

Developing the concepts of good environmental status and marine ecosystem objectives: some important considerations

Report Authors: Laffoley, D'd'A, Brockington, S., Gilliland, P.M. Date: 2006

Keywords: Good Environmental Status, Marine Strategy Directive, headline indicators, Marine Ecosystem Objectives, Marine Bill, Ecosystem Approach, ecosystem structures, functions and processes

Introduction

The 2005 proposal from the European Commission for a Marine Strategy Directive has at its core the need to meet Good Environmental Status (GENS). Similarly, in the UK, to underpin the proposed Marine Bill, are proposals for Marine Ecosystem Objectives (MEOs). Both concepts are objective-led processes that seek to define a minimum suite of regionally-relevant headline indicators that allow reporting on state. The difficulty in developing these new policy approaches is that they tend to look to the traditional science base or existing regulatory requirements to service the needs of the new policy. Whilst using existing scientific information is essential, new approaches are required that draw in the best existing science and advice that is available, but that are also more holistic in their efforts to encourage sustainable development. This report sets out some important considerations to create information resources that meet these policy needs.

What was done

The report has drawn together knowledge in English Nature and synthesised these discussions into some important strategic considerations that should be addressed in developing both concepts. These include: the challenges of developing a forward looking framework for assessing ecosystem 'health', with recommendations on a common set of guiding principles to help devise such an approach; providing a simple conceptualisation model to help develop thinking and progress on both initiatives, and illustrating this with some example objectives and headline indicators for assessing GENs/MEOs; and offering some recommendations on reporting and assessment processes. This includes the need for a thematic reporting to underlie the implementation of both concepts, alongside the need to make strong linkages to marine climate change impacts assessments.

Results and conclusions

This report concludes that:

1. Guiding principles and a conceptualisation model are needed to ensure that any proposals for GENs and MEOs are fit-for-purpose – we offer six principles and a simple model to do this.
2. The overall approach to GENs and MEOs should predominantly be threat-orientated ('activity/pressures'), but also ensuring that future regional sea-scale threats to ecosystem

3. quality, structures, functions and processes from climate change and surface ocean acidification are also encompassed.
4. Objectives for GENs and MEOs should be simple, few in number, established for the regional sea as a whole, and assessed via headline indicators established for various component elements of the regional seas ecosystems.
5. Objectives for GENs and MEOs should be assessed through a more balanced set, than is currently the case, of headline indicators focussed activity/pressures and the quality, structure, function and processes of the regional sea ecosystem.
6. The use of ‘headline indicators’ will streamline application and end assessment processes across regional seas.
7. A focus on regional sea ecosystem quality, structure, function and processes alongside impact indicators will need to draw in existing work, but will need to extend beyond the well established initiatives (e.g. from OSPAR) into other areas of relevant work.
8. Target reference points will need to be set for the headline indicators, and a mixture of ‘limits’ and ‘trend’ approaches will need to be used to assess progress.
9. It is difficult to measure ‘ecosystem health’, so any headline indicator set will need to encompass some measure of the diversity of communities and the health of individuals in populations.
10. It is possible to develop a generic set of headline indicators that is relevant across all regional seas. For most headline indicators it would be feasible to develop generic methodologies and, for some, provide central measurements across all regional seas.
11. Climate change and surface ocean acidification make it challenging to set meaningful target reference points, limits and trends, and a development of the current philosophy connected to climate impacts and what will characterise eventual ‘success’ is likely to be necessary.
12. Given the fact that headline indicators need to span ecosystem quality, structure, function and processes, the assessment of status will need to take the form of an integrated assessment.
13. Given the fact that ecosystems respond on different timescales and that considerable inertia may occur, a mixture of activity/pressure, and structure function and process headline indicators will be essential.
14. Assessment of ‘success’ may be aided by the use of a simple traffic light approach.

English Nature’s viewpoint

It is hoped that this advice will be seen as an important contribution towards the current debate and that it will prove valuable to those charged with developing both approaches.

Further information

English Nature Research Reports and their *Research Information Notes* are available to download from our website: www.english-nature.org.uk

For a printed copy of the full report, or for information on other publications on this subject, please contact the Enquiry Service on 01733 455100/101/102 or e-mail enquiries@english-nature.org.uk