The COREPOINT Partners who contributed to the NW European School of Excellence in ICZM were:

- ENVISION
- Sefton Council
- Irish National Environment Research Centre
- Trinity College Dublin
- MAREAS
- Ulster University
- CMRC

Integrated Coastal Zone Management

An Introduction

This presentation was compiled by Dr Martin Le Tissier & Dr Jeremy Hills from Envision Management Ltd, UK as a contribution to the INTERREG III B project Coastal Research and Policy Integration (COREPOINT).

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This presentation provides an introduction to integrated coastal zone management (ICZM) and a context for its need and application for managers or others who are involved in the process of implementing policy and management in a coastal setting. The focus is on the European dimension and how this can contribute to changes in practices and provide added value to existing management processes.
It is not often apparent that there is a “problem” with existing forms of management and decision making relating to coastal zones in Europe. And where there may be obvious problems – such as erosion – it appears that existing strategies are able to cope both with making decisions to mitigate the problem. However, predictions of future scenarios – whether related to climate change, population pressures, or other social and economic factors – suggest that pressures on the coast are likely to exceed the capacity for existing management structures to be able to respond in a manner to safeguard social, economic or environmental concerns.
Newbiggin's beach was once a holiday destination for thousands, but in the last 20 years or so, the beach has become a shadow of its former self, and has been largely lost to erosion and tides. The response was a £10m project funded by Defra that will saw the beach replenished, and this will allow a much larger area of sand at low tide, for the community and visitors to enjoy, as in the past. Half a million tonnes of sand was pumped onto the existing beach from a dredger anchored in the bay. This was then positioned by bulldozers and ground crew over the course of a summer.

Twenty thousand tonnes of sand a go was pumped on to Newbiggin's beach to restore the once popular golden sandy bay, using the Dutch dredger Oranje that shuttled backwards and forwards between Newbiggin and the official dredging site some 20 miles off the Lincolnshire coast near Skegness, delivering 500,000 tonnes of sand for the new beach being created as part of.

The local council - Wansbeck Council – saw the project as both solving the erosion problem, which had been building up over three decades and was threatening to undermine and destroy the existing defences, and attracting visitors back to the town to boost the local economy.

Trevor Straker, Head of Wansbeck's Environmental Services, said: "When we talked to local people about what they wanted to see the project achieve, they were overwhelmingly in favour of bringing back the beach to Newbiggin. In its heyday Newbiggin was a really popular little resort, and if we can bring back the visitors that should provide a genuine boost to the local economy."

The dredger Oranje made almost 30 trips between Newbiggin and Skegness.
The main reasons for the decline of the beach over the years had been a combination of tidal erosion and subsidence under the bay, thought to be the result of collapsed mine shafts. The project is one of the largest coast protection schemes of its type ever to be undertaken on the north east coast and includes a number of differing elements which, in combination, are aimed to bring significant regeneration benefits to the area.

The main elements of the project included the importation of some 500,000 tonnes of sand to restore the village’s beach, the construction of an offshore breakwater which includes the installation of the UK’s first permanent offshore artwork feature “Couple” by renowned artist Sean Henry, and a series of landscape enhancements along the popular promenade seafront.

The project as will seen later incorporated many elements that can be considered as ICZM –

- **Ecosystem approach – integrity and functioning**
- **Threats caused by climate change**
- **Appropriate & ecologically responsible coastal protection**
- **Sustainable economy and employment**
- **Functioning social and cultural system**
- **Land accessibility**
- **Maintenance or promotion of remote communities**
- **Improved coordination**

Further information can be found at http://www.newbigginreborn.co.uk/
COREPOINT is a project that explored issues of integrated planning, ways to engage and communicate with stakeholders, links between researchers and policy makers, capacity and expertise needs within local authorities, as well as why there are different levels of progress on ICZM in Northwest Europe. These were all issues that were identified as barriers to effective coastal management by the EU demonstration project for ICZM.
In all countries – this example from England – there is a complicated and often competing interest in what goes on on the coast in terms of social, economic and environmental aspects. Not only can there be competing interests between Government departments but often within individual Government departments there are competing interests. There can also be competing interests between Government and other interested parties. This complicated organisational and institutional setting makes management of the coast difficult – which interest should have the final say, for instance. It is not always clear that different departments or interests share the same perspective and/or vision of the future of the coast.

8 Government Departments, at least 13 other bodies (English Nature etc). Need to include other stakeholders – NGOs and civil society – make the picture even more complicated.
The outcome of this overlapping and competing administration for the management of the coast is that jurisdictional instruments that apply to the coast can often compete and contradict each other. This example is also from the UK – the detail is not as important as recognising that there is a lot of overlap between responsible bodies.
ICZM has evolved over a relatively long period of time that has sequentially recognised the limits of man’s ability to control nature to an increasing emphasis on planning to an increased awareness of the limits of ecosystem goods and services.

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<th>Period</th>
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<td>1950-70</td>
<td>• Sectoral &amp; environmental</td>
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<td>• Man against nature</td>
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<td>• Reactive</td>
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<td>1970-1990</td>
<td>• Advancement in EIA</td>
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<td>• Increased ecological awareness</td>
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<td>• Proactive &amp; Reactive</td>
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<td>1990-present</td>
<td>• Focus on sustainable development</td>
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<td>• Increasing public participation</td>
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<td>• Environmental restoration</td>
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<td>Future?</td>
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<td>• Working with nature</td>
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<td>• Coupling governance to management</td>
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The ICZM process seeks to provide a mechanism to link together tools and instruments that are available so that all the various agencies involved can work together in a more coordinated and supporting action addressing coastal issues and problems.

The European Union defines ICZM as “a dynamic, multidisciplinary and iterative process to promote sustainable management of coastal zones. It covers the full cycle of information collection, planning (in its broadest sense), decision making, management and monitoring of implementation. ICZM uses the informed participation and cooperation of all stakeholders to assess the societal goals in a given coastal area, and to take actions towards meeting these objectives. ICZM seeks, over the long-term, to balance environmental, economic, social, cultural and recreational objectives, all within the limits set by natural dynamics. 'Integrated' in ICZM refers to the integration of objectives and also to the integration of the many instruments needed to meet these objectives. It means integration of all relevant policy areas, sectors, and levels of administration. It means integration of the terrestrial and marine components of the target territory, in both time and space.
The most often cited definition of Integrated coastal management emphasises the link between the quality of human life and the environment in which humans live. However, it is important to remember that while humans can be managed, humans have only a limited capacity to manage nature as many recent natural disasters illustrate. Note that there are a variety of acronyms that are used and the one used here does not accredit the coast as being a “zone” and many think that managing coasts is more about managing activities the impact the land-sea interface and should be limited by arbitrarily defined human boundaries.
Natural processes allow coasts to adapt to changing conditions and because they exist within high energy environments provide huge food and other natural resources that humans have exploited throughout history. The organisation and management of human society often exaggerates the problems that arise from competition for resources and space because they favour one group over others. In the example above the coast needs space to move in order to adapt to a changing physical regime. It is possible in such instances to plan for space to allow the natural process to take place and even build in an allowance for uncertainty, but constraints imposed by other interests (in this case conservation designations) prevent such management actions from being implemented.
There is also the puzzle of which solution provides the best answer – this is often difficult within individual sectors and becomes magnified when trying to find holistic answers that cross sectoral divisions.
As the number of humans living at the coast and exploitation of the natural resources has increased there is now competition for space and resources that has often led to unsustainable practices. Planning for short term gain or to deal with problems as they arise has meant that there has been a very reactive and defensive approach to coastal management. Although science can predict likely future changes and scenarios, this is not well communicated and/or the uncertainty associated with prediction becomes a barrier to action.
The work of Corepoint is linked to the outcomes of the EU demonstration programme on integrated management in coastal zones that sought to identify how the European Union should approach the management of its coastal zones. It had a very scientific approach and largely followed a cycle of trying to understand the functioning of the coastal system – biological, chemical, physical, human – and then seeing how better knowledge changed understanding of how the system worked.

Many of Europe’s coastal areas are suffering deterioration of their environmental, socio-economic, historical and cultural resources. In a study conducted in 19994, the European Commission suggested that intensive use of the coastal zone, whilst profitable in the short term, could undermine its long term potential and ‘resilience’.

Since 1996, the European Commission has been working to identify and promote measures to remedy this deterioration and to improve the overall situation in coastal zones. In 1996, the Commission initiated a number of ICZM Demonstration Programmes5, which were based on 6 thematic studies around 35 local and regional projects. These projects, which ran until 1999, were designed to highlight the problems and issues which affected coastal areas and to identify any possible measures to halt further deterioration of Europe’s coastal zones.

In 2002, the European Community recognised the need for an improved approach in this area, and adopted a Recommendation1 concerning the implementation of Integrated Coastal Zone Management (ICZM).
The outputs from the demonstration programme emphasised the need for a strategic approach to address the threats from the natural system is driven out of balance and opportunities presented by a naturally functioning coastal system.

The Demonstration Programmes illustrated that in complex areas with multiple users such as coastal zones, uncoordinated policies could conflict or work at cross-purposes.

The EU Recommendation highlighted the environmental, economic, social and cultural importance and summarised its overall vision for managing Europe’s coastal zones more sustainably and responsibly. It also suggested that in order to halt the degradation identified by the Demonstration programmes and research undertaken by the European Environment Agency 7, the coastal zone had to be managed through concerted action at all levels, i.e. local and regional level decisions had to be guided by an appropriate national framework or context.
The UK has completed a stocktaking exercise that has illustrated the piecemeal approach towards coastal management that exists through current legislation and other mechanisms that govern society’s interaction with the coastal environment, and highlighted the complex challenges that are to be faced to address this.

In 2002 the UK Government and Devolved Administrations made a joint commitment to adopting an integrated approach to coastal management, through our first marine stewardship report. The report stated that: “the coastline of the United Kingdom is one of the most diverse in Europe. We must balance the conservation of this vital resource with the economic and social activities that take place there, and; we are encouraging local partnerships to deliver local solutions and develop opportunities within the Government’s framework of national policies. Integrated coastal management is central to achieving this.”
The EU Recommendation set out 8 key principles of ICZM to ensure good coastal management. These principles took account of the good examples identified in the demonstration programmes, and, broadly interpreted, suggested that coastal management should be based on:

1. The objective of a holistic approach is to forego piecemeal management and decision making in favour of a more strategic approach which looks at the ‘bigger picture’, including cumulative causes and effects. This means considering the conservation value of natural systems alongside the human activities which take place on land and coastal waters. Taking a holistic approach will also involve looking at the problems and issues on the coast in the widest possible context, including looking at the marine and terrestrial components of the coastal zone and considering how different issues conflict or interact together.

2. Taking a long term perspective Successful coastal management must consider the needs of present and future generations. Therefore, administrative structures and policies required to manage the environmental, social and economic impacts now, must also be adaptable to take account of, and acknowledge uncertainties in the future.

3. Coastlines are subject to constant physical and economic changes over the years, and management of such a dynamic environment requires measures which are able to adapt and evolve accordingly. Successful management should reflect this principle by working towards solutions which can be monitored effectively.

4. Coastal management measures for each stretch of coast must reflect and accommodate the many variations in the topography, biodiversity and local decision-making structures. Integrated management should therefore be rooted in a thorough understanding of the specific characteristics of an area i.e. its local specificity.
5. Working with natural processes The natural processes of coastal systems are continual, so it becomes necessary in some instances to adopt a different approach which works with natural processes rather than against them. By recognising the physical impacts and the limits imposed by natural processes, decisions regarding the human impact on the coastal zone are made in a more responsible manner and are more likely to respond to environmental change.

6. In the past stakeholders may not have had sufficient opportunity to contribute towards the development and implementation of coastal management measures or programmes. Participatory planning incorporates the views of all of the relevant stakeholders (including maritime interests, recreational users, and fishing communities) into the planning process. It can also help to promote a real sense of shared responsibility and coastal stewardship by reducing conflict as real issues, information and activities which affect the coast can be aired more openly.

7. Administrative policies, programmes and plans (land use spatial, energy, tourism and regional development for example) set the context for the management of coastal areas and their natural and historical resources. Addressing the problems faced by England’s coastal zones will therefore require the support and involvement of all relevant administrative bodies at all levels of government to ensure cooperation, coordination and that commons goals are achieved. It is therefore essential to engage key bodies from the start so that decisions are consistent and firmly based on local circumstances.

8. Managing the different activities which take place on the coast requires the use of a number of different policies, laws and voluntary agreements. While each of these approaches is important, achieving the right combination is key to resolving conflicts, as these instruments should work together to achieve coherent objectives for the planning and sustainable management of coastal areas.
The structure of the school is not to teach or provide knowledge, but to illustrate why current approaches to coastal management might not be sufficient in the future to address future challenges that will be facing the social, economic and environment characteristics of the coast.

Firstly, and as an icebreaker, the school looks at how and why different individuals understand aspects relating to the coast differently – the Jigsaw Exercise.

Secondly, it looks at an example from a local authority where adoption of an approach that complies with concepts of ICZM have influenced management practices at a local scale.

Thirdly, case studies that illustrate each of the 8 ICZM principles outlined in the EU ICZM Recommendation are provided, and, lastly, a consideration of the relationship and juxtaposition of local scale management activity and approaches scale up to national to regional approaches is considered.