

Coastal zone management in Wales: The information gaps

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Abstract. In 1994 the Countryside Council for Wales, the government nature conservation and countryside advisor in Wales, published a consultation document on marine and coastal policy, and also commissioned research into the status of coastal zone management (CZM) in the Principality. The research, undertaken by the University of Wales Cardiff, investigated CZM from an international, national (U.K.) and Welsh perspective, concentrating on detailed case studies of three areas (including both urban and rural coasts). Policy makers, managers, practitioners and users from all sectors were included in the study which established current activity, identified problems and reviewed future plans. Interviews and questionnaire returns highlighted vital information gaps at all levels. These ranged from a lack of basic data (including scientific and technical), to a breakdown in communication both within and between organisations, as well as a policy vacuum in both regional and central government.

Keywords: Coastal policy; Marine policy; Swansea Bay.

Introduction

CZM: The international and U.K. context

In recent years the term coastal zone management (CZM) has evolved to mean the integration of land and sea use management systems to the benefit of the environment and all users. Many definitions now include the concepts of conflict resolution or reduction, and sustainability (Ballinger et al. 1996). Pioneering initiatives came from America, with legislation such as the US Federal Coastal Zone Management Act 1972; reflecting a growing concern for coastal issues that over the last few decades has spread across the world (Vallejo 1993; Sørensen 1993). Such measures have been encouraged by the UNCED conference in Rio de Janeiro in 1992, where in Agenda 21 Chapter 17 coastal states agreed that "coastal management should be integrated in content and anticipating in ambit". In Europe a Directive on coastal management has been anticipated for some time, and a great deal of preparatory work has been accomplished, although it may still be some time

before it appears (Gibson 1994). There have also been a number of other European coastal and marine initiatives where CZM has become an important issue, including the North Sea Ministerial Meetings, where the topic was discussed at the most recent meeting in Copenhagen in June 1995. In 1992 in the U.K., following a number of studies by non-governmental organisations and through professional bodies, such as the Marine Conservation Society (Gubbay 1990) and the Royal Institute of Chartered Surveyors (King & Smith 1986) respectively, the House of Commons Environment Select Committee report 'Coastal Zone Protection and Planning' concluded that there was a need for a strategic coastal management system for the British coast (Anon. 1992). Numerous programmes have been initiated since then, most at a local level (e.g. estuary initiatives) and many still sectoral in nature (e.g. Shoreline Management Plans) but generally with wider remits and involving more consultation and external involvement than ever before.

The Coastal Management Project

Against this background, the Countryside Council for Wales (CCW) the Government's nature conservation and countryside advisor in Wales, produced a consultation document on coastal policy (Anon. 1994) and commissioned a review of maritime (coastal) management for the Welsh coast. The aims of the project were to provide:

- An audit of current and proposed coastal management programmes, including systems management;
- An analysis of the relative success that has been achieved in securing the objectives of management, and an evaluation of the applicability of these measures in other parts of the coastal zone;
- An evaluation of the methods and procedures which could achieve integrated management of the coastal zone;
- An evaluation of the current and possible future level of inter-agency interaction in the coastal zone.

- Recommendations for improving integration and inter-agency action.

Three case areas, representative of both rural and urban coast, were chosen for detailed analysis. Conclusions were drawn from these which should be applicable to the whole of the Welsh coast. The areas studied were the Menai Strait, the North Ceredigion coast from Aberystwyth to the Dyfi, and Swansea Bay.

Methodology

The analysis drew its information from a variety of sources:

1. *A desk study* of the variety of plans and programmes active in the three areas. These ranged from statutory Structure and Development Control plans to non-statutory strategies (recreation and countryside for example), large area Catchment Management Plans to specific site management plans.

2. *Questionnaires*. This covered five main topics of interest: organisational details; management programmes; management in practice; management plans and other planning documents; and coastal zone management. The questionnaire was designed to be applicable to a wide range of organisations and individuals drawn from all sectors involved with the Welsh coast, with 149 questionnaires being sent out.

3. *Interviews*. Individuals working in the field of CZM at a national (U.K.) or international level were interviewed to place the Welsh approach in a wider context. Over 100 individuals, working at all levels in organisations, representing all sectors with coastal interests, were also interviewed, some of them as a follow-up to questionnaire responses. These semi-structured interviews concentrated particularly on the study areas, building up a matrix of issues and approaches for analysis.

Suggestions were invited within the questionnaires and interviews regarding the background and framework for effective CZM. Comments were also sought on the major obstacles perceived by the respondents and interviewees. This paper summarizes the findings relating to information need and gaps as identified from the responses.

Analysis and Evaluation

As with most empirical studies of this nature, quantitative analysis of questionnaire results was precluded

by the variety of approaches adopted by the respondents. However, it was possible to identify the main types of information felt to be needed by those involved with CZM in Wales, and so determine some vital information gaps.

The information required falls into two categories: (1) basic hard data, frequently unavailable or only available in an inaccessible or unsuitable form and (2) knowledge about the coast, coastal management and coastal responsibilities, usually available but often not where it was needed due to restricted information flow.

The information gaps can be divided into:

1. *Data*. Lack of scientific data or technical information such as; biological records or descriptions of sites (particularly marine); information about coastal processes (sediment movements, hydrographic information etc.).

2. *Awareness*. A general lack of knowledge about coastal and marine issues, and particularly CZM at all levels of involvement, from site managers (often the most knowledgeable, but biased) to officers in advisory agencies and decision makers such as elected councillors.

3. *Information flow*. A lack of communication of information both between and within organisations involved in coastal issues.

4. *Policy*. A lack of guidance for the establishment of information networks and management frameworks, and no strategic approach to the coast at regional, national or international levels: the so-called policy vacuum.

Data

There is an evident wealth of information available concerning both biological and physical aspects of the coastal zone (Doody 1995), and there are increasing numbers of studies on activities, visitor pressures etc. (Sidaway 1995). However, the response from managers is that there is not the necessary information available. The lack of scientific and technical data is often attributed to limited resources and, particularly in the case of the coastal environment, insufficient workers in the field. The complexity and difficulty in collecting and interpreting varied data from the marine environment has restricted availability of information to that which is very site-specific and that which is released only on a need-to-know basis. Recent advances in technology and data handling (e.g. remote sampling techniques, computer modelling, GIS systems) have improved the knowledge base, and there is great potential to extend this in future by both these and other means, such as the use of remote sensing satellites (Doody 1995). The biggest

problem, the inaccessibility of disparate data, has also now started to be addressed by the development of integrated information databases such as the Coastal Directories project, coordinated by the Joint Nature Conservation Committee and supported by a wide range of organisations with coastal interests. Information and contacts from the interim draft report for Region 12 (Barne & Robson 1995) proved particularly useful in the initial stages of the current study.

Awareness

Coastal zone issues are most often considered from the land-based perspective (Taussik 1995). This stems from administrative boundary restrictions, with planning control normally only extending to low water mark. However, it also results from a general lack of information and education about the coastal continuum: land, intertidal area and sea. In addition, since interest in integrating management initiatives across the whole coastal zone is only relatively recent, professionals in the field are conversant with neither the concept nor the practicalities of CZM. This is being addressed by professional bodies, organizations and academic institutions running continuing professional development courses in CZM. However, these inevitably are sectorally based (engineering, conservation, recreation, industry etc.) and they therefore lack the integrated approach appropriated for effective CZM. At policy and decision-making level it was found that there was often very little awareness of the marine environment (and frequently this applied to the natural environment generally), with non-specialists in advisory roles, or decisions being taken without appropriate advice being sought.

Information flow and policy

Out of the four categories of information gaps outlined above, the latter two may not at first appear to be obvious deficiencies. However, they are vital and must be addressed if CZM is to be successful. The multiplicity of organisations and agencies involved at the coast inevitably leads to some confusion over roles and responsibilities, and the study highlighted the need for clarification in this area.

Local authorities normally lack any formal interdepartmental structures to address coastal issues. Indeed, in some authorities the lack of communication between the planning and engineering departments was suspected to have led to sub-optimal management solutions at particular coastal localities. In smaller authorities, with fewer, multipurpose departments this problem was less acute, since internal arrangements were more conducive to liaison between disciplines. In some authorities the

development of a corporate approach, particularly to environmental issues, has encouraged far greater liaison between departments and consequently much improved information networking.

The problem of lack of information, or restricted information flow, was also identified in a number of agencies and organisations, where local officers felt the advice and information provided by 'central' specialists was either impracticable or else inappropriate to the local situation.

Although at local officer level communication amongst statutory agencies and with external organisations such as voluntary agencies was generally good, the situation was less satisfactory at director and policy making levels. This caused the concern that policy development may be undertaken without full knowledge of associated development of ideas in other organisations. Communication and information flow between sectors, particularly the industrial sector, was more likely to be one sided and therefore unsatisfactory. This was often due to information being treated as 'commercial confidence', even after it had been supplied by a statutory agency. Some private companies, for example Welsh Water/Dwr Cymru (WW/DC), have large information databases, which are currently not available under this same restriction. However WW/DC are taking a lead in this area, and are planning to make much of its information available at no or low cost, rather than not being available or only at prohibitive commercial rates (Lowe pers. comm.).

Outside of U.K. planning jurisdiction, information gaps are most noticeable. The offshore environment is subject to regulation and management from a number of central Government departments. In Wales there is great concern at the complete contrast in style and management objectives between Government departments and local, land-based organisations. It is perceived that local, and even Welsh, interests may well be overridden without these departments being accountable to the local population. There is also a general lack of understanding about the role and specific responsibilities of central Government offshore, probably due to the low level of consultation and cooperation between departments and local authorities. In some areas consultation with non-statutory fora has been used as the main consultation route with local people, for example meetings between the Department of Trade and Industry (DTi), oil companies and the Cardigan Bay Forum over oil and gas exploration in Cardigan Bay. These informal contacts were generally supported, but it was felt they should not be considered as a substitute for closer contacts between DTi, local authorities and Welsh agencies, for example.

Particular concern was expressed over the complex-

ity of the internal organisation of the Welsh Office and again the lack of comprehension of the responsibilities and remit of its various department and divisions. This gives rise to perhaps the most serious gap: the lack of a strategic view and guidance from the Welsh Office, and central Government, on the coast and coastal issues. This was considered particularly desirable during the present period of major organisational instability in the Principality, with Local Government Reorganisation taking place in April 1996, and many of the key agencies, e.g. National Rivers Authority and CCW, also undergoing major internal restructuring. At a policy level Wales lacks some of the Policy Planning Guidance (PPG) notes for England, particularly those offering a wider policy framework for the coastal zone such as PPG9 (Nature Conservation), PPG13 (Transport), PPG15 (Planning and Historic Environment), PPG23 (Planning and Pollution), PPG24 (Noise) and PMG6 (Minerals). PPG20 on Coastal Planning does currently apply in Wales, however the recent release for consultation of the Policy Planning Guidance (Wales), with the intention that it "encompasses strategic planning guidance to provide the strategic planning framework for Wales", is set to supersede it. PPG (Wales) contains only a single paragraph specifically on the coast, but does, for the first time, give guidance on the definition of the coastal zone for a local planning authority's area. This should be determined by the geographical extent of the effects of natural processes on the landward side, and by the limit of human influences on the seaward side (Anon. 1995). However, the Welsh Office's interpretation of these two boundaries is yet another information gap which needs to be addressed.

Conclusions

In order for CZM to succeed, additional and high quality information must be freely and widely available. The future of CZM in Wales will be dependent not only on further resources invested in data collection and dissemination but, more importantly, on filling those gaps in information flow which have been identified in the Principality and beyond. Further education about the coastal environment and coastal management should be aimed both at practitioners and the general public. Structures and networks for information flow should be both defined and supported. Framework guidance and a long-term strategic view on the sustainable management of the coast from the Welsh Office and central Government must also be established to ensure development of fully integrated coastal zone management of the Welsh coast.

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