Non-Technical Summary

A REVIEW OF COASTAL AND MARITIME INITIATIVES AND PRESSURES

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Background to study

There is currently considerable interest in, and development of, policy related to the management of the marine and coastal environment in the EU, UK and Wales. Some policy developments, particularly the Government's *Marine Stewardship* process and its associated publications and reviews, have far reaching implications for the management of Welsh coasts, challenging the traditional sectoral focus of management. However, there is concern that, with so many cross-cutting and related policy initiatives and programmes under development, there is the potential for confusion, missed opportunities and duplication of effort. This project, therefore, identifies and reviews selected policies and programmes as well as clarifying current and potential linkages and synergies. It also aims to identify gaps hindering an integrated approach to the management of our coast.

The EC Recommendation on Integrated Coastal Zone Management (ICZM), requiring Member States to develop and implement a national strategy for ICZM, is a major driver for change, promoting a new system of governance for coastal areas. Following the UK-wide stocktake of ICZM, each home country is producing an ICZM strategy in addition to the UK-overarching ICZM strategy that is being developed. The Welsh ICZM strategy is under development, being prepared by a sub-group of the Wales Coastal and Maritime Partnership (WCMP). To inform this process, it is necessary to have a detailed and clear understanding of the specific pressures affecting the Welsh coast as well as a view of how these are likely to change in future. The second major aim of the study is, therefore, to carry out an analysis of key sectors to identify current and future coastal pressures.

This non-technical summary highlights the key project findings. Reference to the main report should be made for a more detailed discussion.

Project methodology

The breadth of the project brief, along with significant time and resource constraints, dictated that the research was undertaken as desk-study, supported by a project steering group from WCMP. The methodology included several phases, reflecting the various tasks required, as detailed below.

Part 1 - The sectoral review includes a discussion of the current development patterns and trends along the coast as well as an audit of selected marine and coastal sectors. An indication of the current status of each sector is provided along with identification of trends, key environmental and cross-sectoral issues.

Part 2 - The policy and programme review encompasses a range of key policies and programmes from European to local levels. In identifying links, synergies and gaps between the various policy and programme areas, reference to EC ICZM principles and the principles of integration, highlighted in the WCMP statement *'What is ICZM,'* has been critically important. The EC's principles provide a foundation on which UK and national ICZM initiatives are likely to be built.

Part 3 - The research team applied complementary methodologies to assess the current status and delivery of ICZM in Wales, namely assessment of:

- Wales' progress in implementing ICZM, following the emerging European approach; and
- delivery of ICZM, using a systems analysis approach.

Plate 1: A coast of high conservation value

1. Coastal development: current status and future trends

Current status

The coast has long been a natural focus for settlement with coastal inlets, providing natural harbours and sheltered access for coastal communities. Today, most of the Welsh population resides in coastal areas and the spatial distribution of urbanisation is well established, reflecting the historical development of industry and ports as well as the associated growth of urban hinterlands and supporting infrastructure. Most urban areas are concentrated around estuaries and major bays in the south, south east and north east. The Wales Spatial Plan recognises that most of Wales' socio-economic hubs are coastal, with the south east M4 corridor areas and the urbanised and industrialised Dee Triangle of north east Wales key drivers of the Welsh economy. Offshore, Liverpool Bay, the Bristol Channel and the approaches to Milford Haven are the most intensely used areas. These 'urban seas' correspond to the pattern of external shipping routes focusing on the Mersey, Milford Haven and the Bristol Channel port zones. They also lie adjacent to terrestrial urban areas where key resources are located.

However, the coastal regions of Wales display considerable contrast in terms of population density, degree of urbanisation and economic development. Much of the coast (70%) is relatively undeveloped and rural with agriculture dominating land use. In such areas communities often have a strong sense of identity and the Welsh language and culture are also strong. However, some isolated areas have low incomes and limited opportunities, resulting in significant deprivation and above average levels of unemployment.

Recent trends

Economic restructuring of the Welsh economy, linked to the restructuring of international and global economies, is having a profound effect on the extent and pace of development and redevelopment along the coast. This is affecting regional and local patterns of coastal development, particularly related to industry and residential use. As the impetus for development often arises beyond Wales there is a need for Wales to develop a high quality, diverse, creative and flexible economy, reducing risk from the industrial competitiveness of developing world economies. The importance of European and government (UK / Welsh Assembly Government) funding for Small and Medium-sized Enterprise (SME) growth is, therefore, of major social and economic importance.

Most of the Welsh coast lies within the Objective 1 Structural Fund Programme (2000/06) as a result of GDP levels falling significantly below the European average. Whilst tourism, farming and inshore fishing, have become largely small-scale, part-time and seasonal, there has been a counter trend towards small scale, high value business in some rural areas.

Most coastal areas are experiencing increasing average population densities and population growth as in-migration exceeds out-migration and outweighs natural population decline. The increasing demand for housing has resulted from this counter-urbanisation, allied with changes in lifestyle and increasing affluence. In urban areas, waterfront developments have become important aspects of urban renewal, notably in Swansea, Cardiff, Newport and Llanelli. Offshore, the pattern of resource exploitation has been dependent on the resources themselves and the proximity of these to land-based areas of demand and transport infrastructure, as well as being increasingly influenced by environmental and particularly nature conservation interests.

Future trends

Economic restructuring of the Welsh economy will continue to influence coastal development trends, leading to further redevelopment of traditional industrial coastlines and former seaside resorts. Overall, planning policies of concentration, rather than decentralisation are likely to dominate both on land and at sea. The importance of effective integrated transport systems will be crucial with transport infrastructure continuing to influence the location of coastal development. Pressures are likely along the Euro-routes, the M4/A55 corridors, and around the gateways and port areas, both onshore and offshore. The pressures suggest that coastal land should be reserved for development requiring coastal locations and for uses contributing to the regeneration of the ‘spoilt’ coast. The development of brownfield sites will contribute to urban regeneration, providing opportunities for mixed development, housing and tourism/recreation uses including marinas. Government targets for recycling of land will support this. Such redevelopment should provide opportunities for open space, habitat creation and waterfront access.

In the longer term, future development patterns and growth will be determined by a complex mix of factors, including globalisation, technological development, changes in the knowledge economy, ever-rising personal expectations, increasing ease of mobility and demographic change. Along with increasing average population densities on the coast, there is likely to be an additional increased demand and investment in housing in certain town and cities and in smaller centres and rural coastal areas. With demand often focused in potential flood risk areas, particularly in urban regeneration areas, it may be that time limited permissions should be considered rather than granting development in perpetuity, particularly in the light of increasing risk associated with climate change.

Current sectoral trends and pressures

Knowledge of the status, trends and pressures arising from key coastal sectors provides an understanding of where different sectors and associated pressures occur along the coast, where they are in conflict, and how they are likely to change with time. For this purpose, Table 1 summarises the characteristics of key coastal sectors, focusing on current levels of activity, recent and future trends. As the table shows, the sectors which are likely to see most growth are

Table 1 Current status, trends and pressures along the Welsh coast

Transport, ports & shipping

Current level of activity- 63% of the cargo handled by Welsh ports is handled by Milford Haven Port Authority and a further 34% by 9 other Welsh ports, including the major ports of South East Wales. Although no longer significant in trade terms, the small harbours of the rural coasts are important locally for recreation and fisheries. The road and rail networks around Wales are important, supporting economic activity and access to the coast. The present trunk road system focuses on northern (A55) and southern (M4/A48/A40) coastal corridors. The freight network is constrained by loading gauge restrictions and, although there are around 160 terminals and sidings, only Cardiff Wentloog is a truly intermodal terminal.

Recent trends - General trends in port traffic in Wales have remained relatively constant over the last decade, from 57.2 million tonnes (MT) in 1995 to 52.6 MT in 2003. There have been some improvements to the road system, although there is still poor provision of north-south routes.

Future trends - With no major developments planned, the location and development of major port infrastructure is likely to remain unchanged in Wales in the medium term. However, continued capital and maintenance dredging, the active use of the port land banks and the redevelopment of quaysides will continue as ports expand and grow. Potential for short sea shipping is inhibited by restrictions in the rail network in Wales. Recent WAG policy has signalled a new phase in road building to consolidate existing routes and is investigating short-haul air networks to increase mobility.

Oil and gas

Current level of activity - Although an important marine-related economic activity in UK waters, its direct importance to Wales, in terms of current levels of offshore activities within Welsh waters, is less significant. In 2001, for example, most of the £1.56 billion total revenue from oil and gas production in the Irish Sea came from areas in the north-east Irish Sea, outside Welsh waters. However, the gas terminal at Point of Ayr provides onshore processing facilities for several gas fields within the Liverpool Bay development and fuel for the gas-fired power station at Connah's Quay.

Recent trends - Although licences to explore for oil and gas in Cardigan Bay and the surrounding waters have been awarded sporadically over many years, no significant reserves have been found to date and current levels of exploration activity remain low.

Future trends - Liverpool Bay reserves are estimated in excess of 150 million barrels of oil and 1.2 trillion ft of gas. The expected life of the development is projected to be at least 20 years. In contrast, several companies holding exploration licences for blocks within Cardigan Bay have recently sought to surrender these. Nevertheless, future exploration activity cannot be ruled out. However, CCW has undertaken to work with DTI to carry out a SEA before any further blocks are licensed for oil and gas exploitation within Welsh waters.

Minerals

Current level of activity - Marine dredged materials are a much more significant source of aggregates in Wales than in England. This is particularly true for south east Wales where there is a very high dependence on offshore sources (95%). Here, an estimated 1,700 jobs are linked directly or indirectly to the offshore dredging industry based on sites in the Bristol Channel. Although Cardiff and Newport handle most landings, aggregate handling at other South Wales ports and wharves provides significant input to local economies.

Recent trends - Within the Severn Estuary and Bristol Channel area, annual dredging of aggregates of around 2mt/yr between 1992 and 1997 declined to 1.5mt in 2002. This figure rose slightly in 2003. Although licensed capacity is currently about 2.7mt, current extraction rates typically average around 60% of permitted tonnage. These reduced rates have enabled flexibility in meeting changes to market demand.

Future trends - Many existing resources of the Severn Estuary and Bristol Channel lie at depths which are unavailable using existing dredging practices and are too distant from ports to be economically viable. WAG policy suggests extraction of marine dredged sand and gravel will continue, but that over the next 10 years extraction will gradually become focused in areas offshore, west of the Bristol Channel.

Renewable energy

Current level of activity - Of the three Round 1 offshore wind generation sites, North Hoyle (off Prestatyn: 60MW capacity) is now operational and Rhyl Flats (off Abergele: 30 turbines) and Scarweather Sands (off Porthcawl: 30 turbines) have been consented.

Recent trends - The UK offshore wind sector has grown over four years from two experimental turbines at Blyth Offshore to 360 consented turbines, of which 30 turbines are already generating power at North Hoyle off the North Wales coast. The technology has advanced rapidly with 3.6MW turbines now commonplace.

Future trends - Wales has a potentially large renewable energy base, due to climate and geography. There are commercial and rural development opportunities associated with the development of marine renewable energy technologies. However, offshore wind provides the greatest immediate potential, assisting the attainment of WAG's target of 4TWh for renewable energy by 2015. Round 2 sites will be larger, utilise more powerful turbines (5 MW) and operate further offshore. The Gwynt y Môr Offshore Wind Farm, 13-15 km off the north Wales coast could cover 80 square miles and generate up to 750 MW. Offshore lagoons may prove to be a viable way of developing the traditional barrage concept.

Fisheries & aquaculture
Current level of activity - The Welsh fisheries industry is relatively small scale, dominated by vessels less than 10m and inshore fishing activity. Estimates suggest that commercial fishing activity contributes over £20.6m to the Welsh economy annually and provides 938 jobs. High-value species, including bass, crabs, scallops, lobster and whelks, dominate landings from the inshore fleet in contrast to the offshore sector which focuses on demersal finfish. Shellfish are important with most value in crab and lobster landings. Sea angling contributes significantly to local economies.

Recent trends - There has been an overall downward trend in scale and economic health of offshore fisheries due to contraction in the resource base, the fleet and landings. In Milford Haven there were only 2.2 ('000 tonnes) landings in 2003 compared to 3.9 ('000 tonnes) in 1999. Shellfish figures, in contrast, have remained stable in recent years.

Future trends - It has been suggested that the UK fleet must invest significantly in modernisation to remain competitive internationally. To make adequate long-run profits it will also need to reduce capacity in the whitefish sector. Future prospects for sea angling depend on fish stocks, demand and facilities, but are likely to remain stable or possibly increase. Angling prospects would be vulnerable if demand switched to locations outside England & Wales.

Tourism
Current level of activity - The Welsh coast is an important location for tourism with over 4 million *residential* holiday makers visiting the coast each year, 60% of all those visiting Wales. Welsh annual spending on seaside holidays contributes 7% of Welsh GDP, generating £1.5 to 2 billion revenue. The coastal tourism product is diverse, including well-established seaside resorts, recently revitalised urban waterfronts and smaller-scale rural coastal attractions. Most rely heavily on the UK market, particularly urban Wales and England.

Recent trends - The nature of the tourism product is changing, with less emphasis on traditional seaside breaks and greater uptake of activity-based holidays.

Future trends - Tourism has been identified as an important potential growth area, with specific strategies to increase visitors from overseas and domestic markets. To achieve WAG's target of 8% GDP by 2010, government funding will be required for large-scale developments and innovative projects, including infrastructure renewal, upgrade and new facilities. As part of this growth, further diversification of the tourist industry, based on environmental assets (including coastal landscape, wildlife and archaeology), and including farm tourism, is planned.

Recreation
Current level of activity - As a traditional focus for leisure and tourism, coasts provide opportunities for a variety of leisure and recreational activities, many of which, such as coasteering, are specific to coastal areas. Supporting industry, often small-scale lifestyle businesses, provides opportunity for innovative local employment and development.

Recent trends - Alongside the growth of many traditional recreational activities, such as sailing, new leisure pursuits keep emerging, attracting increasing numbers to the coast. Of these, kiteboarding is Wales' fastest growing recreational watersport.

Future trends -With rising affluence and increased leisure time, many leisure activities, such as canoeing and sea kayaking, offer significant potential for growth. WTB has projections for 40% growth in some watersports activities between 2005 and 2010. However, this take-up may be dependent on the provision of support facilities and infrastructure, including marinas and moorings, and may be constrained by scenic and safety aspects.

Conservation
Current status - The richness and diversity of the species and habitats of the Welsh coastline is well recognised and is reflected in the fact that around 70% of the Welsh coastline is designated as marine Natura 2000 sites. Important coastal conservation features include open rocky coasts and offshore islands as well as low, sandy beach and dune systems, associated salt marshes and intertidal mudflats of particular importance for overwintering wildfowl. Protected sites tend to be large. Although they offer some form of protection to wildlife and habitats, they are still multiple use areas. Trans-boundary issues and off-site impacts are important. About a third of the coastline is heritage coast and the National Trust, through *Enterprise Neptune*, has bought and now manages 80 sites (7,000 ha) including Wales' best coastal landscapes.

Recent trends - The recent addition of marine *Natura 2000* sites and revision of pSAC boundaries has resulted in more Welsh coastal waters being managed for their nature conservation interest. A series of intertidal SSSIs (88) has been expanded to underpin this network of marine SACs. In specific cases, measures have been used in specific cases to mitigate against conservation losses, notably the construction of the Gwent Levels Wetlands Reserve, as compensation for the loss of habitat associated with the Cardiff Bay barrage. Although a large proportion of the coastline is protected, the State of the Welsh Environment Report (2003) found that much of the associated biodiversity is being degraded by local factors such as neglect, lack of appropriate management, and wider environmental factors such as sea-level rise.

Future trends - Following the High Court's decision (1999) that the Habitats Directive may apply beyond the 12nm limit of the territorial sea to the limits of the UK Continental Shelf, there is considerable scope for further offshore designations. The case for greater protection for offshore habitats is likely to increase as it is acknowledged that current offshore sites do provide a comprehensive and ecologically-coherent framework for the marine environment. On land, the expected implications of rising sea-level on protected coasts could lead to 'coastal squeeze' of habitats, particularly intertidal mudflats and marshes. Offshore, rising average sea temperatures could affect species at the edge of their geographical range.

Heritage *Current status* - Sea trading and maritime routes have left many coastal features of archaeological importance and historic interest along the Welsh coast, including archaeological, Roman and medieval sites. Coastal exposure and intense offshore trading have resulted in historic wrecks, 6 of which have been scheduled. The Severn Levels contain a wealth of archaeology with recent discoveries of Bronze Age, Roman and Medieval boats of exceptional importance. *Recent trends* - A recent rapid archaeological survey of the Welsh coast identified over 3,000 sites and monuments of archaeological and historic interest, of which over 2,000 have been recorded for the first time. As the disparity between the care afforded to important remains on land and those in the sea is becoming increasingly apparent, there is a growing awareness of the need for more comprehensive designation and legislative provision for the care of submerged heritage. *Future trends* - This resource is increasingly threatened by natural decay, development pressure, increasing visitor numbers, natural processes and climate change. Further sound information on assets needing protection, combined with a stronger legislative base, suggests more historical assets will be afforded greater protection in future. Increasing numbers of people interested in cultural tourism will generate further awareness of the value of coastal heritage.
Coastal defence *Current level of activity* - The low-lying, urbanised coasts and estuaries of south and northeast Wales are at most risk from tidal flooding. Estimates indicate some 39050 properties at risk. Coastal erosion is less common although some soft geological sections are 'significantly eroding'. Environment Agency Wales, local authorities and private owners are responsible for maintaining hard defences along 360km of estuary/sea (1997/98). Although most are in good condition, some 11% of private defences require moderate to significant work. *Recent trends* - A dramatic increase in the knowledge and understanding of coastal processes is informing responses and approaches used for coastal risk management. A first generation of shoreline management plans (SMPs) has been completed, identifying broad, generic policy options for each stretch of coast. A factor of 5mm per year has been added to the design of new defences to cope with sea-level rise and possible increased frequency of storms. *Future trends* - Second generation SMPs will develop policies for the next 100 years, focusing on better understanding of natural processes and the incorporation of policies into statutory planning. With more frequent and higher intensity extreme events, sea level rise (25 – 30cm by 2050) and environmental and human factors combining to increase demand for works, larger sums of money will need to be spent. Eventually, funds may be insufficient, necessitating the adoption of new approaches to managing coastal risk.
Waste management *Current status* - The Assembly has identified waste as Wales' biggest environmental problem. There is high dependency on landfill for municipal wastes with many sites lying close to the coast. Density of beach litter is higher than the UK average and includes a very high proportion of fishing-related litter. Dredged material from ports and harbours is the only significant form of waste disposal at sea. *Recent trends* -Most forms of waste disposal at sea are now prohibited. Advanced sewage treatment processes have enabled sludge to be applied to agricultural land rather than being dumping offshore. There has been a gradual reduction in the disposal of dredged material disposed at sea, but illegal waste activity incidents reported to EA have increased by more than 80% since 2001 and the density of litter on Welsh beaches has increased over the past two years. *Future trends* - There is a serious problem of rapidly diminishing capacity at landfill sites and increasing problems with hazardous waste management. These issues cascade into coastal areas. Although quantities of sewage sludge are likely to rise, dredged material disposed offshore will diminish due to changes in port operations, dredging practices and increased beneficial use of sediment. However, with more visitors to the coast, beach litter is likely to increase.
Pollution control *Current status* – With stringent pollution control standards for discharges and emissions, most Welsh waters are of high quality although there are notable anthropogenic impacts beyond 3 miles. Diffuse pollution reduces quality in some estuaries and coastal areas. Run-off from areas contaminated by former metal mining and industrial activity contributes to the Irish Sea's contaminant load. The microbiological water quality at bathing beaches is very good (100% meeting mandatory EC standards in 2004; 35 blue flags in 2004). However, many waters risk failing EC guideline standards because of diffuse pollution and poor sewerage infrastructure (combined sewage overflows). Algal blooms occur occasionally in coastal waters during summer. *Recent trends* - All Welsh estuaries were classified as 'Good' in 2005, compared with 87% 'Good' or 'Fair' in 1995. The introduction of stringent pollution control standards and implementation of recent European Directives (Bathing Waters and the Urban Waste Water Treatment Directives) have driven such improvements along with the phasing out of certain polluting chemicals and practices, such as offshore waste disposal. However, polychlorinated bi-phenyls (PCBs) and tributyl tin (TBT) loadings in the environment and in top predators are not believed to be reducing fast enough. *Future trends* – Whilst sewage discharge volumes may increase, trade effluent is likely to decrease. Further improvements to coastal discharges, storm-water overflows and treated sewage effluents will help meet stringent standards under the revised Bathing Waters and Dangerous Substances Directives. The latter's implementation (2007) could cause more privately maintained continuous discharges. Reducing diffuse pollution is challenging, dependent on fundamental land management changes.The Water Framework Directive targets the control of diffuse outputs and requires 'good' status for coastal waters extending from the coastline to 1 nautical mile seaward of the UK Territorial Baseline (2015).

those which depend on a high quality natural environment, such as tourism and recreation. Exploitation of both offshore biological and non-biological resources (with the possible exception of non-renewable energy) though important in the short-term, may dwindle as a result of declining resource availability and environmental constraints.

Arising from the sectoral analysis, there are a number of key issues to be tackled. These include:

- balancing the development opportunities of the Welsh coast whilst maintaining its environmental quality and conservation interest and managing coastal risk;
- realising the opportunities of more environmentally friendly uses of the Welsh coast, including short-sea shipping;
- reducing the impacts of climate change, including developing better coordination to ensure planning decisions do not exacerbate coastal risks;
- controlling the exploitation of fish stocks;
- minimising diffuse sources of pollution;
- resolving conflicts between sea uses within ever more intensely used inshore waters;
- tackling deprivation within some coastal communities, notably in declining coastal resorts and former industrial areas; and
- minimising negative demographic, socio-economic and cultural changes resulting from population change in rural coastal areas.

ICZM has a role to play in ensuring that these issues are dealt with from a more holistic and strategic perspective using cross-cutting and innovative strategies.

2. Policy and programme review

International

At the international level there is considerable support for ICZM. It is proposed as a way forward in Agenda 21 of the UN Conference on Environment and Development and by the World Summit on Sustainable Development. It is also supported by many international organisations, including the Intergovernmental Panel on Climate Change and various UN agencies. International efforts have created considerable momentum for ICZM, useful guidance on ICZM development and a good context for developing ICZM programmes at European, UK and national levels.

European

Funding Programmes

European funding has provided significant support for ICZM initiatives over the last decade. In particular, Regional Development Funds, notably Interreg, have been successful in securing collaboration between organisations and across the land-sea divide in Wales. The LIFE fund has been important too, supporting 23 programmes across Europe between 1992-2005. The European Framework Programme on science and research has also provided significant input to ICZM programmes and related research.

It is likely that European funds will remain an important resource for the future development of ICZM projects in Wales. However, the structure of European funding is complex. ICZM projects can be financed under different sub-themes of the various funding programmes. This poses problems for ICZM projects in identifying suitable funding streams. It also means that it is difficult to get a clear overview of the level of support for ICZM across Europe and to see what synergies exist between individual projects and programmes.

Plate 2 An intensely used coast

European Policy

The eight European policy areas reviewed as part of this research include both sector-specific and broader based policies. Some of these support ICZM whilst others set a context and direction for the management of activities at the coast. Over the last two decades, there has been a clear and notable shift from more sector-specific policies to those displaying a more holistic approach. The latter include the Water Framework Directive, the ICZM Recommendation and the emerging EU Marine Strategy. Together these new policy areas should facilitate the delivery of a more integrated approach to planning and management of coastal environments.

Co-operation is a key element of the ICZM Recommendation. As this includes co-operation with other Member States and EC institutions, ICZM programmes should ensure compatibility between, and take advantage of, the synergies arising in the application of Community instruments affecting the coastal zone. This is an urgent issue given the timetable for the implementation of the Water Framework Directive. The links between ICZM and the requirements of this Directive are unclear. Equally unclear are those between ICZM and the developing EC (and UK) ideas for marine spatial planning. Although, in practice, linkages may have to be determined at national and local levels, it may be beneficial to have EC guidance. The EU Marine Strategy, emphasising integration and the ecosystem approach, has the potential to provide this.

Several European policies provide support for ICZM even though they are not specific to coastal management. Examples include the Environmental Impact Assessment (EIA), Strategic Environmental Assessment (SEA) and Environmental Liability Directives. These may be used individually and in combination as part of the ICZM process. Although developed from an environmental perspective, they are valuable tools supporting a strategic approach to management.

UK

Alongside growing recognition of the value of and need for ICZM in the UK over the last two decades, various policies and programmes have been introduced which provide direct and indirect support for ICZM implementation. Since 2002, the *Marine Stewardship* process, as part of the Government's strategy for the conservation and sustainable development of the marine environment, has been particularly important. The *Marine Stewardship* Report, in identifying ICZM as a key delivery mechanism, provides a framework for linking ICZM requirements to other UK policies and programmes affecting the coast. Under the *Marine Stewardship* process many existing broad-based policies and programmes could support ICZM and would be particularly valuable if directed with this in mind. Relevant measures include the *Modernising Government* programme of public service reform and recent revisions to Town and Country Planning legislation. Under the former, local authorities are required to develop community strategies, addressing economic, social and environmental well-being. As these provide an overarching framework for local authority service and theme-specific plans, they could incorporate ICZM plans and provide the impetus for coastal plans/strategies where these are lacking.

Recently, there has been greater recognition of the contribution and benefits of sectoral policies and programmes to ICZM. The Review of Marine Nature Conservation and the consultation paper on the protection of the marine historic environment are examples. The latter states that lessons from ICZM should inform policies for marine heritage protection. Even recent reviews relating to the fishing industry have identified the need to move towards a more sustainable and integrated approach.

Various national projects have attempted to investigate linkages between policies and programmes covering coastal and marine areas. Of these, the Irish Sea Pilot and DTI's review of marine consents are particularly noteworthy. The Irish Sea Pilot study, in making proposals for the development of a strategy for marine nature conservation, has identified the need for overall responsibility for strategic planning in the marine environment. The subsequent marine spatial planning pilot, examining how this might work in practice, is now considering how ICZM may relate to marine spatial planning. The results of the DTI's review of marine consents have not been published. However, a more integrated consenting regime remains an important issue to be tackled, especially for consents for activities causing impacts across the land/sea divide. It is likely though that the review's work may be superseded by the pilot study on marine spatial planning.

Plate 3 Recreational use of the coast

There are other useful tools, such as SEA, linking policies and programmes which could support ICZM. SEAs have been carried out by the offshore oil and gas industry and have informed the second round of licensing of offshore wind farm development. SEAs are critical to determining the broader implications of developments, including cumulative and in-combination effects. There is, however, an important outstanding question relating to how these sector-led, but broad based, studies can be linked and build on from each other. This will become more of an issue as other sectors, such as fisheries, undertake SEAs.

Welsh levels

The Assembly has developed a revised Sustainable Development (SD) Scheme (*Starting to Live Differently*) and supporting SD Action Plan. The scheme provides an overarching strategic framework for other Welsh strategies, including the developing ICZM strategy. All these strategies should underpin and support the SD scheme, providing detail in relation to the delivery of specific challenges such as economic development (*A*

Winning Wales: the National Economic Development Strategy), spatial planning (*Wales Spatial Plan*) and the environment (*Environment Strategy*). Although the SD scheme has been criticised for the absence of some important sustainability issues, most notably the protection of marine habitats, the revised SD Action Plan recognises the diversity of Wales' marine waters in European terms. It pledges that the Assembly will work with its partners to develop a framework for integrated management of the marine environment by 2007. It will provide a clear context and impetus for ICZM development in Wales.

The Wales Spatial Plan sets out a national policy framework for development and use of land in Wales. It is a strategic document which integrates a range of social, economic and environmental aspects. It includes a spatial vision for six geographic areas covering the landmass of Wales and proposes actions to secure this vision. Although the plan is a land-oriented document, it does highlight the need for ICZM in Wales. Its content and outcomes are also likely to have a very substantial effect on the land-based side of the coastal zone and, therefore, on the nearshore coastal zone and coastal planning. As Local Planning Authorities are required to have regard to this plan when preparing local development plans, it could become an important mechanism for ICZM in future, particularly if revised with a less land-based focus. However, the plan's current lack of remit over nearshore areas (apart from some estuarine areas) means that, in its present form, it cannot provide a suitable overarching framework for ICZM.

The national economic strategy for Wales is also potentially an important document for ICZM, although, like the Wales Spatial Plan, its focus remains largely land-based. The economic strategy provides an agenda for the development of the Welsh economy, covers a range of sectors and provides opportunities for joint working between the Welsh Assembly Government (WAG), government agencies and local government. Spatial integration is provided through links with the Wales Spatial Plan.

The developing Environment Strategy is another key component supporting WAG's SD scheme. Unlike the national economic and spatial plans, it will consider the Welsh territorial sea as well as the Welsh landmass. In bringing together existing strategies, policy statements and legislative obligations relating to the environment into a coherent policy agenda and framework for Wales, it will provide direction for existing strategies and plans. It is anticipated that it will also outline the links between its policy objectives and those in other areas including economic development. The strategy, therefore, has the potential to contribute to the delivery of cross-cutting strategies and duties. Clearly, ICZM could be one of these cross-cutting strategies.

With no statutory mechanism to link terrestrial and marine planning/management regimes, land/sea integration is currently progressing on a voluntary basis through partnership working. At a national level this is promoted through WCMP, which facilitates integrated management by encouraging debate and by building partnerships supporting the exchange and dissemination of information and good practice. The partnership also helps inform policy development relating to the sustainable development and management of the coastal and maritime areas of Wales. Consequently, WCMP has the potential to become a focus and channel through which stakeholders, from government to local communities, can help deliver ICZM in Wales.

Local levels

Partnerships have been critical in forging the links and opportunities for joint working, necessary for delivering ICZM at local levels. They bring together a wide range of stakeholders with both land and marine interests to address issues associated with specific regional and local coastal localities. However, with only two such groups currently active in Wales, little of the Welsh coast benefits from this type of approach. There are also other issues associated with these partnerships. Most have experienced difficulties in obtaining core funding and in engaging stakeholders across the full spectrum of interests, especially from industrial and commercial sectors. As a result of the former, much of the work of the partnerships relies on external, particularly European, funding sources. Although such funds provide important support for individual or local projects, they are driven by European rather than local priorities and have a short to medium-term rather than long-term focus.

Various other types of coastal fora have been established at local levels to consider issues and management needs associated with the coast. These range from informal community-based partnerships, which concentrate on very specific outputs and are often very narrow in focus, to more formal groups, frequently delivering outputs in support of national programmes and/or statutory responsibilities. The latter include the regional voluntary Coastal Groups, which bring together bodies with coastal defence responsibilities and interests, and the Advisory Groups supporting the preparation of schemes of management for marine and coastal Special Areas of Conservation (SAC). Although both types of partnerships have very different functions, both recognise the role of ICZM. The Coastal Groups, in overseeing the preparation of shoreline management plans, may provide the physical context for ICZM activity. In contrast, the

SAC Advisory Groups need to take account of local issues and work with local stakeholders in facilitating the achievement of the objectives of the Habitats Directive in a local context. Additionally, for areas designated as SACs, ICZM plans must somehow be incorporated into SAC management given the requirement for a single scheme of management at these sites.

Plate 4 Natural hazards at the coast

3. The current status and delivery of ICZM

Assessment of ICZM using the European indicator set

This approach, promoted by the European EC ICZM Experts Group and currently being piloted in Europe, highlights the ICZM process and the phases required for full implementation of ICZM (Pickaver, Gilbert and Breton, 2005). In practice, the evaluation involves assessing progress on 26 specific actions to identify the stage of development of ICZM. This has been attempted to assess progress in ICZM in Wales.

The analysis of the results suggests that Wales has more-or-less attained Phase 1 (out of five phases), having ‘laid the basis for ICZM’. However, to complete Phase 1 there is a need to ensure that ‘funding is generally available for the implementation of coastal management policies’. It is encouraging to note that there is progress on many actions in the later phases and that, with the current development of the Welsh national ICZM framework, it is anticipated that Phase 2 could soon be accomplished. However, to ensure that a ‘framework for ICZM exists’, the national strategy will need to make sure that:

- existing instruments are being adopted and combined to deal with planning and management issues on the coast ;
- a formal state of the coast report and revision procedure has been initiated;
- the coast is identified as a distinct policy area within Wales’ sustainable development strategy; and
- the strategy takes a long-term perspective, identifies relevant issues, includes and adopts an implementation strategy.

Delivery-based assessment of ICZM

In contrast, the delivery-based assessment, modified from Checkland & Scholes (2000), focuses on the quality of delivery of ICZM effort. It evaluates five key areas including efficiency, effectiveness, professionalism and engagement in management activities as well as effectiveness in meeting policy goals and in on-the-ground improvements. Welsh ICZM fares reasonably well in relation to these criteria although there is a significant gap between the achievements of particular sectors in delivering their own specific objectives and the need to fulfil the wider objectives of ICZM. There is also a need to streamline and rationalise management efforts at national and local levels. Additionally, there are issues regarding the standard of some management efforts - often resulting from insufficient national policy support and guidance. However, the largest issue relates to the lack of suitable indicator sets and supporting information for monitoring ICZM progress and on-the-ground improvements. Without clear evidence of the value of ICZM, the current lack of political currency and electoral appeal for ICZM will continue to hinder its full development.

Potential links, synergies and opportunities

At international and European levels, various initiatives have provided an overview of potential objectives, tools and actions relating to ICZM and have created significant momentum for ICZM development. Although there is sufficient context at European levels for EU Member States to progress ICZM, there is still a need for greater acceptance of the process within economic and social policy arenas. However, for EU Member States, the EC ICZM Recommendation is an important driver. Gaps relate mainly to implementation, monitoring, enforcement and review. Although the latter will largely be the responsibility of national and local programmes, there is still a role for the EC to support these elements of ICZM.

Although EC funding schemes can help promote and deliver ICZM, until now this type of work has been encouraged through projects supported by specified funds. The gap and future challenge is to move to a situation where ICZM is seen as a continuous process supported by “core funding” rather than as a specialist interest supported by ad hoc project funding.

Overall, the analysis of UK policies and programmes revealed many links and potential synergies between policies and programmes. However, to reap the benefits of ICZM, there is a need for sectoral policies and programmes to build on each other more and for them to support ICZM through involvement in the ICZM process.

Sectoral integration

Sectoral interests are starting to adopt more holistic approaches and examine their policies, programmes and activities in a broader context. Partnership working is patchy and inconsistent. As an important aspect of ICZM, it requires support and development. Other specific needs include:

- better integration of social, cultural and economic aspects into ICZM programmes;
- incorporation of ICZM into community strategies; and
- support for national level, cross-sectoral working, facilitated by WCMP.

Spatial integration

Although ICZM is relevant to the entire Welsh coastline, current initiatives tend to focus on areas of highest pressure, particularly estuaries and inlets. While coastal land issues are usually dealt with within the wider context of the terrestrial planning framework, the same cannot be said for coastal offshore issues, where no such framework exists. There is also a need for better spatial integration across the land/sea divide, particularly incorporating marine issues into terrestrial planning and management. Broadening the geographical scope of the Welsh Spatial Plan and the Welsh Economic Strategy to include an offshore dimension could facilitate this and have far reaching potential for ICZM.

Cross-government integration

ICZM requires support and involvement across government if it is to be effective. A mechanism to facilitate this is essential. Joint funding for ICZM initiatives across government is one of a number of mechanisms that might be used to focus such integration. The Assembly's Policy Integration Tool is also noteworthy. This involves evaluating the contribution of WAG policies to the Assembly's overall strategic agenda and policy priorities, as stated in *Wales: A Better Country*, the strategic agenda for Wales.

Science-management integration

Good links between scientific knowledge, policy and management are essential to ICZM. These make the management realistic and relevant. SEA is a particularly useful mechanism to foster the required linkages, but still has to be more fully utilised. Additionally, there is a need to link the SEAs undertaken by different sectors and realise the potential for developing a common, evolving database of information from such assessments. There is also much to be done to involve the social sciences community in ICZM to complement the efforts of environmental scientists. Finally, there is a need for scientific and rigorous evaluation of the ICZM process including its outputs and outcomes. Without this it will be difficult to justify the process.

Ways forward for the Welsh ICZM coastal strategy

The development of the Welsh ICZM strategy needs to take account of the findings of this study and actively engage relevant stakeholders in discussion of the issues raised, focusing on areas where ICZM can make a clear and positive contribution. In particular, it will be important to support relevant work undertaken by other sectors as well as building on existing initiatives, particularly those promoting the ICZM progress and principles. It should also foster the potential links and synergies identified by this research, such as those between the emerging portfolio of Assembly strategies and plans, including the Wales Spatial Plan, the Environment Strategy and the Economic Strategy. The ICZM strategy will also need to address the gaps that have been highlighted, particularly at local levels where ICZM delivery is inconsistent.

Further reading

Checkland, P. and Scholes, J. (2000) *Soft systems methodology in action*, John Wiley

Pickaver, A.H., Gilbert, C. and Breton, F. (2005) An indicator set to measure the progress in the implementation of integrated coastal zone management in Europe, *Ocean and Coastal Management*, 47, 449 – 462.

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