

## Ecosystem Services and the Ecosystem Approach

making. But we are tackling Anthropocene problems with Palaeolithic minds. Our inability as a species to perceive risk in terms of objective data is notorious and has a profound impact upon policy decisions by democratic governments. Similar subjectivity plays a major role in shaping attitudes to the environment as well, and so influences decisions about its management. Understanding the interplay of social and psychological factors which influence attitudes and behaviour is much needed if ecological research is eventually to have full impact (Clayton and Myers 2009).

Despite much recent discussion of ecosystem services and other elements of the new conservation paradigm it is difficult to find good examples of changes on the ground which incorporate the new thinking. This requires that the above elements are brought together in one place in a spirit of co-operation. To explore new ways of working, in November 2009 Natural England launched with a range of partner organisations three ecosystem services upland pilot areas (South Pennines, South West Uplands and Bassenthwaite) where we aim to explore what can be achieved within the new paradigm. Over time we have an ambition to expand this work to other ecosystem types and apply the lessons learnt to the rest of our work.

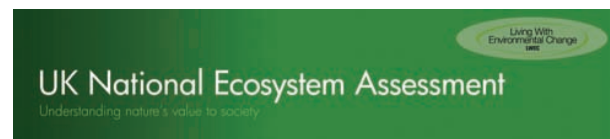
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## Understanding Nature's Value to Society in the UK

Lucy Simpson



The UK National Ecosystem Assessment (NEA) provides the first analysis of the UK's natural environment in terms of the benefits it provides to society and continuing economic prosperity. Launched in May 2009, the UK NEA reached its first milestone in February, publishing on the website <http://uknea.unep-wcmc.org/> an update on progress and looking forward to the next steps. Presently, draft main findings on the status and trends of ecosystems (broad habitats) and ecosystem services (the benefits such habitats provide) in the UK over the past 50/60 years are being drawn together. A preliminary peer review of the draft chapters by various working groups, in January, has provided valuable input into the writing process.

Ecosystem services, the “benefits provided by ecosystems that contribute to making human life both possible and worth living” (MA, 2005), have become a hot topic in both scientific and political spheres. In 2005, the global Millennium Ecosystem Assessment (MA) highlighted the importance of ecosystem services to human well-being and recognized that many ecosystem services are in decline, being degraded and even lost. In response, the House of Commons Environmental Audit in 2007 recommended the Government carry out a full MA-style assessment for the UK to help identify and develop effective policy responses to manage ecosystem service

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degradation (House of Commons Environmental Audit, 2007).

A key feature of the two-year long assessment is that it is an inclusive process involving many government, academic, NGO and private sector institutions. Co-Chairs, Professor Bob Watson (Defra's Chief Scientific Adviser) and Professor Steve Albon (Macaulay Institute), are leading the assessment. Professor Watson brings to the NEA process his invaluable experience from Co-Chairing the MA and the Intergovernmental Panel on Climate Change (IPCC). A diverse group of academics – consisting of natural scientists, economists and social scientists – form the 27-member Expert Panel, providing expertise in all focus areas. The two hundred strong author team, managed by a group of Co-ordinating Lead Authors, includes scientists, economists and social scientists. These authors are drawn from a wide range of academic institutions, together with representatives from government agencies and NGOs. In addition, consultations with and involvement of a wide range of public and private sector decision-makers and stakeholders through a User Group help to shape the assessment process and ensure that the outputs will be relevant for different audiences. The organisations that commissioned the UK NEA – Defra, the devolved administrations of England, Northern Ireland, Scotland and Wales, together with some of the research councils – are providing guidance and oversight via the Client Group. Co-ordinating all the different assessment activities is an independent Secretariat, provided by the United Nations Environment Programme World Conservation Monitoring Centre (UNEP-WCMC).

The UK NEA will create a compelling and easily understood explanation of the state and value of the UK's natural environment and ecosystem services. The assessment will be valuable to institutions and individuals to raise awareness of the importance of ecosystems and the services they provide to society. The final report (available February 2011) will include plausible futures, economic analyses and response options for policymakers and will assist in strengthening decision-making both at the local and national levels. The UK NEA will address twelve research questions (see Box 1.) and consider multiple spatial scales at the UK, country and catchment levels to ensure policy-relevant information is produced. The assessment will help to embed the concept of ecosystem services and the ecosystem approach in the minds of decision-makers at all scales from landowners to local government to companies to national administrations.

**Box 1.** Key questions the UK NEA will be addressing:

1. What are the status and trends of the UK's ecosystems/broad habitats and the services they provide to society?
2. What are the drivers causing changes in ecosystems/broad habitats in the UK and the services they provide to society?
3. What are the uncertainties, and knowledge/data gaps for understanding, monitoring and managing, including restoration, of ecosystem services in ecosystems/broad habitats in the UK?
4. What is the current knowledge and understanding of ecosystem services in the public sphere?
5. How have changes to ecosystems/broad habitats affected human well-being in the UK?
6. Who and where are the beneficiaries of current ecosystem services in the UK?
7. How does the location of beneficiaries of ecosystem services affect how the ecosystem services are valued and managed?
8. How might ecosystems and their services in the UK change in the future under plausible scenarios?
9. What are the future possible effects of changes in ecosystems on human well-being and who might be most affected?
10. What are the policy options to secure and improve the continued delivery of UK ecosystem services under plausible future scenarios?
11. What are the key ecosystem services upon which the UK depends that are not provided by UK ecosystems and what ecosystem services does the UK supply to other countries?
12. What are the policy implications of UK-dependence on non-UK ecosystems?

The UK NEA will also, it is hoped, influence academia. It will inform ecological research in several ways. Firstly, it will provide a unique synthesis of what is currently known, by collating existing information on ecosystems and ecosystem services and exploring the interlinkages between habitats, ecosystem services and biodiversity. In the assessment, terrestrial, marine and freshwater ecosystems are presented as eight collections of broad habitats, such as Enclosed Farmland (comprising arable, horticulture and improved grassland) and Woodland (comprising broadleaved and coniferous woodland). These broad habitats are recognised by national habitat reporting systems (for example, UK BAP) to aid sharing of data. The UK NEA will build on previous assessments such as the Countryside

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Survey by placing ecosystem services in the spotlight and focusing attention on how our natural ecosystems support their provision. Equally as important as highlighting what is known is to recognise what is not. Each habitat and ecosystem service chapter will identify knowledge gaps that will inform the Living With Environmental Change (LWEC)'s research agenda. As part of the LWEC initiative ([www.lwec.org.uk](http://www.lwec.org.uk)), the UK NEA will provide new information on the UK's changing natural environment. Finally, the UK NEA aims to foster better inter-disciplinary co-operation between natural and social scientists and economists in order to enhance communication and understanding for future collaborations.

The UK NEA is broadly following the MA methodology (Ash *et al.* in press), which focused on linkages between ecosystem services and human well-being and the influence of direct and indirect drivers of change. It has been adapted for a UK context and has incorporated developments from recent studies, including post MA reviews, such as Carpenter *et al.* (2009), and The Economics of Ecosystems and Biodiversity's (TEEB) *Scoping the Science* report (Balmford *et al.* 2008).

There are a number of ways that interested parties can become involved with the UK NEA. For example, by participating in one of several stakeholder workshops that will be taking place throughout the UK in 2010. Also, by reviewing the draft outputs; draft chapters of the final report will be available to download from the UK NEA website in May 2010. Alternatively, in the final stages of the assessment the UK NEA Secretariat will be looking for organizations to

communicate the results of the UK NEA to a range of different user groups. Please contact [nea@unep-wcmc.org](mailto:nea@unep-wcmc.org) to express your interest in getting involved with any of the above.

For more details on the UK NEA please see <http://uknea.unep-wcmc.org/>.

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Lucy Simpson is a member of the UK NEA Secretariat that co-ordinates the assessment. The UK NEA Secretariat is housed within the United Nations Environment Programme World Conservation Monitoring Centre (UNEP-WCMC; [www.unep-wcmc.org](http://www.unep-wcmc.org)) in Cambridge.

