Knowseas: Knowledge-based sustainable management of Europe’s Seas – how is Defra supporting this?

Marine Theme Objective: Economic and Social Research in the Marine Environment

What’s the problem?

Europe’s four regional seas (Baltic, Black, Mediterranean and NE Atlantic) have suffered severe environmental degradation due to human pressure. Existing measures to manage pressures have proven inadequate and the EC has responded by proposing a new policy (Maritime Strategy Blue Book) and environmental legislation (Marine Strategy Directive), both currently close to adoption. These instruments rely on the Ecosystem Approach, a management paradigm that encompasses humans and the supporting ecosystem. But the science base for this approach needs strengthening and practical tools must be developed and tested for policy implementation. In particular, criteria for assessing the costs and benefits of management actions are poorly developed, particularly in the complex marine environment where multiple uses and management conflicts are common.

What are the aims of the project?

The Defra-Knowseas project will allow Cefas to contribute (by way of matched funding) to a much larger programme of research which has been awarded to Cefas under the EU FP7 programme. Whilst the EU-Knowseas programme will address the issue of “knowledge-based sustainable management relevant to all European regional sea’s”, this project will match and develop only those aspects which are most relevant in meeting the UK policy interests, e.g. those which fall within the UK regional seas.

The overall approach to EU-Knowseas is to combine an analysis of ecosystem and socio-economic systems, within a defined policy framework, and develop an integrated assessment toolbox (Fig. 1). This will be applied to representative case studies selected from Europe’s four regional seas (Baltic, Black, Mediterranean and NE Atlantic), with close liaison with regional management, advisory and other stakeholder groups, focussed through a multi-sector Project Advisory Board. Europe’s Seas have experienced varying degrees of environmental degradation due to human pressure.

Which policy areas will the research inform?

We anticipate that the project will provide an opportunity to influence emerging EU policy on sustainable management (Marine Strategy & Maritime Strategy), partly through engagement with the relevant EU DGs.

The planned assessment ‘toolbox’ will help Defra implement existing & future Directives (e.g. Habitats, UWWD, Nitrates, MSFD, Maritime Strategy).
Knowseas: Knowledge-based sustainable management of Europe’s seas – how is Defra supporting this?

What are the results from the project and how will they be used?

The main product of the project will be to provide a practical methodology for the incorporation of the ecosystem approach into assessments of the impacts of human activities. This will include access to socio-economic methods for evaluating ecosystem goods & services, a key issue recognised in the 2008 Defra Marine Environment R&D Review.

The NE Atlantic Case Study, being co-ordinated by Cefas and supported by the present Defra project, will provide several ecosystem-based assessments, using tools for the evaluation of ecosystem goods and services developed in collaboration with specialists in this field:

- an integrated Case Study of the North Sea, including trans-boundary nutrient transport;
- a comparative Case Study of offshore wind farm development in the southern North Sea;
- a Case Study examining the conflicts between maintaining marine biodiversity and deep-water fisheries within the EEZ of the UK.

We anticipate Knowseas will provide a potential conduit through which the results of recent/current or new Defra-funded research can be channelled (e.g. Strategic review of large scale human activities; Monitoring and assessment of contaminant effects; Mapping the structure, function and sensitivity of seafloor habitats; Chemical hazards and impacts; Adapting to future climate change in the marine environment; A monitoring strategy to assess environmental status in UK waters; Strategic support for the MSFD), and discussion has started to encourage close collaboration between Defra-Knowseas and these related activities.

The ‘assessment toolkit’ will be available to apply to a wide range to existing or future Defra-funded projects (e.g. windfarm development, habitat destruction by fisheries, adapting to climate change).

Where can I find further information about this and related research?

Further information can be obtained by contacting the Cefas lead scientist: peter.kershaw@cefas.co.uk

Alternatively, please contact Defra’s Marine and Fisheries Science Unit:
marinescience@defra.gsi.gov.uk

Defra Science – did you know?
At any one time Defra manages over 2000 research projects covering a wide range of topics. For more information on current research see http://randd.defra.gov.uk and to find out about future research proposals see the Defra Research and Analysis page at: www.defra.gov.uk/evidence/index/htm