

The Costs of Losing Biodiversity

By David Baldock (Executive Director of IEEP)

The loss of biodiversity is so relentless and now so familiar that we can lose sight of its scale and significance. With policy makers necessarily preoccupied with climate change there is a danger that the erosion of biodiversity can be eclipsed. This would be perverse since we need to increase biodiversity conservation efforts to maximise its resilience as the climate changes. Moreover, biodiversity has a key role to play in climate change mitigation and wider adaptation needs. Keeping it in the foreground and on the front page is therefore essential.

This was the impetus behind the initiative by the European Commission and German government to launch a global programme of work on the economics of ecosystems and biodiversity under the leadership of Pavan Sukhdev, presented at the 9th meeting of the Conference of the Parties to the Convention on Biological Diversity. The Institute has been pleased to contribute to this (see article below) and to make biodiversity the main focus of this newsletter.

The tendency to under estimate the impact of policy decisions on biodiversity can be seen in European policy as much as at the national level. The adoption of the ten per cent target for renewable fuels in the transport sector by 2020 was not based on a thorough appraisal of the land use and biodiversity impacts and the backlash against biofuels (see article below) is not unexpected. In the Health Check package for CAP reform it is proposed to eliminate compulsory set-aside but without convincing measures to compensate for biodiversity losses.

The effects of such decisions may not be immediately visible but unless this pattern is reversed the planet faces a degradation of life and ecosystem services that can only be valued in billions.



David Baldock
Director

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The IEEP London office will be moving on 1st August to:
15 Queen Anne's Gate – London SW1H 9BU
Telephone numbers and emails will remain the same.

1. The Economics of Ecosystems and Biodiversity (TEEB)

In the same way that the Stern report drew attention to the economic costs of climate change a recent initiative by the European Commission and the German Government is exposing the costs of biodiversity loss. We are increasingly aware of our dependence on a range of 'ecosystem services' – water supply and purification, climate regulation and carbon capture, food and fibre provision, genetic materials for medicines and crops, and cultural and recreational resources. Yet we often take them for granted, markets frequently fail to take into account their value, and we are generally unaware of the scale and importance of the ongoing loss of our natural capital and associated services.

We have already lost a very considerable amount of biodiversity – over 40 per cent of our forests, 50 per cent of wetlands, 35 per cent of mangroves and 20 percent of coral reefs – along with their associated ecosystem services. Some fisheries have collapsed and others are under severe pressure, yet over a billion people rely on fish for protein. Without halting biodiversity loss we stand to lose increasing amounts of our natural capital. .

The Economics of Ecosystems and Biodiversity (TEEB) initiative is a major effort to examine the scale and distribution of the costs of running down our natural capital base in this way, looking too at the underlying drivers. The interim report was presented at the High-Level Segment of COP9 of the CBD in Bonn in May, by Minister Gabriel, Commissioner Dimas and Mr Pavan Sukhdev, the study leader.

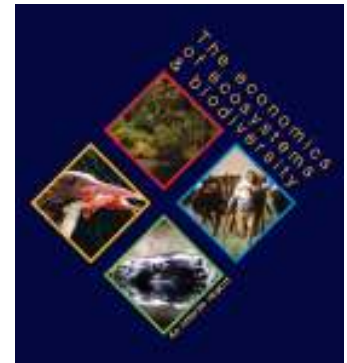
IEEP is proud to have been part of the TEEB core team in the first phase and to have contributed to a range of studies. Our key role has arguably been in deriving a first-cut monetary estimate of the cost of not halting biodiversity loss (see related article in this newsletter issue on the Cost of Policy Inaction (COPI) project).

TEEB is now starting its second phase, with future publications planned for September 2009, which marks the end of this European Commission and hence Environment Commissioner Stavros Dimas' contribution, and November 2010, the CBD COP10 in Japan.

The Economics of Ecosystems & Biodiversity (TEEB) - Interim Report can be found at:
http://ec.europa.eu/environment/nature/biodiversity/economics/index_en.htm

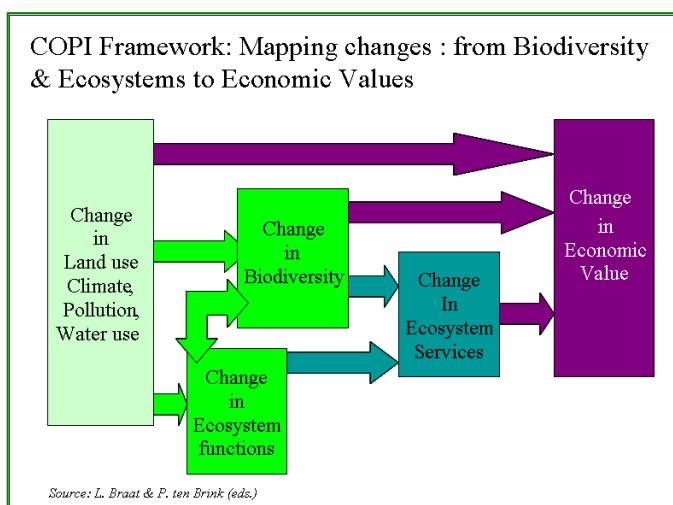
The presentation given by Patrick ten Brink at the EEB Biodiversity workshop 9 June 2008 is at:
http://www.ieep.eu/publications/pdfs/2008/ecosystems_eeb_ptb.pdf

Contact: Patrick ten Brink



2. The Cost of Policy Inaction: The Case of Not Meeting the 2010 Biodiversity Target

We know that there is a price to pay for permitting the current trends of ecosystem degradation and biodiversity loss to continue. But can we grasp the scale of these costs? This was the challenge for a recent study on the Cost of Policy Inaction (COPI). This sought to assess the economic cost of not halting biodiversity loss (*Figure 1*). Among its core findings, were:



- The welfare loss grows with each year of biodiversity and ecosystem loss.
- Over the period 2000 to 2010 this can be estimated at around **€50 billion extra loss per year, every year**.
- By 2010 the welfare losses from the degradation of ecosystem services amount to **€545 billion in 2010**, or just under **one per cent of world GDP**.
- **The value of the amount lost every year rises, until it is around €275 billion per year in 2050.**
- The loss of welfare in 2050 from the **cumulative loss** of ecosystem services between now and then amounts to **€14 trillion (10¹²)** under the *fuller estimation* scenario.
- This is equivalent in scale to **seven per cent of projected global GDP for 2050** – across all land-based biomes. This is nearer **five per cent for forestry biomes**.

These results are a first cut estimate and part of a test phase for the method of valuing biodiversity loss; a fuller estimate is expected be part of the second phase of the TEEB work (see previous article), to be presented at the CBD COP10 in Nagoya, Japan, in November 2010.

Cost of policy inaction (COPi): The case of not meeting the 2010 biodiversity target - Final Report can be found at: http://www.ieep.eu/publications/pdfs/2008/ecosystems_eeb_ptb.pdf

The presentation given by Patrick ten Brink to the ENVECO 23 meeting in Brussels on 17 June 2008 is at: http://www.ieep.eu/publications/pdfs/2008/ptb_copi_enveco.pdf

Contact: Patrick ten Brink

3. EU Budget Review Debate: National Perspectives Emerge

The 'no taboos' debate on the EU budget review has been continuing apace in recent months with the most controversy surrounding future spending on the CAP. Although the Commission's consultation period formally closed on 15 June after the submission of nearly 280 written contributions, this is only the first stage of a process continuing into 2009. IEEP has been contributing to these discussions at conferences and workshops organised throughout the EU. After the launch of our report '*Turning the EU Budget into an Instrument to Support the Fight against Climate Change*' on 14 April at CEPS in Brussels (see IEEP's Spring Newsletter), the report's authors, Camilla Adelle, Marc Pallemmaerts and David Baldock, have presented the findings to audiences in Budapest, Paris, the Hague, Stockholm and Copenhagen.

Most contributions by national governments have been worded with caution with positions unlikely to be developed very fully until the European Commission's paper emerges, probably at the beginning of 2009. Some however, have signalled clearly their interest in building up the climate dimension of the budget. The contribution by the Netherlands for example, discusses increased funding for mitigation, including assistance for the poorest developing countries.

The CAP predictably receives plenty of attention from both defenders and critics. At one end of the spectrum are governments which believe that the current high food prices require a return to a more protectionist CAP. At the other end is the UK, arguing that Pillar I of the CAP should be phased out and that Pillar II should be focussed on delivering environmental benefits to society against a backdrop of climate change. The UK's paper, however like the budget review debate in general, is relatively quiet about spending on biodiversity or environmental protection in general. This is a topic the Institute will continue to work on.

IEEP's Report '*Turning the EU Budget into an Instrument to Support the Fight against Climate Change*' can be found here: <http://www.ieep.eu/publications/pdfs/20084.pdf>

The Responses to the Commission's Consultation exercise can be found here: http://ec.europa.eu/budget/reform/index_en.htm

Contact: Camilla Adelle

4. Living with Aliens: Protecting European Biodiversity from Negative Effects of Invasive Alien Species

Invasive alien species (IAS) are non-native species that, when introduced outside their natural environment, pose a risk to native biodiversity. These species spread rapidly and are very aggressive in claiming space and resources for their own establishment. As a consequence, IAS reduce the abundance of native species, sometimes even replacing them completely. For example, predation by American mink (*Mustela vison*) has caused significant population declines of ground nesting birds and small mammals in Europe. IAS can also significantly alter the structure and functioning of their new ecosystem. For instance, water hyacinth (*Eichhornia crassipes*), a free-floating aquatic plant, can overgrow and block entire water bodies.

IAS are currently recognised as one of the most important threats to biodiversity at the global level. In addition, these species can also lead to high social and economic costs as they can negatively affect the ability of ecosystems to support human wellbeing. IAS can, for example, reduce ecosystems' capacity to provide natural resources such as forestry, crops or fish stocks. They can also disturb the complex natural processes on which we all depend, such as ecosystems' ability to purify and store water, maintain certain local and regional climatic conditions and resist soil erosion (so-called 'ecosystem services'). In addition, IAS can hinder navigation by blocking waterways and harm human health by causing allergies and injuries.

A conservative estimate developed recently by IEEP and partners assessed annual IAS-related monetary costs in Europe at between €9.6 and €12.7 billion per year.

Increasing travel, trade and tourism associated with globalisation and expansion of the human population facilitate the intentional and unintentional movement of species beyond their natural biogeographical barriers. This is particularly true in Europe and the EU where citizens today are more mobile than ever before. To address this growing threat of IAS, the European Commission is currently drafting an EU-wide strategy for IAS. IEEP is actively involved in supporting the development of this strategy, which is envisaged to be published by early 2010.

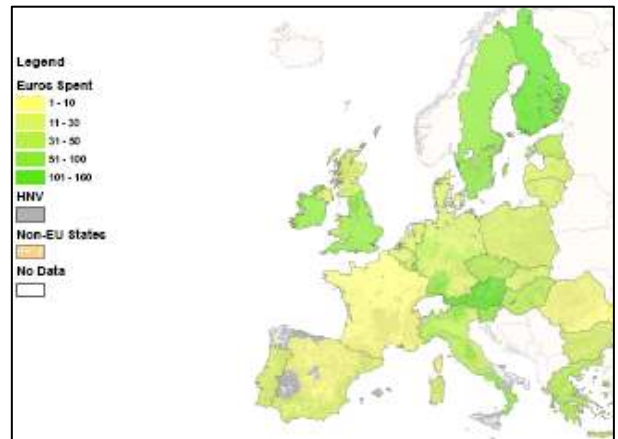
Contact: Marianne Kettunen

5. A CAP that Delivers for Biodiversity: Evidence for the EU Budget Review

The majority of expenditure under the EU's Common Agricultural Policy (CAP) continues to be directed to income support and is not explicitly targeted at environmental objectives. According to a new IEEP study for the UK Royal Society for the Protection of Birds (RSPB), steps should be taken to reform the CAP in order to help meet the EU's international commitment to halt the loss of biodiversity. In particular, funding under the CAP should be distributed in favour of those measures which focus on achieving environmental objectives. In addition, the way in which the CAP budget is decided and allocated between the Member States should be adjusted to better reflect the cost of responding to biodiversity and other environmental priorities. Furthermore, the allocation of funds within the Member States to those measures that can deliver positive environmental outcomes, and the way in which they are implemented, should be improved.

The report aims to help inform a debate on the extent to which European expenditure on agriculture contributes to outcomes that benefit society as a whole. Through the use of maps overlaying CAP expenditure data with High Nature Value (HNV) farmland, the report raises questions about the commitment of some Member States to supporting areas of high biodiversity value, and helps to show where some form of EU-level policy intervention is needed.

The relationship between the receipt of CAP payments by farmers, the influence these have on farm management decisions, and the resulting impacts on farmland biodiversity is far from simple. However, understanding it better - through maps, case studies or other approaches - is essential to animating a transparent debate on the purpose, intensity and spatial distribution of expenditure on the CAP. Building on this study, further work is needed to relate up-to-date CAP expenditure data to information on the condition and location of Europe's biodiversity resources. With the EU Budget under review, providing robust evidence of this kind will help to underpin an analysis, within the context of the ongoing review of the EU Budget, of the future rationale for, structure of and funding needs of European agricultural policy.



Source: IEEP, 2008 based on EEA/DG JRC preliminary map of HNV farmland and mapped by the RSPB.

The main report is available here:

<http://www.ieep.eu/publications/publicationssearch.php?author=237&date=Jun+30%2C+2008&search=combine&keyword=128&text=&Submit=Submit>

A separate case study report is available here:

<http://www.ieep.eu/publications/publicationssearch.php?author=392&date=Jun+30%2C+2008&search=combine&keyword=128&text=&Submit=Submit>

Contact: Martin Farmer

6. Informing the Biofuels Debate

The controversy around the use of biomass for energy, especially as a transport fuel, is rapidly gaining momentum. The last quarter has seen governments dramatically shift their support away from first generation or agri-biofuels. This is a response to concern about their environmental impact, particularly in the developing world, alarm over rising food prices, protectionist noises within European agriculture policy and mounting questions regarding the ability of sustainability certification schemes to ensure that supply chains meet environmental standards.

IEEP continues to contribute to the debate on the future use of biofuels. Joana Chiavari led IEEP's input into the Gallagher Report, a controversial and high profile review of the impacts of biofuels for the UK's Renewable Fuels Agency. IEEP's contribution specifically addresses the potential role of biofuel feedstocks cultivated on marginal lands ie those with poor quality soils, salt water environments and arid areas. In the absence of appropriate policies, it is expected that commercial production of traditional crops will continue to predominate. The study does, however, identify certain opportunities to produce feedstocks in ways that would help to restore poorly managed farmlands, woodlands, forests and watersheds.

The proposed Directive on sources of renewable energy will be fundamental to driving forward the adoption of biofuels and more broadly will influence the EU's future energy mix. In this regard, on 12 June IEEP's Catherine Bowyer moderated a roundtable on 'Sustainable Biofuel Production in Tropical and Sub Tropical Countries' for the European Parliament. Attended by over 100 experts and European officials, the meeting was convened in coordination with Swedish MEP Anders Wijkman. It was intended to inform Mr Wijkman's report and proposed amendments to the sustainability and biofuel elements of the proposed Directive.

Details of the Gallagher Report are available at

http://www.dft.gov.uk/rfa/db/documents/Themba_Local_land_use_change_impacts_and_opportunities.pdf

Further details of the round table can be found at
<http://www.ecologic-events.de/sustainable-biofuel/index.htm>

Contact: Catherine Bowyer and Joana Chiavari

7. Mid-Term Review of CARS 21 Launched

In June, Commissioner Verheugen initiated a Mid-Term Review (MTR) of the High-Level Group CARS 21 (Competitive Automotive Regulatory System for the 21st Century), in which IEEP participates as a member. The aim is for the review to be completed 'on Verheugen's watch', ie before the current Commission is dissolved next year.

A major component of the MTR, inevitably, is a stock-take of the various actions proposed to simplify the car regulatory environment but more surprisingly, DG Enterprise has taken the opportunity to open a new consultation as well. This incorporates an important forward-looking component on energy and environment in the context of the transport sector. DG Enterprise sees this as an opportunity to generate some new thinking and initiatives to put before the incoming Commissioners next year.

The first component of this is to develop longer term perspectives on future mobility within the framework conditions of energy supply and environmental protection. In practice this has two main elements:

- DG Enterprise seeks views on the potential for future improvements on the CO₂ performance of conventional car technology – implicitly in the context of a tighter target for 2020.
- In addition they are keen to consider the possible role of 'break-through technologies'. In practice DG Enterprise is keen to generate greater momentum behind the options for electrifying the transport sector as an alternative to the other main non-oil power options of hydrogen or biofuels.

These and other issues raised in the document represent some significant questions for the future of sustainable mobility, and responses are encouraged from all interested parties. The consultation closes on 9 September.

Further details are available at:
http://ec.europa.eu/enterprise/automotive/consultation/cars21_mtr/consultation_document.pdf

Contact: Malcolm Fergusson

IEEP conferences and events

In the coming months IEEP will organise or participate to the following meetings and events. If you would like to find out more, do not hesitate to contact us.

Reducing Emissions from Transport - London, UK, 22 July 2008

Malcolm Fergusson will participate as a discussant in an expert seminar on marginal cost curves for CO₂ abatement in transport for the UK Climate Change Committee.

Contact: [Malcolm Fergusson](#)

Sustainable Agriculture and Soil Conservation (SoCo) International Stakeholder Workshop - Bristol, UK, 15 – 16 September 2008

IEEP is organising an international stakeholder workshop on agricultural soil conservation, as part of the SoCo Project (Sustainable Agriculture and Soil Conservation) run by DG Agriculture and DG JRC/IPTS. The event is the third of a series of workshops on the project's case studies, and will present results from three studies in Northern Europe, including the IEEP study on the UK, and partners' studies on Denmark and Belgium. Conclusions from the series will also be brought together, as well as recommendations to inform policy decisions. Participants will include European and national policy makers, MEPS, environmental regulators, NGOs, farmers/farming industry representatives, academics and researchers. Discussions will be chaired by David Baldock and coupled with keynote presentations by technical and policy experts.

Contact: [Ian Fenn](#)

MBIs for the Environment – Prospects for Progress in the EU - A Launch Conference for Green Budget Europe (GBE) - Brussels, Belgium, 25 September 2008

This Green Budget Germany and European Environmental Bureau conference will focus on environmental harmful subsidy (EHS) reform and the EU Energy Tax Directive, and will also launch a new platform to promote EFR (Environmental Fiscal Reform) and MBIs (Market Based Instruments) on the European level – Green Budget Europe. Patrick ten Brink of IEEP has been invited to speak on environmentally harmful subsidies and their reform. For further details see

http://www.eco-tax.info/en/GBE_Launching_Conference.html

Contact: [Patrick ten Brink](#)

Food Supply in the 21st Century: The New Dynamic - London, UK, 6 - 7 October 2008

David Baldock will be a speaker at this conference organised by Chatham House, examining the combined effects on the UK's wheat and dairy industries of a range of global trends and influences. David will present his view at a session on 'globalisation and resources'.

Contact: [David Baldock](#)

Europe's Rural Areas in Action: Facing the Challenges of Tomorrow - Limassol, Cyprus, 16 - 17 October 2008

David Baldock will be the rapporteur of the workshop 'Land management and public goods: scope for common ground - Delivery of environmental goods and services as an essential element for sustainable rural development'. The workshop is part of the wider conference which is being organised by DG Agriculture.

Contact: [David Baldock](#)

***The Role of Information in an Age of Climate Change, University of Aarhus, Denmark
13-14 November 2008,***

Marc Pallemmaerts will speak on 'Greater access to environmental information on climate change initiatives, policies and results' at this international conference organised to mark the 10th Anniversary of the Aarhus Convention by the University of Aarhus (AU) in cooperation with the Danish Ministries of Environment and Climate and Energy, European Environment Agency (EEA), the United Nations Economic Commission for Europe (UNECE) and the French Embassy in Denmark.

Contact: [Marc Pallemmaerts](#)

***Lecture Series 'The European Union and the Fight Against Global Climate Change' – Vrije Universiteit Brussel, Brussels,
October-December 2008***

This autumn, the Institute for European Studies (IES) of the Vrije Universiteit Brussel (VUB), in cooperation with IEEP, is organising a special lecture series on the role of the EU in climate change policy. Lectures will take place at the VUB every Wednesday from 18.00-20.00, starting on 1 October and ending on 17 December. Speakers will include three experts from IEEP - Jason Anderson, Malcolm Ferguson and Marc Pallemmaerts - and the proceedings will later be published as a book co-edited by Marc Pallemmaerts and Sebastian Oberthür, Academic Director of the IES. The final programme and list of speakers will be available in early September at: www.ies.be/lectureseries.

For registration please e-mail ies@vub.ac.be

Contact: [Marc Pallemmaerts](#)