

REVIEW OF PROGRESS 2012/13

HARNESSING OUR OCEAN WEALTH

AN INTEGRATED MARINE PLAN FOR IRELAND





Joint Statement

An Taoiseach and the Minister for Agriculture, Food and the Marine

We have great pleasure in publishing this Progress Report on the Government's 2012 Integrated Marine Plan for Ireland *Harnessing Our Ocean Wealth*. The Government sees the marine sector as a very important pillar to our national recovery and *Harnessing Our Ocean Wealth* as a key driver to developing the sector to meet our growth targets for it. The Progress Report sets out the work that has been carried out to implement the actions outlined in the Plan and we commend all those involved for their contribution. There has been a determined effort since 2012 to establish the necessary progress in the critically-important early Actions.

In particular we want to acknowledge the cross-Departmental Marine Coordination Group and the marine agencies for their work in driving progress. We realised that an integrated approach across Government is essential to achieving our vision and to this end we strengthened the group with two Task Forces to address Enabling and Development actions. We thank the members of these Task Forces, who have given freely of their time and expertise in progressing several key Actions in *Harnessing Our Ocean Wealth*.

The Progress Report is being published to coincide with the first *Our Ocean Wealth* Conference on 18 June in Dublin Castle. The Conference will review progress to date on implementing *Harnessing Our Ocean Wealth* and focus on growth and employment opportunities for the future. The Government has shown its commitment to developing the marine sector and we would encourage the private sector to build on this commitment and come forward with plans for jobs and investment.

The implementation of *Harnessing Our Ocean Wealth* is a whole-of-Government effort. Our vision is that our nation's ocean wealth will be a key element of our economic recovery and sustainable growth and we will continue to work with the sector's stakeholders to achieve this vision for our citizens.

Enda Kenny, T.D.,
Taoiseach

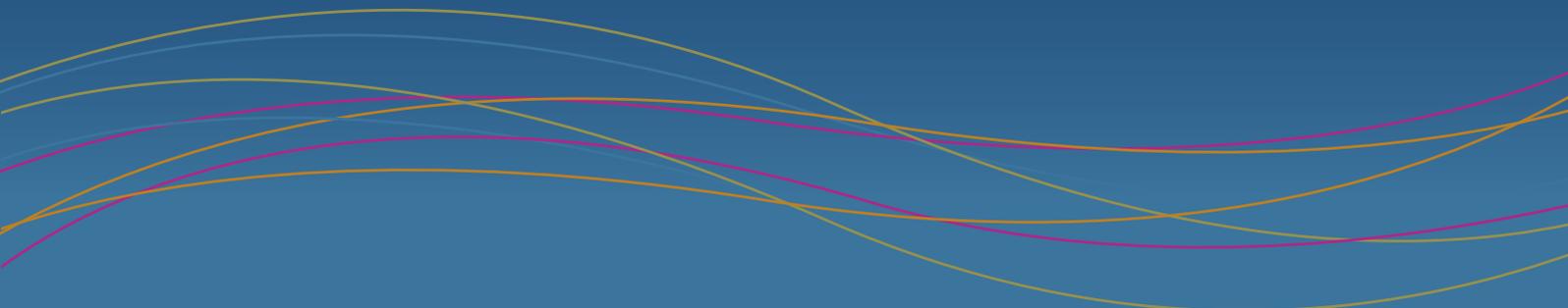
Simon Coveney, T.D.,
Minister for Agriculture, Food and the Marine



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This Progress Report sets out the work and initiatives that have been and being undertaken to implement the early Actions outlined in 'Harnessing Our Ocean Wealth' (HOOW), Ireland's first integrated marine plan (IMP). The publication of Harnessing Our Ocean Wealth has brought a renewed focus to marine policy issues in Ireland. Implementation of the plan, overseen by the cross Governmental Marine Coordination Group (MCG), has ushered in a new era of cross governmental cooperation in relation to marine policy matters generally, while serving as a mechanism to engage relevant stakeholders from the wider economy in the development of marine sector.



INTRODUCTION

BACKGROUND

Harnessing Our Ocean Wealth (HOOW) is Ireland's Integrated Marine Plan (IMP), published in mid-2012, setting out a roadmap for the Government's vision, high-level goals and integrated actions across policy, governance and business to enable our marine potential to be realised. The implementation of the Plan will see Ireland evolve an integrated system of policy and programme planning for marine affairs. Ireland's ocean is a national asset, supporting a diverse marine economy, with vast potential to tap into the global marine market for seafood, tourism, oil and gas, renewable ocean energy, training, maritime security and new applications for health, medicine and technology.

Ireland's marine resources also provide essential non-commercial benefits such as amenity, biodiversity and our mild climate. Ireland's marine ecosystems (i.e. offshore, inshore and coastline) are home to a rich and diverse range of species and habitats. This national asset offers significant potential for Ireland's marine sector and needs to be protected, managed and developed for and by our citizens. The Government is determined to ensure that our ocean wealth will be a key component of our economic recovery and sustainable growth, generating benefits for all our citizens.

HOOW sets out a shared vision:

Our ocean wealth will be a key element of our economic recovery and sustainable growth, generating benefits for all our citizens, supported by coherent policy, planning and regulation and managed in an integrated manner.

Three high-level goals, of equal importance, were developed based on the concept of sustainable development.



To support the vision and goals, eight enablers, that are key to creating the conditions for growth and investment, have been identified. The enablers are not prioritised in order of importance and display strong inter-dependencies and synergies.

The eight enablers are:



The Government has set ambitious, yet realistic targets for our ocean economy. There is an overarching target to double the value of our ocean wealth to 2.4% of GDP by 2030, exceeding the global average of 2% of GDP and moving towards the EU average of 3-5%. Furthermore, in light of market opportunities identified, the Government has set a 2020 target of exceeding €6.4bn in annual turnover, drawn from a diverse range of marine sectors. This would represent almost doubling the current turnover from these sectors.

Marine Coordination Group

In Ireland, responsibility for marine matters is spread across a number of Government Departments and agencies. In recognition of the need for better coordination and the broad scope of the sector, the Inter-Departmental Marine Coordination Group (MCG) was established in 2009.

The group, chaired by the Minister for Agriculture, Food and the Marine and convened by the Department of the Taoiseach, brings together representatives of Departments with an involvement in marine issues to drive forward the Government's joined up marine strategy and coordinates issues that require cross-departmental action.



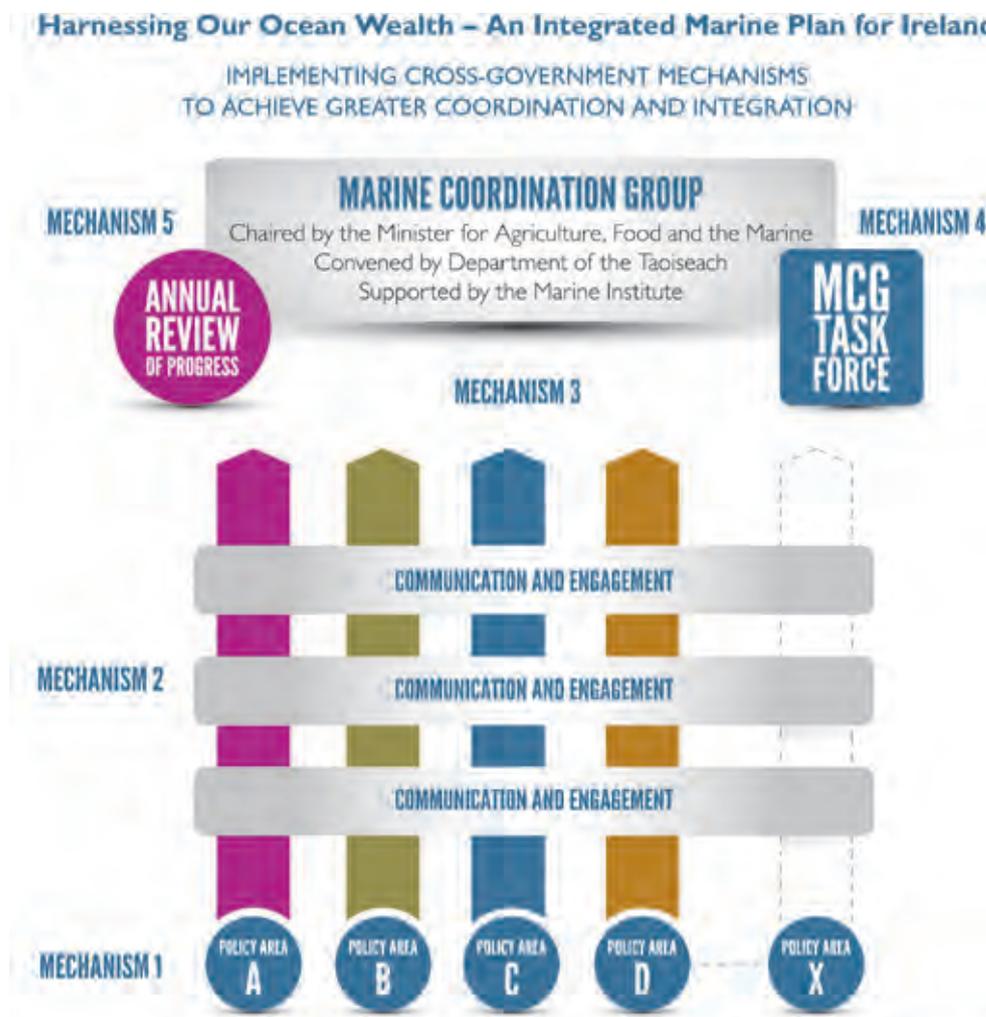
The Marine Coordination Group was pivotal in the development of *Harnessing Our Ocean Wealth*. Further information on the Marine Coordination Group's role in implementing *Harnessing Our Ocean Wealth* is provided in Section 2 below.

Implementation

In total, 39 actions have been identified in Harnessing Our Ocean Wealth (HOOW) under eight enablers. Each action is linked to the appropriate goal and timelines and responsibility for delivery are set out. A set of 15 of these early actions were identified to form the basis of a 2012-2014 roadmap.

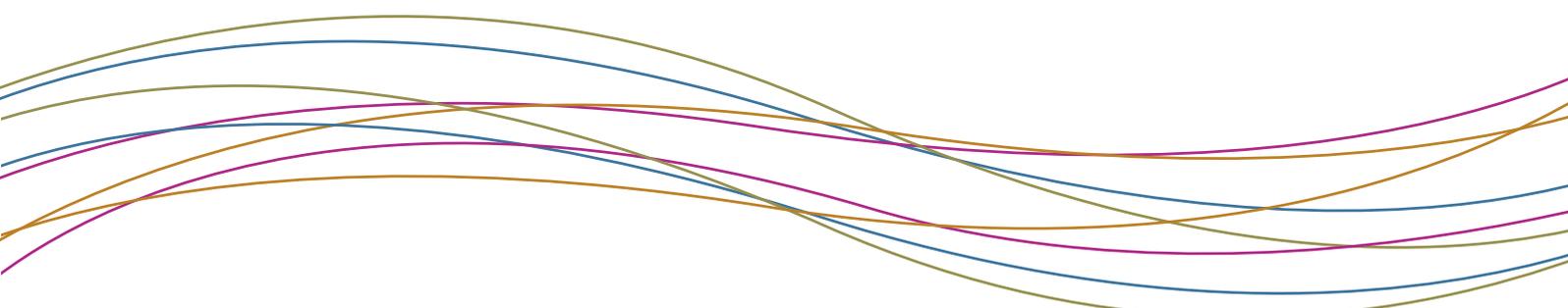
Overarching responsibility to supervise cross-government delivery and implementation of Harnessing Our ocean Wealth has been assigned to the Marine Coordination Group based on the following mechanisms:

1. Individual departments implementing relevant policy and strategy programmes
2. Improved cross-government communication and engagement
3. Ongoing updates to the MCG
4. Establishing focused task forces
5. Regular review of progress



This schematic represents the five implementing for *Harnessing Our Ocean Wealth – An IMP for Ireland*.

- MECHANISM 1** Individual departments implementing relevant policy and strategy programmes;
- MECHANISM 2** Improved cross-government communication and engagement across sectors;
- MECHANISM 3** Ongoing updates to MCG;
- MECHANISM 4** Focused Task Forces that address specific actions; and
- MECHANISM 5** Annual review of progress by MCG.



First Annual Progress Review

This first Progress Review focuses on the main activities undertaken since the publication of the Plan to the end of 2013, capturing the commitment to annually review progress in implementing Harnessing Our Ocean Wealth and providing feedback to stakeholders. This review of progress will culminate in the first Our Ocean Wealth Conference in June 2014.

This report describes the actions taken by the Departments with marine responsibilities and their relevant State Bodies, with particular focus on:

- A summary of the main achievements, including an update on the mechanisms identified to implement the Plan (Section 2);
- Progress on early actions identified in the 2012-2014 roadmap (Section 3);
- An update on other activities and actions (Section 4); and
- The focus for 2014 (Section 5).

2. Main Achievements since the launch of Harnessing Our Ocean Wealth

Section 2 of this Progress report concentrates on the key achievements and outputs from the implementation of Harnessing Our Ocean Wealth (HOOW), in particular:

- An update on the implementation model as set out in HOOW; and
- A summary of the main achievements under each of the eight enablers.

Progress on early actions identified in HOOW are presented in Section 3 and other activities and actions in Section 4.

Implementing Cross-Government Mechanisms to Achieve Greater Coordination and Integration

Marine policy, planning and coordinated cross-government action

A number of policies and strategies, aimed at supporting an increased contribution from our ocean economy to Ireland's GDP, continue to be developed and implemented across a number of Government Departments and agencies. Government Departments and agencies continue to work together across a range of diverse issues related to the marine, either through existing and newly established cross-government groups.

In March 2013, the National Ports Policy was launched by the Minister for Transport, Tourism and Sport, Leo Varadkar TD. The new policy establishes a framework for the sector's continued development by setting out a number of clear objectives and timelines for the achievement of these objectives. Since publication, the Department of Transport, Tourism and Sport has commenced implementation of the new policy in a number of different areas. (Further details are provided in Section 2 below).

In July 2013, Minister for Agriculture, Food and the Marine, Simon Coveney TD, launched Bord Iascaigh Mhara's (BIM) new strategy for the seafood sector. The five year strategy (2013 – 2017) titled "Capturing Ireland's share of the global seafood opportunity" sets targets for the creation of 1,200 additional jobs, aligned to a total sales value of €1 billion of which exports will form €650m by the end of 2017. The strategy is in line with Food Harvest 2020 (further details are provided in Section 2 below).

In relation to emerging sectors, the Offshore Renewable Energy Development Plan (OREDPP) was finalised in 2013 and launched by the Minister for Communications, Energy and Natural Resources, Pat Rabbitte TD, in February 2014. The OREDPP sets out key principles, goals, policy actions and enablers for delivery of Ireland's significant potential in this area and provides a framework for the sustainable development of offshore renewable energy in Ireland. Implementation is now underway under three workstreams: Environment, Infrastructure and Job Creation

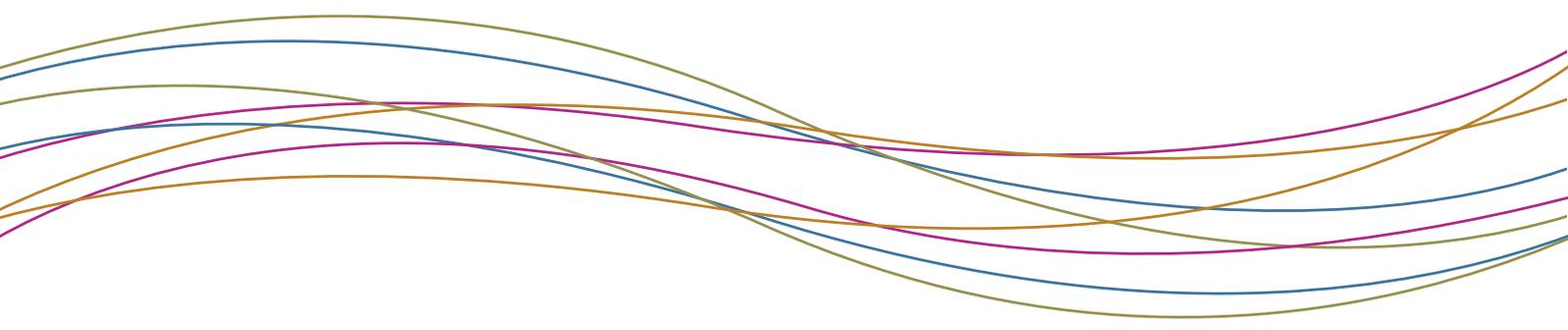
In 2013, the Development Task Force was established. The task force's remit includes the preparation of an integrated enterprise strategy across a number a new and emerging areas. Further details are provided below. Due to the diverse nature of the marine, a number of Departments and agencies continue to work together on implementing the actions set out in the Plan. Examples include:

Pictured at the launch of BIM's strategy for the seafood sector (2013-2017) are: Kieran Calnan, Chairman BIM; Simon Coveney, TD, Minister for Agriculture, Food and the Marine and Jason Whooley, CEO BIM



- Implementation of the Marine Strategy Framework Directive (MSFD): Given the dynamic nature of the marine environment and the activities that take place in it, regional seas coordination is a fundamental part of the Directive. Implementation of the MSFD is led by the Department of Environment, Community and Local Government and supported by Department of Agriculture, Food and the Marine, Department of Arts, Heritage and the Gaeltacht, Department of Communications, Energy and Natural Resources, Department of Transport, Tourism and Sport and various agencies including the Marine Institute, Environmental Protection Agency and the Sustainable Energy Authority of Ireland have all worked cooperatively to deliver the first phase of the Directive, the Initial Assessment of Ireland's Marine Waters, the definition of Good Environmental Status (GES) and the establishment of Target and Indicators to measure progress towards the maintenance of GES. Ireland's Marine Atlas was also launched, through the cooperation of various Departments and agencies. Further details on the MSFD are provided in Section 2 below.
- A Research Prioritisation Action Group was set up chaired by the Minister of State with responsibility for Research and Innovation at the Department of Enterprise, Jobs and Innovation, Sean Sherlock, TD, to oversee the implementation of the recommendations of the Research Prioritisation report. Membership of the group includes all government agencies which are responsible for research budgets and their parent Departments. This group includes Science Foundation Ireland, the Higher Education Authority, IDA Ireland, Enterprise Ireland, the Health Research Board, Teagasc, the Marine Institute, the Environmental Protection Agency and the Sustainable Energy Authority of Ireland. The group is responsible for identifying actions, timelines and lead actors, consulting with industry players and identifying necessary sources of funding.
- Implementation of the Habitats and Birds Directive – A high-level group involving officials from Department of Agriculture, Food and the Marine, Department of Arts, Heritage and the Gaeltacht (National Parks & Wildlife Service), the Marine Institute and BIM has ensured efficient and effective progress of this technically complex, major, multi-year project. Further details are provided below.
- MCG working group on Maritime Safety, Security and Surveillance, chaired by the Department of Transport, Tourism and Sport, which seeks to coordinate the activities and requirements of the various government actors engaged in this area.
- An Offshore Renewable Energy Steering Group (ORESG), established in 2014, to oversee the implementation of the OREDP. The Steering Group reports to the Minister for Communications, Energy and Natural Resources. The Group is chaired by the Department of Communications, Energy and Natural Resources (Renewable and Sustainable Energy Division) and includes twelve Departments and agencies.

Other examples of cross-department/agency action are presented throughout the Progress report.



Ongoing updates to the Marine Coordination Group

Since its formation in 2009, the Inter-Departmental Marine Coordination Group (MCG) have met regularly, bringing together representatives of Departments and agencies with an involvement in marine issues, to discuss and coordinate issues that require inter-departmental action.

The Group, which was pivotal in the development of Harnessing our Ocean Wealth, has engaged with key stakeholders from both the public and private sectors such as Fáilte Ireland, the Irish Chamber of Shipping and the Socio-Economic Marine Research Unit at the National University of Ireland, Galway. In terms of its international focus, the Group has met with officials of the European Commission on three occasions since 2012. The MCG held nine meetings in 2013 and Government Departments, agencies and key stakeholders will continue to update the MCG throughout 2014 and beyond on progress in implementing existing and new emerging strategies and policies.

Focussed Task Forces: Enablers Task Force and Development Task Force

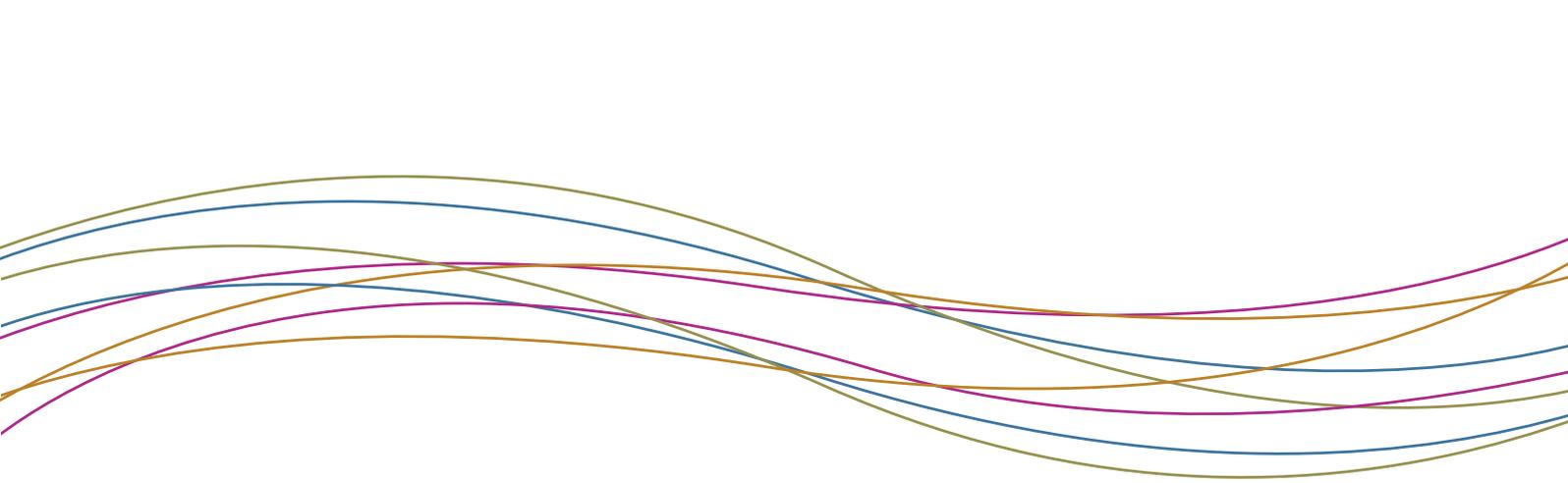
Harnessing Our Ocean Wealth (HOOW) commits to the establishment of two dedicated operational task forces to work under the auspices of the Marine Coordination Group (MCG) aimed at providing unifying horizontal support for the policies and programmes across Departments. The recommendations/outputs of the task forces are presented to the MCG for consideration on appropriate implementation. To support the implementation of HOOW, an Enablers Task Force on Marine Spatial Planning was established in December 2012 and a Development Task Force was established in December 2013.

Enablers Task Force

As part of the governance action in HOOW to “develop an integrated approach to marine and coastal planning and licensing in order to maximise the potential for Ireland’s ocean economy”, the Minister for Agriculture, Food and the Marine established the Enablers Task Force (ETF) in December 2012, to address the early action identified for the 2012-2014 roadmap on marine spatial planning (MSP).

The ETF, chaired by Dr. Peter Heffernan, Chief Executive of the Marine Institute, included representatives from Department of Arts, Heritage and the Gaeltacht, Department of Transport, Tourism and Sport, Department of Communications, Energy and Natural Resources, Department of Agriculture, Food and the Marine, Department of Environment, Community and Local Government the Attorney General’s Office, and a representative from the private sector (Vice Chair of the ETF).

The task force submitted its report and recommendations on a Framework for Marine Spatial Planning to Minister Coveney and the MCG in November 2013. The MCG has considered the report in detail.



Taking account of the report of the Enablers Task Force, the MCG agrees that the Department of Environment, Community & Local Government (DECLG) is well placed to act as lead Department for MSP, given the synergies between MSP and its existing role in respect of the Marine Strategy Framework Directive and the Foreshore. The MCG considers the Marine Institute to be the most suitable agency to undertake the plan-making function, taking into account existing capacity and skills, including scientific, mapping and GIS activities. DECLG and the Marine Institute will work together to legislate for, and implement, MSP in Ireland.

In addition to the national commitment to implement MSP, a draft EU Directive on MSP is expected.

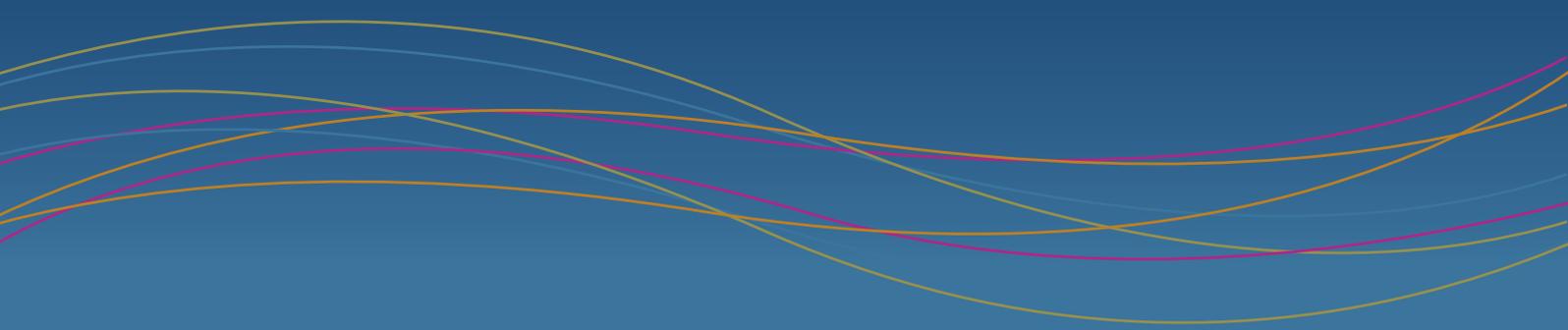
Development Task Force

Harnessing Our Ocean Wealth (HOOW) commits to the establishment of a Development Task Force (DTF) to focus on jobs and growth. In late 2013, the Minister for Agriculture, Food and the Marine appointed Robert Dix, an experienced executive with a strong commitment to the marine sector, as the Chair of the DTF.

The DTF is comprised of 24 members spread across the industry, State and NGO sectors and the first meeting of the Development Task Force took place in December 2013. The terms of reference are to examine and report on recommendations on specific HOOW actions that span across four enablers, namely:

- **Governance:** Develop an integrated enterprise strategy to generate momentum in specific emerging market opportunities prepared across development agencies (e.g. offshore renewables, offshore services, ICT and sensors, biotechnology). Action #1
- **Business Development, Marketing & Promotion:** Give a clear message to investors that Ireland is 'Open for, and a good place to do, marine business' domestically and internationally and continue to market and promote business opportunities associated with the marine through the IDA, EI, IMDO, Bord Bia, BIM, Údarás na Gaeltachta, Fáilte Ireland. Action #17
- **Research, Knowledge, Technology & Innovation:** Support existing and new test-beds/facilities for demonstration and commercialisation purposes that promote Ireland as a test-bed for renewable energy technologies and ICT (SmartOcean) focusing on the development of innovative technologies that support real-time information gathering (e.g. for security, surveillance, environmental monitoring). Action #25
- **Capacity, Education, Training & Awareness:** Establish Ireland as an international marine training destination, maximising the capacity and potential of existing marine training facilities/programmes (e.g. BIM training, Imerc, Ryan Institute, NMCI, ship-based SMART initiative, private training operators) and integrate into national initiatives such as Educate in Ireland. Action #28

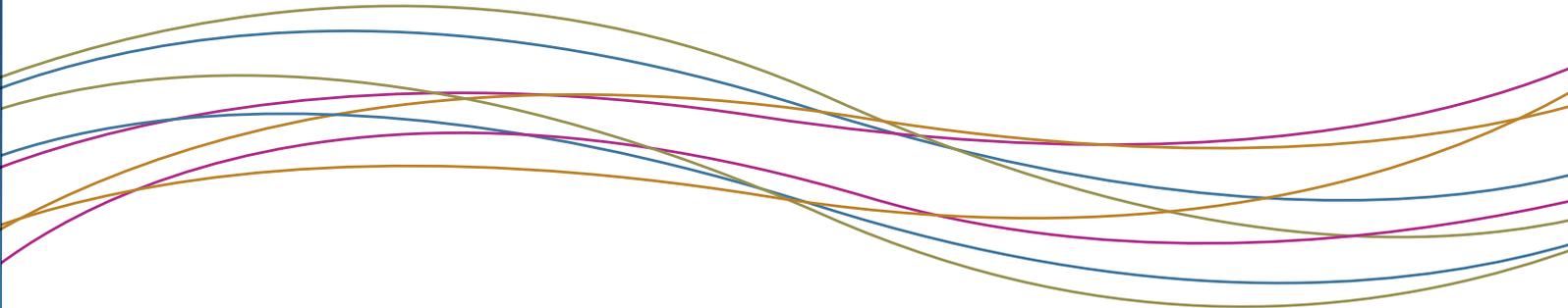
The task force has established sub-groups, chaired by IDA Ireland, Enterprise Ireland, Science Foundation Ireland and the Commissioners of Irish Lights, to progress each of the four areas outlined in its terms of reference. The DTF meets on a monthly basis, providing regular reporting back to the MCG. The DTF envisages completing its work by the end of 2014 /early 2015.



GOVERNANCE

Good governance and coordinated cross-government action is essential to achieving our Vision and Goals (HOOW Pg 32).

Harnessing Our Ocean Wealth identifies a number of governance actions covering the development and implementation of a range of marine/maritime policies and strategies and specifically the need to develop an integrated approach to marine and coastal planning and licensing.



Governance

Plans for radical overhaul of ports sector

Plans to radically overhaul Ireland's commercial ports and give Government a more hands-on role in the maritime ports sector were published in the Government's new Ports Policy, announced in March 2013 by Minister for Transport, Tourism & Sport Leo Varadkar, TD.

The new National Ports Policy aims to harness the potential of every port in Ireland. The Policy recognises the huge diversity among the 19 ports that handle commercial freight. The main features of the new policy are:

- the Government becoming a more active or activist shareholder;
- Encouraging private investment in the ports;
- Move from a 'one size fits all' policy to one that recognises that different ports have different roles to play, now and in the future. In recognising the different roles of each port, the Policy determines which ports are of National Significance and have a national function, and which are of Regional Significance with a specialist significance at national level:
 - Ports of National Significance (Tier 1) are designated as: Dublin Port Company, the Port of Cork Company and Shannon Foynes Port;
 - Ports of National Significance (Tier 2) are designated as Rosslare Europort and the Port of Waterford Company;
 - Ports of Regional Significance: The remaining 14 ports account for 8% of national trade, but many have national significance in terms of specialist services or products. These include the five State companies at Drogheda, Dún Laoghaire, Galway, New Ross and Wicklow. These Ports of Regional Significance will be placed within a local authority-led governance structure with local authorities taking shareholdings in the ports.
- Future investment in deepwater capacity, when needed, will be subjected to stringent analysis commissioned by the Department of Transport, Tourism and Sport (DTTAS), and will be led by the national ports;
- The commercial mandate of ports will remain. They will be expected to turn a profit, pay a dividend and will not receive Exchequer grants.

The new policy aims to allow for appropriate private-sector investment in ports. A new performance oversight system, and a new approach to capacity planning, will be developed to make sure that all ports are fulfilling their potential. The core objective is to facilitate a competitive and effective market for maritime transport services.

Capturing Ireland's share of the global seafood opportunity

In July 2013, Minister for Agriculture, Food and the Marine, Simon Coveney TD, launched Bord Iascaigh Mhara's (BIM) new strategy for the seafood sector. The five year strategy (2013 – 2017) titled "Capturing Ireland's share of the global seafood opportunity" sets targets for the creation of 1,200 additional jobs, aligned to a total sales value of €1 billion of which exports will form €650m by the end of 2017. The strategy is in line with Food Harvest 2020. BIM continue to promote an integrated approach to growing the seafood sector with the following priorities:

1. Expand the raw material base; developing new aquaculture farms, attracting foreign landings, and development of new species such as boarfish.
2. Maximise value of raw material through market-led innovation, new product development, branding and eco certification.
3. Develop scale in the sector through companies' collaborations and joint ventures, investment in seafood processing, competitiveness and route to market structures.

Ireland's seafood sector has successfully targeted new business opportunities in markets like China, Russia and Africa and progress towards reaching the €1,000 million target for the Seafood sector was evidenced by a significant 20% increase in overall exports, valued at €517m in 2012. While these early successes are impressive there is no room for complacency as the subsequent decline in sea food exports in 2013 demonstrates the need for constant evolution of existing structures and sectoral plans through the medium of integrated plans such as Harnessing Our Ocean Wealth.

Planning & Licensing

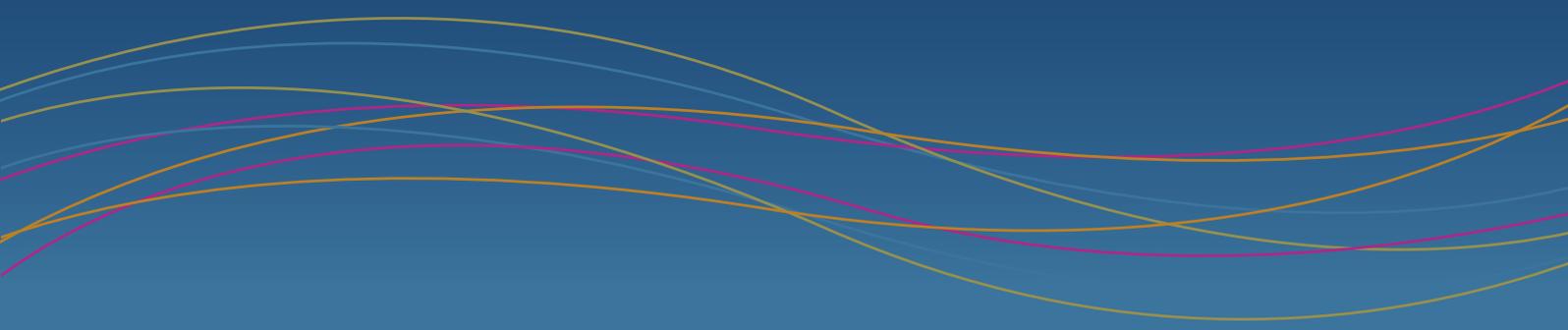
In October 2013, Jan O'Sullivan TD, Minister of State for Housing and Planning in the Department of Environment, Community & Local Government, published the General Scheme of the Maritime Area and Foreshore (Amendment) Bill. The Bill aims to:

- Align the foreshore consent system with the planning system; and
- Provide a coherent mechanism to facilitate and manage development activity in the State's Exclusive Economic Zone (EEZ) beyond the territorial waters/foreshore and on the continental shelf, including in relation to strategic infrastructure projects, such as oil and gas, ports and offshore renewable energy.

The Bill is intended to provide for a more streamlined development consent process for both the onshore and offshore elements of strategic infrastructure projects, with An Bord Pleanála (the Board) as the consent authority. This change will reduce duplication in the consent process and involve a single Environmental Impact Assessment, thereby also reducing the cost of applications. Responsibility for development located in the nearshore area will be assigned to coastal local authorities, apart from developments requiring either Environmental Impact Assessment or Appropriate Assessment, which will fall under the direct remit of the Board. The Bill will be progressed in 2014. Further details are provided in Section 2.

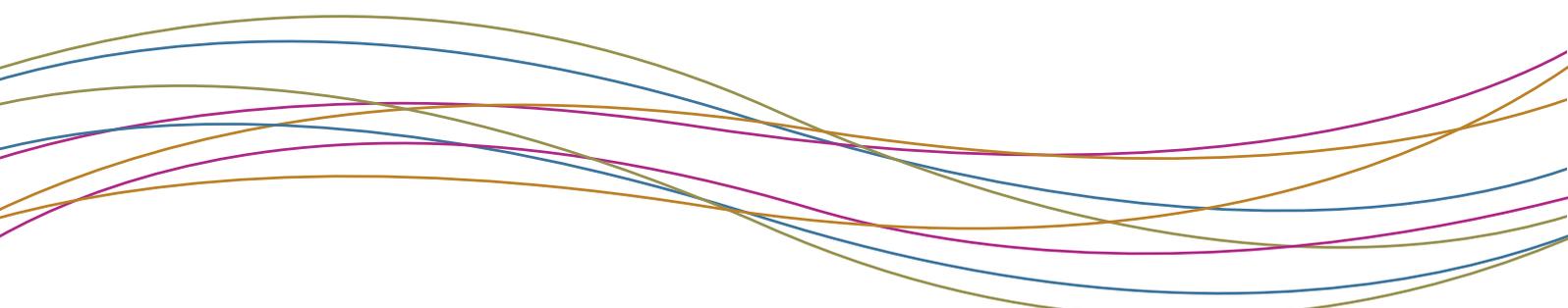
Other achievements include: progress in the implementation of the EU Birds and Habitats Directive, details of which are provided below, and recommendations on establishing marine spatial planning in Ireland, submitted by the Enablers Task Force to the Marine Coordination Group in late 2013.

[Further details on progress made across the Governance actions identified in HOOW are also profiled in Section 3 \(Progress on Early Actions\) and Section 4 \(Other Activities and Actions\).](#)



MARITIME SAFETY, SECURITY & SURVEILLANCE

The creation of the conditions needed for economic growth, investment and job creation depend on the State ensuring a safe, secure and protected environment consistent with best international standards of governance and the protection of the maritime environment.... Ireland must have in place effective and efficient security and surveillance arrangements and quality maritime regulatory regimes that meet best practice within which our ocean wealth can prosper (HOOW Pg 34).



Maritime Safety, Security & Surveillance

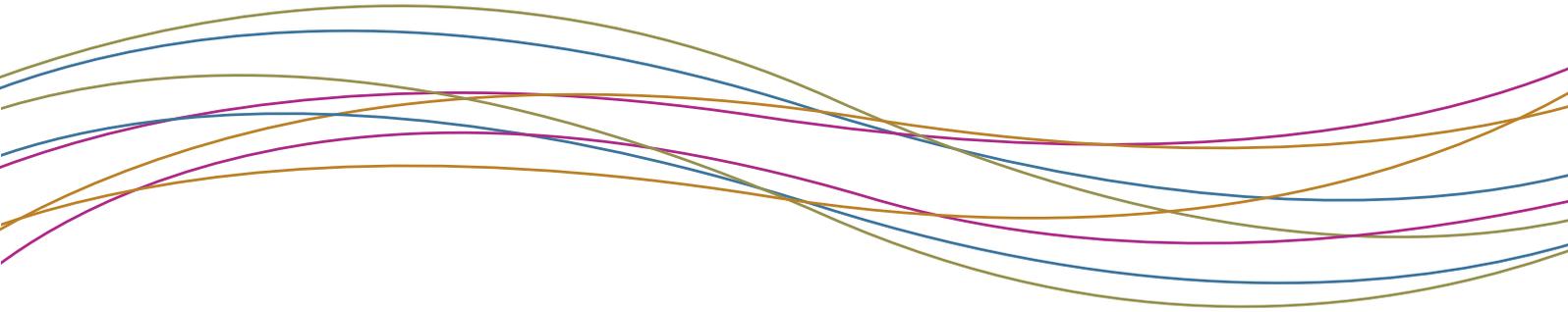
Coordination and collaboration

The Department of Transport, Tourism and Sport (DTTAS) chairs the MCG working group on Maritime Safety, Security and Surveillance, which seeks to coordinate the activities and requirements of the various Government actors engaged in this area.

The Irish Maritime Administration (IMA) was established in 2013 to integrate the planning and delivery of all the maritime services of DTTAS under a single national office. It is central to the Department's drive for more efficient and effective delivery of maritime services. It is comprised of the Maritime Safety Policy Division, the Marine Survey Office, the Irish Coast Guard, the Maritime Transport Division and a new Maritime Services Division. The IMA continues to develop the maritime transport sector by facilitating the achievement of international safety levels and by enhancing infrastructure needed to secure employment in the shipping, fishing and leisure sectors.

Irish Presidency of the European Union – a focus on maritime security, surveillance & safety

During 2013, an international seminar on “Challenges and Opportunities in Maritime Security and Surveillance for Effective Governance and Innovation in the EU's Maritime Domain” was held as part of Ireland's programme for its presidency of the European Union. The seminar was designed to inform the development of the joint Communication of the European Commission and the High Representative of the European Union for Foreign Affairs and Security setting out the basis for delivering an open and secure global maritime domain. The European Council, in December 2013, adopted conclusions to the effect that an EU Maritime Security Strategy is to be delivered by June 2014, on the basis of the joint Communication with the subsequent elaboration of action plans to respond to maritime challenges. These action plans will inform the development of Ireland's response to delivering security and surveillance in the maritime domain.



In March 2013, during the Irish presidency of the European Union, final agreement was reached on proposals on safety of offshore oil and gas prospecting, exploration and production activities. The Offshore Safety Directive provides a new area of competence for the EU in respect of the regulation of offshore oil and gas exploration and production activities and their potential to give rise to both safety and major environmental hazards. The Directive came about as a result of a review of the regulatory framework applying in Member States that was carried out in the wake of Deep Water Horizon disaster in 2010.

The Directive will ensure a consistent use of best practices for major hazards control by oil and gas industry offshore operations potentially affecting Union waters or shores; Implement best regulatory practices in all European jurisdictions with offshore oil and gas activities; Strengthen Union's preparedness and response capacity to deal with emergencies potentially affecting Union citizens, or environment and Improve and clarify existing Union liability and compensation provisions.

In December 2013 Ireland introduced a modern, transparent and independent safety system for the sector consistent with the approach advocated by EU 2013 Offshore Safety Directive (the EU Directive had broadly mirrored approach of Ireland's 2010 Safety Act). The independent Energy Regulator (Commission for Energy Regulation) is now the Upstream Petroleum Safety Regulator.

Irish Naval Service - the State's principal seagoing agency

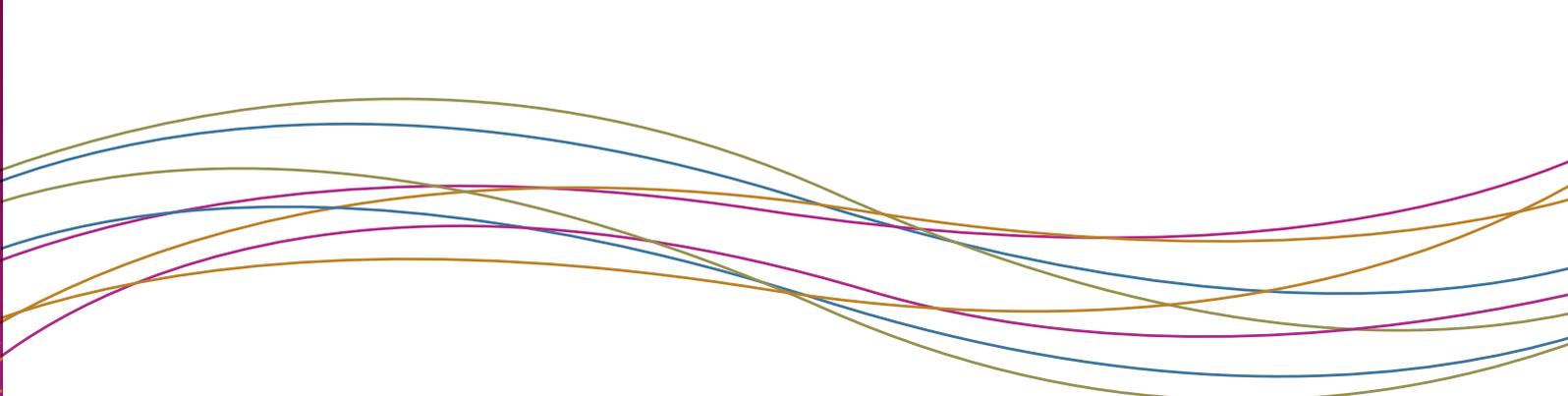
During 2013, the Naval Service upgraded its maritime technology at the Naval Base Operations Centre and this software will also be installed on all Naval ships by end April 2014. As part of a project being developed through the European Defence Agency project MARSUR, the Naval Service has installed software that will enable it to share information electronically. The Naval Service is also working with start-up companies in the Imerc campus to develop solutions for maritime surveillance, including wireless communications and unmanned aerial systems. The participation of the Naval Service in the Imerc Cluster is a unique example of civil military collaboration, that empowers the navy to enhance its maritime safety, security and surveillance capability by working with research and enterprise. Further details on Imerc are provided below.

Further details on progress made across the Maritime Safety, Security & Surveillance actions identified in HOOW are also profiled in Section 3 (Progress on Early Actions) and Section 4 (Other Activities and Actions).



PROTECTION AND CONSERVATION OF IRELAND'S MARINE ECOSYSTEMS (CLEAN-GREEN-MARINE)

Ireland's marine ecosystems are home to a rich and diverse range of species and habitats. We must protect and conserve these ecosystems, ensuring development strategies and management practices do not impair the capacity of ecosystems to deliver market and non-market goods and services (HOOW Pg 36).



Protection and conservation of Ireland's marine ecosystems (Clean-Green-Marine)

Implementing the EU Marine Strategy Framework Directive

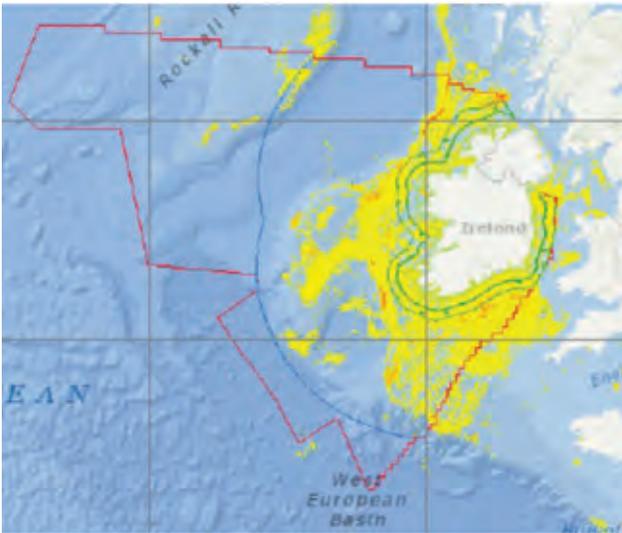
In November 2013, the Department of the Environment, Community and Local Government, published 'Ireland's Marine Strategy Framework Directive Initial Assessment Report'. The report drew on a large range of data and information sources, including national monitoring and assessment reports, national survey results and scientific literature together with State, consultancy and academic expert knowledge.

The publication consists of a summary report on the initial assessment and a more detailed and technical report in accordance with article 19 of the Directive. The publication gives:

- A broad description and status assessment of the predominant natural, physical and oceanographical features, together with the ecological characteristics present in the Irish assessment area;
- An assessment of the human-induced pressures and impacts affecting environmental status; and
- An evaluation of the socio-economic significance of Ireland's marine environment.

The report highlights:

- In general, seabed habitats are considered to be in a healthy condition;
- The main human sources of nutrient enrichment into the Irish assessment area are agricultural activities, waste water discharges and run-off from unsewered properties. The overall nutrient status is considered good and consistent with the achievement of Good Environmental Status (GES);
- Seafood from Irish waters consistently complies with maximum standards set in European Law for non-synthetic contaminants;
- The level of radionuclides in shellfish samples is very low with the majority of measurements being close to or below limits of detection;
- In terms of marine increasing acidification, there is evidence to suggest that the pH level in Ireland's offshore waters is decreasing;
- Bathing water quality is generally high in Ireland with 93% of designated bathing waters meeting the minimum standard under the EU Bathing Water Directive;
- Current evidence suggests a minimal impact of marine litter on cetacean and seal populations, though the relationship between the volume and type of marine litter and the impact on the marine environment is not fully understood; and
- As offshore exploration and renewable activity increases, a corresponding increase in impulsive and continuous noise is likely in the marine environment.



As part of the initial assessment of Ireland's marine waters, the Marine Institute developed Ireland's Marine Atlas, which incorporates all the spatially relevant data and information compiled or identified during the Initial Assessment process for the MSFD. The atlas was launched in November and is available online at <http://atlas.marine.ie>.

The EU Marine Strategy Framework Directive is being implemented through the Marine Strategy Framework Directive project, which is funded by the Department of Environment, Community & Local Government and is managed by the Marine Institute. The project is overseen by a Technical Working Group comprising experts from relevant Government Departments and agencies.

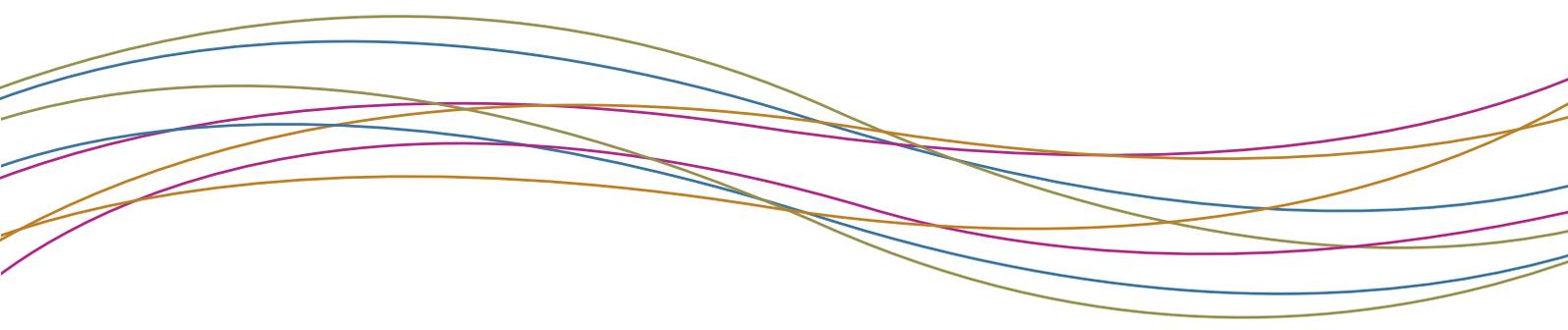
Implementing the EU Habitats and Birds Directives (Natura 2000)

Through successful interdepartmental collaboration, significant progress has been made with regard to the implementation of EU Habitats Directive since the launch of HOOOW. This includes data collection activities, the setting of Conservation Objectives for 75 Natura sites, carrying out of Appropriate Assessments and adaptive licensing. Appropriate Assessments have been completed in respect of Castlemaine Harbour, Dundalk Bay, Roaringwater Bay, Lough Swilly, Donegal Bay and Dungarvan Harbour. Appropriate Assessments are currently underway in a further six important aquaculture bays. This has begun to achieve meaningful results in relation to the licensing of aquaculture, with 137 aquaculture licence determinations made in 2013, 120 of which were in respect of sites in 'Natura' areas.

In the case of inshore fisheries, risk assessments have been prepared taking in over 45 Natura 2000 sites including in the Irish Sea from Carnsore to Carlingford as well as others in Cork and Donegal. This follows successful negotiation to secure DG Environment approval in May 2013 to undertake risk assessments of sea-fisheries interactions with protected species and habitats in compliance with Article 6.2 of the Habitats Directive. This is in addition to the continuation of appropriate assessments for fisheries subject to authorisations. Mitigation measures to respond to a number of risks have already been put in place and more are at an advanced stage of preparation.

Atlas of the Distribution and Relative Abundance of Marine Mammals in Irish Offshore Waters

The "Atlas of the Distribution and Relative Abundance of Marine Mammals in Irish Offshore Waters: 2005-2011", was launched by Mr Jimmy Deenihan, TD, Minister for Arts, Heritage and the Gaeltacht in July 2013. The Atlas marks the culmination of six years of surveys involving more than 1,000 days at sea. It contains a detailed analysis of 21 species of porpoises, dolphins, whales and seals in Irish waters showing seasonal and geographic location. The atlas will provide a valuable data source for marine scientists, marine conservationists and the general public with an interest in marine mammals and their protection. The atlas was produced under a project funded over several years by the Department of Arts, Heritage and the Gaeltacht in collaboration with the Marine Institute.



Irish waters are home to a diversity of whales and dolphins and the information collected is included in Ireland's report to the European Commission on marine mammal's conservation as part of Ireland's obligations under the EU Habitats Directive.

Reform of the Common Fisheries Policy

One of the most important achievements of the Irish EU Presidency in 2013 was securing agreement on reform of the Common Fisheries Policy (CFP). Reforming the CFP had proved a difficult task in previous years due to the complexities of the previous policy and the need to bring other EU Member States on board. This agreement, identified early on as one of Ireland's main priorities during the six month Presidency, ushers in a new era of long term sustainable fisheries throughout the EU for the next decade and beyond. While implementation of radical changes such as the ban on discards will prove a significant challenge in the early phases, the changes once embedded should lead to renewed prosperity for the fisheries sector over time, creating new and long-term opportunities for economic growth in coastal areas and an industry that is sustainable for the longer term.

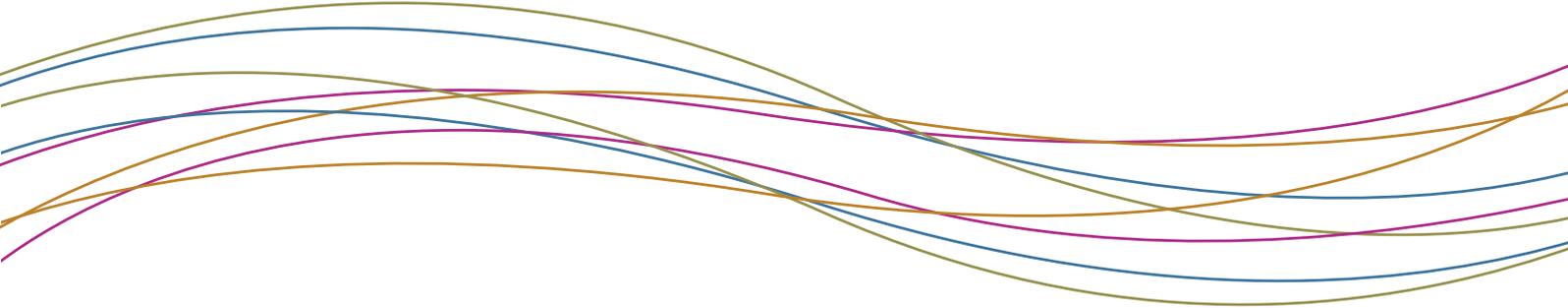
Further details on progress made across the Clean-Green-Marine actions identified in HOOW are also profiled in Section 3 (Progress on Early Actions) and Section 4 (Other Activities and Actions).



BUSINESS DEVELOPMENT, MARKETING & PROMOTION



Creating the right conditions for business, branding and building on Ireland's reputation as a high-tech, innovative economy, are critical for harnessing our ocean wealth (HOOW pg 38)



Business Development, Marketing & Promotion

Origin Green – Working with nature

Bord Bia introduced its Origin Green sustainability programme in 2012. The programme aims to have 75% of all food and drink exports coming from farms and food manufacturers that are part of the programme by the end of 2014. At processing level, company plans focus on raw material sourcing, resource efficiency and broader social sustainability issues. The programme has enjoyed strong support from Ireland's seafood industry since its inception with 20% of the fully verified members of Origin Green now coming from within the seafood sector, a further five seafood companies have submitted their sustainability plans for verification. There are an additional 27 seafood companies at the preliminary stages of either attending workshops or developing initial plans for Origin Green.

Examples of the ambitious targets being set by verified members within the seafood sector include a 30% reduction in water use at the processing stage, increase in energy efficiency of 20%, a similar reduction in operational emissions and sourcing all fish from recognised certification schemes.

Seafood companies have integrated Origin Green into their business and now see sustainability as an important selling point to an expanding customer base both domestically and internationally as well as ensuring that they are producing in a responsible and efficient manner. By being able to demonstrate verified plans with clear targets and annual reporting of progress made, Irish seafood companies are well placed to develop stronger business relationships with those customers for whom sustainable sourcing is a key business issue.

Bord Bia's marketing communications programme for Origin Green, which will see a spend across the food and drink sector of €3.5 million in 2014, will help drive awareness and understanding of Origin Green across priority markets and customers. This will allow member companies secure marketplace benefits from their membership of the programme.

Creating new sustainable sources of income for coastal communities - Fisheries Local Action Groups (FLAGs)

The precursor to the EMFF fund, the European fisheries fund (EFF), continues to provide funding to the fishing/ seafood industry and coastal communities to help them adapt to changing conditions in the sector and become economically resilient and ecologically sustainable. Axis 4 of the EMFF, Sustainable development of fisheries areas, is based on local development strategies, reflecting a bottom-up approach. Axis 4 is similar to the Leader 'area-based approach' to development in rural areas. Currently, six Irish FLAGs have been launched. Each FLAG consists of a mix of representatives from State organisations and fishing, marine and community groups. It is anticipated that the strategies (under development) will inform the work of the FLAG for successive programmes up to 2021.

The strategies are being guided by socio-economic analysis and SWOT of the area; and community consultation and participation process. Strategic priorities set out in the strategies include: Enhancing the market value of shellfish; Artisanal seafood development; Enhancing marine tourism potential e.g. Small-scale infrastructure improvements, 'The Blue Way'^[1], development of marine tourism apps; training, upskilling and diversification; projects integrating seafood & tourism; and clusters/marine incubation centre. The FLAG programmes complement / add value to initiatives funded under the LEADER programme. Systems are being put in place to ensure the two programmes are complementary to each other and avoid duplication.

Wild Atlantic Way

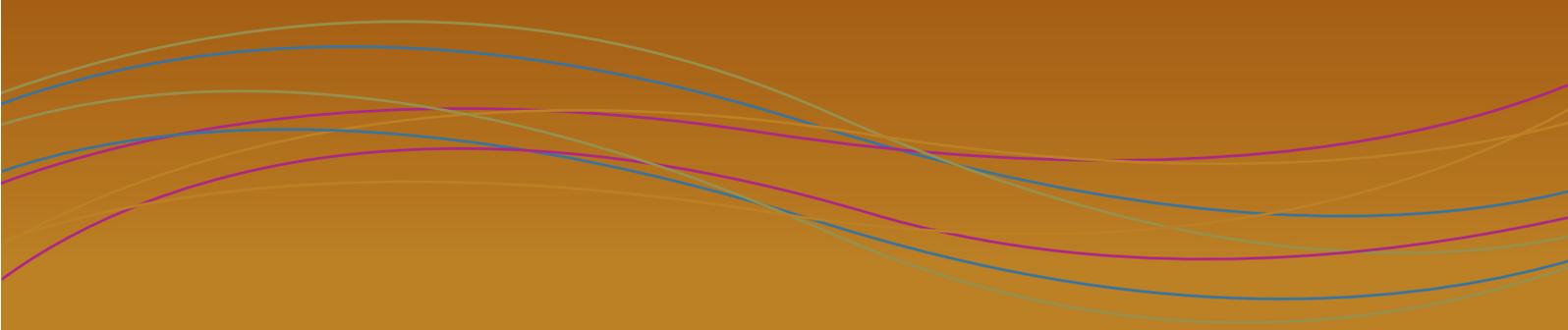
The Wild Atlantic Way, Ireland's first long-distance driving route stretching from the Inishowen Peninsula to Kinsale in County Cork, aims to offer visitors an opportunity to truly discover the West Coast of Ireland. In April 2013, the route for the Wild Atlantic Way was identified and agreed by the relevant stakeholders, including the Local Authorities and LEADER Companies along the west coast. Minister Ring TD, Minister of State at the Department of Transport, Tourism & Sport announced an increase for 2014 in the Tourism Capital Investment allocation of €8m, targeted at the development of the Wild Atlantic Way. This will include 159 discovery points along the 2,500km route. 2013 also saw the development of the project Trade Engagement Plan. The Wild Atlantic Way was officially launched by Minister Ring in February 2014.

Maritime Ireland

The Irish Maritime Development Office (IMDO) continues to market Ireland as an attractive location for international shipping services. 2012 saw the IMDO appoint new business development consultants in Hong Kong and USA to support targeted shipping services investment, while it also published a Report on Irish Ports' Offshore Renewable Energy Services which provided a comprehensive overview for potential investors in the capabilities of Irish ports to meet current and expected future demand in the emerging ocean energy sector. The IMDO has also provided input and assistance to the promoters of the Irish International Shipping Services Centre in the Dublin Docklands. In November 2013 Dublin City Council adopted the North Lotts / Grand Canal Dock Strategic Development Zone (SDZ) planning scheme which has as an objective the development of such an International Shipping Services Centre within the SDZ.

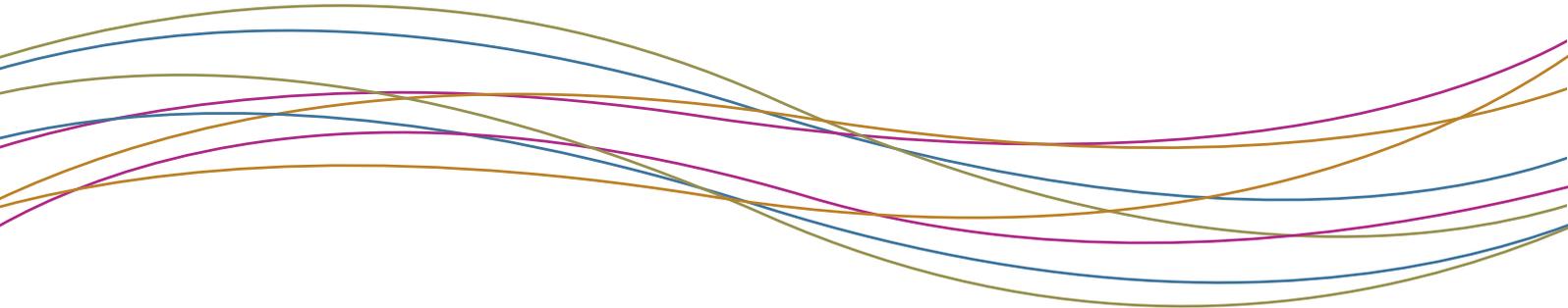
Further details on progress made across the Business Development, Marketing & Promotion actions identified in HOOW are also profiled in Section 3 (Progress on Early Actions) and Section 4 (Other Activities and Actions).

[1] The Blue Way concept follows on from the road-based Wild Atlantic Way linking piers, festivals, regattas, and cruising routes covering the coasts of Clare and Galway.



RESEARCH, KNOWLEDGE, TECHNOLOGY & INNOVATION

Research and Development (R&D) and other knowledge-generating activities (e.g. seabed mapping) support sustainable economic growth and job creation through the development of new products and services, facilitate better management and protection of marine ecosystems; and inform policy, governance and regulation of the marine sector (HOOW Pg 39).



Research, Knowledge, Technology & Innovation

Strategic marine RTDI continues to be funded through cross-government / agency collaboration

Implementation of the National Research Prioritisation Exercise, underway since March 2012, will see the majority of public research funding aligned with 14 Priority Areas where Ireland is most likely to get economic and societal returns, particularly in the form of jobs. The Priority Areas include, amongst others, Sustainable Food Production, Food for Health and Marine Renewable Energy. Action Plans addressing framework conditions, such as regulation and standards, collaboration between industry and academia, supporting the relevant skillsets in graduates, postgraduates and researchers to achieve critical mass, have been developed for all Priority Areas. In June 2013, the Government agreed to the publication of these Action Plans.

A Research Prioritisation Action Group, chaired by Minister Sherlock, Minister for Research and Innovation, oversees the implementation of the recommendations of the Research Prioritisation report. Membership of the group includes all government agencies responsible for research budgets and their parent departments. The group is responsible for identifying actions, timelines and lead actors, consulting with industry players and identifying necessary sources of funding. Key investments in marine research and innovation are profiled below.

Marine Renewable Energy Ireland (MaREI) Research Centre

In November 2013, the Minister for Research and Innovation, Sean Sherlock, TD, officially launched the SFI-funded Marine Renewable Energy Ireland (MaREI) Research Centre. The MaREI Research Centre has the potential to position Ireland at the forefront of the marine renewable energy research sector globally. MaREI aims to conduct world-leading research on all aspects of the marine renewable energy from marine robotics and materials to endure ocean conditions, to offshore wind, wave and marine energy devices as well as technologies to deliver power to the grid for electricity supply at home and abroad. MaREI will directly support 77 highly skilled jobs, involves 45 industry market leaders in energy, marine technology, software and hardware providers investing over €10 million in an overall budget of €29 million. MaREI brings together six HEI's, and is led by UCC's Beaufort Research.



Minister for Research and Innovation, Sean Sherlock, TD, Professor Tony Lewis, MaREI, Georgina Foley, Beaufort Research and Professor Mark Ferguson, Director General of SFI. Picture Michael Mac Sweeney/Provision

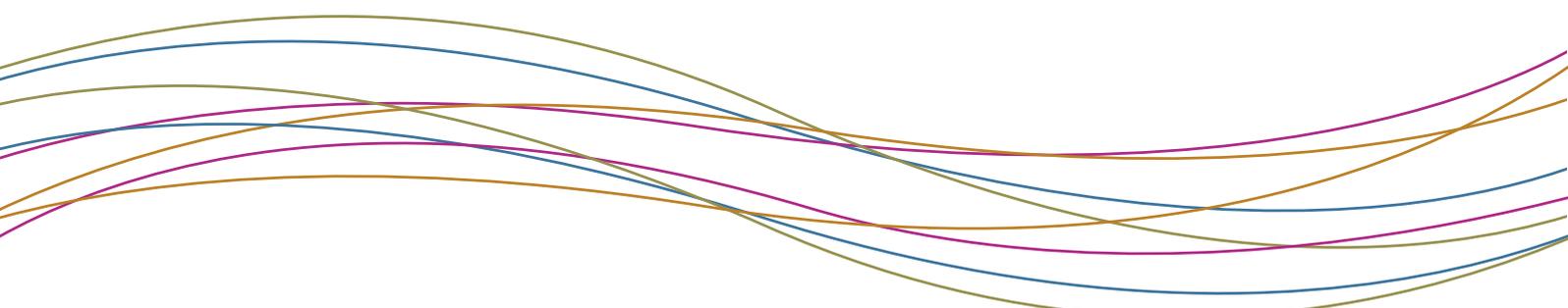
Marine food projects win €4.5m FIRM research funding

In November 2013, the Minister for Agriculture, Food and the Marine, Simon Coveney, TD, announced €4.5m in awards to eight marine foods and marine biotechnology related projects funded under the Food Institutional Research Measure (FIRM) . The projects address a range of research challenges facing the marine foods sector including enhancing the quality of ready-to-eat crabs and lobster products and applying novel processing technologies to extend the shelf-life of fish. Significant amongst the projects is the focus on the use of marine bio-resources as the basis for food-health products. This includes projects that seek to exploit Ireland's seaweed resource, targeting its use as a source of prebiotic ingredients for compounds that improve brain health; and exploiting the anti-inflammatory effects of seaweed compounds on bowel disease. The enterprise-driven research projects will generate knowledge that will be accessible to Irish firms seeking to generate greater value from marine bioresources in developing food and health related products.

Implementation of Sea Change and preparation of the new Strategic Marine Research Agenda

In 2013, new investments were made by the Marine Institute (with projects co-funded with BIM and the EPA) in the areas of shellfish aquaculture, ocean acidification, fisheries (sea bass), and research to support the work of the Enablers Task Force related to marine spatial planning. Over the period, the Marine Institute continued to fund a number of current ongoing projects (20 with total grant-aid of €35.2m). Since the launch of HOOW, the Institute also continued to fund its annual competitive call for access to the National Research Vessels to a value of €3.2m for both research surveys and dedicated training programmes (supporting 100 scientists and 300 students).

In 2013, the Marine Institute commenced the preparation of a new Strategic Marine Research & Innovation Agenda and Action Plan (2014-2020). The Plan will identify priority research actions considered necessary to create the right conditions to support the delivery of the Integrated Marine Plan (HOOW). It will be consistent with, complement and reflect existing research strategies and priorities planned for the same period, e.g. National Research Prioritisation Exercise, Food Research Ireland and the Atlantic Action Plan, and will build on the achievements and investments committed under the Sea Change Strategy 2007-2013. The plan is being developed in cooperation with associated government departments and their research and development agencies, and with the Development Task Force (DTF). It will include a comprehensive stakeholder consultation, targeting specifically industry.



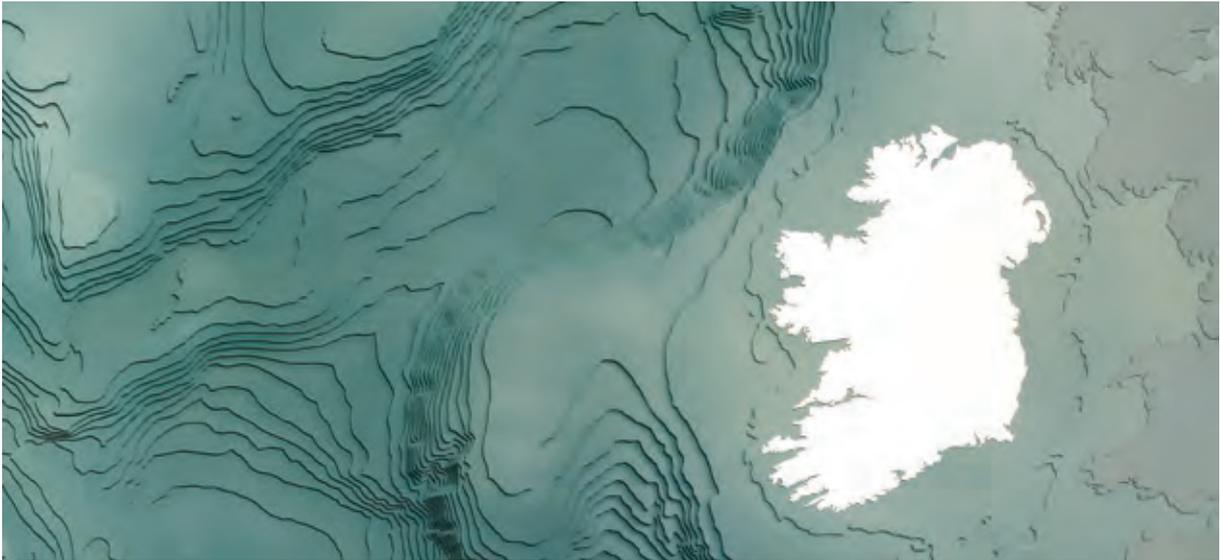
Irish success in EU research funding and opportunities to target circa €200 million earmarked for marine research in the EU's Horizon 2020 programme in 2014-2015

Over the 2012/2013 period, Irish marine researchers continued to enjoy success in EU competitive funding programmes (e.g. FP7 and INTERREG), with a cumulative grant-aid awarded to Irish marine researchers and marine SMEs over the EU funding cycle (2007–2013) of over €69 million. This in turn represents over 250 new scientific and technical positions, including post-doctoral positions. The Irish marine sector won over €48 million in competitive funding under the FP7 Programme, which represents an impressive 8% of the total national FP7 drawdown.

Horizon 2020, the EU's new €80 billion programme for research and innovation running from 2014 to 2020, was launched in Dublin in December 2013 by EU Commissioner for Research, Innovation and Science, Máire Geoghegan Quinn and Minister for Research and Innovation, Sean Sherlock, TD.

Circa €200 million has been earmarked specifically for marine research and innovation in the first two years (2014/2015) of the EU's seven year Horizon 2020 programme (2014-2020). In addition, significant other funding opportunities for marine research and innovation exist under the various generic headings (i.e. food, transport, energy, environment, climate change, security, etc.). Calls from the 2014 budget were opened in December 2013.

Through the work of the Marine Coordination Group, the Maritime Affairs Attaché, the Marine Institute and the Department of Jobs, Enterprise and Innovation, Ireland made significant submissions to the EU Atlantic Strategy and its associated Action Plan which influenced major programme elements provided for in Horizon2020 (Blue Growth and broader marine related initiatives). These are well aligned with the strategic goals of HOOW and should prove fruitful funding streams for Ireland in 2014-20.



Government continues to commit to the mapping of Ireland's valuable marine territory

Integrated Mapping for the Sustainable Development of Ireland's Marine Resource (INFOMAR) is the flagship National-scale programme to map all of Ireland's valuable marine territory, which is almost ten times our landmass. It is being undertaken by the Geological Survey of Ireland (GSI) in conjunction with the Marine Institute and is funded by GSI's parent Department of Communications, Energy and Natural Resources. Previous external economic studies have shown that the return on investment is over four times the cost of data acquisition, and importantly this return is spread across multiple sectors, public and private, including SMEs and Research organisations. In 2012 the programme mapped over 2,500 km² including Cork Harbour and Dingle Bay, while in 2013 the programme mapped over 3,000 km² including Shannon Estuary and the completion of the Southern Priority area in the Celtic Sea.

In terms of added value, the INFOMAR Programme carried out collaborative mapping with BIM, NPWS and SEAI and assisted the Underwater Archaeology Unit of National Monuments. Twenty three research and development programmes were delivered, 50% of which involved SMEs, across areas from 3D Visualisation, to Autopilot for mapping systems and modelling and site investigation for offshore renewable development. Project progress was reported at INFOMAR Seminars in Cork (2012) and Limerick (2013), while all data, mapping and reports are available free online at infomar.ie.

INFOMAR also achieved considerable leverage of investment through participation in a range of programmes funded externally to the exchequer. The Geoseas project was funded under FP7 infrastructure, and facilitated the connection of marine geology data centres across Europe, including GSI. GSI participated in both the Hydrographic and Geology initial phases of the European Marine Data Observation Network (EMODNET), funded by the EU Marine Directorate, to support improved marine decision making via online resources. Both MI and GSI INFOMAR staff and survey vessels participated in the INIS HYDRO Project, funded under InterReg IVA and managed by the Special EU Programmes Body (SEUPB), to deliver new hydrographic mapping, standards and documentation in Ireland, Northern Ireland and Scotland.

The INFOMAR programme was reviewed again externally during 2012/13 and was judged successful and on track, and in December 2013 Government committed €15 million in the period to 2018 to support the continuation of the project. Following up on recommendations from the review, the programme has initiated new projects in both training in marine mapping and development of primary and second level school resources. Importantly the data and knowledge being gathered under the INFOMAR programme is being utilised across multiple sectors, by public, private and research bodies, in areas including; marine safety/charting, offshore energy, aquaculture, coastal protection, environmental protection, shipwreck heritage, tourism and research.

Offshore Ireland has a significant potential for oil and gas

A critical component in improving the perspective prospectivity offshore Ireland is in enhancing data availability and moving to de-risk exploration effort. In June 2013, by far the largest regional 2D seismic survey ever to be acquired in the Irish offshore commenced aimed at addressing data gaps. Over 10,000 km of full-fold seismic data was acquired in 2013 and the second phase 2014 programme will seek to bring the total coverage up to a maximum of 18,000km. The processing of the raw data from the 2013 survey is underway with the aim of having processed data available for release at the same time as the launch of the next licensing round.

The total cost of the 2013/2014 survey will be of the order of €20 million and is being funded from leveraged industry contributions. When complete this combined survey will provide a regional grid of high-quality seismic data over Ireland's frontier basins and interpretation should allow a greater understanding of Ireland's petroleum systems, de-risk estimates of resource potential and in addition enable both the industry and the Government to better evaluate future licensing opportunities.

Following on from the successful 2011 Atlantic Margin Licensing Round, 11 of the 13 Licensing Options awarded under that round have been converted to Frontier Exploration Licences with the holders committing to exploration work programmes aimed at a more detailed evaluation of the petroleum potential of the areas licensed. These three year work programmes are designed to inform decisions as to whether or not each licence should move forward to exploration drilling.

Imerc - developing a research, training and commercial cluster that realises Ireland's opportunity in the global maritime and energy markets of tomorrow

The Imerc vision is to develop a research, training and commercial cluster of world standing that realises Ireland's opportunity in the global maritime and energy markets of tomorrow.

To date, the Imerc partners have worked together through a process of public sector transformation to deliver:

- New infrastructure (e.g. Beaufort Laboratory);
- Industry incubators (e.g. Nine start-ups covering ocean engineering, wireless communications at sea, unmanned aerial vehicles, clean fuel, naval architecture etc.);
- An ability to create a dynamic research environment (e.g. SFI MaREI Centre on marine renewables and Halpin Centre for research and innovation);
- Job creation – 195 jobs reported in the 2013 Government Action Plan for Jobs (including 10 start-up/enterprise expansion jobs; 165 construction jobs; 20 new research positions);
- An attractive environment for Foreign Direct Investment as demonstrated by the incorporation of companies such as Sound and Sea Technology, Mymic and Murray and Associates;
- A Naval Service empowered to facilitate enterprise and research through the provision of test bed facilities and know-how;
- Growth and success in the National Maritime College of Ireland (NMCI) (as recently evidenced by the selection of the NMCI as the global hub for training for Chevron Shipping);
- A master-plan for the spatial development of a new, world class maritime and energy campus in Cork Harbour; and
- Strong relationships between researchers, entrepreneurs, educators, students, industry, naval service personnel and state agencies, which is the engine for innovation across the Cluster.

The Imerc roadmap to 2025 will see the delivery of over 100 acres of the Imerc Campus – home to a diverse mix of office, R&D, training, military and visitor activities, with upwards of 3,000 jobs facilitated across the Imerc core areas of:

1. Maritime safety and security
2. Shipping, logistics and transport
3. Marine energy and
4. Marine recreation

The tripartite alliance of University College Cork, the Cork Institute of Technology, and the Irish Naval Service, are working to provide researchers, technology developers, companies and investors with the critical tools to build value creating relationships, to make alliances and supporting infrastructure more accessible and effective in the maritime and energy sectors. The IDA and Port of Cork are important stakeholders in helping to deliver on these objectives.

Valuing Ireland's ocean economy

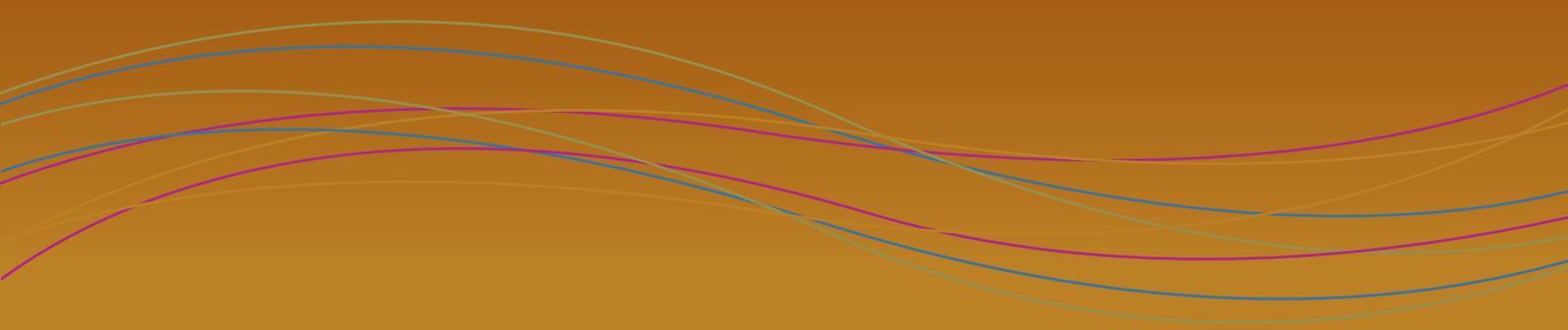
The Socio-Economic Marine Research Unit (SEMRU) at NUI Galway published in its second report on Ireland's Ocean Economy in late 2013. This work forms part of the activities to strengthen the collation of marine socio-economic data to provide an evidence base for policy and decision making, economic forecasting and scenario planning. The main focus of the report is to provide a profile of Ireland's ocean economy and to identify progress on the targets set out in HOOW. The report allows for the comparative analysis of the contribution of established and emergent marine sectors to the national economy. The reference year of the report is 2010.

Results from the study show that in 2010, the direct economic value of the Irish ocean economy was €1.2 billion or approximately 0.8% of GDP. The sector had a turnover of €3.5 billion, and provided employment for approximately 16,300 people (Full Time Equivalent). Established marine industries such as shipping and maritime transport, marine tourism and marine manufacturing, construction and engineering experienced a significant fall in activity. These trends are in line with other sectors in the economy and they reflect the impact of the global economic downturn during the study period. The sea fisheries sector experienced a fall in overall turnover; however, both gross value added and employment increased. The aquaculture sector had an increase in turnover and gross value added, with a decrease in employment. In comparison with the established marine industries, the emerging marine industries have seen growth. High tech marine products and services, marine biotechnology and bio-products and marine renewable energy all experienced significant increases in turnover and employment. However in all cases, gross value added stayed constant or decreased. Marine commerce as an emerging sector saw an important decrease in activity, again in line with the general economy and the international financial markets.

The study is part of a series of reports on Ireland's ocean economy commissioned by the Marine Institute under the Beaufort Award and published by SEMRU every two years. Overall, the results echo the general economic trends observed in Ireland during the study period, which corresponds with the lowest point of the economic contraction (2007-2010).

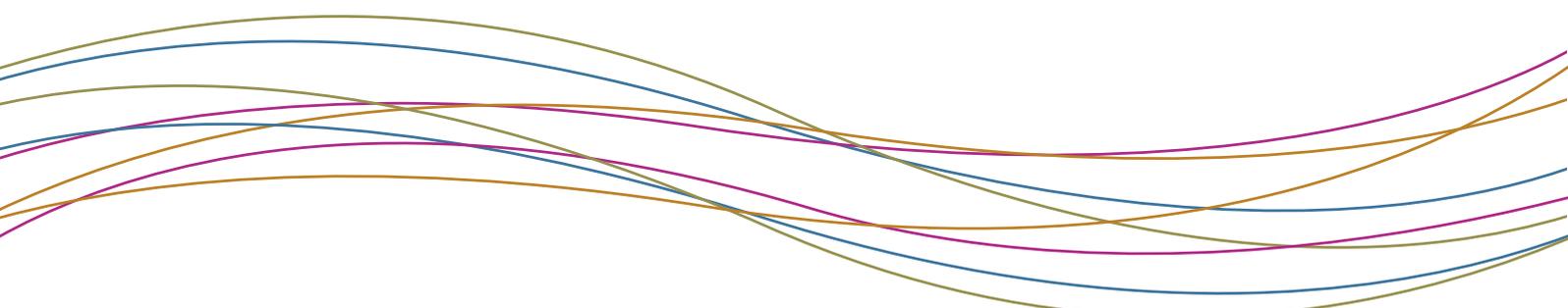
Research related to the valuation of marine and coastal ecological resources (e.g. marine ecosystem services) has also been carried out.

Further details on progress made across the Research, Knowledge, Technology & innovation actions identified in HOOW are also profiled in Section 3 (Progress on Early Actions) and Section 4 (Other Activities and Actions).



CAPACITY, EDUCATION, TRAINING & AWARENESS

A skilled and experienced workforce that adapts to changing requirements and new opportunities is essential for developing indigenous Irish industry, attracting foreign direct investment and providing efficient public services (HOOW Pg 42).



Capacity, Education, Training & Awareness

Identifying future skills needs and labour market supply and demand trends

The Expert Group on Future Skills Needs have commenced a study to identify future skills needs and labour market supply and demand trends in the marine area. A report will be produced encompassing a review of current and future skills needs across the marine sector, and recommendations to address the training and further and higher education and Continuous Professional Development (CPD) needs across the sector.

Maritime Training & Education – providing world-class seafarer, Naval Service and professional training and education programmes

The National Maritime College of Ireland (NMCI) continues to develop its academic, Naval Service and professional training and education programmes. The NMCI provides a number of full-time courses aimed at the shipping industry with approximately 400 students/ cadets enrolled on these courses annually. A range of comprehensive short courses are also provided by NMCI for both national and international clients covering: Safety at Sea, Rescue, Emergency Response, Navigation, Radio, Refresher Courses, Specialist short courses for the Oil and Gas and Offshore Industries including Simulator-based courses, Bespoke or Custom designed courses for individual commercial clients including Port Authorities, Shipping Companies and Operators. Over the period from 2012 to 2013, the average number of students and trainees attending courses given by NMCI Services was approximately 1,500. Student participation for 2014 is expected to increase to 1,720.



Eurofleets students training with SMART on the Celtic Voyager

Strategic Marine Alliance for Research and Training (SMART) – providing practical, bespoke, research vessel based training

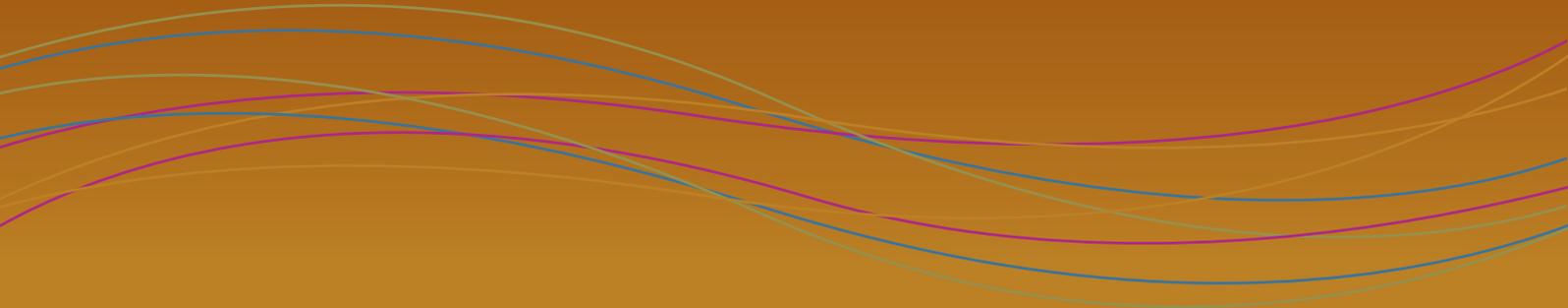
The Strategic Marine Alliance for Research and Training (SMART) is a partnership programme of Higher Education Institutions (HEIs), supported by the Marine Institute and the Higher Education Authority, which pools existing expertise, facilities and infrastructure to increase capacity by providing offshore training for students of marine science, technology and engineering.

In 2013, SMART delivered a number of high-quality, offshore educational programmes, in an efficient, cost effective manner including:

- Development and delivery of 18 seagoing training courses delivered to 194 undergraduate and postgraduate students over 36 days at sea;
- Investment of €296k of grant-aid shiptime (2013) by the Marine Institute funding the delivery of programmes in marine technology, marine renewables, seabed mapping, and offshore energy and communications;
- Securing the tender to deliver on the Training and Education WP of Eurofleets II; and
- Building international recognition as a leader in offshore education and training through continued involvement in European funded consortiums (e.g. Eurofleets), and alliances with world-class research institutes (e.g. Alfred Wegner Institute, Germany).

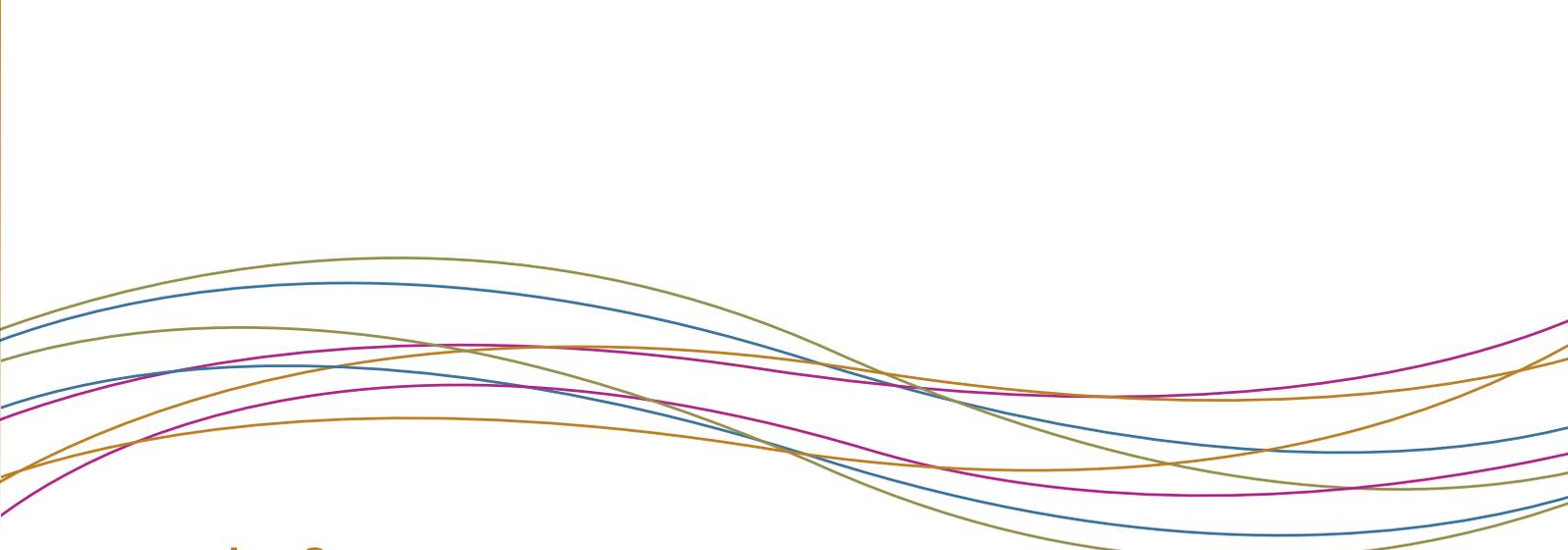
Training and associated sea-time increased from 2012 with a doubling of the total number of students training (105 to 211) and 40% more days at sea (21 to 38).

Further details on progress made across the Capacity, Education, Training & Awareness actions identified in HOOW are also profiled in Section 3 (Progress on Early Actions) and Section 4 (Other Activities and Actions).



INFRASTRUCTURE

Maintaining, upgrading and providing [marine and coastal] infrastructures is critical to our national economy; energy needs and export potential, supporting coastal and rural communities, running [scientific] operational programmes, enabling research, development and innovation activities, facilitating technology transfer, the development of new products and services and ensuring the safety and security of the maritime domain (HOOW Pg 43).



Infrastructure

Maximising utilisation of existing state maritime infrastructure

The State research vessels, managed by the Marine Institute, continue to be heavily utilised by a wide variety of users from the state and third level research sectors. Surveys are encouraged to be multidisciplinary where possible. The vessels are utilised in support of several key national programs including mapping and monitoring activities in support of ocean energy research, maintenance and deployment activity for the national weather buoy programme, monitoring programs including OSPAR nutrient monitoring, Water Framework Directive transitional and coastal waters monitoring, nutrients, HABs (Harmful Algae Blooms) and benthic monitoring, radioactivity monitoring for Radiological Protection Institute of Ireland and research (e.g. HABs, ocean acidification). These surveys are in addition to the Institute's core work in support of EU funded fisheries surveys (Common Fisheries Policy data collection regulation surveys).

The Marine Institute works closely and has MOU's supporting cooperation in place with other bodies e.g. Irish Naval Service, Commissioners of Irish Lights, (CIL), Geological Survey of Ireland, and platforms and equipment are shared regularly in the course of activities undertaken. In the summer of 2013 the Marine Institute, in partnership with CIL and their vessel *Granuaile*, completed an ROV survey of the subsea assets of Kinsale Energy Ltd on a commercial basis. This project greatly increased the capabilities of these organisations to complete such complex tasks.

The Department of Arts, Heritage and the Gaeltacht is currently working in partnership with the Marine Institute to explore the value of using selected fisheries cruises undertaken by the national research vessels to implement marine mammal monitoring for the EU Habitats Directive.

During 2013, CIL continued to develop Pillar 3 of their new strategy, namely, exploiting and leveraging CIL's all island infrastructure of fixed, floating and mobile platforms and the coastal technology and communications networks. The network of "smart" buoys capturing and relaying met ocean data was extended to four stations (Dublin, Wexford x 2 and Kerry) and will be extended to 12 sites during 2014. CIL commenced an upgrade of their coastal communications infrastructure through the installation of 3G/4G routers and high gain antennae to optimise signal strength and data throughput rates for CIL purposes and on behalf of the third parties. CIL continued to deploy AIS (Automatic Identification System) transmitters and base station around the coast to enhance the aids to navigation service and also facilitate monitoring and provision of AIS services for third parties. In late 2013, CIL entered discussions with Coillte to promote the use of the infrastructure to extend voice/data coverage in partnership with telecommunications providers and also to leverage CIL infrastructure for rollout of the National Broadband Plan. A number of CIL sites have been used to host academic research projects and new technologies including seismology, Lidar and HF radar. CIL continued the recapitalisation of the Differential GPS (DGPS) network to provide an integrity monitoring and correction service for the global positioning system (GPS). In September 2013, CIL launched the All Island Lighthouse Tourism Trail project which will see key operational lighthouse facilities made available for specialist tourism accommodation and attractions and development of the lighthouse tourism sector.

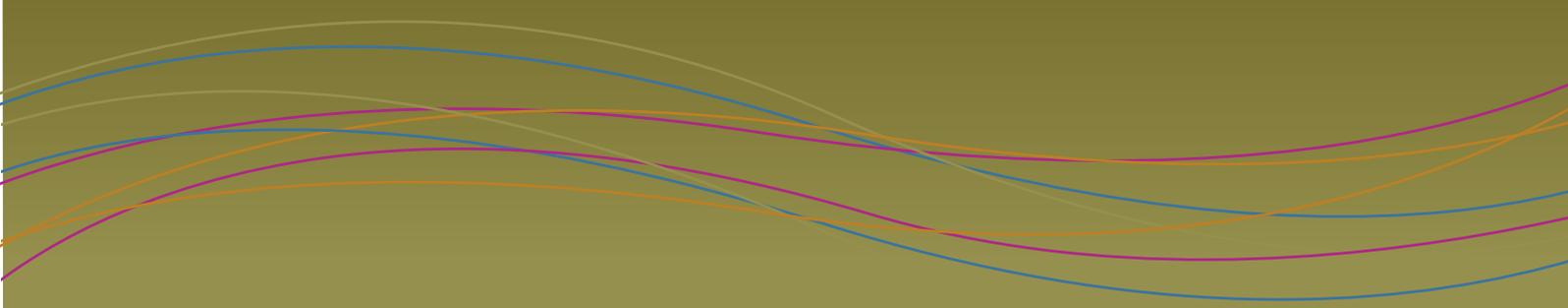
Tapping into the potential of coastal infrastructure

The Wild Atlantic Way, launched in February 2014, taps into the potential of Ireland's coastal infrastructure. The overall aim of the project is to develop a long-distance driving route that will achieve greater visibility for the west coast of Ireland in overseas tourist markets. Further details are provided in Section 2.

A cross border project under the auspices of the Commissioners of Irish Lights and funded by EU INTERREG IVa was officially launched in September 2013 by the Minister for Transport, Tourism & Sport, Leo Varadkar, TD, and the Minister for Enterprise, Trade and Investment, Northern Ireland, Arlene Foster, MLA . Phase 1 of the project will see five lighthouse sites in the North of the island developed as visitor attractions.

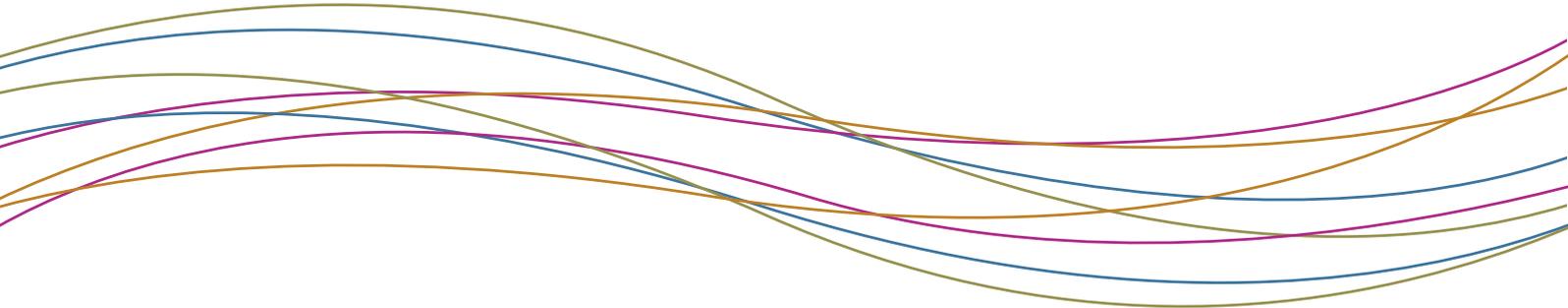


Minister for Transport, Tourism and Sport, Leo Varadkar TD and Minister for Enterprise, Trade and Investment in the Northern Ireland Executive, Arlene Foster, MLA with Pat Colgan, Chief Executive of the Special EU Programmes Body and Yvonne Shields, Chief Executive of the Commissioners of Irish Lights at the launch of the All-Island Lighthouse Trail project.



INTERNATIONAL COOPERATION IN THE MARINE AREA

International cooperation is an essential element of integrated marine policy and planning. Close cooperation with our Atlantic neighbours and international partners can also bring about economic returns and benefits (HOOW Pg 45).



International Cooperation in the Marine Area

Presidency of the Council of the European Union

Developments at an EU level in the marine sphere have been particularly important since the launch of HOOW, with Ireland's presidency of the Council of the European Union from January to June 2013 dominating the activities on international cooperation. Ireland's Presidency of the Council of the European Union provided a range of mechanisms for international cooperation which continues to facilitate the implementation of HOOW.

Holding the Presidency of the Council of the European Union from January to June 2013 provided a unique opportunity to highlight the marine sector and move forward on marine legislation at EU level. With a Presidency theme of stability, jobs and growth, the Government ensured that a marine sector which counts for over 5 million jobs through Europe was given priority in terms of the State's general Presidency objectives.

The Presidency achievements in the marine area were wide ranging and diverse, cutting across a number of different sectors, ranging from a conference on space innovation powering Blue Growth to the joint launch of the EU, U.S., Canada Atlantic Ocean Research Alliance in Galway.

One of the most important achievements of the Irish EU Presidency was securing agreement on reform of the Common Fisheries Policy (CFP). Further details are provided above.

EU Blue Growth Strategy

During 2012/2013, the Marine Coordination Group, supported by the Marine Institute and Maritime Affairs Attaché, also contributed to the EU's Blue Growth Strategy, e.g. by participating in and supporting the work of the Atlantic Forum - a consultation process on the European Union Atlantic Strategy to develop an action plan to implement the strategy. Highlights over the period include:

- Co-Hosting (DG MARE/Marine Institute) of concluding Atlantic Fora Regional Workshop on the EU Atlantic Action Plan (4th – 5th March 2013, Cork) with sessions on Research & Innovation, Ports and Shipping and overall perspective of Atlantic Action Plan;
- Agreement on content/priorities and launch of the EU Strategy for the Atlantic – Atlantic Action Plan (2014-2020) (May 2013);
- Co-Hosting (DG RESEARCH/Marine Institute) of Irish-EU Presidency Conference on “The Atlantic: A Shared Resource” (Galway: 23rd – 24th May 2013); and
- Signing of the Galway Statement on Atlantic Research Cooperation and launch of Atlantic Research Alliance (European Commission, USA and Canada).

Atlantic Ocean cooperation

In May 2013, a high level event took place at the Marine Institute in Galway, which has provided a vision for enhanced cooperation on both sides of the Atlantic and launched the Canada - EU - U.S. Atlantic Ocean Research Alliance. Commissioners Geoghegan-Quinn and Damanaki, on behalf of the EU, Dr Kerri-Ann Jones, U.S. Department of State, and Senator Mark Wells from Canada signed the Galway Statement on Atlantic Ocean Cooperation, in the presence of the Taoiseach, Mr. Enda Kenny, and Mr Simon Coveney T.D., Irish Minister for Agriculture, Food and the Marine. The agreement aims to connect the ocean observation efforts of the three partners. The work will also study the interplay of the Atlantic Ocean with the Arctic Ocean, particularly in relation to climate change.



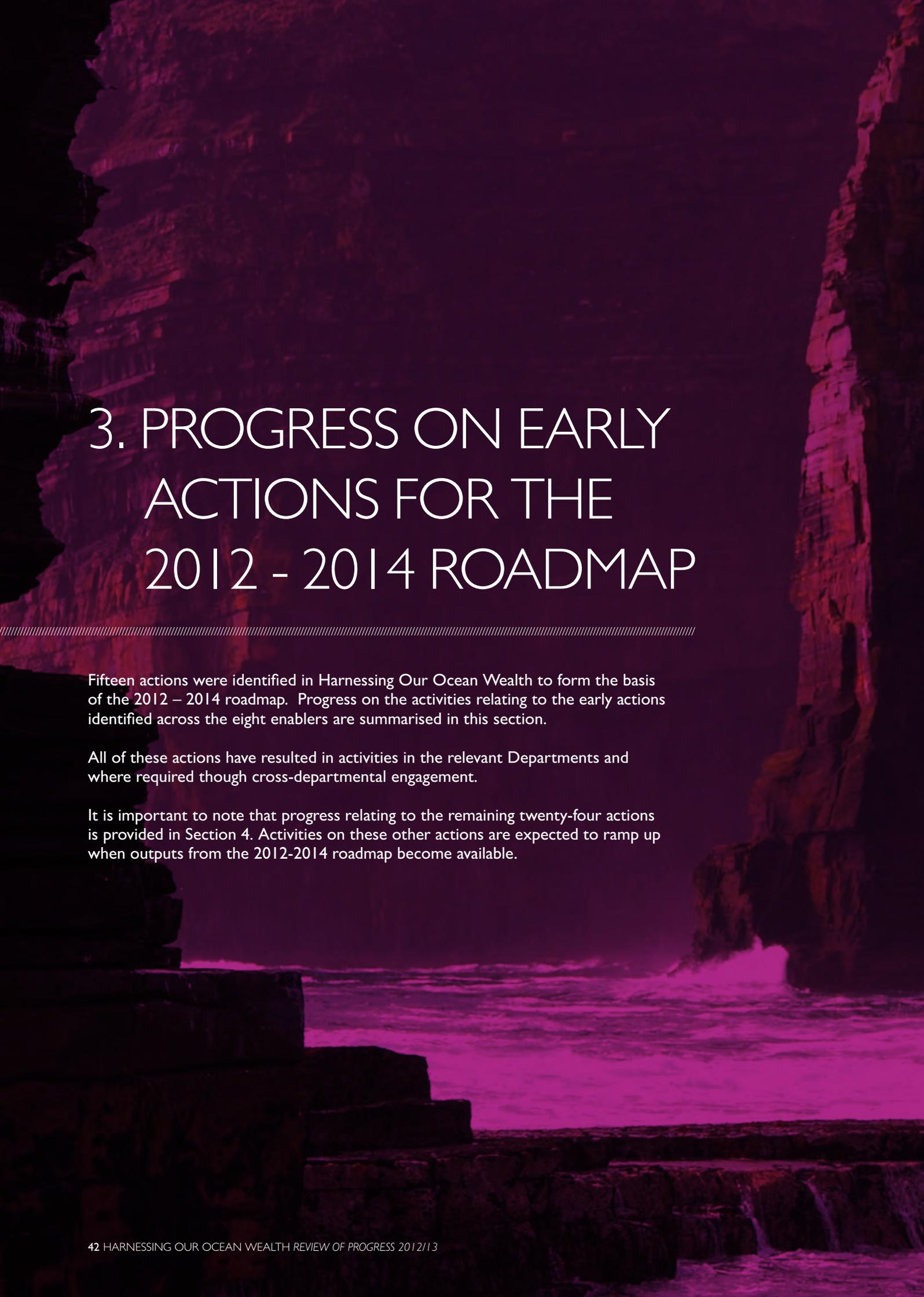
North / South collaboration

In November 2013, the 4th Annual SmartOcean Forum took place at Titanic Belfast, in association with InvestNI. The purpose of the all-island event is to highlight the potential of our ocean resources to support shared opportunities in delivering high-tech products and services to global marine markets. The forum focused on key areas such as: Blue growth, marine data and knowledge, renewable energy, and ocean observation. The Forum featured Irish, American, Canadian and European speakers from industry, academia and state agencies.



SmartOcean Forum, November 2013. Dr. Gilles Ollier, Head of Sector - Earth Observation, Directorate-General for Research & Innovation, European Commission, Minister Arlene Foster, Northern Ireland Minister of Enterprise, Trade and Investment, Ms. Alison Gowdy, Director of Sector and Cluster Development, InvestNI, Dr. Peter Heffernan, Chief Executive, Marine Institute, and Dr. Edel O'Connor, National Coordinator Advanced Marine Technology Programme, Marine Institute. Photograph courtesy of the Marine Institute, Copyright Press Eye Ltd, Belfast.

Further details on progress made across the International and North/South Cooperation actions identified in HOOW are also profiled in Section 3 (Progress on Early Actions) and Section 4 (Other Activities and Actions).



3. PROGRESS ON EARLY ACTIONS FOR THE 2012 - 2014 ROADMAP

Fifteen actions were identified in *Harnessing Our Ocean Wealth* to form the basis of the 2012 – 2014 roadmap. Progress on the activities relating to the early actions identified across the eight enablers are summarised in this section.

All of these actions have resulted in activities in the relevant Departments and where required through cross-departmental engagement.

It is important to note that progress relating to the remaining twenty-four actions is provided in Section 4. Activities on these other actions are expected to ramp up when outputs from the 2012-2014 roadmap become available.



Governance

Action 1: Develop and implement clear and forward-looking policies and strategies that support an increased contribution from our ocean economy to national GDP.

- Publication of a new National Ports Policy in March 2013. Further details are provided in Section 2.
- A strategic review of Rosslare Europort, designated as a Port of National Significance (Tier 2), was completed in autumn 2013 and the Minister endorsed its recommendations to Iarnród Éireann (as operators of the port).
- Additionally a separate review of competitive practices within the ports sector, undertaken by the Competition Authority, was completed in late November 2013 and the Minister for Transport, Tourism and Sport will report to Government on the sector's responses to its recommendations during 2014.
- Ongoing implementation of Food Harvest 2020 and the publication in July 2013 of BIM's new five year strategy for the seafood sector titled "Capturing Ireland's share of the global seafood opportunity". The Strategy sets targets for the creation of 1,200 additional jobs, aligned to a total sales value of €1 billion of which exports will form €650m by the end of 2017. Further details are provided in Section 2.
- The Offshore Renewable Energy Development Plan (OREDPA) was finalised in 2013 and launched in February 2014.
- The Development Task Force (DTF) was established in December 2013. The DTF's terms of reference includes developing an integrated enterprise strategy to generate momentum in specific emerging market opportunities prepared across development agencies.
- A Marine Biotechnology Task force was initiated in 2013 by the Marine Institute for the purpose of creating a vision and associated strategy for marine biotechnology RTDI in Ireland.
- Government has supported the successful bottom up approach to the development of the Imerc Cluster. A study by the University of Liverpool on the job creation potential of the cluster, undertaken in 2013, signalled upwards of 3,000 new jobs to be facilitated through Imerc partners by 2025. This will impact on 33% of the 2.4% ocean related GDP target of the IMP.

Action 2: Develop an integrated approach to marine and coastal planning and licensing in order to maximise the potential for Ireland's ocean economy; assist with managing our resources effectively and sustainably; manage potential conflicts; and ensure harmonisation with coastal/terrestrial planning.

- In July 2013, the Government approved the General Scheme of the Maritime Area and Foreshore (Amendment) Bill. The General Scheme was published in October and was subjected to pre-legislative scrutiny by the Joint Oireachtas Committee on Environment, Culture and the Gaeltacht in November. The Committee reported on its deliberations in February 2014 and its findings are under consideration by the Department.
- The Department of Environment, Community & Local Government continued to work on the development of the foreshore IT system which will automate case management and manage data capture and workflows. Work on Phase 2 of the project is on-going and involves the scanning of historical deeds and maps.
- In order to put in place adequate assessment of aquaculture licence applications in 'Natura 2000' areas, the implementation of the process agreed with DG Environment in 2009 has resulted in completion of Appropriate Assessments in respect of Castlemaine Harbour, Dundalk Bay, Roaringwater Bay, Lough Swilly, Donegal Bay and Dungarvan Harbour.
- Licensing work in non-Natura areas resulted in a total of 115 aquaculture licence determinations being made in 2012. In 2013, 137 aquaculture licence determinations were made and of these 120 were in respect of sites in 'Natura' areas.
- The Enablers Task Force submitted its report and recommendations to the MCG in November in relation to the HOOW action to "Develop an appropriate Maritime Spatial Planning Framework for Ireland within which the scope and objectives of an overarching national Marine Spatial Plan will be defined".

Further details are provided in Section 2.



Maritime Safety, Security & Surveillance

Action 3: Develop and implement systems to provide real-time operating, surveillance and monitoring information on activity within Ireland's maritime domain.

- During 2013, the Naval Service upgraded their maritime technology at the Naval Base Operations Centre and this software will also be installed on all Naval ships by end April 2014.
- The Irish Maritime Administration (IMA) of the Department of Transport, Tourism and Sport is partaking in a European Maritime Safety Agency (EMSA) sponsored project developing a maritime surveillance picture around all of EU waters. As part of that project the IMA is providing a variety of static and dynamic maritime surveillance data sources to EMSA for integration onto the IMDatE platform and feedback.
- The Irish Naval Service has enhanced its ability to provide real-time data for the Recognised Maritime Picture through its collaboration in FP7 projects such as Darius and Perseus, and through its work with the indigenous start-up/enterprise development sector.

Further details are provided in Section 2.

Clean-Green-Marine

Action 9: Implement the EU Marine Strategy Framework Directive

- The first step in the implementation of the MSFD in Ireland was an Initial Assessment of Ireland's marine waters and establishment of a comprehensive set of environmental targets and associated indicators for the marine waters so as to guide progress towards achieving GES.
- Work on the Initial Assessment (Articles 8), the determination of Good Environmental Status (Article 9) and the establishment of Environmental Targets (Article 10) has been completed and uploaded to the Commission website (EIONET), and Ireland has met its obligations in that regard.
- To further facilitate public participation a national report which provides narrative information on the status of Irish marine waters has also been prepared and was published on 1 November 2013 along with Ireland's Marine Atlas. The narrative report has been notified to the Commission.
- Ireland's Marine Atlas, which incorporates all the spatially relevant data and information compiled or identified during the Initial Assessment process for the MSFD, is now hosted in the Marine Institute and is available online at <http://atlas.marine.ie>. A project to upgrade the atlas for cross-platform compatibility (including mobile) is scheduled for 2014. Ongoing maintenance of the data will be carried out by the Marine Institute on behalf of DECLG.
- In late 2013, the Marine Institute linked requirements of new EU data collection framework (Seafood Operational Programme under the European Maritime and Fisheries Fund) to incorporate additional work that will deliver MSFD obligations.

Further details are provided in Section 2.

Action 10: Deliver all measures relevant to Ireland as directed under the Common Fisheries Policy (CFP) and national measures including the conservation, management and rebuilding of fish stocks and long-term sustainable exploitation of marine biological resources.

- The Irish EU Presidency delivered on one of its highest priorities in securing agreement on the main elements of the EU's new Common Fisheries Policy in May 2013. The new CFP, which came into force on the 1st of January 2014, will allow for the rebuilding of fish stocks in European waters which will support quota increases for Irish fishermen through long term management of stocks, reducing and eliminating discards and rebuilding stocks to Maximum Sustainable Yield.
- In November 2013, Minister for Agriculture, Food & the Marine, Simon Coveney TD, appointed Dr Noel Cawley to chair a national Discards Implementation Group.
- In a further practical step in the implementation of the new CFP, Minister Coveney also hosted the first meeting of the North Western Waters Regional Group of Member States. This group of Member States (Ireland, Netherlands, France, Belgium, Spain and the UK) has come together to develop the possibilities for more co-operation and regional decision making under the new CFP.
- Since the publication of HOOOW, the Marine Institute has published two Stock Books which informed management decisions on fishing opportunities for the Irish fishing fleet in 2013 and 2014 and were key to fisheries negotiations with the EU. The Stock Book has been published by the Institute since 1993 and has evolved considerably in that time period into an important scientific text enabling the concept of sustainable fisheries to be underpinned.

Action 12: Continue to implement EU Natura 2000 legislation (Birds and Habitats Directives):

- Ireland secured DG Environment approval in May 2013 to undertake risk assessments of sea-fisheries interactions with protected species and habitats in compliance with Article 6.2 of the Habitats Directive. This new approach recognises that many sea-fishing activities are not subject to prior authorisation and therefore detailed data is unavailable for appropriate assessments. The risk assessment approach is also being adopted by other Member States.
- To date, risk assessments have been prepared taking in over 45 Natura 2000 sites including in the Irish Sea from Carnsore to Carlingford as well as others in Cork and Donegal. This is in addition to the continuation of appropriate assessments for fisheries subject to authorisations. Mitigation measures to respond to a number of risks have already been put in place and more are at an advanced stage of preparation.
- Detailed site-specific conservation objectives for Natura 2000 sites are being developed on a prioritised basis, and to date 49 have been published for Special Areas of Conservation (SACs) and 26 for Special Protection Areas (SPAs). These can be accessed at www.npws.ie/protectedsites/. Six new marine SACs were advertised in December 2012.

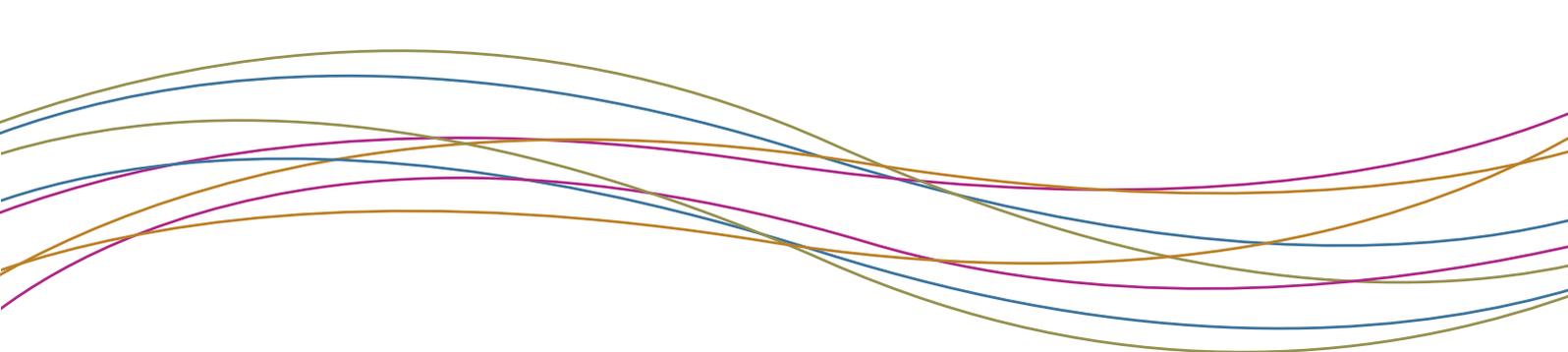
Further details are provided in Section 2.



Business Development, Marketing & Promotion

Action 17: Give a clear message to investors that Ireland is 'open for, and a good place to do, marine business' domestically and internationally and continue to market and promote business opportunities associated with the marine through the IDA, EI, IMDO, Bord Bia, BIM, Údarás na Gaeltacht and Fáilte Ireland.

- In 2013, experts in the global food sector highlighted the growing market prospects for seafood internationally. Identifying the need to develop the potential of the Irish seafood sector to become significant players in that market, BIM hosted two major conferences over 2013-14. The 2013 event focussed on developing route to market structures for Irish seafood players with resulting new initiatives including joint ventures by Irish companies to develop markets in China and live shellfish markets in France. The 2014 Aviva Conference concentrated on BIM's strategy of "Capturing Ireland's share of the global seafood opportunity", promoting investment in the sector, building scale, expanding raw material and adding value while enhancing sustainability in Irish seafood. The 2014 event was attended by 180 delegates including investors from Ireland, Norway, Canada and Iceland.
- Over 100 seafood companies availed of BIM's Seafood Development Centre (SDC) services for new product and product concept development, branding and labelling advice, sensory panels, pilot testing, equipment and product scaling-up. Some 30 new products were launched since 2012. In one key outcome, the SDC has worked closely with a southern based whitefish processing company which achieved a successful listing with a major UK retailer to supply two frozen seafood products from its range to 80% of the multiple's UK outlets in a €1.3 million deal. The company now employs 50 people at the plant.
- A major development on boarfish is the announcement in April 2014 of a €35 million investment by an Irish seafood group in what is expected to become one of the world's biggest bio-marine ingredients facility.
- Ireland's membership of the European Space Agency (ESA) provides significant opportunities to develop a vibrant downstream services industry in areas such as maritime surveillance and marine environmental monitoring. With ESA's support, Irish companies and researchers are developing innovative maritime services using satellite-derived data in these areas. TechWorks Marine, an Enterprise Ireland client company, has benefited from Ireland's membership of the ESA. The company secured a contract to lead an ESA research project on monitoring coastal outlets. This is the first time an ESA Earth Observation project has been led by an Irish group.
- In April 2013, ESA sponsored a Conference on "Space Innovation Powering Blue Growth" held at National Maritime College of Ireland, to examine the contribution of Space within Maritime Policy implementation. Over 120 delegates attended. The conference, an associated event of the Irish Presidency of the Council of the EU, was jointly organised by ESA, Enterprise Ireland, the Coastal and Marine Research Centre (University College Cork), the Irish Coast Guard, the Irish Naval Service and the DG Maritime Affairs of the European Commission.
- The Irish Maritime Development Office (IMDO) continues to market Ireland as an attractive location for international shipping services. 2012 saw the IMDO appoint new business development consultants in Hong Kong and USA to support targeted shipping services investment, while it also published a Report on Irish Ports' Offshore Renewable Energy Services which provided a comprehensive overview for potential investors in the capabilities of Irish ports to meet current and expected future demand in the emerging ocean energy sector.
- The IMDO has provided input and assistance to the promoters of the Irish International Shipping Services Centre in the Dublin Docklands. In November 2013 Dublin City Council adopted the North Lotts / Grand Canal Dock Strategic Development Zone planning scheme which has as an objective the development of such an International Shipping Services Centre within the SDZ.
- Throughout 2013 the IDA supported the development of the Imerc Master Plan to pave the way for marketing the Imerc campus internationally as an iconic location for multinational corporations and for Foreign Direct investment.
- This action is one of the four actions included in the terms of reference for the Development Task Force that was established in December 2013.



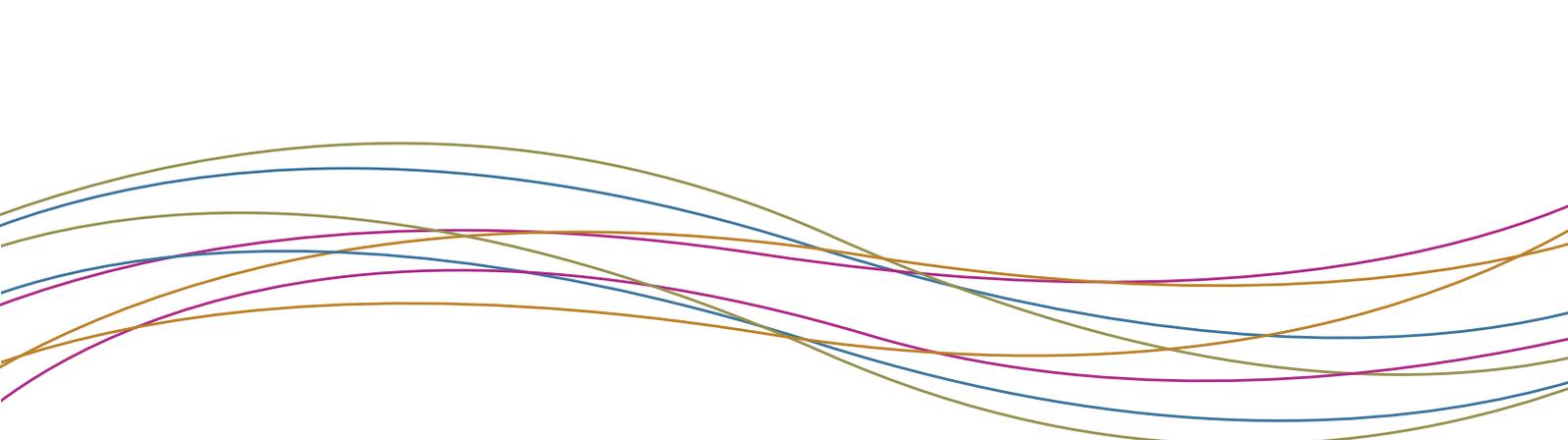
Research, Knowledge, Technology & Innovation

Action 21: Continue to fund strategic marine RTDI (industry, policy and discovery research) through cross-government/agency collaboration across a range of national and international funding mechanisms.

- The €29m SFI-funded Marine Renewable Energy Ireland (MaREI) Research Centre was officially launched in November 2013.
- €4.5m was granted to eight marine foods and marine biotechnology projects under the Department of Agriculture, Food and the Marine's FIRM Research Programme.
- In 2013, new investments by the Marine Institute were made in the areas of shellfish aquaculture, ocean acidification, fisheries and marine spatial planning. Projects were co-funded with the EPA and BIM.
- Access to National research vessels was available through the Marine Institute's annual competitive call that is open to Irish Higher Education / Research Institutes to carry out Research and Training onboard the Celtic Explorer and Celtic Voyager. The total value of grant aid awarded from July 2012 to December 2013 was €3.2 million.
- In June 2013 the largest regional 2D seismic survey ever to be acquired in the Irish offshore commenced and is aimed at addressing data gaps. Over 10,000 km of full-fold seismic data was acquired in 2013. The total cost of the 2013/2014 survey will be of the order of €20 million and is being funded from leveraged industry contributions.
- Over the 2012/2013 period, Irish marine researchers continued to enjoy success in EU competitive funding programmes (e.g. FP7 and INTERREG), with a cumulative grant-aid awarded to Irish marine researchers in the EU funding cycle (2007–2013) to over €50 million.
- European Space Agency research contracts awarded during 2013 include:
 - OceanFlux Sea-Spray Aerosol study which focuses on the use of satellite data to determine the production flux of sea spray aerosol particles.
 - Study of Ocean Surface Processes and their Impact on the retrievals of salinity from Soil-Moisture-Ocean-Salinity which focuses on investigating the oceanic processes that can complicate accurate retrievals of sea surface salinity from space.
 - Next Generation Recognised Maritime Picture which aims to greatly enhance the quality and accuracy of the recognised maritime picture for the Irish Naval Service through integration of several additional data sources not currently used to generate a Recognised Maritime Picture.
 - Special Meteorological Services for Maritime Search and Rescue to investigate the feasibility of introducing Specialised Meteorological Services with a uniform quality for Europe; establishing user needs; the technical means and the sustainability criteria for the service.
 - Anistiamo which examines new challenges in satellite-based maritime surveillance and Arctic monitoring.
 - eSurge which aims to increase global user uptake of products from ESA's earth observation missions as part of an integrated approach to storm surge, wave, sea-level and flood forecasting.
- In 2013, the Marine Institute commenced the preparation of a new Strategic Marine Research & Innovation Agenda and Action Plan (2014-2020). The Plan will identify priority research actions considered necessary to create the right conditions to support the delivery of the Integrated Marine Plan (HOOW).

Action 25: Support existing and new test-beds for demonstration and commercialisation purposes that promote Ireland as a test-bed for renewable energy technologies and ICT (SmartOcean) focusing on the development of innovative technologies that support real-time information gathering (e.g. for security, surveillance, environmental monitoring).

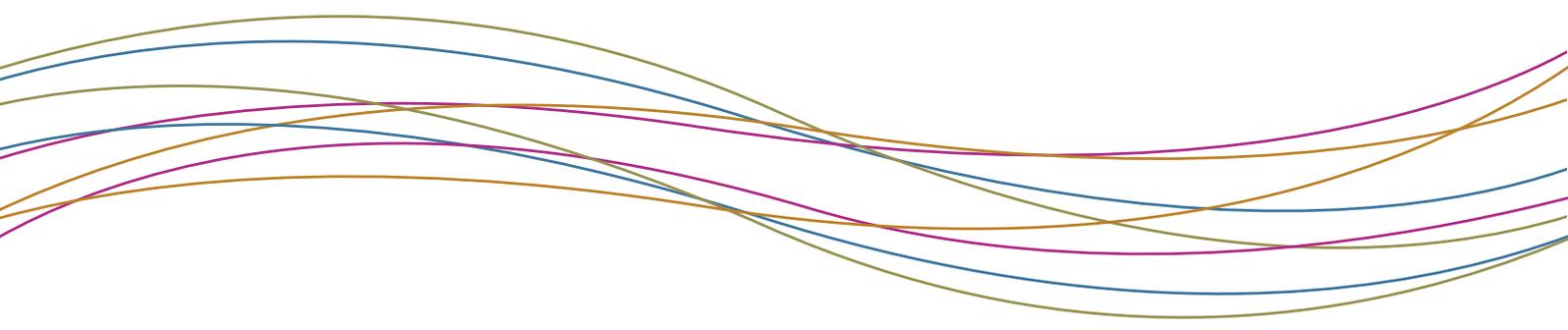
- In 2013, construction commenced on UCC's new Beaufort Laboratory, strategically located on the Imerc Campus, adjacent to the NMCI and the Irish Naval Service. Upon completion, Beaufort will house the national ocean energy test tank facility, which will form part of a test bed infrastructure available through the Imerc partners. This includes naval vessels and simulation facilities.
- During the same period, the Halpin Centre for Research and Innovation successfully led a proposal to SEAI to develop capability towards a new maritime surveillance platform that leverages the technical capability of innovative start-up companies such as Sea-Fi (wireless communication at sea) and Skytec (unmanned aerial systems).
- The Marine Institute led a successful application to Science Foundation Ireland under its 2012 research infrastructure call which approved a funding contribution towards the build of a fibre optic cable and seabed node and associated equipment which will underpin test and demonstration activities at the quarter scale ocean energy test site and SmartBay in Galway Bay. In 2013, planning permission for the shore station was granted, which will be located with the secondary school in Spiddal. The foreshore licence was also submitted for the project – no objections were received during the public consultation or with prescribed bodies. The application has been forwarded to the Minister for consideration.
- SmartBay Ireland, a not-for-profit company, was established by the Marine Institute and the third level sector in 2012 to manage Ireland's marine test and demonstration facility in Galway Bay. The company receives funding from the Higher Education Authority (HEA) which is used to fund a team of six permanent staff and cover the company's operational costs for a period of three years. Dublin City University (DCU) is the lead research organisation supporting SmartBay as part of the HEA funding. Other research partners include the Marine Institute, NUI Galway, NUI Maynooth, University College Dublin, Intel and IBM.
- The SMARTBay National Infrastructure Access Programme Activity II fund was launched in June 2013 through Dublin City University over a two year period to enable researchers to access the SmartBay Ireland National Test and Demonstration Facility in Galway Bay. SmartBay Ireland held a workshop in Galway in June 2013 for the Principal Investigators. This workshop included presentations and a round table discussion to explore user requirements for the proposed power and data cable which is to be laid from Spiddal; and received feedback on the current activities and direction of SmartBay Ireland.
- In early 2013, the Commissioners of Irish Lights (CIL) commenced the Dublin Bay Digital Diamond (DBDD) project, an e-Navigation demonstrator project for the Dublin Bay area. The purpose of the project is to provide an opportunity for users across the maritime sector to explore and develop the potential of e-Navigation services. E-Navigation has the potential to deliver significant benefits to shipping companies, regulators, ship agents, forwarders, shippers as well as safety and environmental interests. CIL will leverage existing third party infrastructure, CIL sites and their network infrastructure to provide platforms for communications, equipment and solutions testing. The proposed primary stations include Kish Lighthouse, Baily Lighthouse, Dublin Port and CIL Dun Laoghaire. A Technical Advisory Committee comprising of representatives from across the maritime sector has been established to provide input and oversight of the project.
- This action is one of the four actions included in the terms of reference for the Development Task Force that was established in December 2013.



Capacity, Education, Training & Awareness

Action 27: Maintain and build capacity (people) to meet the needs of the maritime sector; e.g. through tailored education and training programmes and research capacity building.

- The Expert Group on Future Skills Needs have commenced a study to identify future skills needs and labour market supply and demand trends in the marine area.
- Over the six years of its SFI funding award, the MaREI Research Centre will train 51 PhD students and 15 post doctoral students. For MSc students, the MaREI investigators have set-up an All-Island Marine Renewable Energy Master's Programme. This Master's programme is the only one of its kind in the world, educating engineers for successful careers in the marine renewables industry. The MSc students gain advanced engineering skills in areas such as wave energy, tidal energy and power systems as well as relevant non-technical expertise in areas such as geological surveying and environmental impact assessment, whilst industry placement hosts benefit from access to cutting-edge expertise in marine renewables, as well as an opportunity to develop existing projects and new R&D ideas. 12 students are currently doing the Master's Programme, and the first industry placement programme will run from June 2014 to September 2014.
- The National Maritime College of Ireland (NMCI) continued to provide training to approximately 400 students/cadets annually. In addition NMCI Services also provides a range of short commercial / CPD courses tailored for industry. Over the period 2012-2013, the average number of students/trainees attending courses given by NMCI Services was approximately 1,500.
- Bord Iascaigh Mhara (BIM) continues to provide training courses at its dedicated facilities through the National Fisheries College of Ireland at Greencastle, Co. Donegal and at Castletownbere in Co. Cork. BIM also provided short courses at other locations around Ireland e.g. through its mobile training unit service which provides hands-on at local level. BIM is also increasing its capacity to provide courses by expanding facilities at Crofton Road, Dun Laoghaire to cater for demand on the East Coast. BIMs courses cover a variety of disciplines ranging from training for the fishing industry i.e. Fishing Skippers, Second Hand's, Crew and Marine Engineers to Safety Training, Radio and Navigation, Passenger Boat Proficiency, Aquaculture, Seafood Hygiene, Processing and Labelling. In 2012, approximately 1,145 people were trained for the Sea food Industry at Greencastle and Castletownbere and the mobile unit visited 30 coastal locations around Ireland.
- BIM works closely with Education and Training Boards (formerly VECs) in delivering courses in remote rural areas. It also works with Údarás na Gaeltachta in Irish speaking areas and regularly consults with employers and industry stakeholders to ensure training requirements and standards are met leading to accreditation and employment.
- BIM plans to provide Seafood Business Management Courses in future in partnership with selected third level institutions in its Seafood Development Centre (SDC) at Clonakilty, Co Cork.
- Throughout 2012 and 2013, SMART continued to provide a range of tailored ship-based courses to develop capacity in carrying out offshore operations on board research vessels for third level students of marine-related science and technologies. In 2013, the SMART held the SMARTSkills 2013 inaugural Postgraduate Workshop on "Funding Opportunities and Data Access" in the Marine Institute in Galway. The two-day workshop was designed to support postgraduate researchers by providing practical, concise information on accessing available funding opportunities and marine data sets, two topics identified as essential for emerging researchers.



Action 28: Establish Ireland as an international marine training destination, maximising the capacity and potential of existing marine training facilities/programmes (e.g. BIM training, IMERC, Ryan Institute, NMCI, ship-based SMART initiative, private training operators), and integrate into national initiatives such as Educate in Ireland;

- The National Maritime College of Ireland (NMCI) continues to develop its academic, Naval Service and professional training and education programmes. Further details are provided in Section 2. In addition, the following projects have been initiated:
 - Integrated Maritime Promotion Action (IMPACT). This promotes the use of ICT and e-learning methods for maritime vocational education and training.
 - Marine Learning Network (MARLEANET). This involves the implementation of a maritime training network for sectors such as fishery, merchant navy, Navy and offshore activities
 - The Naval Service also developed common training programs and e-learning platform for public and private sectors, maritime companies and institutions which meets new teaching and seafarers' requirements.
 - The Maritime English Learning (MARTELPLUS) programme uses the standards already created for Officers in the MARTEL project, the MARTEL Plus project will create an additional standard for Maritime English at foundation level for Ratings (Phase R).
- Beaufort Research continued to successfully lead on the MARINET initiative which provide free of charge transnational access to wave, tidal and offshore wind test bed facilities across Europe. Over €1.2m and 175 weeks of access has been awarded to 50 successful projects, bringing total funding awarded to date to €3.5m.
- In 2013, the Strategic Marine Alliance for Research and Training (SMART) delivered a number of high-quality, offshore educational programmes. Further details are provided in Section 2.
- This action is one of the four actions included in the terms of reference for the Development Task Force that was established in December 2013.

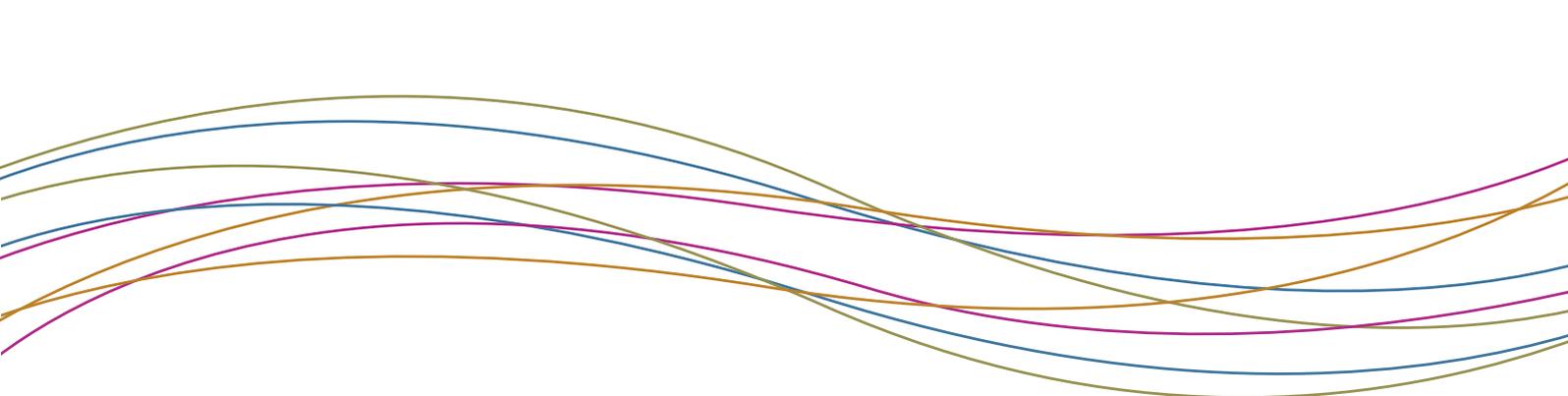
Infrastructure

Action 31: Maximise the utilisation of existing state maritime infrastructure (e.g. research vessels, coastal access points) through multi-purpose usage and sharing, in support of operational programmes, research, test and demonstration and monitoring.

- Imerc partners in UCC, CIT and the Naval Service have participated in a broad range of initiatives that have broadened the access to their research, education, training and test bed infrastructure to a wide variety of civil society, military and industry stakeholders (e.g. Marleanet, MARINET, MaREI outreach, NMCI incubating companies).
- The State research vessels are heavily utilised annually by a wide variety of users from the state and third level research sectors, as outline in Section 2.
- In the summer of 2013 the Marine Institute, in partnership with Commissioners of Irish Lights and their vessel Granuaile, completed an ROV survey of the subsea assets of Kinsale Energy Ltd on a commercial basis. This project greatly increased the capabilities of these organisations to complete such complex tasks.
- During 2013, CIL continued to develop Pillar 3 of their new strategy, namely, exploiting and leveraging CIL's all island infrastructure of fixed, floating and mobile platforms and the coastal technology and communications networks.
- The Integrated Mapping for the Sustainable Development of Ireland's Resource (INFOMAR) team is working with the Dublin Business Innovation Centre to develop the public awareness of the programme and its assets, and to encourage new sectors to access and utilise the data for business development purposes, with a view to generating jobs and economic growth.
- INFOMAR is beginning to engage in a development role to accelerate take up on business and technology opportunities associated with the programme outputs, including:
 - Developing a light tiled version of the data portal, to support data use in mobile device apps. This will enable a user to access tiled seabed data at sea while out of GSM coverage.
 - Developing a suite of INFOMAR apps in partnership with key marine sectors, for improved information services, supporting on and in the water activities. The first app under development is a diving app, promoting marine leisure and tourism, supporting the Fáilte Ireland Wild Atlantic Way and Blue Way initiatives.
- Education and outreach development incorporating production of a computer coding toolbox for marine field based projects, and promoting development of third level survey related courses. This will encourage a new generation of computer literate marine science enthusiasts to familiarise themselves with INFOMAR and its data applications, and to develop technology solutions to utilise them.
- Building a data architecture that will streamline 3rd party geo-referenced reporting, data, and image upload for the coastal and marine environment. Use of geospatial mobile technology will encourage citizen science participation in monitoring and protecting our coastal and marine environment
- Towards the end of 2014, INFOMAR will launch new data products and services that will encourage Ireland's youth, society, and foreign tourist base, to more actively engage in leisure and learning, in what is one of the most diverse and data rich marine environments in Northwest Europe.

Action 34: Carry out national, regional and local initiatives aimed at tapping into the potential of new and existing coastal infrastructure to develop sustainable products, services and jobs. This would encourage investment along the coast.

- The Wild Atlantic Way was launched in February 2014, with the overall aim to develop a long-distance driving route that will achieve greater visibility for the west coast of Ireland in overseas tourist markets. Further details are provided in Section 2.
- A cross border project, under the auspices of the Commissioners of Irish Lights, was launched in September 2013 to develop lighthouse sites as visitor attractions. Further details are provided in Section 2.
- Department of Transport, Tourism and Sport / Fáilte Ireland have finalised a report on "Research into best practice regarding the development and funding of marina and berthing facilities in Ireland and abroad".
- The commercial ports sector has continued to further develop cruise related business and improve their cruise related infrastructure. Figures for 2012 showed an increase of approximately 14% in cruise calls at Irish ports, while indicative figures for 2013 show a further increase in calls when compared to 2012.
- All three of the Ports of National Significance (Tier 1 Ports - Dublin, Cork and Shannon Foynes) have published development masterplans outlining their likely development requirements over the next thirty years and all engaged in pre-planning consultations with An Bord Pleanála during 2013.



International & North/South Cooperation

Action 36: Influence the development and implementation of EU maritime policy, strategies and programmes (e.g. IMP-EUSA, CFP, MSP, MSFD) to assist in the delivery of the goals of *Harnessing Our Ocean Wealth*.

- A workshop was held in Dublin in December 2013 on Strengthening the uptake of EU funds for Natura 2000. The workshop was jointly organised by the Department of Arts, Heritage and the Gaeltacht, the EU Commission and their contractors, the World Wildlife Fund. A “Handbook for Financing Natura 2000”, based on the new relevant EU regulations for the period 2014-2020, was presented. The obligations on Member States for managing Natura 2000 sites and the financing possibilities from EU funding instruments were presented and discussed.
- The Partnership Agreement approved by Government on 15th April 2014, and formally submitted to the European Commission on 22nd April 2014, sets the high level priorities for Ireland’s ESI Funds which are promoting jobs and growth; combating unemployment and social exclusion; promoting R&D and ICT investment and the competitiveness of the business sector; and promoting an environmentally-friendly and resource-efficient economy.
- The Irish Presidency secured the adoption by the General Affairs Council and European Council endorsement of an Action Plan for the Atlantic Strategy in June 2013. The Irish Government hosted the fifth and final meeting of the Atlantic Forum in University College Cork on March 2-3. This was the major stakeholder consultative process, which led to the Action Plan.
- As a first step in internationalising the Atlantic Strategy, the EU signed the Galway Statement on Atlantic Ocean Cooperation launching a research alliance between the EU, Canada and the USA which aims to deepen our common understanding of the Atlantic ecosystem.
- Council Conclusions on Integrated maritime policy were adopted under the Irish Presidency at the General Affairs Council in June 2013, which recognised the progress in a number of areas of maritime policy since the adoption of the Limassol Declaration by EU Ministers in November 2012.
- The Irish Presidency opened Council negotiations on a proposal for a Directive on Maritime Spatial Planning and Integrated Coastal Planning in March 2013. The Irish Presidency chaired a number of Council working groups on the proposed Directive, discussion of which continued under the Lithuanian Presidency in the second part of 2013.
- The Irish Presidency also hosted the High Level Focal Points meeting in Valetta, Malta, en marge of European Maritime Day, at which Member States discussed their national maritime development plans and Ireland made a presentation on ‘*Harnessing Our Ocean Wealth*’.
- Under the auspices of the Irish Presidency and with the support of the Commissioners for Maritime Affairs and for Research and Innovation, the Marine Institute and the Permanent representation of Ireland to the EU in Brussels organised a performance of *The Longest River* in Brussels in May 2013. This cross-over scientific/cultural event raises awareness of ocean science through the medium of television footage from the oceans depths with poetry and music.
- As part of the Irish presidency, a number of Irish stakeholders also participated in the Valetta European Maritime Day Conference, which focused on the theme of maritime coastal tourism. The Irish Presidency of the EU also hosted the High Level Focal Points meeting on 22 May 2013, during the European Maritime Day Conference, at which Member States discussed their national maritime development plans. Ireland made a presentation on *Harnessing Our Ocean Wealth*. Dinny McGinley, T.D., Minister of State at the Department of Arts, Heritage and the Gaeltacht, represented the Irish Presidency of the European Union at European Maritime Day on 21 May 2013 in Valetta, Malta.



Action 38: Continue to foster North/South and East/West approach in developing/enabling the marine sector (e.g. grid /all-island energy strategy, marine tourism and leisure) through existing structures and bodies.

- Meetings have been held between officials from Ireland and Northern Ireland to discuss issues of mutual interest related to the Habitats Directive and Marine Strategy Framework Directive, and possibilities for joint approaches to source funding.
- In November 2013, the Marine Institute held the 4th Annual SmartOcean Forum at Titanic Belfast, in association with Invest NI. Further details are provided in Section 2.
- The Marine Institute formed research partnerships with China, the UK, and the US. This included a Memorandum of Understanding with the Chinese Academy of Fishery Sciences at the Ministry of Agriculture, Beijing aimed at enhancing cooperation in Fishery Science and Technology. The Marine Institute also established a Memorandum of Understanding with the National Oceanography Centre (UK) to foster closer co-operation and joint activities between Ireland and the UK in the area of marine research, development and innovation.

4. OTHER ACTIVITIES AND ACTIONS

In addition to the fifteen actions identified in *Harnessing Our Ocean Wealth* (HOOW) as the basis of the 2012 - 2014 roadmap (Section 3), and additional twenty-four actions were identified in HOOW across the eight enablers.

The following provides a summary of progress across these remaining actions. The timeline for implementing these actions ranges from 'ongoing' to medium term.

Maritime Safety, Security and Surveillance

- Implementation continues for flag State with new international merchant ships, domestic ships and fishing vessels entering the flag, in-service flag State implementation is continuing and Ireland continues to implement the port State control regimes. In particular Irish ships have been issued with Statements of Compliance with the ILO Maritime Labour Convention, 2006 by the 20th of August 2013. [Action #5]
- Ireland has maintained its position on the latest Paris MoU “White List” effective from 1st July 2013. Ireland remains on the IMO STCW “White List” for seafarer training. [Action#6]
- Following Government approval of an Action Plan to improve Maritime Safety and Marine Emergency Response Services, a re-organised maritime section in the Department – called the Irish Maritime Administration – was created in July 2013 to integrate more efficient and effective planning and delivery of all the maritime services of the Department under a single national office. [Action #7]
- Following on from a Government decision in 2011, enabling Enterprise Ireland to support the development of Defence Forces capabilities, the Naval Service is currently engaged with many Irish Enterprises, who can benefit from the expertise offered by the Naval Service. Some of these companies are supported by Enterprise Ireland. In addition, through Imerc a number of projects in the marine area are currently being developed including: Atlantic Regions Coastal Pollution Response; Deployable Sea Air Rescue; Integrated Chain with Unmanned Systems; a surveillance system of systems to monitor illegal migration and combat related crime and goods smuggling; and an Atlantic Power Cluster project. [Action #8]

Clean - Green - Marine

- The European Commission raised nine grounds of possible infringement in terms of Ireland’s implementation of the Water Framework Directive (WFD) in 2007, and six of those are now effectively resolved. Ireland’s 1st cycle River Basin Management Plans (RBMPs) under the WFD were finalised in 2010. Implementation of the plans was delegated to Local Authorities. The Directive requires 2nd cycle RBMPs to be prepared by end-2015. It has been decided that, for the 2nd cycle, an improved governance structure is needed. A new 3-tiered governance arrangement has been agreed in principle between DECLG, the EPA and the County and City Managers’ Association (CCMA). Updates on Ireland’s continued engagement with the Commission on how best to address remaining issues on the implementation of the Water Framework Directive Outputs from on-going refinement on the details of how the new governance arrangement for implementing the 2nd cycle River Basin Management Plans Water [Action #11]
- The Department of Agriculture, Food and the Marine commenced preparation of its sectoral adaption plan under National Adaptation Framework and sectoral roadmap required under the Low Carbon Bill. A preliminary stakeholder consultation was held towards the end of 2013. Experts in the Marine Institute and BIM have provided the Department with further input and preparations are underway to present a draft roadmap to the Minister for public consultation in 2014. [Action #13]
- In January 2013 the Marine Institute carried out its annual ocean climate section onboard the RV Celtic Explorer. The data have been included in the International Council for the Exploration of the Seas (ICES) Report on Ocean Climate. All temperature and salinity profile data collected in 2013 were submitted to the ICES Data Centre in early 2014. [Action #13]
- The Environmental Protection Agency (EPA) published the “State of Ireland’s Climate 2012” in February 2013. The report includes an analysis of the current network of marine sentinel sites for the collection of Essential Climate Variables and makes recommendations for its longer term maintenance and expansion where possible. [Action #13]
- Implementation of the Ireland’s National Biodiversity Plan “Actions for Biodiversity, 2011-2016” is making good progress via many Government Departments and Agencies. An interim review of implementation will be published later in 2014 [Action #14]
- A two-day conference on Natural Capital was held in the National Botanic Gardens in April 2014. A “Natural Capital Forum” was established and work will continue to foster research in this area, including in regard to marine biodiversity and ecosystem services. [Action #15]

Business Development, Marketing & Promotion

City and County Enterprise Boards (CEBs) provide direct grant-support to new and existing enterprises and promote entrepreneurship and capacity building at local level to micro enterprises in the commercial sphere. A number of CEBs have undertaken actions to encourage and facilitate coastal communities to avail of existing and future marine enterprise opportunities, for example:

- Kerry CEB and the Taste Kerry Initiative;
- Wicklow CEB and the Irish Sea Maritime Cluster;
- Sligo CEB and Celtic Seaweed Baths in Strandhill;
- Clare CEB has engaged with MI in relation to the development of a plan and enterprise related activities in this sector along the Clare coastline;
- West Cork CEB provides ongoing mentoring and consultancy to projects in the Marine Sector for example to Bere Island Boatyard Ltd; [\[Action #19\]](#)

Capacity, Education, Training & Awareness

The Marine Institute delivered its Explorers Education programme with its partners Galway Atlantaquaria, Galway Education Centre, Bray SeaLife Centre, Blackrock Education Centre, and Lifetime Lab, Cork to over 88 primary schools in Galway, Mayo, Clare, Dublin, Wicklow and Cork.

The 2013 Explorers marine education programme highlights included:

- Restructuring of the Explorers programme (2013-2014 school year) in Galway, which resulted in an increase from 44 to 60 schools in Galway, Clare & Mayo. The programme included: the installation of marine aquariums in classrooms; beach safaris; marine projects and workshops held for Maths, Science and Engineering weeks. The East coast involved nine schools participating with the installation of aquaria in school classrooms. In addition, a series of marine science workshops were run for 19 schools from Cork City and County.
- The Explorers Planning Guide for primary school teachers was developed, which presents opportunities to introduce cross curricular lessons and activities including subjects in English, Gaeilge, Mathematics, Science, Geography, History, and the Arts. These are available online at www.explorers.ie.
- The Marine Institute's Summer face-to-face Teacher training course was booked out through the Galway Education Centre, which included 25 teachers, funded by the Department of Education and Skills.
- The Explorers Education programme participated in outreach events throughout the country including St Patricks Big Day Out Dublin; Native Species Weekend, Dublin; World Ocean Day, Galway; John Barry Maritime Festival, Wexford, Galway Science and Technology Festival and Clare Science Expo, where the Real Map of Ireland and other marine activities continue to be promoted.
- Over 700 students from Galway, Roscommon and Mayo visited the Research Vessel Celtic Explorer in Galway in response to a national writing competition where primary school students demonstrated their awareness Ireland's marine life and ocean. [\[Action #29\]](#)

IMDO's dedicated schools program "Follow the Fleet" continued in 2012/13 to generate a high level of interest with 1421 primary level schools participating on a nationwide basis with a potential outreach of over 55,000 school children. [\[Action #29\]](#)

INFOMAR is actively engaged in developing an outreach and education program, targeting primary and secondary schools, but also aimed at increasing public and industry awareness. Having setup an online survey vessel tracker, notifications have been circulated to schools where survey activity will take place, with links to social media provided to track progress, and upload features and photos of interest. Secondary transition year teachers are working with INFOMAR and industry partners to develop and roll out a bespoke computer coding based marine project related educational technology. In addition professional upskilling log books and school lesson plans and school packs are being developed. [\[Action #29\]](#)

Infrastructure

- The Department of Agriculture, Food and the Marine continued to support the ongoing development of 'Fishery Harbour Centres' at Killybegs, Ros an Mhíl, Dingle, Castletownbere, Dunmore East and Howth with funding from its annual Fishery Harbour and Coastal Infrastructure Capital Development Programme.
- In April 2012 a major new €39.5 million Wharf Development on Dinish Island at Castletownbere Fishery Harbour Centre was officially opened.
- In 2012 the total expenditure under the Capital Programme was €6.73 million, €9.39 million in 2013.
- In 2014 the overall Capital budget is €14.6 million of which €3 million is to be allocated as funding for Local Authorities. [Action #32]
- €1.3m was allocated through lottery funds in the 2014 budget to support site development works on the Imerc campus. This will deliver serviced sites to jointly market to international clients with the IDA.
- The Marine Institute is making a range of marine data generally available for reuse including for applications such as marine research, development and governance. This includes through its website including a new data download portal (<http://data.marine.ie>) and as online web services. The Marine Institute has been an active participant in the national INSPIRE working groups to progress how marine environmental data is shared in a standard way with other Government organisations including through the Irish Spatial Data Exchange (ISDE) project (www.isde.ie) and the definition of the ISDI metadata profile. The data catalogues behind the Irish Spatial Data Exchange project are being updated. The Institute has been active in both EMODNET and the Copernicus Marine Service throughout 2013 and sits on the Marine Observations and Data Expert Group (MODEG) of DG MARE. [Action #33]
- All coastal flood hazard and erosion hazard maps have been completed by the OPW for the national coastline. (ICPSS) coastal flood hazard maps are currently being incorporated into long-term flood risk management plans. [Action #35]
- The Irish National Tide Gauge Network is an ongoing development involving the Marine Institute, the Office of the Public Works and other organisations in the public and private sector with a view to developing a permanent tidal monitoring infrastructure around the Irish coastline. 18 maintained and calibrated tide gauge stations are currently in operation. Network nodes are installed by the Marine Institute with 60% funding provided by stakeholders and 40% from the Institute. [Action #35]

International and North/South Cooperation

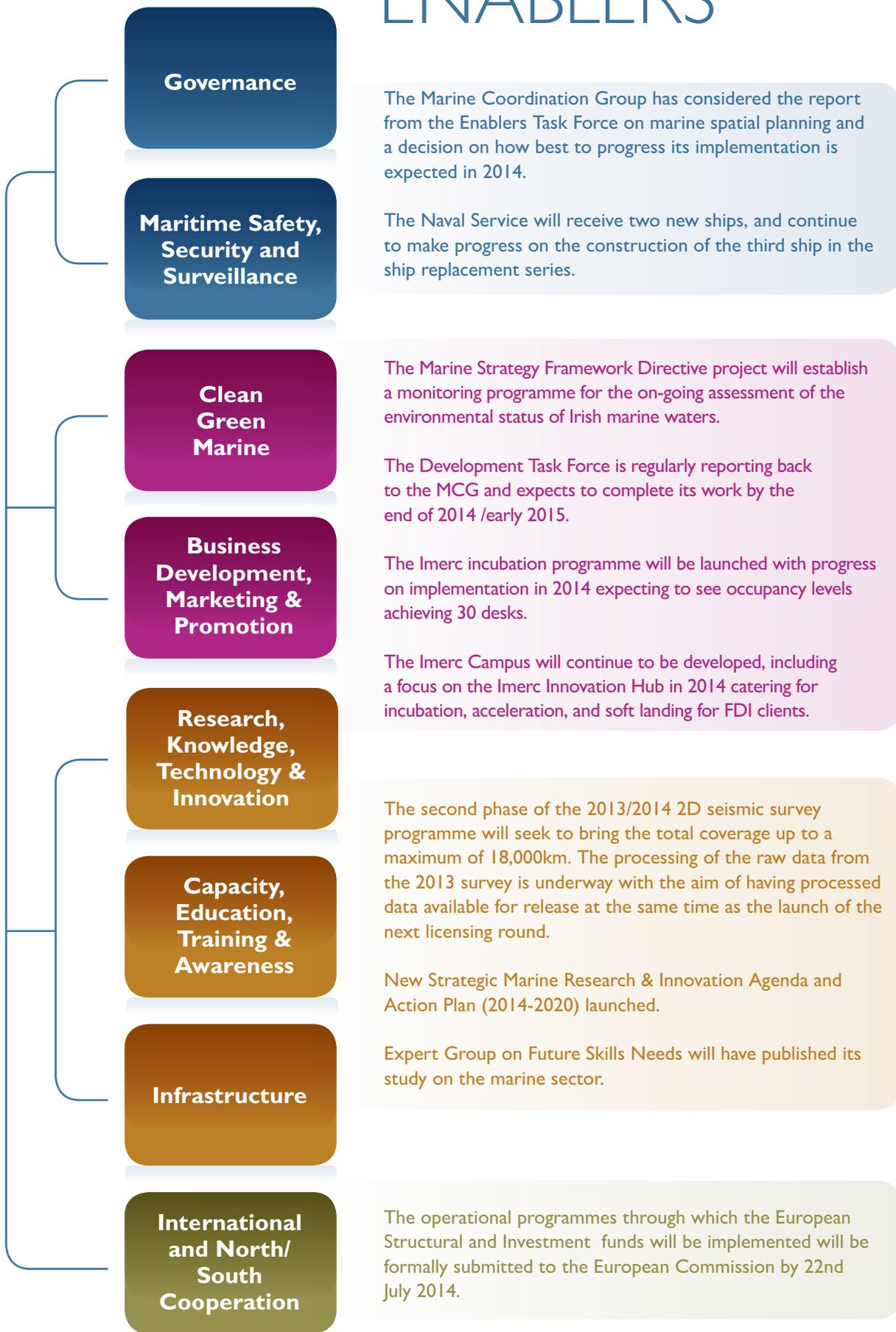
- The Horizon 2020 Work Programme for 2014/2015 has been agreed. A number of areas, including Blue growth: unlocking the potential of seas and oceans, have been identified for special focus. Further details are provided in Section 2. [Action #37]
- The Commission is consulting Member States on the development of work programmes for the implementation of Horizon 2020. The Department of Jobs, Enterprise and Innovation is represented on the Strategic Programme Committee and the Marine Institute is represented on the European Bioeconomy Societal Challenge. [Action #37]
- In 2012, Ireland entered into a Strategic Partnership Agreement with China which sets out a framework to ensure mutually beneficial cooperation between Ireland and China in a number of important areas. [Action #39]
- Bord Bia's business development and promotional activities have been successful in attracting over 70 international seafood buyers into Ireland during the last 3 years on coordinated seafood itineraries, making introductions to a large number of Irish seafood processors around the coast. This has resulted in many new markets being opened up for Irish seafood and consequently very strong export growth into key markets such as China, Russia, Hong Kong, and the USA. In the last year alone, Irish seafood exports to China have increased by 59% in value, to Russia by 104%, Hong Kong by 122% and in the US by 593%. [Action #39]
- The US-Ireland R&D Partnership involves the governments of the United States of America, Ireland and Northern Ireland working together to advance scientific progress by awarding grants for research on a competitive basis. Areas of focus for collaboration include health, telecommunications and energy. One of the projects approved for funding under the Partnership during 2013 in the area of marine renewable energy. Science Foundation Ireland (SFI), the Department of Employment and Learning Northern Ireland and National Science Foundation in the US approved a proposal in the area of Energy Sustainability which involves Principal Investigators from University College Dublin, Queens University Belfast and the University of Texas. The research aims to reduce the economic and environmental cost of harnessing offshore wind energy. Another project under the Partnership involves researchers at Tyndall National Institute, Cork, who are partnering with scientists from the United States and Northern Ireland to unlock the energy potential in water. The project entitled 'Research into Emerging Nanostructured Electrodes for the Splitting of Water' (RENEW), aims to use semiconductor materials and sunlight to isolate energy-laden hydrogen in water by replicating processes found in nature. [Action #39]
- A Science and Technology Agreement between Ireland and Russia is currently under negotiation. [Action #39]
- The Marine Institute established research partnerships with China, the UK, and the US. This included a Memorandum of Understanding (MOU) with the Chinese Academy of Fishery Sciences at the Ministry of Agriculture, Beijing aimed at enhancing cooperation in Fishery Science and Technology. [Action #39]
- The Marine Institute also established a MOU with the National Oceanography Centre (UK) to foster closer co-operation and joint activities between Ireland and the UK in the area of marine research, development and innovation. [Action #39]
- An MOU between the Marine Institute and the US National Oceanographic Atmospheric Administration (NOAA) has been in place for over ten years with a number of collaborative projects. This collaboration was enhanced in 2013 with the participation of leading NOAA and NSF scientists in the Galway Atlantic: A Shared Resource Scientific Workshop. [Action #39]
- In 2012 and 2013, Canadian scientists onboard the RV Celtic Explorer carried out two acoustic surveys off Newfoundland. The transit to/from Canada was used for a number of added value research activities. [Action #39]

5. EXPECTATIONS FOR 2014

Key milestones for *Harnessing Our Ocean Wealth* in 2014 will include the high-level conference “Our Ocean Wealth”, which will focus on the promotion of growth and jobs, providing a forum for Ireland’s marine community, to review progress in implementing *Harnessing Our Ocean Wealth: An Integrated Marine Plan for Ireland*.

Some of the main activities expected in 2014/15 are focused on continued work on the early actions identified for the 2012-2014 roadmap, in particular the development and implementation of recommendations from the task forces established by the Marine Coordination Group.

ENABLERS



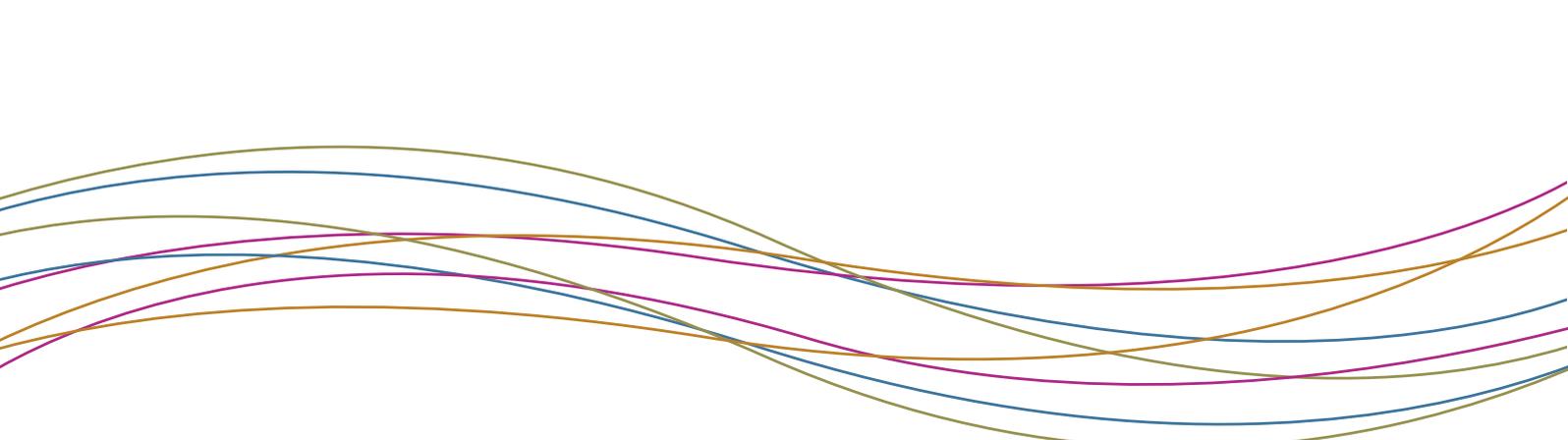
FURTHER DETAILS OF 2014 ACTIVITIES ARE AS FOLLOWS:-

Governance

- A consultation process on the proposed transfer of control of the five Ports of Regional Significance from central to local Government control was concluded and the General Scheme of a new Harbours (Amendment) Bill will be published in 2014.
- An Offshore Renewable Energy Steering Group (ORESG) is now being established, in order to oversee the implementation of the Offshore Renewable Energy Development Plan (OREDPlan). The Steering Group shall oversee an interim review of the OREDPlan and SEA in 2017, with a full review of both to be carried out in 2020. The ORESG will also provide the mechanism for Ireland's input to the EU Blue Energy Process.
- Drafting of the Maritime Area and Foreshore (Amendment) Bill is being progressed with a view to publication in 2014.
- Appropriate Assessments are currently underway in a further six bays in relation to 'Natura 2000' sites.
- In the region of 200/250 aquaculture licensing determinations are expected to be made in 2014.
- The Marine Coordination Group has considered the report from the Enablers Task Force in detail and a decision on how best to progress its implementation will be taken in 2014. Also the proposed EU Directive on Maritime Spatial Planning is expected to be adopted in mid-2014.

Maritime Safety, Security and Surveillance

- Department of Transport, Tourism and Sport is currently at an advanced tendering stage of a Shared Integrated Call Logging and Analysis System (SILAS) that will eventually see the creation of a shared integrated maritime picture for non-security related coastal state activities.
- As part of a project being developed through the European Defence Agency, the Naval Service has installed software that will enable them to share information electronically. The Naval Service is also working with start-up companies in the Imerc campus to develop solutions for maritime surveillance through the use of wireless technology.
- The Naval Service and Air Corps are currently applying for access to the European Maritime Safety Agency (EMSA) project.
- Naval service ships as above.

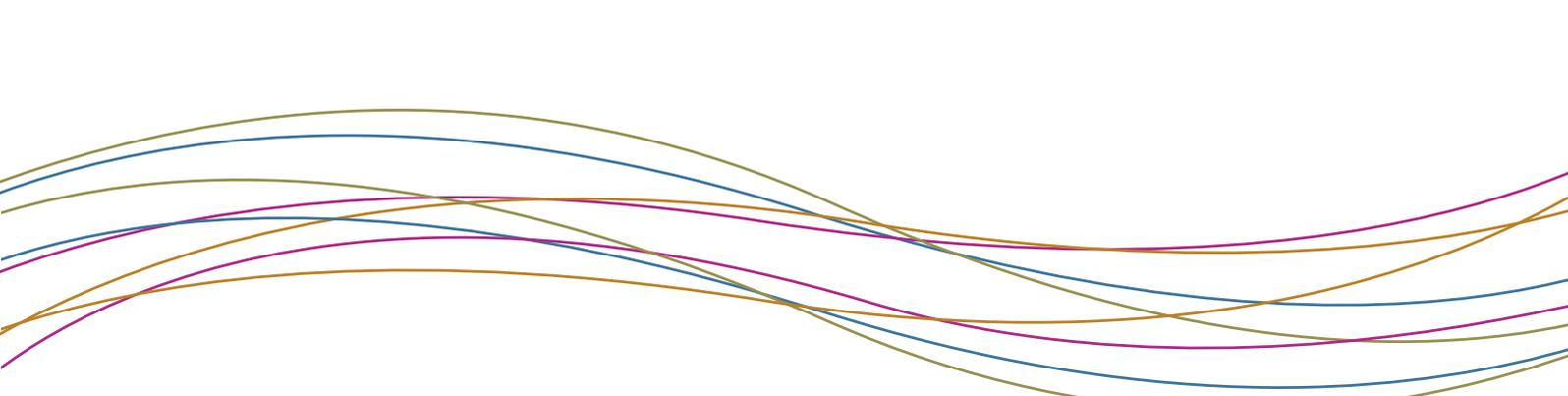


Clean Green Marine

- Risk assessment reports in relation to the EU Natura 2000 legislation for the south and west coasts are due for completion in 2014.
- Appeals were received against designation of the six new marine Special Areas of Conservation (SACs), which are currently under consideration.
- The Marine Strategy Framework Directive project will establish a monitoring programme for the on-going assessment of the environmental status of Irish marine waters. A project to upgrade the Marine Atlas for cross-platform compatibility is scheduled for 2014 and ongoing maintenance of the data will be carried out by the Marine Institute on behalf of the Department of Environment, Community and Local Government.
- The national Discards Implementation Group will ensure that the Irish fishing industry is fully prepared for, and engaged in, the implementation of the discards ban, a key element of Common Fisheries Policy reform. It will empower fishermen by giving them a key role in the implementation arrangements for their fisheries. The work of this group will be central to ensuring that the practical issues around the introduction of a discards ban, as identified by the Irish fishing industry, will be developed into long term sustainable management tools that will safeguard the future of our coastal fishing communities.
- Publication of the consultation report on proposed changes to the lobster and shrimp fisheries is expected in early 2014.

Business Development, Marketing & Promotion

- The Development Task Force is regularly reporting back to the MCG and is due to complete its work by the end of 2014 /early 2015
- Fáilte Ireland launches the Wild Atlantic Way. The next stages of the project have commenced and these involve: signing the route, delivering the 'Discovery Points', selling great Wild Atlantic Way experiences, and marketing.
- Announcements on new opportunities which Imerc target in areas such as marine renewable energy, shipping, logistics and transport, marine tourism and recreation, maritime security, maritime training, and maritime Information and Communications Technologies (ICT).
- Imerc incubators as above.
- The Marine Institute organises an Ireland Pavilion at Oceanology International 2014 (London) in order to promote Irish products and services in the area of marine ICT and related ocean technologies.
- Following the high profile 2014 Conference 'Capturing Ireland's share of the global seafood opportunity', BIM will concentrate its efforts between now and 2017 on attracting new domestic and international investment in the sector, building scale, expanding raw material and adding value while enhancing sustainability in Irish seafood. The focus will be on building on recent gains in developing new markets for Irish Seafood Products and placing a renewed focus on capturing further domestic and international investment opportunities.



**Research,
Knowledge,
Technology &
Innovation**

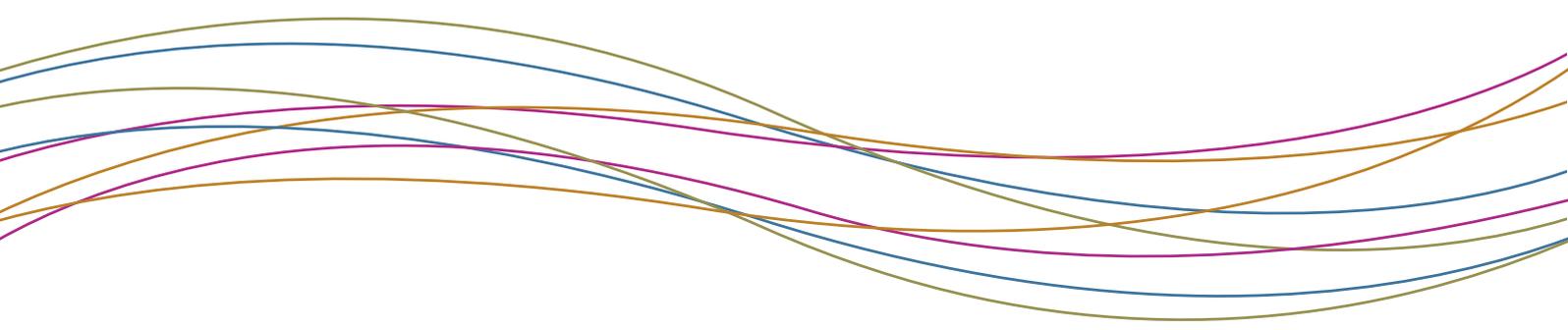
**Capacity,
Education,
Training &
Awareness**

Infrastructure

- A new Strategic Marine Research & Innovation Agenda and Action Plan (2014-2020), will be developed. This will include comprehensive stakeholder consultation, in cooperation with associated Government Departments and their research and development agencies.
- A report will be produced in 2014 encompassing a review of current and future skills needs across the marine sector, and recommendations to address the training, further and higher education and Continuous Professional Development (CPD) needs across the sector.
- The second phase of the 2014 2D seismic survey programme will seek to bring the total coverage up to 18,000km. The processing of the raw data from the 2013 survey is underway with the aim of having processed data available for release at the same time as the launch of the next licensing round
- Progression on the new fibre optic cable for Galway Bay Wave Energy test site with outreach programmes planned with the local school in 2014.
- The Marine Institute, Sustainable Energy Authority of Ireland, and SmartBay are targeting a number of potential ocean energy device developers with a view to deploying on site in 2014. Procurement for the Galway Bay cable is near complete and decision on planning permission is pending.
- The Marine Institute continue to establish national and international collaborations and opportunities to leverage funds from Horizon2020.
- 2014 will see the completion of the Beaufort Laboratory, the development of the Imerc incubator, investment of €13.m in site development works on the campus, and the completion of a Master Plan for Haulbowline Island.

**International
and North/
South
Cooperation**

- The operational programmes through which the European Structural and Investment funds will be implemented will be formally submitted to the European Commission by 22nd July 2014. Specifically, the Managing Authority of the European Maritime and Fisheries Fund will be reviewing both the Atlantic Strategy and Atlantic Area Plan and, on the basis of this review will decide on what contribution either directly or indirectly, the EMFF can make.



The first annual conference on “Our Ocean Wealth” will provide a forum for the marine community to engage with the government on the review of progress in implementing *Harnessing Our Ocean Wealth: An Integrated Marine Plan for Ireland*.

The progress on the early actions identified for 2012-14 set out in this report show that the mechanisms established to implement Ireland’s Integrated Marine Plan are working.

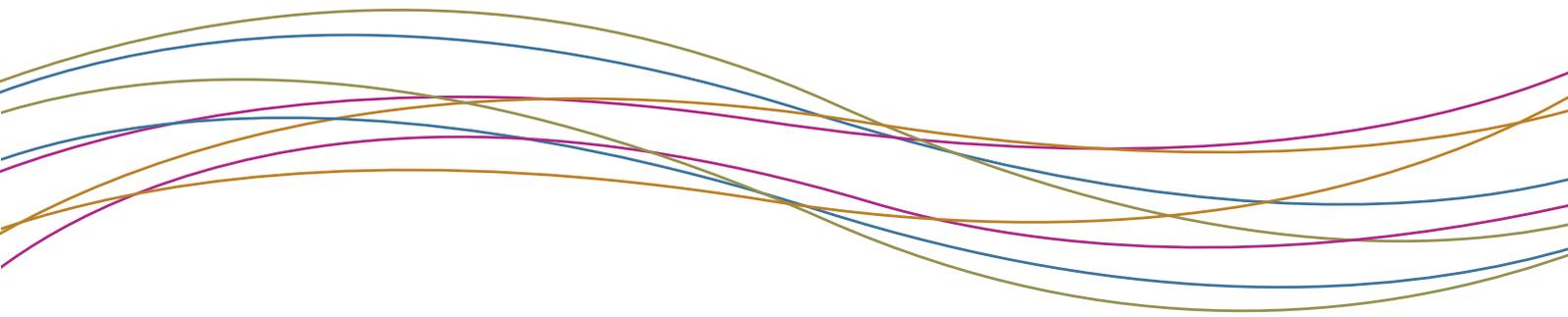
This integrated approach to implementation has shown itself to be both interactive and dynamic provides confidence that notwithstanding the challenges posed by a constantly evolving area, *Harnessing Our Ocean Wealth* will be delivered.

Our ocean wealth will be a key element of our economic recovery and sustainable growth, generating benefits for all our citizens, supported by coherent policy, planning and regulation and managed in an integrated manner.

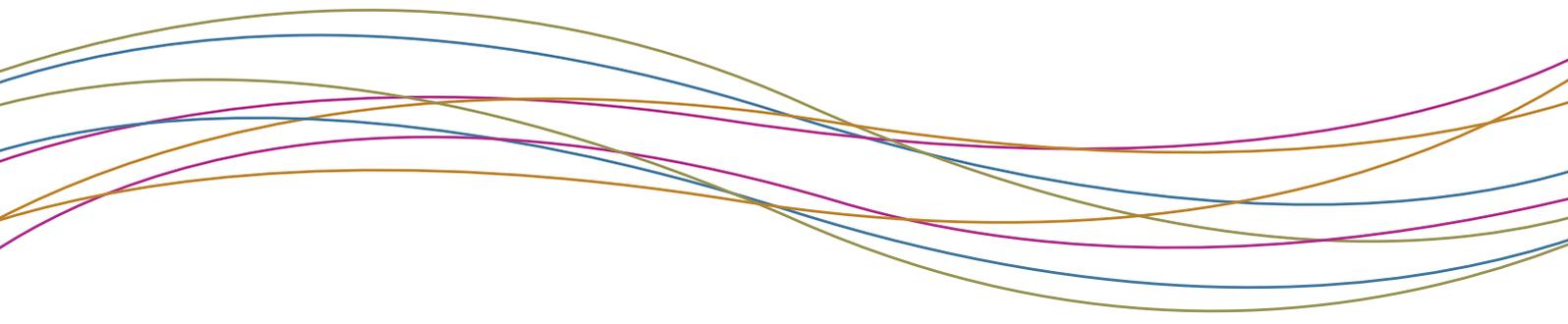
GLOSSARY OF ACRONYMS AND TERMS

BIM	Bord Iascaigh Mhara
CCMA	County and City Managers' Association
CEB	City and County Enterprise Board
CIL	Commissioners of Irish Lights
CEC	Community Education Centre
CFP	Common Fisheries Policy
CPD	Continuous Professional Development
DAFM	Department of Agriculture, Food and the Marine
DAHG	Department of Arts, Heritage and the Gaeltacht
DCENR	Department of Communications, Energy and Natural Resources
DBDD	Dublin Bay Digital Diamond
DCU	Dublin City University
DECLG	Department of the Environment, Community and Local Government
DJEI	Department of Jobs, Enterprise and Innovation
DTF	Development Task Force
DTTAS	Department of Transport, Tourism and Sport
EFF	European Fisheries Fund
EEZ	Exclusive Economic Zone
EI	Enterprise Ireland
EMFF	European Maritime and Fisheries Fund
EMODNET	European Marine Observation and Data Network
EPA	Environmental Protection Agency
ESA	European Space Agency
ETF	Enablers Task Force
EU	European Union
FIRM	Food Institutional Research Measure
FLAG	Fisheries Local Action Group
IMDatE	Integrated Maritime Data Environment
EMSA	European Maritime Safety Agency
FP7	Seventh EU Framework Programme for Research & Technological Development
GES	Good Environmental Status
GDP	Gross Domestic Product
GPS	Global Positioning System
GSI	Geological Survey of Ireland
HABs	Harmful Algae Blooms
HEI	Higher Education Institution
HOOW	Harnessing Our Ocean Wealth
IDA	Industrial Development Authority
ICPSS	Irish Coastal Protection Strategy Study

ICT	Information and Communications Technology
ILO	International Labour Organization
IMA	Irish Maritime Administration
IMDO	Irish Maritime Development Office
Imerc	Irish Maritime & Energy Resource Cluster
IMO	International Maritime Organization
IMP	Integrated Marine Plan (national context) / Integrated Marine Policy (EU context)
INFOMAR	INtegrated mapping For the sustainable development of Ireland's MARine Resource
ISDE	Irish Spatial Data Exchange
MaREI	SFI-funded Centre for Marine Renewable Energy Ireland
NMCI	National Maritime College of Ireland
NPWS	National Parks and Wildlife Service
MCG	Inter-Departmental Marine Coordination Group
MODEG	Marine Observations and Data Expert Group
MOU	Memorandum of Understanding
MSFD	Marine Strategy Framework Directive
MSP	Marine/Maritime Spatial Planning
NOAA	National Oceanic and Atmospheric Administration (US)
NSF	National Science Foundation (US)
OPW	Office of Public Works
NGO	Non-Governmental Organisation
OERDP	Offshore Renewable Energy Development Plan
ORESG	Offshore Renewable Energy Steering Group
ROV	Remotely Operated Vehicle
RTDI	Research, Technology, Development and Innovation
R&D	Research & Development
SAC	Special Area of Conservation
SDC	Seafood Development Centre
SDZ	Strategic Development Zone
SEA	Strategic Environmental Assessment
SEAI	Sustainable Energy Authority of Ireland
SEMRO	Socio-Economic Marine Research Unit
SEUPB	Special EU Programmes Body
SMART	Strategic Marine Alliance for Research and Training
SFI	Science Foundation Ireland
SILAS	Shared Integrated Call Logging and Analysis System
SME	Small and Medium Enterprise
SPA	Special Protected Areas
SWOT	Strengths, Weaknesses, Opportunities and Threats
VEC	Vocational Education Committee
WFD	Water Framework Directive



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