



Economics of the marine environment

Cefas environmental and ecological economists are recognised experts in marine and coastal natural resource economics.

Our expertise ranges from ecosystem services valuation, cost-benefit analysis and management of the marine environment, to economic and econometric modelling for policy optimisation and forecasting under uncertainty.

Our capabilities

As a research centre of excellence, we enjoy access to an unrivalled source of marine data. We draw on the wealth of expertise from other disciplines within Cefas and collaborating with other institutions to apply an interdisciplinary approach to our multidisciplinary analyses.

Cefas economic expertise covers a wide range of environmental/natural resource economics and policy issues related to the marine and coastal environment from the local and regional, up to the global scale. We apply our services to policy making support at the national, regional and local levels.

Marine and coastal ecosystem services valuation and management, as well as bio-economic and econometric modelling, is used to support analyses of marine spatial planning and investigating natural capital trade-offs between environmental conservation and blue growth.

Cefas social and economic analysis capabilities provide support to governmental organisations, services to the industry, as well as research development with academia in the field of environmental and ecological economics. We are currently exploring other commercial applications of our services e.g. within the insurance sector.

Our services

Our expertise is broad, including:

- Assessment, quantification and valuation of marine and coastal ecosystem services
- Assessment of management options using tools including cost-benefit analysis (CBA), multi-criterial evaluation (MCA) and driver- pressure-state-impact-response framework (DPSIR)
- Analysis and evaluation of marine spatial planning options and impacts
- Socio-economic data collection tools such as social surveys and stated preference surveys
- Local and regional economic and econometric analysis
- Marine climate change risk assessment on the environment, fisheries, and aquaculture
- Marine and coastal natural resource economics capability building



Figure1: Saltmarshes in the Blackwater estuary (Essex, UK)

Our experience

Cefas economists contributed to the UK National Ecosystem Assessment both in 2011 and 2014. Key areas of research for Cefas economists concern the economics and management of marine natural capital, including:

- the issues related to the valuation and management of coastal blue carbon (vegetated ecosystems such as saltmarshes, seagrasses and mangroves which provide several ecosystem services including sequester and store CO₂ from the atmosphere, coastal protection, and fish nursery grounds)
- the added value of designated Marine Protected Areas (MPAs)
- social and economic impacts of closing UK coastal areas (e.g. Lyme Bay) to dredging and trawling
- the economic implications of blooms of non-native invasive species.

Marine and coastal ecosystem services

Cefas economists have wide experience both in national and international project delivery. We participated in the UK-wide Valuing Nature Network project, investigating the possibility of transferring biological and economic estimates for decision making purposes such as the implementation of softer flood defence measures (e.g. managed realignment).

We are currently exploring the costs and benefits related to the European Marine Strategy Framework Directive biodiversity descriptors in the EU funded Devotes project. We have quantified and monetarily valued ecosystem services for the UK Marine Bill, and ecosystem services for poverty alleviation (ESPA).

Fisheries management

Cefas economists are experienced in the evaluation of policy decisions, including the European Commission proposals for specific conditions to fishing for deep sea fish stocks, and the evaluation of pilot community quota groups and community conservation areas.

Marine economic and econometric analysis

Cefas economists have experience in econometric modelling. We offer analysis of the impact of climate change on aquaculture, including a risk-based-valuation modelling on ocean acidification.

Enquiries

For further information on socio-economics services, please contact Tiziana Luisetti on +44(0)1502 527716 or tiziana.luisetti@cefass.co.uk



Figure 2. False clownfish in the Napantao Marine Reserve (Southern Leyte, Philippines)