

The Social, Economic and Environmental Research (SEER) project into Multi-Objective Land Use Decision Making

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Project aims

The SEER project aims to apply advanced analysis techniques to highly detailed datasets comprising spatially detailed information to produce ecosystem service maps. SEER is necessarily a highly interdisciplinary undertaking, bringing together economists with ecologists, hydrologists, spatial and policy analysts.

Approach used and current stage of project

Maps have been produced at a 2km resolution for the whole of Great Britain and have focussed on a set of ecosystems services and goods including agriculture, recreation, GHG emissions and urban green space. Economic values were calculated using separate models and then integrated to form a spatial output of economic values for each ecosystem service and good. Different scenarios were applied to a baseline to show the spatial distribution of changes in ecosystem service value if that scenario were to occur. The maps therefore show gains and losses in ecosystem service value in £/ha/year given the different scenarios.

A large number of datasets were used in the project. These included: Land cover data, agricultural census data, water quality data, economic valuation data and social data such as the Monitoring the Engagement of the Natural Environment (MEME, Natural England) data. The project also used data on greenhouse gases, timber, soil, and climate data.

Stakeholder involvement

As the aims of the project are to work at a national level, the main stakeholder interaction has been with national partners and national interest decision-makers such as Defra, the Forestry Commission and Forestry Commission Wales. In the first phase of the project, these stakeholders received feedback via presentations and webinars, but during the second stage stakeholders have also been involved in the development of the project, including the provision of data.

Beneficiaries and impact

The SEER work was a central contributor to the first National Ecosystem Assessment (UKNEA) and is continuing to contribute to the on-going work of the NEA. The outcomes of the UKNEA have fed into the Natural Environment white paper. The project has also contributed to the Natural Capital report and some high profile scientific publications. The project has also provided guidance to the Office for National Statistics.

Further information

Website: <http://www.cserge.ac.uk/news-archive/2013/science-paper-published>

Report: <http://uknea.unep-wcmc.org/Home/tabid/38/Default.aspx>

Published paper: <http://www.sciencemag.org/content/341/6141/45>

Also see example maps provided