

# Putting a Price on Nature

## Research Summary

Researchers at The Centre for Social and Economic Research on the Global Environment (CSERGE) focus on the economics of environmental problems relating to water and watery environments. The research is based on an ecosystems services approach, which assigns values to services such as climate stabilisation, flood protection and recreation opportunities.



## Impact

How much is a clean river worth? The idea of putting a price on nature is controversial but Professor Kerry Turner, Director of CSERGE, maintains that economic arguments tend to carry more weight in policy making decisions than the purely ethical and scientific arguments for conserving nature.

The monetary value of clean rivers has recently become particularly relevant for policymakers charged with implementing the European Union Water Framework Directive (WFD) which aims to improve the health of Europe's water environments.

Drawing on the combined expertise of natural and social scientists at CSERGE, Professor Ian Bateman has developed an interdisciplinary tool for analysing the scientific and socioeconomic merits of various strategies to improve water quality.

The researchers used these tools to assess the likely impact of a variety of WFD measures introduced by the UK Department for Environment, Food and Rural Affairs both in terms of their cost to farmers and efficiency.

Professor Bateman's group have also designed and tested a number of practical approaches for valuing both use services (primarily recreational opportunities such as boating or fishing) and non-use services of rivers (such as meeting the desire to preserve rivers for future generations). They based this on how people make decisions that involve a trade off between money and water quality.

One of the simplest approaches assesses how much people are willing to pay, in the form of higher annual water bills, for improvements in water quality. The choices people make indicates the combined recreational value and non-use value of improvements in water quality. At the request of the EU, the researchers have now tested this approach in a number of other European countries and the methodology has been incorporated within the EU guidelines for WFD implementation.

As Professor Turner comments, “some conservationists feel that we should not put a value on nature, full stop. But we are losing biodiversity at an ever more rapid rate and if putting values on nature helps to slow that rate or even reverses it, then pragmatically I have no problem.”



### Further Information

**RES-545-28-5001**

**Centre for Social and Economic Research on the Global Environment (CSERGE)**

<http://www.uea.ac.uk/env/cserge>

**RES-227-25-0024**

**Catchment hydrology, Resources, Economics And Management (ChREAM):**

<http://www.uea.ac.uk/env/cserge/research/relu/index>

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### Key Findings

- The researchers have developed practical tools for assigning economic values to the use and non-use benefits provided by natural environments in a range of policy contexts.
- A case study using this approach has shown that the economic value of the benefits of realigning coastal defences to create or restore salt marshes, can in some circumstances more than offset the value of land that might be reclaimed by the sea.
- Another study examined measures to improve the ecological status of rivers by reducing the nitrate leaching into rivers and lakes from agricultural sources.
- Measures currently being considered by Defra to achieve this aim include: reducing fertiliser use; reducing livestock stocking rates; and conversion of arable land to ungrazed grassland.
- CSERGE research assessing the measures revealed a great variability in the likely economic impacts and nitrate leaching reductions of each of Defra's proposed strategies, but predicted that all measures would result in substantial costs for farmers.

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