England's terrestrial ecosystem services and the rationale for an ecosystem approach

(Defra Project Code NR0107)

Government policies that protect the natural environment are diverse and do not fully integrate to provide a sustainable future for the many functions and services the environment provides to mankind. If we are to achieve sustainable patterns of economic and social development (and meet the goals set by both the UK's Strategy for Sustainable Development and agreements made at the European scale following the Göteborg Summit in 2001) a different approach to policy development and implementation needs to be adopted. The United Nations international work programme, the 'Millennium Ecosystem Assessment', not only recognised the multiple benefits that ecological systems provide but realised that policy and planning decisions must also take into account an ecosystems approach (EA). The EA provides a way in which the overall health and integrity of ecosystems can be assessed and the multiple benefits society derives from them better described and managed.

This project is managed by ADAS UK Ltd in partnership with the Centre for Environmental Management (CEM) of Nottingham University who are co-ordinating and leading the scientific contributions. Expert input will be provided by a number of organisations and international reviewers. The work will initially establish and agree what an ecosystem approach actually involves and how it can be used to make assessments of the benefits that ecosystems provide at the national, regional and local scales. The work will link closely with concurrent Defra funded projects on the compilation of environmental and socio-economic databases (NR0106), assessments of the economic value of England's terrestrial ecosystem services (NR0108) and three case studies (NR0109, 110 and 111).

We will consider how the developing approach can be used to assist and enhance decision-making at all scales. This will involve a review and analysis of existing data, information and the tools that are currently used to make policy decisions and will include discussions with stakeholders to seek their views. The project will identify how these different sources of information can be collated and used to provide an evidence base for a more robust and integrated decision-making framework for the future. We will refine and test the various concepts concerning the goods and services each ecosystem type provides and develop a matrix relating the variables. Ecosystem health is

critical to the maintenance of goods and services and a key part of the project will be to identify how health can be assessed. Since the goods and services will vary from place to place and be valued by society in different ways we intend to specify how to take account of different geographical and cultural contexts. A preliminary assessment of the national state and trends of ecosystem goods and services will be made and recommendations provided on how to achieve a full national assessment.

The results of this research could be used by Defra to advise Government Ministers on how an integrated policy framework for the protection of natural resources, (based on the ecosystem approach) can be developed. We will:

- recommend whether there is sufficient evidence base to identify trends in ecosystems and the services they provide;
- identify a method of demonstrating the health of an ecosystem and how the concepts of valuation and critical thresholds and limits can be incorporated; and
- recommend whether the ecosystem approach is appropriate and sufficiently robust for incorporation into government policy, for example, its ability to identify and deal with cumulative impacts and trade-offs.

Adoption and implementation of the approach by Government policy makers and decision-makers like the planning authorities will ultimately protect and enhance the natural environment ensuring it can continue to provide the benefits and services society demands.

Note: This is a Defra funded project. The views expressed here are those of the author, and do not necessarily reflect the views of Defra.