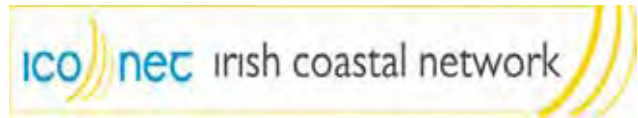


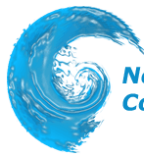
Northern Ireland
Coastal and Marine Forum



I-CoNet / NICMF Conference

Planning Challenges and Opportunities for Ireland's Coast
City Hotel, Derry - 10th / 11th April 2008

Jointly organised by the



Northern Ireland
Coastal and Marine Forum

Coastal & Marine Resources Centre
Ionad Acmhainní Cósta is Mara



supported by



Department of the
Environment
www.doeni.gov.uk

and



European platform for sharing
knowledge and experience in coastal
science, policy and practice

Background

Northern Ireland Coastal and Marine Forum (NICMF)

The Forum (CMF) is an independent, non-statutory body made up of a cross-section of interests ranging from local government, business, agriculture, community development, fishing and environmental bodies. The Forum aims to provide meaningful stakeholder input into strategic policies affecting the coastal area, as well as raising awareness on Integrated Coastal Zone Management. In addition, it does and will continue to provide expert advice, co-ordinate research, and provides support towards the achievement of the Northern Ireland Strategy objectives. The Forum is also responsible for monitoring government's progress in implementing the Northern Ireland Strategy and reporting against the Strategy's targets and objectives. Further details about the Northern Ireland Coastal and Marine Forum are available at <http://www.coastalmarineni.com>.

NICMF Membership

Prof. Andrew Cooper (Chair)	Centre for Coastal and Marine Research, University of Ulster
Valerie Cummins	CMRC, University College Cork
Caroline Nolan	Strangford Lough Management Advisory Committee
Helen Noble	Causeway Coast and Glens Heritage Trust
Cllr William Burns	Mourne Heritage Trust
David Knott	Belfast Harbour Commissioners
Alan McCulla	Anglo North Irish Fish Producers Organisation
Dick James	Northern Ireland Fish Producers Organisation Ltd.
Joanne Gaffney	Cross Border Aquaculture Initiative Team
Peter Archdale	The Loughs Agency
Dr. Tony McNally	The Loughs Agency
Phil Davidson	The National Trust
Gordon Best	Quarry Products Association
Claire Donnelly	Northern Ireland Tourist Industry Confederation
John Anderson	Council for Nature Conservation and the Countryside
Jonathan Buick	Action Renewables
Ken Bradley	Planning and Natural Resources Division, DOE
Liam Flanigan	Northern Ireland Local Government Association
Maeve Bell	Royal Yachting Association
Kathryn Callaghan	Countryside Access and Activities Network
Campbell Tweed	Ulster Farmer's Union
Melanie Gomes	Northern Ireland Marine Task Force

Irish Coastal Network (ICoNet)

ICoNet aims to promote good practice in coastal management by bringing together coastal practitioners, policy makers, researchers, and the general public with an interest in the sustainable development of Ireland's coast. Through the organisation of annual conferences and other dissemination activities, ICoNet offers participants the opportunity to: communicate and publicise information of interest to other coastal and marine stakeholders; and, access coastal practice expertise within Ireland and across the EU. ICoNet is Ireland's national coastal network as part of ENCORA – the European Coastal Network; further details are available from <http://iconet.ucc.ie> and <http://www.encora.eu> respectively.

ICoNet Committee

Valerie Cummins	CMRC, University College Cork
Brendan Dollard	Enterprise Ireland
Jeremy Gault	CMRC, University College Cork
Dave Jackson	Marine Institute
Cathal O'Mahony	CMRC, University College Cork
Beatrice Kelly	Heritage Council
Bruce McCormack	Department of Environment, Heritage and Local Government
Dick McKeever	Department of Agriculture, Fisheries and Food
John McKenna	Centre for Coastal and Marine Research, University of Ulster
Oisín Naughton	Marine Institute
Eugene Nixon	Marine Institute
Dave O'Donoghue	Department of Agriculture, Fisheries and Food
Anne Marie O'Hagan	CMRC, University College Cork
Allen Williams	Department of Agriculture, Fisheries and Food

I-CoNet / NICMF Conference

The Irish Coastal Network and the Northern Ireland Coastal and Marine Forum were established in 2006; both initiatives share the aim of encouraging greater engagement between coastal stakeholders, and providing a platform for dialogue, debate and discussion. Following the inaugural ICoNet conference in Cork, April 2007, it was agreed that the Irish Coastal Network and the Northern Ireland Coastal and Marine Forum would jointly organise an all island coastal conference to be held in Derry during 2008. The ICoNet/NICMF conference provided a mechanism for stakeholders from different sectors to gain a new appreciation of other views of the coast and its resources, and also to see how common problems are approached on both sides of the border.

The diversity of conference presentations provided much food for thought and, even more importantly, stimulated a healthy discussion amongst attendees. The theme of the conference – **Planning Challenges and Opportunities for Ireland's Coast** – is appropriate in the context of current and predicted pressures facing our coastline. The conference focused on a range of topical coastal and marine issues relevant to planning and management, sessions were devoted to: an all-island approach for coastal and marine planning; emerging economic sectors; spatial planning and coastal development; and, the role of seabed data in support of coastal policy.

Conference speakers were drawn from academia and research, industry and statutory agencies. Conference presentations examined aspects of planning from the European through to local scale. Nicole Schaefer of the European Commission's Maritime Policy Task Force provided a comprehensive overview of the *Integrated Maritime Policy for Europe* and the implications for coastal and marine planning in Member States. Prof. Andrew Cooper provided input from a more local perspective; examining the support role that coastal fora and partnerships can provide to statutory coastal management and planning.

Whilst the planning regimes of the Republic and Northern Ireland differ, both jurisdictions face common challenges in addressing coastal planning issues, e.g. competition for space on foreshore and in coastal waters, development pressure within the coastal zone, and impacts of climate change. This conference provided an ideal opportunity to share information on current approaches, highlight good practice, and generate discussion on the challenges and opportunities facing Ireland's coastal resources.

Indeed, the conference demonstrated the benefits of cross-border collaboration, as evidenced by the Joint Irish Bathymetric Survey (JIBS), a sea bed mapping project undertaken by the Marine Institute, Environment and Heritage Service and the Maritime and Coastguard Agency. Joe Breen of the Environment and Heritage Service delivered a presentation showing how JIBS used multi-beam sonar to identify the features of the seabed off the northwest coast of Ireland. Such data sets contribute an improved understanding of our coastal environment and are an important component of coastal and marine planning.

The conference programme comprised analysis of planning from a range of sectoral activities – challenges and opportunities were outlined for: aquaculture; energy; commercial ports; conservation; aggregate extraction; and, archaeology. The importance of having appropriate data at the appropriate scale was a recurrent theme across sectors. Researchers, practitioners and policy-makers need to work within a coherent framework in order to best deliver on meeting information needs and policy obligations. Dr Peter Heffernan of the Marine Institute and Barry McSweeney of the Department of Communication, Energy and Natural Resources made clear reference to the important role of research in coastal and marine planning within their respective presentations.

Andrew Hind of the Irish Planning Institute and Prof. Julian Orford of Queen's University outlined the range of planning and development pressures our coastal resources are now facing, while Charles Green of the Crown Estate provided a clear illustration of the complex interactions that can occur between the range of activities using marine and coastal waters. The concept of marine spatial planning (MSP), and its potential as a framework for planning and regulating activities in our inshore and offshore waters was raised repeatedly over the two days of the conference. The conference is timely in the context of the recently launched *Integrated Maritime Policy for Europe* and forthcoming UK Marine Bill, both of which make explicit reference to marine spatial planning. Such policy and legislative instruments are likely to generate further discussion on the shape and role of marine spatial planning, thus this conference provided an ideal opportunity to discuss how MSP might evolve in Ireland.

It is clear from the conference discussions that all stakeholders have the intention of progressing sustainable development of Ireland's coastal and marine resources, incorporating good practice in planning, meeting the challenges, and being best placed to optimise the opportunities provided by our coastal and marine environment. The salient message from the conference can be summarised as being the continued need to further integrate to better achieve these objectives; integration can apply to data, practices, cross-sectoral cooperation and developing closer links between science, policy and practice. An integrated approach is vital if our finite and valuable coast and seas are to provide the maximum benefit for this and future generations.

The conference organisers wish to acknowledge the generous sponsorship of the Department of the Environment Northern Ireland. The support of the Loughs Agency, the Marine Institute and members of the NICMF and ICoNet is also gratefully acknowledged. Thanks are also due to the speakers, chairs and participants who combined to make the conference a successful event.

Jeremy Gault
Deputy Director
Coastal and Marine Resources Centre
University College Cork

On behalf of the ICoNet Committee

Prof. Andrew Cooper
Director
Centre for Coastal and Marine Research
University of Ulster

On behalf of the NiCMF Committee

Conference Schedule

Day 1 - Thursday, 10th April 2008

09:15 – 10:00 Registration and Coffee/Tea

Welcome - Alderman Drew Thompson, Mayor

Introduction - Prof. Andrew Cooper, Chairman Northern Ireland Coastal and Marine Forum

Session 1: Key Note Speaker(s)

Chair: Jeremy Gault (Coastal and Marine Resources Centre)

Nicole Schaefer – European Commission, Maritime Policy Task Force

The Integrated EU Maritime Policy and Maritime Spatial Planning

Dr. Peter Heffernan – Marine Institute

Atlantic Gateway – Ireland and the European Marine and Maritime Knowledge Economy

Session 2: All Island Approach

Chair: Micheal O'Cinnéide (Marine Institute)

Barry McSweeney – Department of Communications, Energy and Natural Resources

Research funding to support economic maritime sectors

Prof. Andrew Cooper - Northern Ireland Coastal and Marine Forum / UU Coleraine

Coastal and Marine fora as planning tools

Dr Joe Breen - Environment and Heritage Service

Cross border cooperation to mapping the marine environment

Sessions 1 and 2 Questions and Discussion

13:00 – 14:30 Lunch Break

Session 3: Emerging Economic Sectors

Chair: Alan McCulla (The Loughs Agency)

Cormac Gebruers - Transas Group

The Global Maritime Technology Market: Opportunities and Challenges for Ireland Inc.

Dr Michael F Murphy - Aquaculture Initiative

Aquaculture – Economic benefits in Northern Ireland and Border Counties

Maurice Smith - Northern Ireland Electricity

Experiences in sub-sea cabling

Break

Cathal O'Mahony – Coastal and Marine Resources Centre

Marine Aggregates

David Knott - Belfast Harbour Commissioners

Challenges facing the Ports industry

Session 3 Questions and Discussion

17.00 Close Day 1

Conference Schedule - cont

Day 2 - Friday, 11th April 2008

09:00 – 9:30 Registration and Coffee/Tea

Session 4: Spatial Planning - Coastal Development

Chair: Kevin O'Connor (Donegal County Council)

Andrew Hind - Irish Planning Institute

Coastal development patterns

Prof. Julian Orford - School of Geography, Archaeology and Palaeoecology, Queens University Belfast.

A forward look at sea level and climate change: implications for the coast

Dr Geraint Ellis and Heather Ritchie – School of Planning, Architecture and Civil Engineering, Queens University Belfast.

The prospects for Marine Spatial Planning

Session 4 Questions and Discussion

11:00 – 11:30 Break

Session 5: The role of seabed data in support of coastal policy

Chair: Ken Bradley (Department of Environment Northern Ireland)

Koen Verbruggen - Geological Survey of Ireland

INFOMAR Experience

Charles Green -The Crown Estate

Data and Information for marine planning and management

Dr. Wes Forsythe - University of Ulster; Centre for Maritime Archaeology

Maritime Archaeology – old problems and new opportunities

Dr. Matt Service - Agri-Food and Biosciences Institute

Northern Ireland Habitat Mapping Research

Session 5 Questions and Discussion

13:00 Conference Close

Registered Participants

Name	Organisation
Pat Aldridge	Rivers Agency, DARD
Derick Anderson	Loughs Agency, DARD
John Anderson	Northern Ireland Coastal and Marine Forum
Peter Archdale	Northern Ireland Coastal and Marine Forum
Alan Berry	Marcon
Catherine Bertrand	Mourne Heritage Trust
Bob Bleakley	Environment and Heritage Service, DOE
Paddy Boylan	Loughs Agency, DARD
Ken Bradley	Planning and Natural Resources Division, DOE
Rosemary Bradley	Environment and Heritage Service, DOE
Joe Breen	Environment and Heritage Service, DOE
Jonathan Buick	Northern Ireland Coastal and Marine Forum
Gary Burrows	Environment and Heritage Service, DOE
Paddy Campbell	Fisheries Division, DARD
John Clarke	Rivers Agency, DARD
Louise Collins	Aquaculture Initiative
Andrew Cooper	Northern Ireland Coastal and Marine Forum
Helen Cooper	Aquaculture Licence Appeals Board
Walter Crozier	AFBI
Phil Davidson	Northern Ireland Coastal and Marine Forum
Owen Doyle	Bord Iascaigh Mhara
Garth Earls	Geological Survey of Northern Ireland
Geraint Ellis	School of Planning, QUB
Paula English	Maritime and Coastguard Agency
David Erwin	Causeway Coast and Glens Heritage Trust
Jennifer Firth	Environment and Heritage Service, DOE
Liam Flanagan	Northern Ireland Coastal and Marine Forum
Wes Forsythe	Centre for Maritime Archaeology, UU Coleraine
Barry Fox	Loughs Agency
Thomas Furey	Marine Institute
Joanne Gaffney	Northern Ireland Coastal and Marine Forum
Jeremy Gault	Coastal and Marine Resources Centre
Cormac Gebruers	Transas Group
Richard Gillen	Limavady Borough Council
Melanie Gomes	Northern Ireland Coastal and Marine Forum
Charles Green	The Crown Estate
Iain Greenway	Ordnance Survey of Northern Ireland, DCAL
Alan Hamilton	Planning and Natural Resources Division, DOE
Peter Heffernan	Marine Institute
Andrew Hind	Irish Planning Institute
Jessica Hodgson	Donegal County Council
Ian Humes	Fisheries Division, DARD
Claire Hyland	Environment and Heritage Service, DOE
David Knott	Northern Ireland Coastal and Marine Forum
Bob Kennedy	NUIG - Martin Ryan Institute
Tim Mackie	Environment and Heritage Service, DOE
Jim Martin	Rivers Agency, DARD
Edward Mayhew	Marine Policy Officer, RSPB
Maria McCarron	Marine Institute
Mark McCaughan	Fisheries Division, DARD
Cormac McConaghy	Ordnance Survey of Northern Ireland, DCAL

Name	Organisation
Alan McCulla	The Loughs Agency
David McCullough	Ports and Public Transport Division, DRD
Daniel McDonald	Bord Iascaigh Mhara
Niall McDonough	Marine Institute
Ciaran McGonigle	Loughs Agency, DARD
Fergal McGrath	Marine Institute
Gary McKenna	Ports and Public Transport Division, DRD
Joe McKenna	Venture Advancement
John McKenna	Centre for Coastal and Marine Research, UU Coleraine
Liam McKibben	Fisheries Division, DARD
Suzanne McLaughlin	Ordnance Survey of Northern Ireland, DCAL
Jonathan McNee	Planning Service, DOE
Barry McSweeney	Department of Communications, Energy and Natural Resources
Jimmy McVeigh	An Taisce
Glenn Moorcroft	Environment and Heritage Service, DOE
Paul Moore	Fisheries Division, DARD
Enda Murphy	Scott Wilson
Michael Murphy	Aquaculture Initiative
Eugene Nixon	Marine Institute
Mark Norman	Taighde Mara Teo
Carol O'Boyle	Planning and Environmental Policy Group, DOE
Michael O'Cinneide	Marine Institute
Kevin O'Connor	Donegal County Council
Marianne O'Connor	Centre for Coastal and Marine Research, UU Coleraine
Cathal O' Mahony	Coastal and Marine Resources Centre
Julian Orford	School of Geography, QUB
David Parker	UK Hydrographic Office
Kenny Parker	Fisheries Division, DARD
Howard Platt	Environment and Heritage Service, DOE
Derek Reay	Geological Survey of Northern Ireland
Alan Reddick	Rivers Agency, DARD
Heather Ritchie	School of Planning, QUB
Marion Reuter	Wicklow Business Alliance
Sheila Rodgers	Planning and Natural Resources Division, DOE
Nick Rogers	North Down Borough Council
Nicole Schaefer	European Commission - DG Mare
Matt Service	AFBI
Graham Seymour	Environment and Heritage Service, DOE
Yvonne Shields	Marine Institute
Maggie Smith	Director of Planning and Natural Resources Division, DOE
Maurice Smith	Northern Ireland Electricity
Jennifer Smyth	Tidy Northern Ireland
Diane Stevenson	Environment and Heritage Service, DOE
Koenraad Verbruggen	Geological Survey of Ireland
Claire Vincent	Environment and Heritage Service, DOE
Terry Waugh	Action Renewables
Allen Williams	Department of Agriculture, Food and Fisheries
Brian Williams	Environment and Heritage Service, DOE
Trevor Wright	Port of Larne

Appendix – ICoNet / NICMF Conference Presentations (April 2008)

Nicole Schaefer – European Commission, Maritime Policy Task Force
The Integrated EU Maritime Policy and Maritime Spatial Planning

Dr. Peter Heffernan – Marine Institute
Atlantic Gateway – Ireland and the European Marine and Maritime Knowledge Economy

Barry McSweeney – Department of Communications, Energy and Natural Resources
Research funding to support economic maritime sectors

Prof. Andrew Cooper - Northern Ireland Coastal and Marine Forum / UU Coleraine
Coastal and Marine fora as planning tools

Dr Joe Breen - Environment and Heritage Service
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Experiences in sub-sea cabling

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David Knott - Belfast Harbour Commissioners
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A forward look at sea level and climate change: implications for the coast

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The prospects for Marine Spatial Planning

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INFOMAR Experience

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Data and Information for marine planning and management

Dr. Wes Forsythe - University of Ulster; Centre for Maritime Archaeology
Maritime Archaeology – old problems and new opportunities

Dr. Matt Service - Agri-Food and Biosciences Institute
Northern Ireland Habitat Mapping Research

An Integrated Maritime Policy for the European Union
A sustainable future for the oceans and seas

The Integrated EU Maritime Policy and Maritime Spatial Planning

Nicole Schäfer European Commission DG MARE
Northern Ireland Coastal and Marine Forum, 10 April 2008, Londonderry

An Integrated Maritime Policy for the European Union
A sustainable future for the oceans and seas

Adopted in October 2007

- Vision – The “Blue Book”
- Action Plan
- Commission Staff Working Papers
 - Consultation report
 - Maritime Policy and Energy
 - Employment of Seafarers
 - Motorways of the Sea
 - Maritime Clusters
 - Agenda for sustainable and competitive tourism
- Action Plan

<http://ec.europa.eu/maritimeaffairs>

An Integrated Maritime Policy for the European Union
A sustainable future for the oceans and seas

Why an Integrated EU Maritime Policy ?

In its strategic objectives for 2005-2009 the Commission declared

“the particular need for an all-embracing maritime policy aimed at developing a thriving maritime economy, in an environmentally sustainable manner. Such a policy should be supported by excellence in marine scientific research, technology and innovation”

<http://ec.europa.eu/maritimeaffairs>

An Integrated Maritime Policy for the European Union
A sustainable future for the oceans and seas

The “Blue Book”

- Invite Member States to draw up national integrated maritime policies
- Act as **facilitator** and help Member States to set up networks for the **exchange of knowledge and experiences**
- Propose in **2008** a set of **guidelines** for these national integrated maritime policies and develop a **road map** for maritime spatial planning
- Organise a **stakeholder consultation** structure

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Examples of EU Policies with a maritime dimension

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The Action Plan

- Covers different issues and activities:
 - ✓ Maritime Governance
 - ✓ Tools for integrated policy
 - ✓ Maximising the sustainable use of the oceans and seas
 - ✓ Building a knowledge and information base for the maritime policy
 - ✓ Delivering the highest quality of life in coastal regions
 - ✓ Promoting Europe's leadership in international maritime affairs
 - ✓ Raising the visibility of maritime Europe

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An Integrated Maritime Policy for the European Union
A sustainable future for the oceans and seas

The Action Plan

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<http://ec.europa.eu/maritimeaffairs>

COMPETING CLAIMS Maritime Policy

- Land use
- Tourism
- Oil & Gas
- Mariculture
- Coastal Defence
- Ports & Navigation
- Military Activities
- Culture
- Conservation
- Dredging & Disposal
- Submarine Cables
- Fishing
- Renewable Energy
- Marine Recreation
- Mineral Extraction

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Definition of Maritime Spatial Planning

The process of analyzing and allocating parts of three-dimensional marine spaces (ecosystems) to specific uses, to achieve ecological, economic, and social objectives that are usually specified through a political process.

(by IOC, UNESCO)

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Consultation Report – maritime spatial planning

Guidelines and Good Practice

Sweden "a lack of fora within the EU".

Denmark "facilitate best practice" and "guidance for coordination of data collection" and a "one-stop shop for preparation of permission for large-scale projects at sea".

Greece "EU guidelines ensuring the harmonized implementation of MSP between EU Member States" and "promotion of experience, exchange and best practice among EU Member States".

Netherlands "the exchange of best practices primarily at regional level".

Spain "a European framework of guidelines for the regulation of marine areas".

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Current Situation – Use without planning

WIND INFRASTRUCTURE Vessel Traffic Routes Vessel Traffic Separation Zone & Precautionary Zone Areas To Be Avoided (by vessels) Particularly Sensitive Sea Areas (PSSAs) Safety Zones Around Vessels and Terminals Anchoring & No-Anchoring Areas Security Zones in Ports and Waterways	OFFSHORE ENERGY Oil & Gas Lease or Concession Area Wind Farm and Wave Park Lease or Concession Area Safety Zones Around Oil & Gas Installations, Wind Farms, Wave Parks
MILITARY OPERATIONS Military Operations or Exercise Zones	RENEWABLES & OIL/GAS Oil & Gas Pipelines Rights of Way Submarine Communications Cable Rights of Way Energy Transmission Line Rights of Way WIND FARM Sand & Gravel (Aggregate) Extraction Areas FISHERIES Fishery Closure Areas, including seasonal closures No Trawl Areas Critical Habitat Designations OFFSHORE AQUACULTURE Offshore Aquaculture Areas MARINE PROTECTED AREAS Marine Sanctuaries, Reserves, Parks Protected Archaeological Areas, e.g. Ship Wrecks Cultural or Religious Areas

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Consultation Report – maritime spatial planning

Coordination with Neighbours

Finland "cross-border cooperation in order to achieve common goals".


Netherlands "larger, cross-border projects (pipelines, wind farms) often call for common criteria and/or planning measures".

Belgium "different spatial plans have to be integrated with the plans of neighbouring countries".

Greece "cooperation of EU Member States - particularly those sharing the same maritime area".


Sweden "There is a need for increased cooperation between the Member States, especially around the same regional waters".

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Example – The Netherlands

- Integrated Management Plan North Sea 2015
- 3 themes: healthy, safe and profitable sea
- Co-production of 4 Ministries
- Stakeholder participation during the process
- Decision by council of Ministers and approved by Parliament




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Example – UK

- Pilot project Irish Sea and preparation Marine Bill
- Simulated regional plan
- Practical issues being examined:
 - Information and data availability / quality
 - Boundary and scale of the plan
 - Managing the land-sea interface
 - how to ensure that all sectors are involved
 - time horizon of the plan



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Example – Norway

- Integrated Management of the Marine Environment of the Barents Sea - Lofoten
- Particularly valuable and vulnerable areas that require special attention
- Plan establishes a framework for petroleum activity in the area until 2010 – revision of the plan by then
- In practice this means that oil and gas exploitation is temporarily halted in particularly sensitive areas outside the fisheries-rich Lofoten islands
- But: enough areas have been opened, however, to absorb the industry's capacity for exploration




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Example – Shetland Islands

- Overarching policy framework
- Brings together authoritative spatial data on the marine and coastal environment and its various uses
- Guide the placement of activity from offshore renewable energy to aquaculture
- Plan links to many other Shetland Island's Council strategies and plans




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Example – Germany

- Extension of the German Regional Planning Act to the EEZ in 2004
- Spatial Plans for the German EEZ North Sea and Baltic Sea
- Plans cover the maritime uses: maritime transport and shipping routes, platforms, pipelines and cables, offshore wind farms, sediment extraction, dumping grounds, military practice areas, aquaculture and natural conservation
- Expected Consultation Period: Summer 2008



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 An Integrated Maritime Policy for the European Union
A sustainable future for the oceans and seas

Next Steps

- Continuation of stakeholder consultation – exchange of knowledge and best practice
- Study on legal aspects of data and surveillance as well as maritime spatial planning
- Development of road map to facilitate and encourage the further development of maritime spatial planning in 2008
- Examination of the needs and different options, including for zoning, in 2008



<http://ec.europa.eu/maritimeaffairs>





Planning Challenges & Opportunities for Ireland's Coasts

Atlantic Gateway – Ireland & the European Marine & Maritime Knowledge Economy

April 10th 2008

Dr Peter Heffernan
Marine Institute CEO

Northern Ireland Coastal and Marine Forum




EU Maritime Policy



an all-embracing maritime policy aimed at developing a dynamic maritime economy in harmony with the marine environment, supported by sound marine scientific research and technology, which allows human beings to continue to reap the rich harvest from the ocean in a sustainable manner.

Joe Borg, EU Commissioner, January 2005.




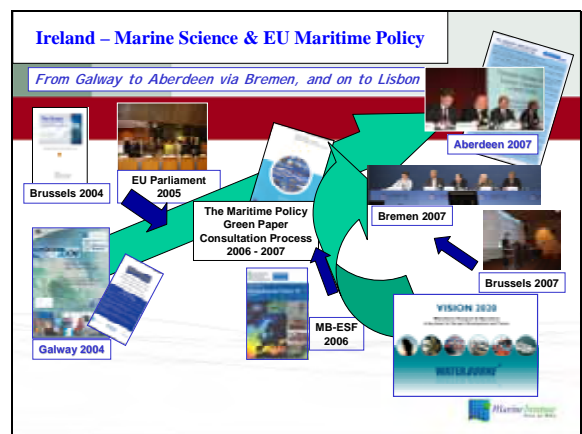
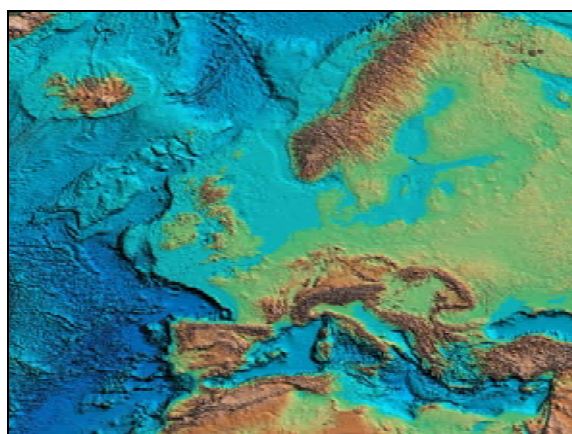


THE GLOBAL MARITIME ECONOMY

The global market for maritime industries (2005 – 2009) is estimated to be circa: €4,363 billion.

- Services (e.g. shipping) 56%
- Natural Resources 30%
- Manufacturing 12%
- Education & Research 1%

Marine Institute, Marine Foresight Series Report No. 1 (2005)

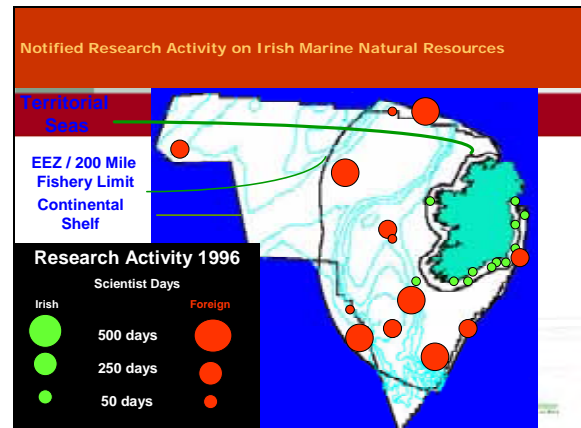


Aberdeen Declaration

EuroOCEAN 2007

Calls for **urgent** action by the European Commission and the Member States, in partnership with the appropriate stakeholders, to:

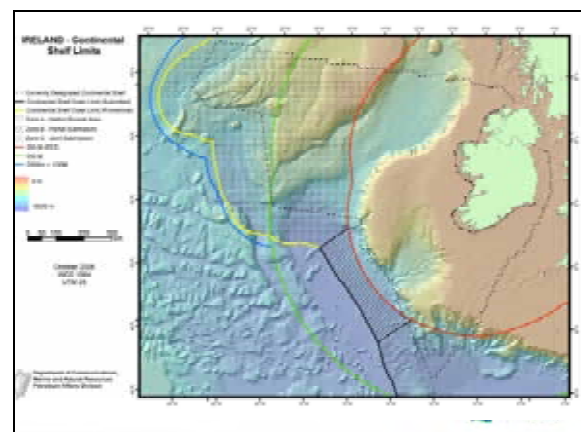
- initiate in 2008 a comprehensive and integrated European Marine and Maritime Science, Research, Technology and Innovation Strategy;
- establish an adequately resourced and sustained process to oversee the implementation and delivery of this Strategy within an holistic European Maritime Policy;
- initiate and support the necessary funding mechanisms, specialised infrastructures, data collection and information management, and capacity building essential to manage our on-going relationship with the oceans and seas.




Aberdeen Declaration

EuroOCEAN 2007

- These actions are justified in terms of delivering **significant added value** in:
- Economic Development
- Environmental Management
- Ocean and Coastal Governance




From Aberdeen (2007) to Marseille (2008)

EuroOCEAN Conference 2007 / Aberdeen Declaration (June 2007)

- A European Marine Science Community response and endorsement of the European Maritime Policy

BioMarine 2008 www.biomarine.org
(Marseille 20th – 24th October)
An opportunity to review progress on the implementation of the European Maritime Policy and Action Plan

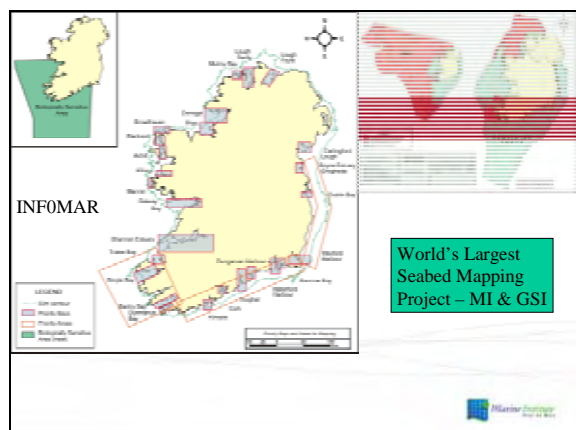
Irish marine CEO welcomes BioMarine 2008

BioMarine 2008 is an Official Event of the 2008 European Union French Presidency



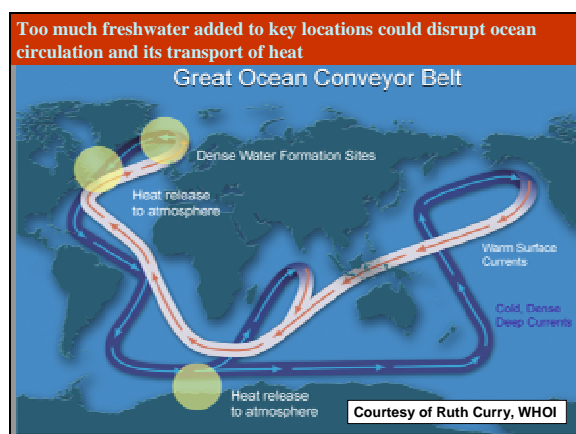
A Thriving Maritime Economy In Harmony with the Ecosystem & Supported by the Delivery of Excellence in our Services





Excellent Year One Performance

- €350m+ Plan (2007-2013)
- ca. €65M committed in 2007
- All Programmes up & running
- Unique Strategy in EU
- Exemplary Cross -Government Initiative

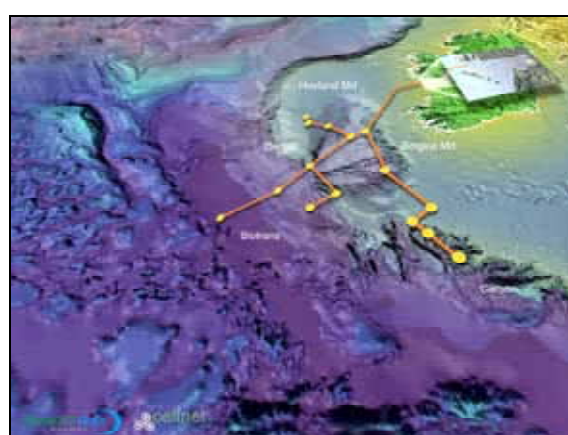


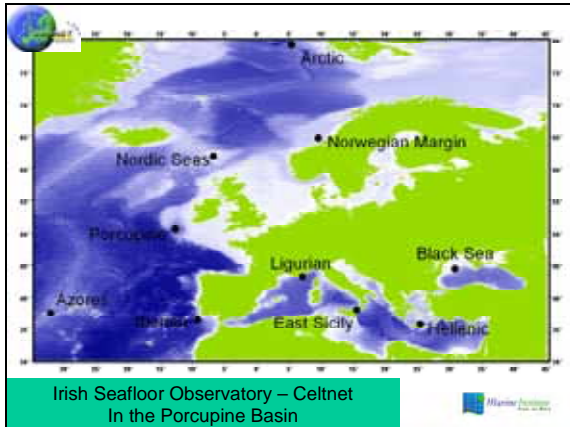
A Marine Knowledge Research & Innovation Strategy for Ireland 2007-2013

INDUSTRY	DISCOVERY	POLICY SUPPORT
<ul style="list-style-type: none"> Shipping & Maritime Transport Seafood Processing Finfish Aquaculture Shellfish Aquaculture Fisheries Resources Seaweed Offshore Oil & Gas 	<ul style="list-style-type: none"> Marine Biotechnology Marine Technology Marine Functional Foods Renewable Ocean Energy Rapid Climate Change 	<ul style="list-style-type: none"> Marine Environment Research Knowledge & Information Management Socio-Economic & Legal Research

MARINE INNOVATION SUPPORTING PROGRAMME

MARINE RESEARCH INFRASTRUCTURE PROGRAMME





Atlantic Gateway – Ireland & the European Marine & Maritime Knowledge Economy

- Strategic Geographic Location
- Science Policy Development & Influencing Strengths
- National & EU Strategies well aligned
- Significant National Capacity & Momentum
- 'The Right Place at the Right Time...'



Coastal and Marine Fora as Planning Tools

Andrew Cooper
Northern Ireland Coastal and Marine Forum
&
Centre for Coastal and Marine Research
University of Ulster

Financial benefits of ICZM

	Biomes	Industry	Tourism	TOTAL
Northern Ireland	€ 4.6 M	€ 35.7 M	€ 5.9 M	€ 46.2 M
Republic of Ireland	€ 25.6 M	€ 32.9 M	€ 6.8 M	€ 65.3 M

Source: An Assessment of the Socio-Economic costs and Benefits of Integrated Coastal Zone Management. FCR, 2000.

Integrated Coastal Zone Management



RECOMMENDATION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL

of 30 May 2002

Concerning the implementation of
Integrated Coastal Zone Management in
Europe

(2002/413/EC)



What is integration?

"difficult to define but you know it
when you see it"

How to impose a duty upon government
departments and local government to
integrate their activities



8 Key Principles for ICZM

1. Broad overall perspective
2. Long-term perspective
3. Adaptive management
4. Local specificity
5. Working with natural processes
6. Involving all parties concerned
7. Involvement of relevant administrative bodies
8. Use of combination of instruments

ICZM

"a dynamic, multi-disciplinary and iterative process to promote sustainable management of coastal zones."

"...uses the informed participation and co-operation of all stakeholders to assess the societal goals in a given coastal area."

EU ICZM (COM/00/547)

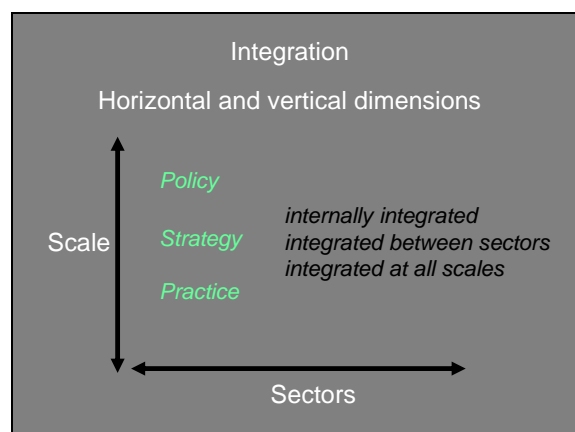


How Integrated Coastal Zone

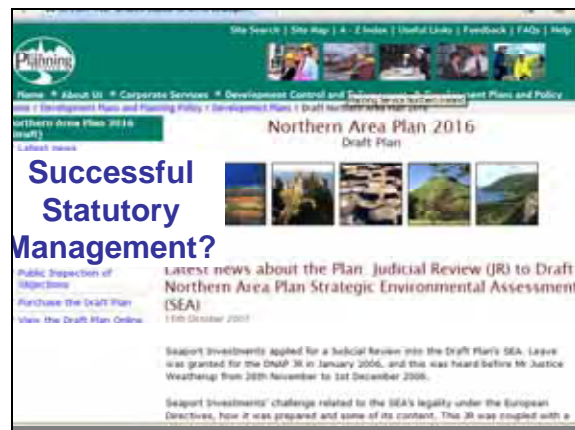
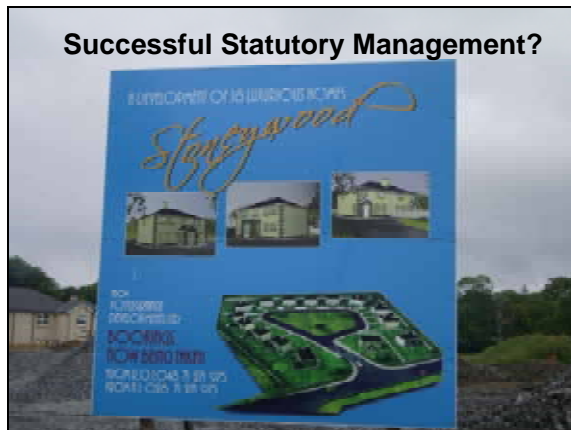
Statutory Approach

Sectoral with integrating mechanism

Integrated legislation

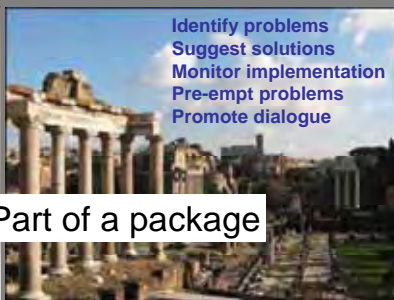


Successful Statutory Management?



A Coastal Forum

Role: to support statutory management



Identify problems
Suggest solutions
Monitor implementation
Pre-empt problems
Promote dialogue

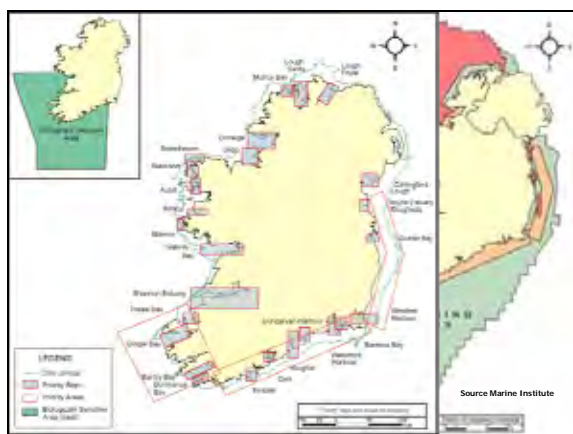
Part of a package



What will JIBS achieve

- Comprehensive coverage of sea bed from Tory Island to Torr Head
- Surveys to be conducted to IHO 'Order 1'
- MCA contractors & Marine Institute project managed by EHS
- Survey area ground truthed to produce seabed texture charts
- Data to be provided via WWW
- Dissemination of results to interested partners
- To foster closer co-operation between UK & RoI
- To provide data to UK Hydrographic Office to enable update nautical charts for both UK and RoI to improve safety for mariners

Logos: European Union, INTERREG IIA, MCA, Marine Institute



Project Plan

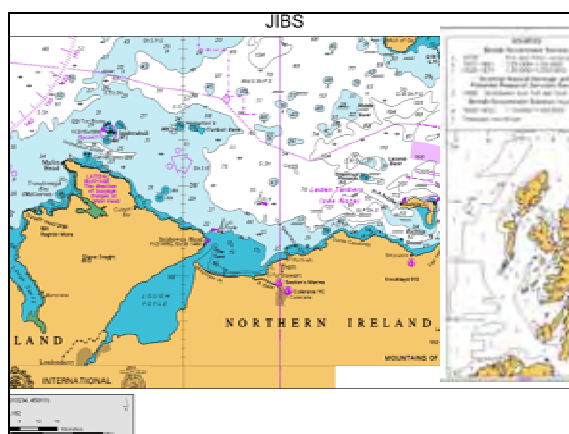
- WP1, Identification of priority areas
- WP2, Scoping of survey
- WP3, Survey
- WP4, Data Interpretation
- WP5, Results delivery
- WP6, Publicity
- WP7, Project Management

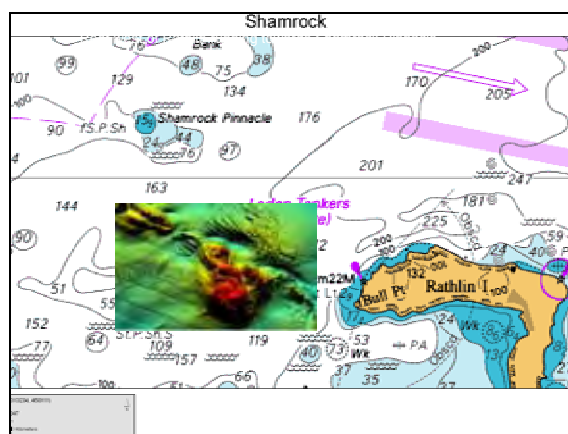
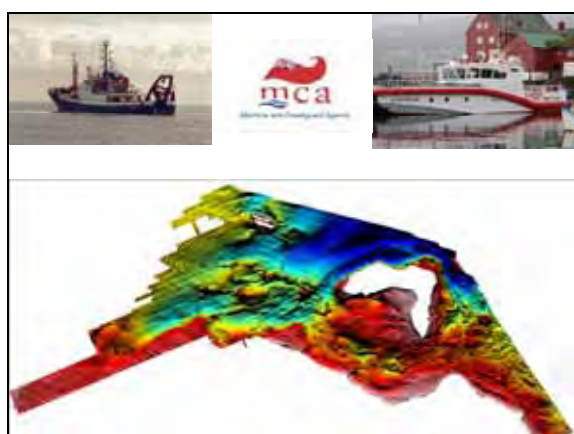
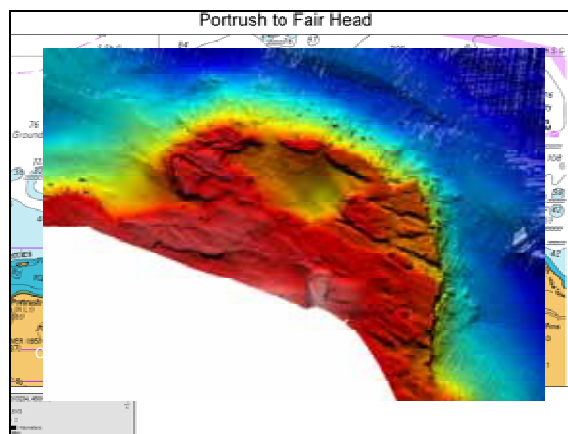
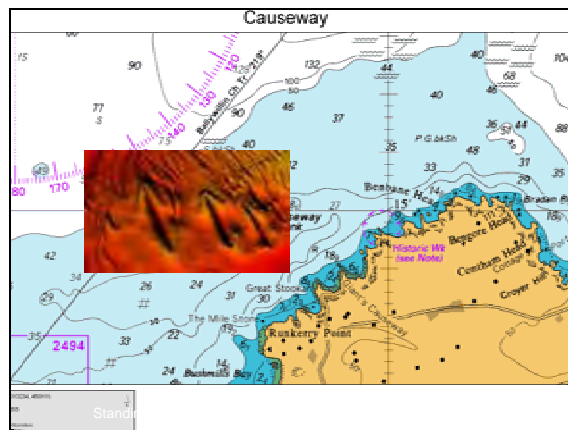
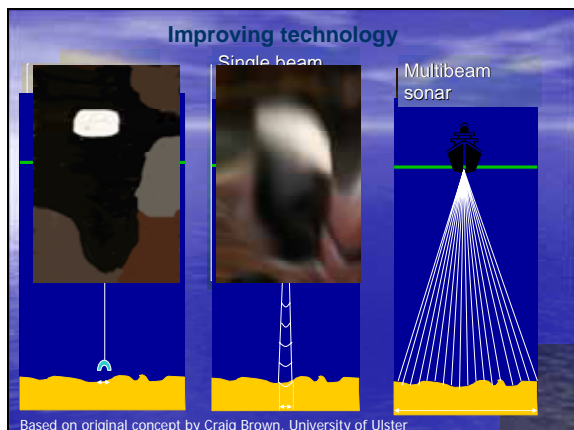
Plugging the Gap

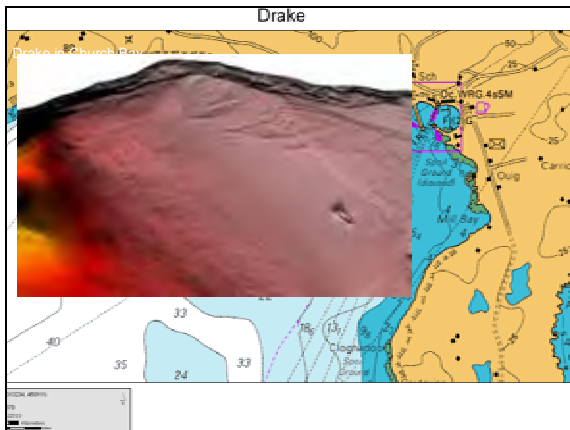
- The Belfast Meeting Feb 2006
- Interreg IIIA Under spend
- MCA made a phone call
- Marine Institute partners MCA
- JIBS approved Sep 2006, € 2.13m
- Commenced April 2007
- Completion June 2008

Source Marine Institute

Logos: European Union, INTERREG IIA, MCA, Marine Institute

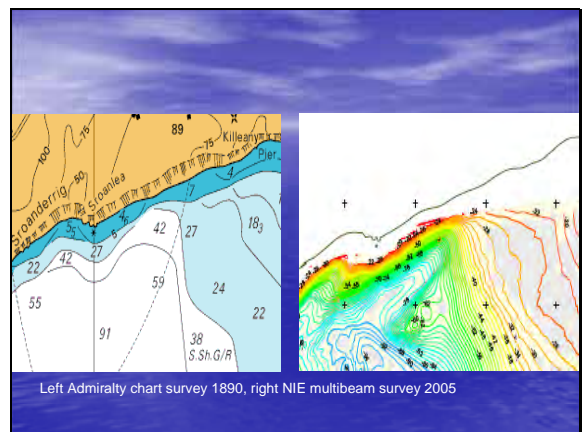
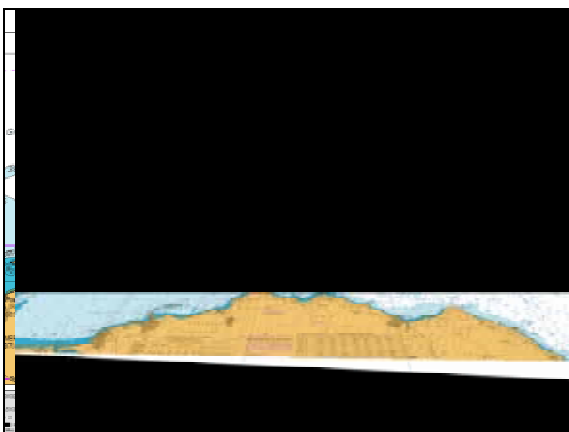
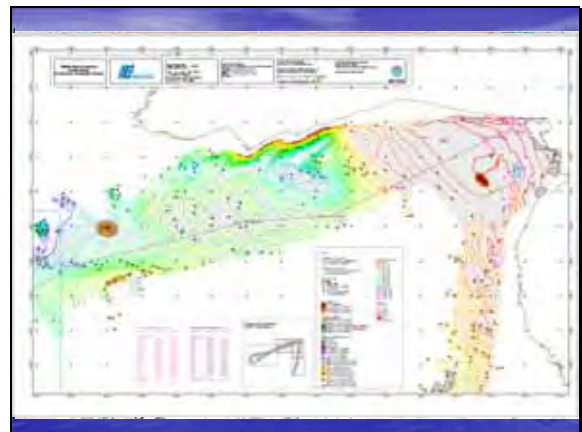
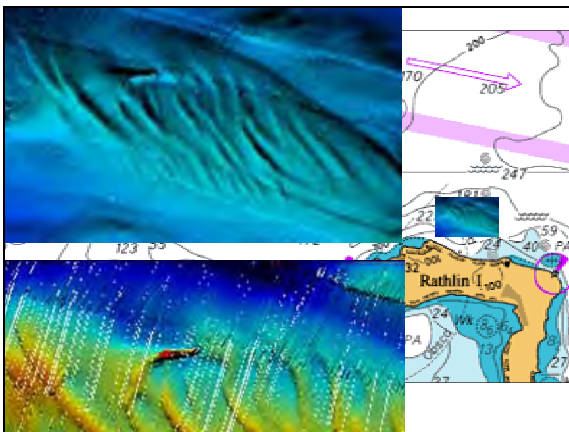






JIBS Deliverables

- 100% coverage of sea-bed, Tory to Torr
- 100% acoustic backscatter
- Derived marine geology
- Currents, tides, temp and salinity data
- Identification of benthic habitats
- Identification of shipwrecks



TRANSLAS
LETS THE STANDARD

The Global Maritime Technology Market:
Opportunities & Challenges for Ireland Inc.

Cormac Gebruers, Business Development Manager, Transas

TRANSLAS
LETS THE STANDARD

The Global Maritime Technology Market:
Opportunities & Challenges for Ireland Inc.

EMERGING ECONOMIC SECTORS

TRANSLAS
LETS THE STANDARD

The Global Maritime Technology Market:
Opportunities & Challenges for Ireland Inc.

CONTEXT

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The Global Maritime Technology Market:
Opportunities & Challenges for Ireland Inc.

CHALLENGES

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LETS THE STANDARD

The Global Maritime Technology Market:
Opportunities & Challenges for Ireland Inc.

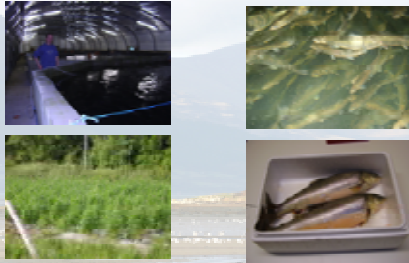
THE MARKET

TRANSLAS
LETS THE STANDARD

The Global Maritime Technology Market:
Opportunities & Challenges for Ireland Inc.

THANK YOU

Char



Shellfish

Mussels

- Suspended culture – mussel lines usually suspended by barrels
- Bottom culture – mussel seed relayed on bottom

Oysters

- Trestles holding bags with juvenile oysters

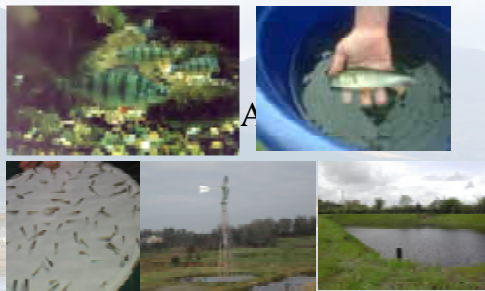
Scallop

- Suspended culture – lantern systems
- Bottom Culture – juveniles reared on bottom substrate

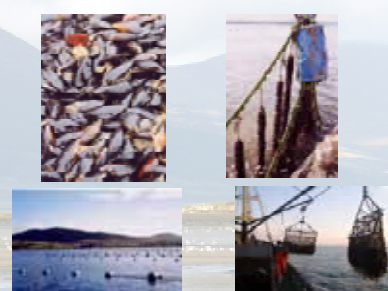
Clams

- Placed in sandy substrate

Perch



Mussel



Freshwater Crayfish



Gigas Oysters



VIRIDIAN

POWERTEAM
Power Team Services
A Division of Viridian

EXPERIENCES IN SUBSEA CABLING

Presentation to
NI Coastal Marine Forum
Maurice Smith - Viridian Group
10 April 2008

moyle

ESB
ESB International

VIRIDIAN

POWERTEAM
Power Team Services
A Division of Viridian

TELECOMMS CABLES

- Good to talk, buy, surf, play
- Submarine telecommunication cables add at least £2.7 billion of value to the UK Economy

moyle

ESB
ESB International

VIRIDIAN

POWERTEAM
Power Team Services
A Division of Viridian

- Users of the seabed
- Data requirements
- Contingency and maintenance


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ESB
ESB International

VIRIDIAN

POWERTEAM
Power Team Services
A Division of Viridian

TELECOMMS CABLES



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ESB
ESB International

VIRIDIAN

POWERTEAM
Power Team Services
A Division of Viridian

- Users of the seabed
 - Telecommunications
 - Energy
 - Gas
 - Power
 - Interconnection
 - Wind Turbines
 - Marine Current Turbines

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ESB
ESB International

VIRIDIAN

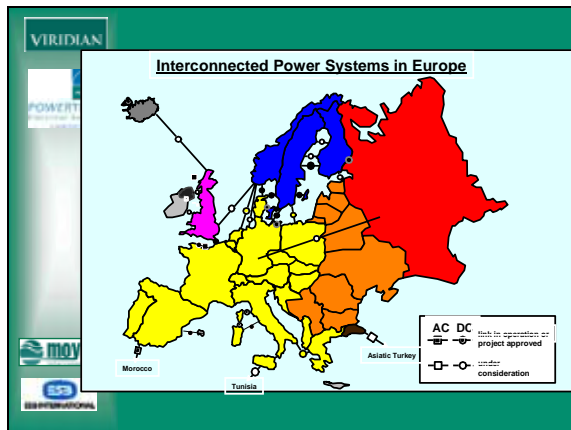
POWERTEAM
Power Team Services
A Division of Viridian

SUBMARINE POWER CABLES

- The Need and Benefit
 - Sourcing cheaper generation
 - Environmental benefits
 - Higher utilisation
 - Capacity for trading suppliers
 - Emergency support
 - Obligation to supply

moyle

ESB
ESB International



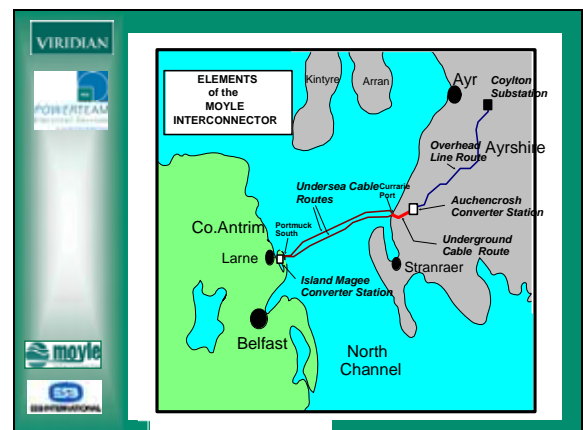
SUBMARINE POWER CABLES

- Potentially 9000MW operational capacity
- 1200 kms installed or proposed (not including wind farms)
- 4.5m homes

SUBMARINE POWER CABLES

INTERCONNECTIONS

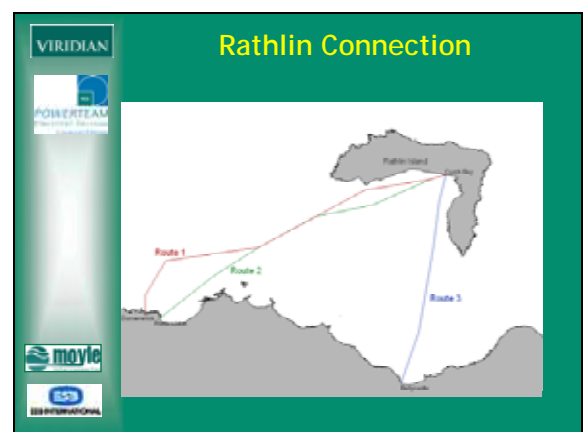
LINK	CAPACITY (MW)
IFA	2000
MOYLE	500
CHANNEL ISLANDS *	300 (2010)
RATHLIN ISLAND *	16
MANX *	60
SCOTLAND *	870
BRI T NED	1000 (2010)
IRELAND-WALES	500 (2012)
(* Denotes ac links)	
TOTAL	5246



SUBMARINE POWER CABLES

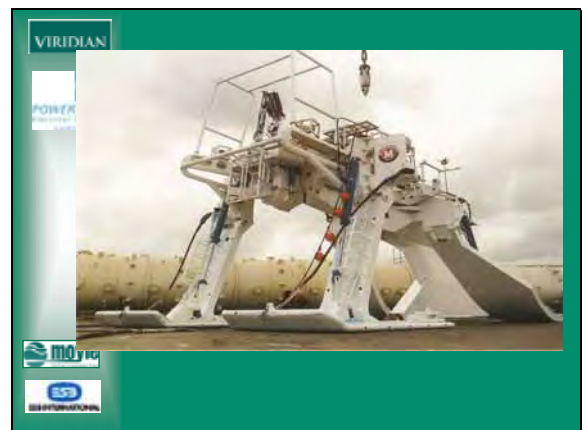
OFFSHORE WIND FARMS

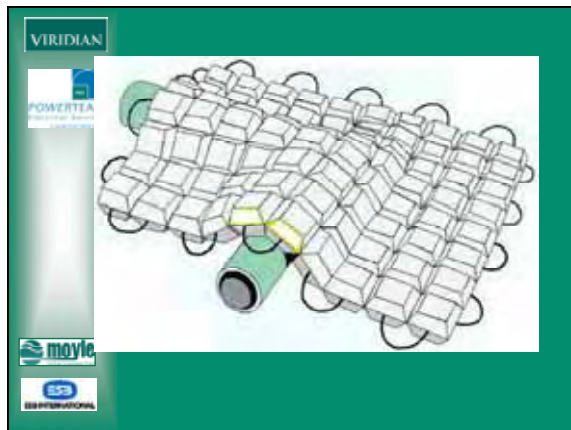
- TOTAL OF 3740MW - Operational, under construction or approved
- UK seas opening to extra 25GW



SUBMARINE POWER CABLES

- Construction
 - Cable handling
 - Vessel capability
 - Protection
 - Burial
 - Rock placement
 - Mattress
 - Half shells
 - J-Tube



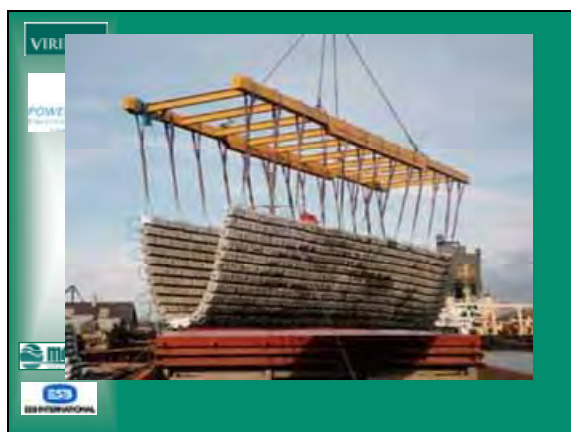


SUBMARINE POWER CABLES

- REPAIR CONTINGENCIES
 - Fault locating
 - Repair spread
 - Suitable vessel
 - Job specific equipment, deburial, cutting ...
 - Simulation exercises
 - Maintenance surveys



- Learning points
 - Start Early
 - Involve all parties from beginning
- Shared environment, experiences, data



EXPERIENCES IN SUBSEA CABLING

Maurice Smith - Viridian Group
10 April 2008

QUESTIONS ?

www.viridian-group.co.uk
www.powerteam.eu.com
www.nienergyholdings.com
www.esbi.ie

Coastal & Marine Resources Centre
Based At Rosshanah, County Wick

CMRC

Marine Aggregates – as an Emerging Sector

NICMF / ICoNet Conference
10th April - Derry

Presentation by Cathal O'Mahony

Coastal & Marine Resources Centre
Based At Rosshanah, County Wick

CMRC

Why use Marine Aggregates?

An important economic resource which can contribute to the development and maintenance of infrastructure (e.g. buildings, roads, bridges, etc.).

Can also be employed for beach nourishment and coastal defence purposes (important in the context of predicted impacts of climate change, sea level rise and associated effects on low-lying coastal areas).

Coastal & Marine Resources Centre
Based At Rosshanah, County Wick

CMRC

Outline of Presentation

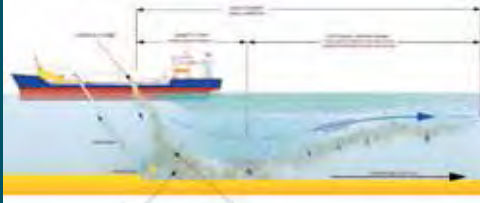
- What, why and how?
- Marine Aggregates in Ireland
- Irish Sea Marine Aggregates Initiative
- Challenges

Coastal & Marine Resources Centre
Based At Rosshanah, County Wick

CMRC

How are Marine Aggregates Obtained?

Aggregates are extracted by dredging of the deposit to remove it from the seabed.



Coastal & Marine Resources Centre
Based At Rosshanah, County Wick

CMRC

What are Marine Aggregates?

Marine aggregates can be defined as sedimentary material – sand or gravel of various grain / clast sizes that are found on the sea bed.

Marine aggregates can be classified on the basis of their grain sizes, their composition, i.e. sand / gravel composition, or their suitability for use (primary or secondary aggregates).

Coastal & Marine Resources Centre
Based At Rosshanah, County Wick

CMRC

How are Marine Aggregates Obtained?

Typical trailer hopper suction dredger, drag head raised.

Aggregates can be screened at sea before being transported to a port or wharf facility for unloading / further processing if needed, and transportation.



Photos courtesy of British Marine Aggregate Producers Association (BMAPA).

Coastal & Marine Resources Centre
Ionad Ámharaí Cústa is Mara 

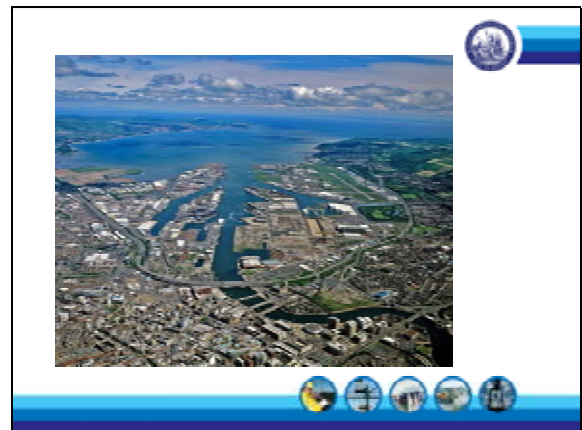
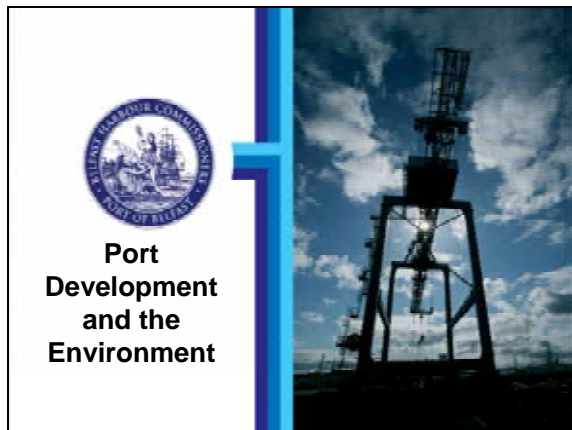
Potential for an Marine Aggregate Sector

- ✓ Justifiable in terms of need to meet demand and availability of resource;
- ✓ Clear interest from commercial aggregate sector;
- ✓ Through INSS, IMAGIN, JIBS and INFOMAR we have developed much in terms of scientific know how; and,
- ✓ Preliminary level of stakeholder engagement undertaken through IMAGIN.

Need green light in terms of a policy decision.....

Thank You

Cathal O'Mahony,
Research Scientist,
Coastal & Marine Resources Centre,
Environmental Research Institute,
University College Cork,
Haulbowline Naval Base,
Cobh,
Co. Cork,
Ireland.
Tel: +353 21 4703111
Fax: +353 21 4703132
e-mail: c.omahony@ucc.ie
Website: <http://cmrc.ucc.ie/>



The Port of Belfast

- Dates back to 1613
- Trust Port - Constituted by the Belfast Harbour Act 1847 and subsequent various Harbour Acts and Orders 1847-2002
- Purpose to operate, maintain and improve the Port of Belfast on behalf of its stakeholders

Physical Parameters

Total Land area	1950 acres
Port	980 acres
Estate	795 acres
Conservation	195 acres
Total "Harbour" area	1000 acres
Victoria Channel	6.2nm @ 9.1m
Quays	6.5 km
Berths	Max 10.2m Avg 8.5m

Creation of the Port

2006

Physical Parameters (Cont'd)

Vessel Movements	12,200
Pilotage Acts	4,400
Roads	30 km
Covered storage	1.2m ft ²

Many rules – Many side effects

- Different rules for same environmental issues
- Different definitions for same issues
- Vague rules = different interpretations

The sustainability challenge for ports

- To balance the basic needs of society, the economy and our environment – without our ports we have no future!
- To ensure that a strategic view of our coastal resources and requirements is taken
- To protect and develop port infrastructure and capacity
- To develop the maritime economy
- Information and data is not consistent or readily accessible for planning purposes
- Guidance can be confusing and late

Towards a solution

- Anticipate, influence & prepare for new legislation
- Develop self regulation based on best practice
- Better understand our own environmental performance
- Exploit best opportunities for minimising the impact of port development on the environment during the planning & design phases
- Management of climate change is critical

Ports need...

- Clear marine and coastal zone planning guidance
- Consistent standards to be applied
- Decision making to be speeded up whilst ensuring adequate consultation
- Simplified processes for planning and consents
- Improved transparency, integration and accountability for delivery
- A strategic view based on clear Government leadership

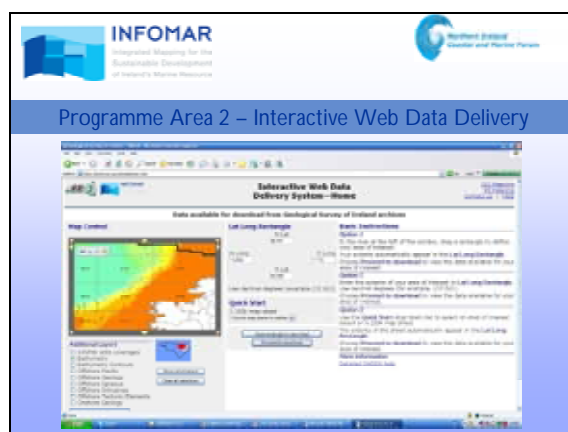
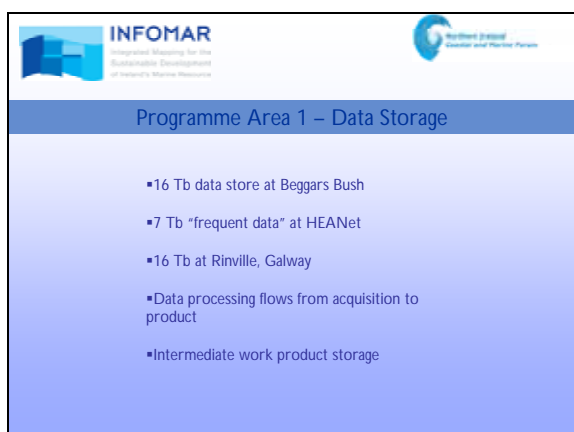
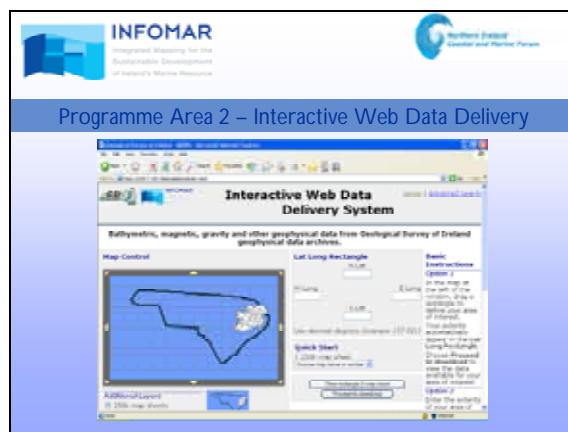
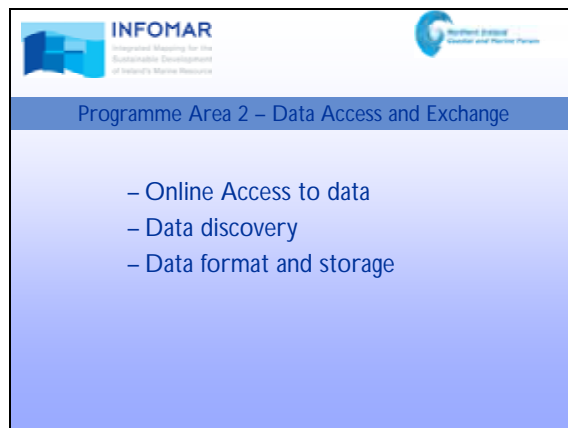
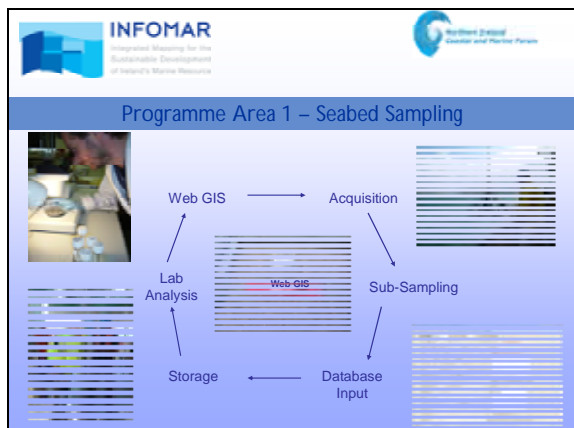
Towards a solution

- Need for co-operation
 - Shared understanding
 - Informed decision making
 - Mutual respect
 - Sustainable solutions for society & the environment

A "Marine Bill"?

- The draft "Marine Bill" is expected to deliver a constitutional framework, but...
- How do we ensure the delivery of local mechanisms to achieve sustainable development and management of our coastal and marine resources?





INFOMAR
Integrated Mapping for the Sustainable Development of Ireland's Marine Resource

<http://www.maps.marine.ie/smv>

GIS Toolbar

Sample Stations

Core Description

INFOMAR
Integrated Mapping for the Sustainable Development of Ireland's Marine Resource

Web Mapping
ESRI Arc IMS

Programme Area 2 - Data Visualisation

INFOMAR
Integrated Mapping for the Sustainable Development of Ireland's Marine Resource

Web Mapping
ESRI Arc IMS

Programme Area 2 - Data Visualisation

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Integrated Mapping for the Sustainable Development of Ireland's Marine Resource

Programme Area 2 – Irish Spatial Data Exchange

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Integrated Mapping for the Sustainable Development of Ireland's Marine Resource

Web Mapping
ESRI Arc IMS

Programme Area 2 - Data Visualisation

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Programme 3: Added Value Products/Projects

- Research Projects
- Revised Bathymetric Charts – UKHO
- Seabed Classification – QTC
- Commercial Navigation Systems – OLEX
- Wrecks Database/Atlas – Dept. Env, Her & LG

INFOMAR
Integrated Mapping for the Sustainable Development of Ireland's Marine Resources

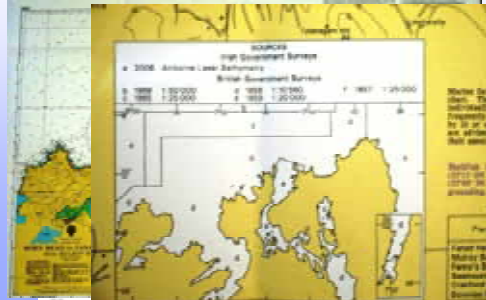
Research Projects – over 50 to date

- Gas Pockmarks (XM-GSI)
- Glacial History Irish NW Offshore (UU)
- Erosion by Internal Marine Currents (TCD)
- Carbon Geochemistry– Climate Change (DCU)
- Coldwater Coral Atlas (UCC)
- Carbon Sequestration Modelling/Monitoring (UU/UCD)
- Remote Sensing application to Marine Geol Mapping (UU)
- IODP Support (Coral drilling Leg 307)

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UK Hydrographic Office

Bathymetric Charts



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Research – Griffiths Awards

- Funded by DCENR
- Admin by GSI
- c.€10m over 7 years
- 9 awards including 2 related to INFOMAR
- Groundwater-Marine karst interactions (NUIG)
- Geomatics for Geoscience (CMRC,UCC)

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OLEX Commercial Company

Electronic Charting



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Research – Sea Change

- Coordinated by Marine Institute
- c.€34m over 7 years
- Many related to INFOMAR
- Marine Data Model Integration (CMRC, UCC)
 - Geo Data Integration
 - Biological Data Integration
- Data Mining methods for Very Large Datasets

Policy Support Measure
Industry Measure
Discovery Measure
Infrastructure Measure

INFOMAR
Integrated Mapping for the Sustainable Development of Ireland's Marine Resources

Electronic Charting



INFOMAR
Integrated Mapping for the Sustainable Development of Ireland's Marine Resource

QUESTER
INTEGRATED

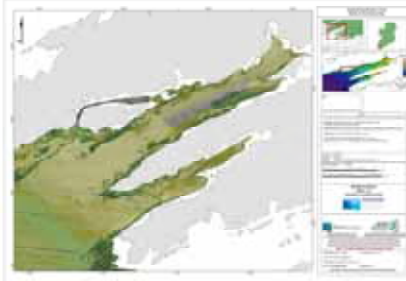
Added Value- Seabed Classification/Physical Habitats

QTC /
INFOMAR

Simrad
Support


Matlab
Toolbox

Bantry/
Dunmanus



INFOMAR
Integrated Mapping for the Sustainable Development of Ireland's Marine Resource

"Empire Heritage"



The Empire Heritage had been rebuilt as a steamtanker after being damaged by a mine in 1941. On 8th September 1944, NNE of Tory Island, U-482 fired a torpedo spread at the convoy containing the Empire Heritage. Two torpedoes hit the tanker, which was also carrying a cargo of tanks. The convoy's rescue ship, the Pinto, was rescuing survivors when it was itself torpedoed and sunk by U-482. Around 100 of the 150 on board perished.

INFOMAR
Integrated Mapping for the Sustainable Development of Ireland's Marine Resource


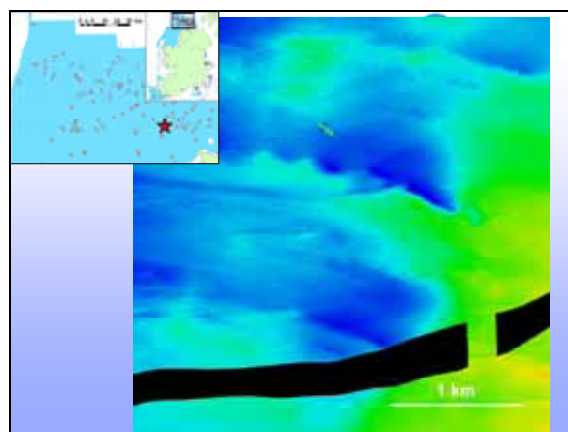
QUESTER
INTEGRATED

Added Value- LIDAR Classification

QTC /
INFOMAR

Reflectivity

Matlab
Toolbox


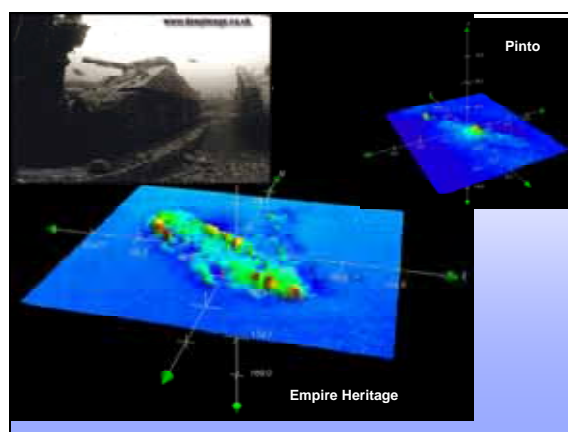
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Added Value - Wrecks Database

INSS/NPW

UKHO, NMS (UWA)
& INSS Databases

November 2006
246 RECORDS
64 named
135 known/un-named
71 "new"



INFOMAR
Integrated Mapping for the Sustainable Development of Ireland's Marine Resource



Future

- Project Deliverables/ NDP Impacts
 - Priority Bays & Areas, Revised Products, Protocols
- Equipment Commissioning
 - Launch, MB, SS, Sampling Eqpt.
- Advisory Group (Research, Policy, Technical)
- >>Research Linkages
- Revised Budget/Programme?
- Inputs into future marine policy/ R&D
- Marine Spatial Planning/CZM



INFOMAR
Integrated Mapping for the Sustainable Development of Ireland's Marine Resource



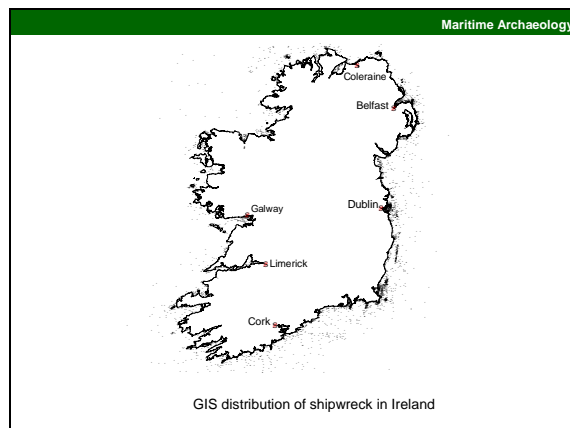
Thank You to ICO NET



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www.infomar.ie

www.gsi.ie & www.marine.ie



Maritime Archaeology

Generation of the Archaeological Record

- Field survey
- Paper & Photographic record
- Map archive
- Digital resources
- Online

- Enhancement of the existing SMR

cmg

