages Among Global Environmental Issues and Human Needs". The study, published in November 1998 by UNEP, NASA, and the World Bank, called for "a more integrative assessment process for selected scientific issues, a process that can highlight the linkages between questions relevant to climate, biodiversity, desertification, and forest issues."

The Millennium Ecosystem Assessment (MEA, 2005) was an important global milestone, as it successfully showed that healthy ecosystems are essential to achieve sustainable economies. To concretize this interaction, the term 'ecosystems services' was defined. 'Ecosystem services' are defined as 'the benefits people obtain from ecosystems'. These include *provisioning services* such as food, water, timber, and fiber; *regulating services* that affect climate, floods, disease, wastes, and water quality; *cultural services* that provide recreational, aesthetic, and spiritual benefits; and *supporting services* such as soil formation, photosynthesis, and nutrient cycling.

The first global assessment of ecosystem services was conducted during 2001-2004, which resulted in a set of important publications. However, the contribution of European countries was very limited. At present plans are being made to conduct a second and more comprehensive, global ecosystem assessment by 2015. Europe wants to be a major contributor for this second assessment, and the European Environment Agency (EEA) has taken the initiative to coordinate the European effort to assess ecosystem services at the European level. To support this process, the Eureca! Project has been initiated in 2008 and will last till 2012.

Scientists and policy makers involved in the work of international conventions such as the Convention on Biological Diversity (CBD) and the Convention to Combat Desertification (CCD) realized that the extensive needs for scientific assessments within the biodiversity related conventions is not being met through the mechanisms in place at the moment. The proposed Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) is a scientific and social process to strengthen relations between knowledge holders on biodiversity and ecosystem services and actors involved in decision/policymaking processes. IPBES is designed to foster exchanges between these communities and to deliver policy-relevant information in a timely fashion to support decision-making at appropriate scales. Based on the Millennium Ecosystem Assessment (MA) follow-up initiative as well as the outcomes of an International Mechanism of Scientific Expertise on Biodiversity (IMoSEB) consultation, a general consensus among governments and other stakeholders was reached on the need to establish an intergovernmental IPBES that should also include non-governmental stakeholders. In July 2008, governments and partners were invited to review the concept note and provide comments that will be



taken into account for further discussions at the intergovernmental and multi-stakeholder meeting on IPBES in Kuala Lumpur, Malaysia, scheduled for 10-12 November 2008. The proposed IPBES would provide scientific support to multilateral environmental agreements, national governments and other decision-makers concerned with consequences of biodiversity loss and ecosystem change.



## EURECA- The European Ecosystem assessment

*Jock Martin & Ybele Hoogeveen*

*European Environment Agency, Kongens Nytorv 6, 1050 Copenhagen K*

The loss of biological diversity is inextricably linked to the degradation of ecosystem services, the natural production capacity and regulating processes that are essential for sustainable use of the earth's resources and, ultimately, human well-being. The Millennium Ecosystem Assessment has convincingly shown that these services are under great pressure, e.g. due to human induced habitat loss, climate change and over-exploitation of natural resources (Millennium Ecosystem Assessment, 2005).

The first phase report under the TEEB<sup>1</sup> stressed that current economic accounting methods and indicators don't aptly capture future loss of natural capital resulting from overexploitation (TEEB, 2008). The current policy instruments focus primarily on provisioning services (such as energy, water and food) and lack a wider perspective on regulatory and supporting ecosystem services that are often not captured in market prices. As a result, policy measures may have unforeseen side effects, as illustrated by the current debate on biofuels.

A detailed assessment of European ecosystem services was largely missing from the Millennium Ecosystem Assessment (2005). The EEA has initiated EURECA to fill this gap and in doing so deliver a sub-global assessment within the MA follow-up strategy. This strategy, proposed by UNEP, aims at improving the knowledge base regarding ecosystem services, developing tools for political decision-making, and outreach to stakeholders. The main challenges EURECA faces are finding empirical data, addressing valuation and benefit transfer, developing assumptions and analyses for future developments, addressing multiple scales, and ensuring policy relevance. To meet these challenges EURECA will have the following elements:

- ✓ *Storyline-based assessments* of biodiversity change and its consequences for delivery of ecosystem services against the background of European trends. These entail a comprehensive analysis of state and trends of major ecosystems, followed by in-depth analyses of areas/issues of particular interest.
- ✓ An *integral accounting framework* that will allow economic assessment of ecosystem service flows across different scales. The wide consensus needed and data and analytical limitations imply that the ecosystem accounting framework is a long-term development goal. Elements of this accounting framework, however, are already operational or will become available within the timeframe of EURECA.
- ✓ Capacity building through the production of a *methods handbook*, consistent with the UNEP WCMC MA follow-up manual, and tailor-made for application at European and national scales. Guidance to all EURECA contributors will be given with regard to data needs, accounting, economic valuation, policy analysis, stakeholder process, scenario assumptions and ecosystem service terminology.

The definition phase of EURECA will last until the end of 2008, with deliveries scheduled throughout the upcoming 5-year strategy of the EEA (2009-2013). This timing will allow EURECA to connect to and influence international processes such

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<sup>1</sup> The Economics of Ecosystems and Biodiversity



as the first assessment of the 2010 biodiversity target (CBD COP11); the global MA-follow-up process (towards 2015), 'Rio +20' (2012). Specific for Europe, EURECA will also link to the end of the 6th Environment Action Programme (EC 2002), the 2014-2020 budget decisions, and the reporting on progress with the Action Plan of the Biodiversity Communication (EC 2006, the 7th annual report is due in 2013).

*Literature cited:*

*European Commission, 2002. Decision No 1600/2002/EC of the European Parliament and of the Council of 22 July 2002 laying down the Sixth Community Environment Action Programme. European Commission, Brussels.*

*European Commission, 2006. Halting the loss of biodiversity by 2010 - and beyond - Sustaining ecosystem services for human well-being. COM/2006/0216 final. European Commission, Brussels.*

*Millennium Ecosystem Assessment, 2005: Ecosystems and human well-being: Synthesis. Washington D.C.: Island Press.*

*TEEB, 2008. The Economics of Ecosystems and Biodiversity. European Communities, 2008.*



## **The Economics of Ecosystems and Biodiversity**

*Carsten Neßhöver*

*Department of Conservation Biology, Helmholtz Centre for Environmental Research  
– UFZ, Permoserstraße 15 / 04318 Leipzig / Germany*

See flyer at the end of this document



## A strategy for assessing ecosystem services in Flanders: Challenges and opportunities

Francis Turkelboom<sup>1</sup> and Flemish Biodiversity Assessment Group (NARA)<sup>2</sup>

<sup>1</sup> Ecosystem services researcher, Research Institute for Nature and Forest (INBO), Kliniekstraat 25, 1070 Brussels ([Francis.Turkelboom@inbo.be](mailto:Francis.Turkelboom@inbo.be))

<sup>2</sup> INBO, Brussels ([www.inbo.be](http://www.inbo.be); [www.nara.be](http://www.nara.be); [www.natuurindicatoren.be](http://www.natuurindicatoren.be))

Even though Flanders is an urbanised region with limited and fragmented open space, ecosystem services (ESS) are very important for its economy, as well as for the general well-being of its inhabitants. This is also recognized in the Flemish environmental policy plan (MINA 3+), which states that the long-term provision of ESS should be safeguarded. The provision of ESS depends on healthy natural resources and well-functioning ecosystems. Unfortunately, many of the ESS in Flanders are under stress or even threatened, and their scarcity often leads to competition or even conflicts between resource users. Despite their paramount importance, the ESS in Flanders are poorly assessed and understood. Therefore, there is an urgent need for a more holistic assessment of ESS in order to strengthen the synergy between society needs and biodiversity conservation.

The proposed strategy for a Flemish ESS assessment contain the following elements: detailed case studies (to assess supply and demand of ESS), a regional assessment, analysis of driving forces and changes in ESS, assessment of the international implications of the provision of ESS in Flanders, and the development of alternative social, policy and legal tools which are based on ecosystem services. However, to achieve this, a number of methodological problems and knowledge gaps need to be addressed, awareness about the advantages of the ESS concept need to be raised, and stakeholder cooperation need to be strengthened.

INBO aims to contribute to the operationalisation of the ESS concept in Flanders, but wishes to do this in cooperation with interested organisations. A first major proposed output of such collaboration would be the publication of an ecosystem services assessment report for Flanders in 2011, which will be a contribution to the European ecosystem assessment (planned for 2012). This research is expected to produce a number of derived products and positive side-effects, such as: new perspectives for the biodiversity conservation debate in Flanders, tools to assist the facilitation of land-use choices or conflicts about natural resources and biodiversity, a new generation of environmental policy tools, replacement of 'perverse subsidies' by 'smart subsidies', and development of new strategies for international cooperation in biodiversity conservation.



## Reports on the state of environment in Wallonia and ecosystems services assessment

*Dr Vincent Brahy, Head of the State of the environment in Walloon Cell, DGARNE  
Prof. Edwin Zaccai, University of Brussels (ULB)*

The institutional framework for the assessment of the state of the environment in the Walloon region is briefly outlined. Then, based on the extended report of 2007 <http://environnement.wallonie.be/eeew/default.aspx>, we compare the table of contents and the approaches taken in order to study the main environmental problems in the report, with the approaches and classifications used in the M.A. We highlight the parallels, and describe some main differences. In conclusion, we explore some possible ways of evolution towards the inclusion of some features of an ecosystem approach in such a report"



## **A strategy to assess and promote ecosystem services in the Belgian agricultural context**

*M. Mormont - Socio-Economie, Environnement, Développement (SEED) - Université de Liège*

*A. Peeters - natural Resources, Human Environment and Agronomy (RHEA) and Conservation Biology (RBINS)*

- 1) Contribution of agricultural systems, especially grassland-based systems, to the enhancement or the decline of ecosystem services
- 2) Identification of all agro-ecosystem services and assessment of their importance in relation with public demand
- 3) Political responses to the evolution of public demand and impact of these policies on ecosystem services
- 4) The landscape approach for enhancing ecosystem services
- 5) The promotion of quality products as a toll for enhancing ecosystem services
- 6) Research and research-development on political and socio-economic tools



## **Draft Recommendations of the participants to the Ecosystem Services Seminar,**

**Brussels, Wednesday, October 22<sup>nd</sup>, 2008.**

*(Based on the Recommendations of the meeting under the German Presidency of the EU of the European Platform for Biodiversity Research Strategy: “Sustainable use of Biodiversity”, Leipzig, 5<sup>th</sup>-7<sup>th</sup> May, 2007)*

### **Concerning: Biodiversity and Ecosystem services**

Human well-being relies on biodiversity in many different ways, by providing goods such as food, fibres, fuel, medicines, clean water, healthy soil, and services such as protection from floods, protection from soil erosion, carbon storage. As human impact on ecosystems is such that the delivery of these goods and services can no longer be taken for granted, hence we need an adequate knowledge-base to safeguard these services.

To this aim, the participants of this meeting place high priority on research to:

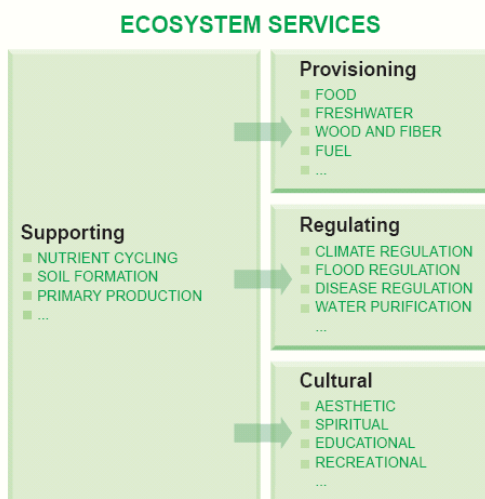
1. Improve knowledge on the links between biodiversity, ecosystem functions, ecosystem services, and their dynamics, in particular by:
  - 1.1. Understanding the contribution of biodiversity to ecosystem services;
  - 1.2. Understanding the influence of drivers and pressures, such as global changes and policies for conservation and use of ecosystems;
  - 1.3. Identifying complex dynamics, nonlinear responses and abrupt or irreversible shifts in ecosystems;
  - 1.4. Developing concepts of resource accounts for ecosystem services, to support ecosystem assessment and management (e.g. service providing unit, ecosystem accounts, bundles of services).
2. Improve knowledge on, and methodologies for, valuation of biodiversity and ecosystem services, in particular by investigating:
  - 2.1. the environmental, economic, and social impacts of changes in ecosystem services;
  - 2.2. the contribution of natural capital and ecosystem services to sustainable economies;
  - 2.3. utilitarian and non-utilitarian values of biodiversity and advantages and shortcomings of the ecosystem services concept in this respect;
  - 2.4. the articulation of plural values and their integration in decision-making processes;
  - 2.5. valuation techniques enabling the estimation of costs of changes in ecosystem services.
3. Improve the political and institutional knowledge base, particularly by:
  - 3.1. Better understanding social, economic and political settings for making policy with impact on biodiversity and analysing options for improved governance schemes, e.g. adaptive management, or the Ecosystem Approach;



- 3.2. Evaluating and developing response strategies, policies and governance structures for safeguarding biodiversity and how their effects vary among ecological and social contexts.
4. Improve methodologies and tools for ecosystem assessment, particularly by further developing:
  - 4.1. the multi-scale approach of the MA framework for a pan-European context, taking into account the ecosystem services used outside Europe;
  - 4.2. baseline data, data integration, and indicators for ecosystem functions and services;
  - 4.3. approaches and methods to deal with uncertainties, irreversibilities, complex dynamics and non-linear changes multi-level participatory methods appropriate to biodiversity assessment;
  - 4.4. scenarios and other tools for projecting future trends.

These research priorities were derived in particular from the following considerations:

- The Millennium Ecosystem Assessment and its concept of ecosystem services, by making a link between biodiversity and human well-being, is of high importance to develop new ways of safeguarding natural resources and biodiversity. Nevertheless, the ecosystem services approach is complementary to non-utilitarian rationales for biodiversity conservation e.g. those based on intrinsic values.
- In order to make aspects of the MA-concept operational, many knowledge gaps have to be filled. To approach these gaps, inter- and transdisciplinary research is needed which should be coordinated on the European scale to develop specific, multi-scale policy advice.
- Institutional changes will be needed including in the research community to build the scientific capacity and the science-society interfaces required to meet the challenges of the MA



Ecosystem services are the benefits people obtain from ecosystems. These include provisioning services such as food, water, timber, and fiber; regulating services that affect climate, floods, disease, wastes, and water quality; cultural services that provide recreational, aesthetic, and spiritual benefits; and supporting services such as soil formation, photosynthesis, and nutrient cycling

Source: MA (2005)



## Participants

Ajuzie Cyril	<a href="mailto:efulecy@yahoo.com">efulecy&lt;at&gt;yahoo.com</a>	ULB
Bagyary Emma	<a href="mailto:emmabagyary@yahoo.co.uk">emmabagyary&lt;at&gt;yahoo.co.uk</a>	ULB
Balian Estelle	<a href="mailto:estelle.balian@naturalsciences.be">estelle.balian&lt;at&gt;naturalsciences.be</a>	Belgian Biodiversity Platform
Baus Erika	<a href="mailto:erika.baus@naturalsciences.be">erika.baus&lt;at&gt;naturalsciences.be</a>	Belgian Biodiversity Platform
Beck Olivier	<a href="mailto:obe@ibgebim.be">obe&lt;at&gt;ibgebim.be</a>	Leefmilieu Brussel – BIM
Bourdeau Philippe	<a href="mailto:bourdeau@ulb.ac.be">bourdeau&lt;at&gt;ulb.ac.be</a>	ULB / RASAB
Brahy Vincent	<a href="mailto:Vincent.Brahy@ulb.ac.be">Vincent.Brahy&lt;at&gt;ulb.ac.be</a>	ULB / DGARNE
Branquart Etienne	<a href="mailto:E.Branquart@mrw.wallonie.be">E.Branquart&lt;at&gt;mrw.wallonie.be</a>	Belgian Biodiversity Platform
Cappuyens Valérie	<a href="mailto:Valerie.Cappuyens@hubrussel.be">Valerie.Cappuyens&lt;at&gt;hubrussel.be</a>	Hogeschool-Universiteit Brussel
Danckaer Sylvie	<a href="mailto:sylvie.danckaer@lv.vlaanderen.be">sylvie.danckaer&lt;at&gt;lv.vlaanderen.be</a>	Dep. landbouw en visserij – afdeling Monitoring en Studie
De Becker Piet	<a href="mailto:piet.debecker@inbo.be">piet.debecker&lt;at&gt;inbo.be</a>	INBO
De Blust Geert	<a href="mailto:geert.deblust@inbo.be">geert.deblust&lt;at&gt;inbo.be</a>	INBO
De Nocker Leo	<a href="mailto:leo.denocker@vito.be">leo.denocker&lt;at&gt;vito.be</a>	VITO
Dekoninck Wouter	<a href="mailto:wouter.dekoninck@naturalsciences.be">wouter.dekoninck&lt;at&gt;naturalsciences.be</a>	RBINSc Entomology Department
Celine Dessaucy	<a href="mailto:Celine.dessaucy@kvab.be">Celine.dessaucy&lt;at&gt;kvab.be</a>	RASAB
Dumortier Myriam	<a href="mailto:myriam.dumortier@inbo.be">myriam.dumortier&lt;at&gt;inbo.be</a>	INBO
Godin Marie-Céline	<a href="mailto:mcg@ibgebim.be">mcg&lt;at&gt;ibgebim.be</a>	Bruxelles Environnement
Hens Maarten	<a href="mailto:maarten.hens@inbo.be">maarten.hens&lt;at&gt;inbo.be</a>	INBO
Hermy Martin	<a href="mailto:martin.hermy@ees.kuleuven.be">martin.hermy&lt;at&gt;ees.kuleuven.be</a>	K.U.Leuven, dept Earth & Env. Sciences
Jock Martin	<a href="mailto:jock.martin@eea.europa.eu">jock.martin&lt;at&gt;eea.europa.eu</a>	European Environment Agency
Jonckheere Inge	<a href="mailto:ijonckheere@esf.org">ijonckheere&lt;at&gt;esf.org</a>	European Science Foundation
Jurgen Tack	<a href="mailto:jurgen.tack@inbo.be">jurgen.tack&lt;at&gt;inbo.be</a>	INBO / EPBRs
Lambin Eric	<a href="mailto:eric.lambin@uclouvain.be">eric.lambin&lt;at&gt;uclouvain.be</a>	UCL
le Polain de Waroux Yann	<a href="mailto:yann.lepolain@uclouvain.be">yann.lepolain&lt;at&gt;uclouvain.be</a>	UCL
Ledant Jean-Paul	<a href="mailto:jp.ledant@skynet.be">jp.ledant&lt;at&gt;skynet.be</a>	Institut pour un développement durable, consultant indépendant
Lock Koen	<a href="mailto:Koen.Lock@UGent.be">Koen.Lock&lt;at&gt;UGent.be</a>	Ghent University
Maelfait Jean-Pierre	<a href="mailto:jean-pierre.maelfait@inbo.be">jean-pierre.maelfait&lt;at&gt;inbo.be</a>	INBO
Maes Wouter	<a href="mailto:wouter.maes@biw.kuleuven.be">wouter.maes&lt;at&gt;biw.kuleuven.be</a>	K.U.Leuven
Martens els	<a href="mailto:els.martens@lne.vlaanderen.be">els.martens&lt;at&gt;lne.vlaanderen.be</a>	ANB - Vlaamse overheid
Martens Koen	<a href="mailto:martens@naturalsciences.be">martens&lt;at&gt;naturalsciences.be</a>	RBINSc
Meire Patrick	<a href="mailto:patrick.meire@ua.ac.be">patrick.meire&lt;at&gt;ua.ac.be</a>	ECOBÉ / UA
Moens de Hase Tony	<a href="mailto:Tony.moensdehase@tractebel.com">Tony.moensdehase&lt;at&gt;tractebel.com</a>	Tractebel Engineering
Mormont Marc	<a href="mailto:mmormont@ulg.ac.be">mmormont&lt;at&gt;ulg.ac.be</a>	ULG
Neßhöver Carsten	<a href="mailto:carsten.nesshoever@ufz.de">carsten.nesshoever&lt;at&gt;ufz.de</a>	Helmholtz Centre for Environmental Research - UFZ
Obsomer Pierre	<a href="mailto:poxc1977-igeat@yahoo.fr">poxc1977-igeat&lt;at&gt;yahoo.fr</a>	IGEAT - ULB
Peeters Alain	<a href="mailto:alain.peeters@rhea-environment.org">alain.peeters&lt;at&gt;rhea-environment.org</a>	RHEA, IRSNB
Reubens Bert	<a href="mailto:bert.reubens@ees.kuleuven.be">bert.reubens&lt;at&gt;ees.kuleuven.be</a>	K.U.Leuven
Segers Hendrik	<a href="mailto:hendrik.segers@naturalsciences.be">hendrik.segers&lt;at&gt;naturalsciences.be</a>	Belgian Biodiversity Platform
Sharman Martin	<a href="mailto:Martin.Sharman@ec.europa.eu">Martin.Sharman&lt;at&gt;ec.europa.eu</a>	EC, DG research
Teller Anne	<a href="mailto:anne.teller@cec.eu.int">anne.teller&lt;at&gt;cec.eu.int</a>	EC, DG Environment
Turkelboom Francis	<a href="mailto:turkelboom@inbo.be">turkelboom&lt;at&gt;inbo.be</a>	INBO
Jacques Jean-Marie	<a href="mailto:jean-marie.jacques@fundp.ac.be">jean-marie.jacques&lt;at&gt;fundp.ac.be</a>	FUNDP, UCL
Valckx Jan	<a href="mailto:jan.valckx@ees.kuleuven.be">jan.valckx&lt;at&gt;ees.kuleuven.be</a>	KULeuven
Van Lierde Céline	<a href="mailto:celine.vanlierde@kvab.be">celine.vanlierde&lt;at&gt;kvab.be</a>	RASAB
Van Den Hove Sybille	<a href="mailto:s.vandenhove@terra.es">s.vandenhove&lt;at&gt;terra.es</a>	Median consulting
Van Reeth Wouter	<a href="mailto:wouter.vanreeth@inbo.be">wouter.vanreeth&lt;at&gt;inbo.be</a>	INBO
van Vesseem Janine	<a href="mailto:janine.vanvesseem@inbo.be">janine.vanvesseem&lt;at&gt;inbo.be</a>	INBO
Vander Werf Aline	<a href="mailto:Aline.vanderwerf@belspo.be">Aline.vanderwerf&lt;at&gt;belspo.be</a>	BelSPO



Vanderborght Oscar	<a href="mailto:oscar.vdb@skynet.be">oscar.vdb&lt;at&gt;skynet.be</a>	IGBP-SCOPE Nation.Comm. Acad. Sci.
Verheyen Kris	<a href="mailto:kris.verheyen@ugent.be">kris.verheyen&lt;at&gt;ugent.be</a>	UGent, Dep. Forest and Water Management
Verschuren Dirk	<a href="mailto:dirk.verschuren@UGent.be">dirk.verschuren&lt;at&gt;UGent.be</a>	Universiteit Gent
Zaccai Edwin	<a href="mailto:ezaccai@ulb.ac.be">ezaccai&lt;at&gt;ulb.ac.be</a>	ULB



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# The Economics of Ecosystems & Biodiversity (TEEB)

Phase 2, 2008-2010

***'The Economics of Ecosystems and Biodiversity' (TEEB) is an initiative to draw attention to the global economic benefits of biodiversity and the costs of biodiversity loss and ecosystem degradation.***



## Background

The TEEB-Initiative was launched as a consequence of the G8+5 Environmental Ministers meeting in Potsdam, Germany, in March 2007, which decided to *'initiate in a global study the process of analysing the global economic benefit of biological diversity, the costs of the loss of biodiversity and the failure to take protective measures versus the costs of effective conservation.'*

TEEB is headed by Pavan Sukhdev, chairman of Deutsche Bank's "Global Market Centre" in Mumbai, and Founder-Director of the 'Green Accounting for Indian States Project', an initiative of the Green Indian States Trust (GIST).

The main output of the first Phase of TEEB was an Interim Report that was presented at the 9th Conference of the Parties of the Convention on Biological Diversity (CBD) in May 2008 in Bonn. The report provided strong evidence for significant global and local economic losses and human welfare impacts attributable to the ongoing losses of biodiversity and degradation of ecosystems. It also presented a general framework for assessing and addressing the impacts of biodiversity loss. Phase 2 of TEEB will run until end of 2010. The end result will be a further development of the methods outlined in the Interim Report

## TEEB objectives for Phase 2

TEEB aims to strengthen economics as an instrument in biodiversity policy through improved understanding of the benefits from biodiversity, ecosystem services and the costs of their loss.

TEEB will synthesize state-of-the-art scientific and applied knowledge for [the main types of ecosystems worldwide](#). It will propose a selection of cost-effective policy options for protecting biodiversity and ecosystem services.

TEEB aims to help policy makers, local authorities, companies and individuals in making decisions with respect to their responsibilities in safeguarding biodiversity.

## Timeline & working mode

The different deliverables will be developed and published consecutively, starting with the D1 report and preliminary results from D0 in autumn of 2009. The other reports and products will follow until CBD COP10 at the end of 2010.

TEEB is led by the Study Leader group with Pavan Sukhdev, and supported by the Advisory Board (see below). Each deliverable will be headed by a Core Team of international experts. The D0 Team is coordinated by Pushpam Kumar (University of Liverpool), and the D1 Team by Patrick ten Brink (Institute for European Environmental Policy, Brussels). The coordinators for D2, D3 and D4 will be announced later this year. The teams are supported by a TEEB Secretariat at UNEP in Bonn and the TEEB Scientific Coordination at the Helmholtz Centre for Environmental Research – UFZ in Leipzig (see figure next page).

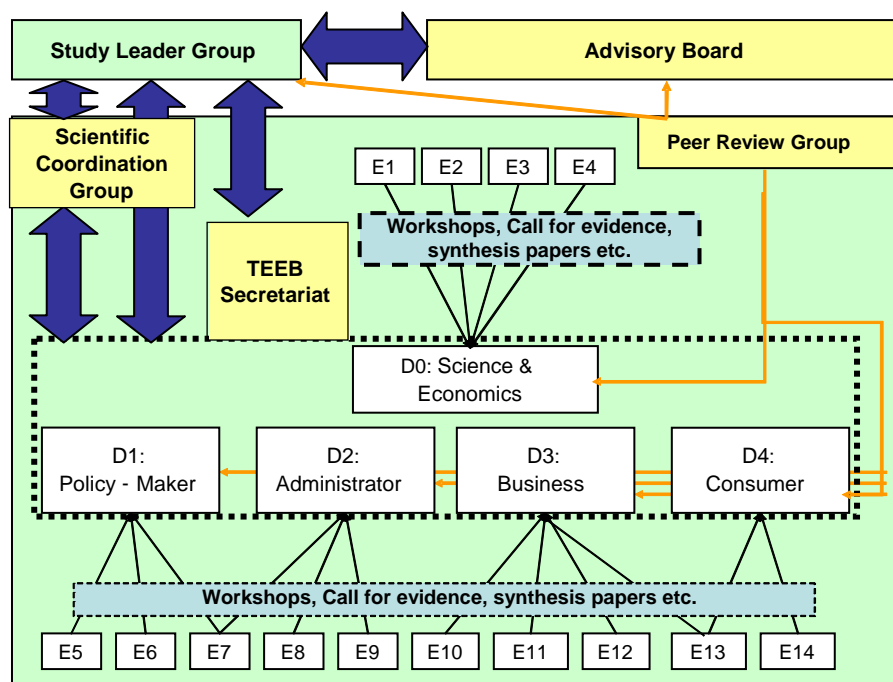
The Core Teams will depend on external experts (E) from science and practice (via calls for evidence, workshops, studies, etc.) that are active in relevant fields to provide inputs for the reports of the different deliverables. The reports will then be subject to review by additional experts, and will benefit from feedback from the Advisory Board as well. The publication of TEEB results will be accompanied by an open outreach and communication strategy that is currently under development.

## TEEB Advisory Board

The TEEB Advisory Board consists of a number of high-ranking experts from policy, economics, and science. It advises the TEEB team on all strategic aspects of the initiative. Current members are: Giles Atkinson (London School of Economics), Edward Barbier (University of Wyoming), Yolanda Kakabadse (Fundación Futuro Latinoamericano), Julia Marton-Lefevre (IUCN), Karl-Göran Maler (Beijer Institute Stockholm), Joan Martinez-Alier (Universitat Autònoma de Barcelona), Peter May (ISEE), Jacqueline McGlade (EEA), Ladislav Miko (EU), Herman Mulder (Global Reporting Initiative), Walter Reid (Packard Foundation), Achim Steiner (UNEP) and Lord Nicolas Stern (London School of Economics).

## Deliverables for Phase 2

Five deliverables of TEEB are foreseen, four of them targeted at specific user groups (D1 to D4), complemented by a report (D0) that will lay the scientific and economic foundations for D1 to D4.



### D0 – The Scientific Basis: Assessment Framework, Valuation Methodology & Cost Analyses:

D0 is the “theory” deliverable providing the conceptual grounds for the other reports. It aims at developing a framework and methodology for the economic valuation of biodiversity and the main types of ecosystem services worldwide, and applying them to assess the costs of present and future losses. It will compare these costs to the net costs of policies to conserve and use sustainably biodiversity and ecosystem services. It will build on the preliminary work done in Phase I, and on the best achievable degree of consensus amongst academic institutions and experts.

**D1 – TEEB for Policy Makers:** the national policy level is the first end-user group to be addressed by the second phase of TEEB. This volume will explore the consequences of international and national policies on biodiversity and ecosystems, i.e. subsidies, impact offset requirements, trading rules, etc.

**D2 – TEEB for Administrators:** this volume will deliver a toolkit for regional and local decision makers and stakeholders (e.g. regional and local administration, mayors, NGOs, etc.) that adapt the legal framework set at the higher policy level and operate within it.

**D3 – TEEB for Businesses:** D3 focuses on the business end-user and aims to provide a framework for assessing the impact of production on biodiversity and ecosystems, both for assessing risks to business (e.g. lost production inputs, risk to brand reputation, etc) and opportunities (e.g. new market opportunities, brand building, etc).

**D4 – TEEB for Consumers:** D4 aims to provide an information toolkit for consumers. Although nutritional information is nowadays available on a variety of food products, there is still a large information deficit on the consequences of consumption patterns on biodiversity and ecosystems. D4 will use different medias and approaches to address stakeholders.

### How to get involved

**Call for evidence:** As of now, the call for evidence of Phase II can be viewed on the website:

[http://ec.europa.eu/environment/nature/call\\_evidence.htm](http://ec.europa.eu/environment/nature/call_evidence.htm)

If you wish to send information and comments to TEEB, you will be asked to indicate to which deliverable your knowledge and experience can contribute and provide a brief description of your contribution.

**Contact:** the TEEB Secretariat will be established shortly. Until then, if you wish to know more, please contact

#### TEEB Scientific Coordination

Helmholtz Centre for Environmental Research – UFZ

Tel.: +49 341 235-1636, Email: [teeb@ufz.de](mailto:teeb@ufz.de)

**Further information:** for general information on the TEEB initiative, including an electronic version of the Interim Report and supporting studies from Phase I, visit

[http://ec.europa.eu/environment/nature/biodiversity/economics/index\\_en.htm](http://ec.europa.eu/environment/nature/biodiversity/economics/index_en.htm)

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