



Evaluating our Environment: moving from a reductionist analysis to a holistic assessment of ecosystems

16 December 2008 10:30 - 17:30 Registration from 10am

Royal Statistical Society, 12 Errol Street, London EC1Y 8LX

(see <http://www.rss.org.uk/main.asp?page=1759> for location and travel directions)

This meeting requires prior registration which includes the cost of lunch, tea and coffee during the day.

The ecosystem services concept brings ideas on the structure and function of a whole ecosystem together within the context of assessing and valuing the services the ecosystem provides to humans (clean air, drinking water, recreation, ...). One reason for an ecosystem services assessment can be to quantify the effect on people of changes in ecosystem function linked to known drivers (policy, climate change, pollution, ...), Statistics, ecology, environmental science, social science and economics all have a role to play in these complex assessments.

Environmental science has traditionally studied ecosystem structure and function, including the effects of external and internal drivers of change. The knowledge within this science base is a necessary foundation of any valuation within an ecosystem services study. Examples of recent research on components of ecosystems will be presented and their potential contribution to an ecosystem services assessment will be discussed.

The valuation of an ecosystem through its component parts and its function in terms of the provision of services to the human population is not a trivial task. Many studies concentrate on economic benefits, but the valuation of non-monetary benefits is another important contribution to a holistic assessment and any subsequent decision process.

Translating a concept into a practical tool forces a re-evaluation of the underlying assumptions and the discovery of how far the ideas can be stretched before they become essentially uninformative. Understanding any limitations of the ecosystem services concept may be an important part of its useful application.

The meeting will explore the validity, practicality and limitations of the ecosystem services concept and how we might deliver a more holistic assessment of our environment.

PROGRAMME

10.00 Registration and Coffee

10:30 **Roy Haines-Young (Nottingham)**

Framing ecosystem services

The ecosystem service framework is now being widely discussed and applied. This introduction will explore recent developments and the emerging principles that seem to underlie it. It will be suggested that the path forwards will not be easy because the issues that need to be considered cut across many disciplinary boundaries. However, by emphasising the contribution that ecosystems make to human well-being there is an opportunity to ensure that greater weight is given to the environment in decision making at all levels.

11:15 **Ron Smith & Jan Dick (CEH)**

Ecosystem service assessments at UK long term monitoring sites

11:45 **Kathy Willis (Oxford)**

Assessing ecosystem functioning, thresholds and resilience using long-term ecological records

12:15 Discussion

12:45 Lunch

13:45 AGM

14:00 **Peter Herman (NIOO-KNAW)**

Can an ecosystem refuse to deliver services? How to value real values.

In my contribution I will argue that many oft-cited ecosystem services are entirely unavoidable consequences of ecosystem functioning, even in very degraded ecosystems. Valuation of these services may not always help management decisions. It will also not replace due consideration of aesthetic, cultural and even moral values in our attitude towards nature.

14:45 **Clive Anderson (Sheffield)**

Estimating biospheric carbon fluxes

Carbon stocks are key ecosystem components. This contribution will describe a way of estimating changes in them, and - crucially for mature policy formulation - assessing uncertainty in the estimates.

15:05 *Dr Sian Morse-Jones (UEA)*

Ecosystem Valuation: A Sequential Decision Support System and Quality Assessment Issues

In this paper, we argue for a sequential decision support system that can lead to a more integrated and rigorous approach to environmental valuation and biophysical measurement of ecosystem services. We also review guidance on valuation studies quality assurance, and discuss the problems inherent with benefits transfer - the most common way valuation studies are applied in the policy process.

15:35 Tea

16:00 Discussion

16:20 *David Elston (BioSS)*

Design considerations for establishing monitoring schemes

As new, more holistic, ecosystem metrics become established, we will become interested in recording changes over time in these metrics and understanding the causes of such changes. I will draw on experiences from monitoring schemes for individual ecosystem components, and discuss how such experiences can guide the establishment of future monitoring schemes.

16:50 *Paul Somerfield (PML)*

A holistic approach to costing the impact of man's activities in the marine environment

An ecosystem approach to management should incorporate many components into a framework, different components of which present different challenges in terms of data acquisition, analysis, and use. I will describe such a framework, developed within a successful EU project, and briefly discuss how scientific observations, models, and socio-economics can be brought together in an adaptive management process.

17:20 Roundup

REGISTRATION

Please register using the form at:

<http://www.rss.org.uk/rssadmin/uploads/Registration%20form%20ESS%2016%20Dec%2008.doc>

The charges for this event are:

£20 Retired/EDA/Student Fellows

£25 CStats/GradStats

£27 Fellows

£30 Linked Associates/Section, Group or Student members

£35 None of the above