Natural Capital Initiative

Linking Environment & Policy

Valuing Our Life Support Systems

April 29 - May 01 2009

Symposium Report

Executive Summary

INSTITUTE OF BIOLOGY

Centre for Ecology & Hydrology

NATURAL ENVIRONMENT RESEARCH COUNCIL

British Ecological Society

Contents

Background

We all depend on our environment for the supply of our basic needs; air to breathe, water to drink, food to eat and the physical world to sense. We constantly draw upon the products of this 'natural capital' but how can we value it in a way that usefully informs policy, planning and development processes? The benefits which we derive from natural capital are often called 'ecosystem services', and the 'ecosystem approach', which aims to value different elements of natural capital, has been proposed as a framework for development decisions, policy-making and delivery.

The Natural Capital Initiative (NCI) was formed by the Institute of Biology, the Centre for Ecology & Hydrology and the British Ecological Society to create a forum for constructive discussion about our ecosystems and the services they provide, in order to find ways to connect the needs of our communities with the sustainability of our resource use. NCI aims to involve the natural, social and economic sciences as well as the public, private and non-governmental sectors, and to bring relevant debates into the public domain. We believe that whole ecosystems and all the valuable services they provide, our 'natural capital', *can* be considered in decision-making.

Valuing our life support systems

Our first event, the 'Valuing our life support systems' symposium, comprised a day of keynote presentations from leading experts followed by three separate facilitated workshops focusing on Rural Land Use, Urban Planning and the Marine Environment respectively.

In the light of discussions at that symposium, we propose a range of options and issues for policymakers, communicators, researchers and business to consider. These are outlined below. The background presentations and discussions are documented in the full report.

www.naturalcapitalinitiative.org.uk

Key messages

To policy makers and planners:

- There is a pressing need for systems which act across government to integrate and harmonise departmental policies. Because ecosystem services are the foundation of much of our economic well-being our public policies must safeguard them against unsustainable use.
- Both natural capital and social capital need to be supported. Having a stake in society better equips people to recognise and respond to the environment and treat it with respect. Lowering of social capital may also endanger natural capital.
- Integration of ecosystem valuing mechanisms into fiscal policy and departmental targets is possible. HM Treasury is well positioned to assist with this.
- Valuation of ecosystem services should be by economic and non-economic means. Economic value alone will not provide the quality of services we seek and simple market mechanisms may produce unintended consequences. Clear policy priorities will be needed to guide decisions which cannot rely on fiscal measures alone.
- To meet the urgent need for solutions to some problems it may not be practical to wait for perfect knowledge. Pilot programmes based on science-informed common sense could be facilitated. The planning consent process should develop review mechanisms and adaptable policy tools to capture learning.
- Ecosystem services underpin human health and well-being so fundamentally that health science and opinion should occupy a strategically important position in policy development, planning and implementation.
- Improved integration of science and policy across all sectors is necessary to give a seamless transition between urban, rural, freshwater and marine planning. There should be greater emphasis on landscape-scale planning.
- An ecosystem service-based advisory system could be developed and made available to farmers and other land managers. It would need to be flexible and adaptive, and to include advice on optimising ecosystem services.
- Planners must recognise the importance of ecosystem services in urban zones and protect and extend wherever possible biodiverse areas of urban environments.
- Consideration should be given to the global consequences of national policies.
- We would like to promote the idea that ownership of environmental assets carries a responsibility to optimise, in perpetuity, the value of the ecosystem services they can provide.

To communicators and educators:

- We need to combat the idea that economics and the environment inhabit different universes.
- Conservation of nature is often seen as in opposition to lifestyle aspirations. It is important to change that perception.
- There is a growing and worrying disconnect between significant sections of society and their environment. This should be addressed. By failing to recognise the reality of our absolute reliance on ecosystem services, many do not realise that it is in our self-interest to preserve them.
- Well communicated case studies are a good way to promote the value of an ecosystem approach. Positive, practical and realistic messages about how society interacts with ecosystems can help to communicate value.
- We need a new, more accessible language to talk about our natural capital and the ecosystem approach.
- The cultural value of ecosystem services is underestimated and we need to do more to re-emphasise our spiritual connection to nature. The arts inspire awareness of the beauty and importance of our environment; we need to value and foster this.

To researchers:

- New tools must be developed to include ecosystem services in decision-making.
- Arts and humanities researchers should be more involved in developing valuation tools.
- It is important to increase recognition of the dangers of deforestation. We need to develop a robust formula which can put a value on maintaining forests.
- Collection, collation and integration of data sets are essential in order to facilitate and underpin joined-up environmental impact assessments.
- We need a better understanding of the links between human well-being and ecosystem services. Both case studies and data are required.
- The involvement of funders is crucial in the generation of new data, the development of new policy tools and the dissemination of information.
- Spatial maps and models should be generated to inform management of our natural capital at a national level and the national planning framework. This should provide a comprehensive, high resolution, spatially explicit environmental asset inventory at sufficient resolution (no coarser than 1:25,000) to provide a good basis for models and decision-making tools.
- We should develop 'Urban Ecosystem Maps' which illustrate local knowledge and link local people with cultural ecosystem services as well as illustrating the value of green space, water table management and other ecosystem elements.

To business leaders:

- There is good reason to think that consumers, business and government all desire better resource management. Business should not be reluctant to take the initiative, and government should not fear a lack of public will.
- Businesses can benefit by taking responsibility ahead of waiting for government to do so. By taking the initiative a business can gain strong customer loyalty.
- There are multiple benefits from agriculture but farmers are motivated by their markets. We need to find ways to measure and communicate the value of those other benefits to their marketplace.
- The unpredictability of supply associated with unsustainable exploitation of natural resources is a risk to business.
- We need entrepreneurs who create and promote opportunities for sustainability and are seen to be earning as a result of it.

Symposium speakers

Chair
Fiona Fox (Science Media Centre)

The ecosystem approach and its importance in decision making
Prof Gretchen Daily (Stanford University, USA)
Prof Bob Watson (Department for Environment, Food and Rural Affairs)

Ecosystem services and health
Prof Sir Mark Walport (Wellcome Trust)

Water resources
Prof Maggie Gill (Rural Affairs and Environment, Scotland)
Barrie Clarke (Water UK)

Energy, transport and impacts of climate change
Rt Hon Elliot Morley MP (Energy and Climate Change Select Committee)
Prof Lord May of Oxford (Climate Change Commission)
Richard Brown (Eurostar)
Gearóid Lane (Centrica)

People and their environment
Prof Nick Pidgeon (Cardiff University/Economic and Social Research Council)
Prof Philip Esler (Arts and Humanities Research Council)
Prof Paul van Gardingen (Edinburgh University)

Agriculture food and land use
Helen Phillips (Natural England)
Lucy Neville-Rolfe (Tesco plc)
Andrew Clark (National Farmers Union)

Science and policy challenges
Prof John Beddington (Government Chief Scientific Adviser)
Graham Wynne (Royal Society for the Protection of Birds)
Prof Andrew Watkinson (Living with Environmental Change)
Prof Mark Bailey (Centre for Ecology and Hydrology)

Delegates attending were drawn from government and parliament, NGOs, public agencies and committees, research and business.

Workshops

- **Balancing our options for rural land use. Food, biodiversity, sustainable biofuels and flood prevention.**
  Baroness Barbara Young (British Trust for Ornithology)
  Prof Tim O'Riordan (Sustainable Development Commission)
  Prof Chris Pollock (Aberystwyth University)
  Prof Philip Lowe (Rural Economy and Land Use Programme)
  Prof Michael Winter (Centre for Rural Policy and Policy Research)
- **The urban planning system.**
  Prof Tim O'Riordan (Sustainable Development Commission)
  Pat Willoughby (David Lock Associates)
  Prof Roy Haines-Young (University of Nottingham)
  Prof Mark Tewdwr-Jones (University College London)
- **Sustainable use of the marine environment.**
  Prof John Shepherd (National Oceanography Centre)
  John Clorley (Department for Environment, Food and Rural Affairs)
  Gero Vella (Renewable Energy Systems and Centrica Energy)
  Dr Melanie Austen (Plymouth Marine Laboratory)

Many of the presentations accompanying these talks can be viewed via the Natural Capital Initiative website www.naturalcapitalinitiative.org.uk and key points are outlined in Appendix 1 of the full report. All recommendations offered from plenary and workshop sessions were considered and the key messages summarised. The proceedings of the three workshops are recorded in Appendix 2 of the full report.

Facilitation and recording for workshop breakout sessions was provided by Graphic Science Ltd.

Aims of the Natural Capital Initiative

Our objective is to highlight the importance of ecosystem services and to inform the government implementation of ecosystem approach.

We aim to do this by:

- creating a forum for debate that is independent and inclusive (industry, business, public sector, NGOs, academia, local & national government, agencies and the wider publics).
- identifying gaps in science, policy and its implementation and facilitating the debate about how to address these gaps.
- engaging the public and inspiring the next generation.

NCI Steering Group Members

Prof Rosie Hails MBE (Chair)	Centre for Ecology and Hydrology
Dr Barbara Knowles	Institute of Biology
Prof Jim Harris	Cranfield University
Prof Paul Leonard	Environmental Consultant
Prof Hugh Montgomery	University College London
Dr Catherine Martin	Institute of Biology
Dr Laura Bellingan	Institute of Biology
Ceri Margerison	British Ecological Society
Kate Groves	Centre for Ecology and Hydrology
Lucy Futter	Science Council

Thanks to our sponsors

Government
Office for Science

www.naturalcapitalinitiative.org.uk nci@iob.org