



UK National Ecosystem Assessment

Follow-on

Work Package 3a: Economic values of ecosystem services

Why:

Financial austerity and the need to use resources efficiently mean that decision makers need to target policies to areas where they are most effective. However, such targeting needs to take into account that not all of the benefits and costs of a policy will be reflected in market values. WP3a addresses these combined concerns of resource efficiency, targeting and both market and non-market values so as to improve decision making

What:

Aim: To conduct economic analysis of the value of ecosystem service change to the UK, examining the trade-offs between selected ecosystem services and their values arising from alternative land-uses

Summary: The research seeks to link policy, market forces, spatial variation in the physical environment, and climate change, to land-use. It will allow policy-makers to examine the impact of a variety of changes in land-use policy while accounting for the ongoing effects of the other drivers listed above. The analysis will then link changes in land-use to their impacts upon:

- Food production and its value
- Farm income
- Water quality
- Multi-purpose woodland
- Greenhouse gas balance
- Recreation
- Habitat and biodiversity

Where possible, the project will provide comparable economic measures of these impacts. In so doing, the research aims to provide the UK policy community with a sophisticated and policy-relevant analysis concerning the diversity of effects arising from land-use change.

Outputs/outcomes:

Output/outcome	Status	Opportunity for input	Anticipated audience(s)
Develop models of agriculture, forestry timber yield and values, greenhouse gas balance, water quality, recreation, biodiversity indicators	All in progress	Peer review of forthcoming report	Academic, National/Local Government, Business

Output/outcome	Status	Opportunity for input	Anticipated audience(s)
Integrate all models together	In progress	Peer review of forthcoming report	Academic
Analyse the impacts of change in policy, environment, markets	In progress	Peer review of forthcoming report	Academic, National/Local Government, Business
Application to the optimal location of new forests	Awaiting completion of above phases	Peer review of forthcoming report	National/Local Government, Business

Methods/tools being developed:

- Land-use modeling linking policy, market and environmental drivers
- Linking land-use to greenhouse gas (GHG) modelling
- Linking land-use to biodiversity modeling
- Linking land-use to water quality analysis
- Linking land-use to recreation demand modeling

Anticipated Case Studies:

- Examining the optimal targeting of policies to increase the area of forestry across Great Britain
- To conduct this analysis at multiple scales from a fine resolution (approx. 1km squares) up to national level

Links to other Work packages:

- WP1: Understand value of future performance of NK (natural capital) assets
- WP4: Understanding of cultural values from natural capital assets
- WP6: Model comparison of ecosystem service outcomes
- WP7: Compatible bundles of policies with wind-tunnelling

Team:

Principal Investigator:

- Ian Bateman (University of East Anglia)

Team Members:

- Amy Binner, Brett Day, Carlo Fezzi, Amii Harwood, Kevin Hiscock, Andrew Lovett, Antara Sen (University of East Anglia)
- Mike Bowes, Rosie Hails (Centre for Ecology and Hydrology)
- Ben Ditchburn, Robert Matthews, Pat Snowdon, Gregory Valatin (Forestry Commission)
- Silvia Ferrini (University of East Anglia /Siena)
- Nick Hanley (University of Stirling)
- John Hiller, Pete Smith, Silvia Vetter (University of Aberdeen)
- Mark Hulme, Gavin Siriwardena (British Trust for Ornithology)

Resource allocated: £300,000

<http://uknea.unep-wcmc.org/>