



European Commission

No 38 April 2008

# Fisheries and aquaculture in Europe

Special issue on maritime affairs:  
towards an integrated policy for Europe



**Peter Heffernan:**  
Scientific research – out of isolation

**Germany:**  
First steps towards maritime  
spatial planning

# [Calendar

## ● Shows and exhibitions

### • **European Seafood Exposition, Brussels (Belgium), 22-24 April 2008**

A key event that brings together processors and distributors of European fish and aquaculture products, this annual fair is the largest commercial gathering in Europe.

As usual, the European Commission will be on hand with an information stand.

#### > **For more information:**

Tel: + 1 207 842 55 00

E-mail: food@divcom.com

Website: <http://www.euroseafood.com>

### • **Meeting of the GFCM-ICCAT Joint Small Tuna Working Group, Malaga (Spain), 5-9 May 2008**

The aim of this meeting is to lay the foundations for evaluation and common management of stocks of small tuna species exploited in the Mediterranean and the Black Sea (king mackerel, Atlantic bonito, black skipjack, etc.).

#### > **For more information:**

Tel: + 34 91 416 56 00

E-mail: [info@iccat.int](mailto:info@iccat.int)

Website: <http://www.iccat.int>

### • **Fiera Internazionale della Pesca, Ancona (Italy), 23-25 May 2008**

This Italian fair is hosting its 68th event. In recent years it has expanded its focus to cover all phases of the fisheries sector – from net to table.

#### > **For more information:**

Tel: + 39 071 58971

E-mail: [info@erf.it](mailto:info@erf.it)

Website: <http://www.fieradellapesca.it>

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#### **Note to readers**

We welcome your comments or suggestions at the following address:  
European Commission – Directorate-General for Fisheries and Maritime  
Affairs – Communication and Information Unit –  
Rue de la Loi/Wetstraat 200 – B-1049 Brussels  
or by fax to: (+ 32) 2 299 30 40 with reference to *Fisheries and  
aquaculture in Europe*. E-mail: [fisheries-magazine@ec.europa.eu](mailto:fisheries-magazine@ec.europa.eu)

For further information on fisheries and maritime affairs, please consult the following sites:

[http://ec.europa.eu/commission\\_barroso/borg/index\\_en.htm](http://ec.europa.eu/commission_barroso/borg/index_en.htm)

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

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

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## A future anchored in the seas

**The** seas are a source of life and abundance: they nourish us, serve as trade routes, regulate our climate, provide us with sources of energy and recreation areas. Millions of Europeans make a living directly or indirectly from the sea. And the oceans offer an enormous potential for development of activities.

But we cannot allow these activities to destroy the goose that lays the golden eggs! Pollution, overfishing, oil slicks, unbridled urban development in certain coastal areas are a threat to the environment and to sustainable economic development. Addressing this challenge requires close coordination of all the sectoral policies concerned.

That is why, just over a year ago, the Commission adopted a Green Paper<sup>(1)</sup> launching a debate on an integrated maritime policy. A large-scale consultation that followed and the contributions of observers and stakeholders further refined the Green Paper's proposals. This process concluded with the adoption last October of a Blue Book<sup>(2)</sup> accompanied by a detailed Action Plan<sup>(3)</sup> announcing the establishment of this policy.

At the end of December 2007, the European Council approved the Commission's proposals. The Council applauded the wide participation in the consultation and debates that punctuated the drafting of the Blue Book and Action Plan. This participation reflected the keen interest of the different stakeholders in the development of an integrated policy.

The new policy will strengthen synergies and coherence between the different policies concerned and bring added value to national and regional actions, in keeping with the subsidiarity principle. The heads of state and governments of the EU Member States stressed the need to address the specificities of the Member States and the different maritime regions, including islands, archipelagos and outermost regions, and also bear in mind the international dimension of such a policy.

The integrated maritime policy will also strengthen Europe's role in the global arena. Under the umbrella of this policy, Europe will address globalisation, climate change, deterioration of the marine environment, the challenges of maritime safety, and the question of energy security. This policy must be supported by excellence in the fields of marine research, technology and innovation and be grounded in the Lisbon Strategy for growth and employment and the Gothenburg Strategy for sustainable development.

The European Council consequently invited the Commission to go ahead with the initiatives and proposals contained in the Action Plan and called on the Union Presidency to proceed with implementation of the integrated maritime policy. The Commission will report to the European Council at the end of 2009 on the progress made.

The Editor

(1) See *Fisheries and Aquaculture in Europe*, No 30 (September 2006).

(2) COM (2007) 575.

(3) SEC (2007) 1278/2.



# Optimal and sustainable exploitation of the seas



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The integrated maritime policy aims to foster sustainable development of all maritime activities; in other words in a way that takes into account the need for economic growth, respect for the environment, and social well-being.

**On 10 October 2007, Europe officially adopted an integrated maritime policy. It aims to make the most of the tremendous economic potential of the seas, while safeguarding the environment and natural resources.**

**The** European Union (EU) plays a leading role in the maritime economy. While sea-related activities account for five million jobs today, there is still considerable development potential, particularly in new maritime sectors such as renewable energy, biotechnology, aquaculture and telecommunications.

However the sea's resources have not been exploited optimally. Fish resources are declining because of overfishing; pollution, eutrophication, and invasive species threaten the marine environment; coastal zones are deteriorating; and maritime economic operators are competing for the same space to expand their activities. Yet the economic potential of the sea remains largely underused.

This is partly because public authorities, in particular the European Union, have so far limited their actions to providing a general framework and managing a patchwork of sectoral activities. There have been few or no links between the management of maritime energy resources, the common fisheries policy, coastal tourism, maritime transport, environmental protection and so on. Yet all these sectors interact constantly and every decision taken in one area can have an impact on the others. A joint vision for

the development of maritime activities was needed and a framework of sustainable development to consolidate that vision based on three pillars – respect for the environment, economic return and social well-being.

To take up this challenge, the EU decided to establish an integrated maritime policy. The large-scale consultation of maritime stakeholders that followed the 2006 publication of the *Green Paper for a Maritime Policy for the European Union* reinforced the Commission's ambition and nurtured its reflection. This process led to the publication last October of a Blue Book<sup>(1)</sup>, accompanied by a detailed Action Plan<sup>(2)</sup> describing the introduction of this integrated maritime policy.

The plan announces some 30 actions, most of which will be implemented in 2008 or early 2009. Some have already materialized in the form of communications, consultations or working documents. The aim is twofold: to develop a new maritime policy – with actions in all the sectors concerned and in integrated fashion (see below) – and to give the European Union new decision-making and management tools (see article p. 7).

(1) COM (2007) 575.  
(2) SEC (2007) 1278/2.



### Sustainable exploitation of the seas

First of all, the EU is keen on maintaining its global leadership in the maritime economy, so it needs to promote the competitiveness of its maritime sectors while guaranteeing their sustainability. To avoid repeating the errors of the past, the Commission recommends *'a more overarching strategy that joins up sectoral policies for maritime activities and environmental policy relating to Europe's seas'*. The actions announced in this context cover all the development problems facing the different maritime sectors.

Take the example of shipping, which handles only 40% of the European Union's internal trade (as opposed to 90% of its exports). Operators tend to prefer road transport. Yet the sea is increasingly emerging as a credible alternative to road freight transport between the Member States: it is less polluting and would relieve congestion in road transport and reduce its pollution. That is why the European Union intends to **develop 'the motorways of the sea'**.

The idea is to select a limited number of sea-ports situated at focal points on Europe's coasts, to connect them via quality maritime routes and equip them with multimodal transport connections so that freight can be moved from ships to trains, trucks, barges, piggyback transport, etc. for short and medium distances. Such a system will have the added advantage of promoting economic development in peripheral coastal regions, which is why it is a vital part of an overarching vision.

To develop this concept, inland routes should no longer be treated as international routes requiring checks, customs clearance and extra time. The Commission will therefore propose to change existing regulations with a view to creating a **European maritime space without barriers**.

Ports will have to increase their capacity to adapt to the foreseeable increase in freight resulting from expansion of inland transport. It is crucial to plan such development in an integrated way, with consultation of all stakeholders, not only to factor in the impact of such changes on tourism, protected zones and pollution in port towns, but also to give direction to this development. For example, not all ports need to be equipped to handle container vessels. They can choose to specialise in other activities. The European Commission will propose a **ports strategy** and measures to reduce **air pollution in port towns** caused by ships.

Development of the transport sector will also require a sufficient workforce. Recruitment problems in the maritime sectors make it difficult to maintain a sufficiently qualified workforce. The sector needs to be made more attractive. The Commission therefore plans to enhance the status of **seafaring careers**, in particular by facilitating mobility between sea- and land-based jobs. This reflection therefore must involve all maritime employers and can help identify possible occupational retraining for workers in problem areas like fisheries. The Commission also intends to create a 'Certificate of Maritime Excellence' to recognise the true value of highly qualified workers.

Employment is not the only issue requiring dialogue between companies and the maritime sectors. The Commission will consequently encourage the development of **multisectoral clusters**, with a view to promoting synergies and business integration among maritime enterprises.

It is impossible in these few pages to describe all the actions that will contribute towards development of the maritime economy. On energy, the Commission has announced a **marine energy strategy** with the aim of enhancing the EU's energy security. The new maritime policy will require the fisheries sector to reflect the intersectoral approach to management of the seas. This will be achieved through **an ecosystem approach to fisheries** and may expand the role of fishermen as 'guardians of the sea'. The Commission also plans to protect fisheries resources in international waters through further development of strategies to **combat illegal fisheries** and **destructive fishing practices** <sup>(3)</sup>.

### Optimal quality of life in coastal regions

Policies relating to the seas also extend to coastal regions. The 50-km wide zones along Europe's coastlines generate over 40% of the Union's GDP and are home to half its population. The coastal regions have huge economic potential. The Commission therefore proposes a number of actions to ensure that this economic development does not occur at the expense of the environment and quality of life.

Tourism, for example, offers considerable economic opportunities but can also undermine the quality of life by destroying landscapes or depleting resources. So its development has to be planned in tandem with that of other activities and in respect of the environment. This integrated approach must also include spatial planning and development of maritime identity and heritage.

(3) See *Fisheries and Aquaculture in Europe*, No 36 (Nov. 2007) and No 37 (Feb. 2008).



The European Union intends to promote the competitiveness of its maritime sectors while ensuring their sustainable development.

Through its **tourism development strategy**, the Commission aims above all to promote the exchange of best practice and diversification of coastal products and services that can help extend the tourist season.

Coastal areas are also in the front line when it comes to the impact of climate change, including extreme weather phenomena, eroding coastlines and higher sea levels. The Commission wishes to develop an integrated approach covering all aspects of risk management as part of an **overarching strategy of adaptation to climate change**, with a special focus on coastal regions.

Information and data are vital to all these measures. Accordingly, the Commission recommends the development of an **integrated socio-economic database** for coastal regions. It also plans to implement **networking** measures to reduce the isolation of coastal zones, islands and the seven outermost regions<sup>(1)</sup> so that they can share their experiences in integrated management.

### A strong European presence in international maritime affairs

Building on its leadership in the maritime economy, the EU must also assert its influence in international maritime affairs. It intends to proceed by concentric circles, asserting its presence first close to home, and then moving further away from its waters.

The process will begin with the Union's **closest neighbours, especially those on the opposite rim of its seas**. The Commission proposes to encourage these countries to adopt the same integrated approach, particularly in developing a common vision for management of the Mediterranean and Black Seas. Furthermore, an **Arctic policy** for the sustainable development of the resources of this region will be defined.

(1) The Canary Islands, Madeira, Azores, Martinique, Guadeloupe, Guyana and Reunion.  
(2) Convention on Biological Diversity ([www.cbd.int](http://www.cbd.int)).  
(3) Regional Seas Programme ([www.unep.org/regionalseas](http://www.unep.org/regionalseas)).

The Commission also wishes to step up the EU's commitment to **protecting the environment and biodiversity in international waters**. Discussions are under way in international fora (UN, CDB<sup>(2)</sup>, RSP<sup>(3)</sup>, etc.) to establish an international framework for protection, for example by creating protected zones. By 2009, the Commission will propose its own strategy, developed jointly with its other sectoral policies, in particular the ecosystem approach to fisheries.

### The integrated maritime policy must also strengthen the EU's presence in different international organisations.

EU representation in different international bodies occasionally lacks coherence. For example, there is no coordination on the European presence in the International Whaling Commission although Europe is a full member of regional fisheries organisations. Reflection on this subject will be launched. The Commission will also encourage the Member States to ratify different maritime conventions.

### A higher profile for maritime Europe

It is important for European citizens to become aware of the Union's strength in the maritime economy. The Commission aims to increase the visibility of maritime Europe through a number of proposals.

For example, 20 May will become **European Maritime Day**. Starting in 2009, that date will launch a week of events designed to spotlight the maritime sectors and recognise best practices.

The aim is also to improve knowledge of the maritime world among all Europeans. Today's statistics and maps of Europe's seas and oceans are incomplete and scattered. The Commission will therefore launch a **European atlas of the seas** to provide access to these data.

Finally, visibility also means transparency. That is why the Commission intends to implement its maritime policy in close collaboration with stakeholders, particularly through its site: <http://ec.europa.eu/maritimeaffairs>.

### Strengthening oceanographic research

For joint development of the maritime sectors to be sustainable, it must be based on detailed knowledge of the seas. The Commission proposes to promote research, first to build up knowledge, but also to bring technological innovation within reach of enterprises and to determine the overall impact of human activities on the seas, rather than observing the impact of each sector separately.





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The sea and the coastlines would benefit from a spatial planning policy similar to that on land. This may involve restricting or encouraging certain activities in specially demarked zones.

## The three tools of the integrated maritime policy

**Developing an integrated maritime policy calls for 'horizontal' tools, shared by all the maritime sectors to enable them to coordinate their strategies and even to carry out joint actions. The European Commission has identified three tools that should be put in place in the short term: a network for maritime surveillance, maritime spatial planning and a marine observation and data network.**

**To** bring all the maritime sectors together and forge a new vision for exploitation of the seas, all players need to have common references, tools they can use to measure their impact on the seas, whether for establishing the physical limits of their exploitation or for ensuring their safety. The Commission proposes to develop common tools for the surveillance of maritime activities, the spatial delineation of maritime activities and data collection.

### Maritime surveillance

Safety at sea is a prerequisite for successful economic activities on the seas. Public authorities must be able to monitor users of the sea and protect them from both natural and technical risks

as well as external attacks such as piracy, terrorism, illegal trafficking or illegal immigration.

Maritime surveillance activities, under the responsibility of each Member State, are carried out by different policing services which often operate independently: fisheries surveillance, environment police, traffic monitoring, border surveillance, etc. This division of resources hardly encourages optimal efficiency. The Commission recommends the development of large-scale cooperation that is both vertical – between the different maritime surveillance bodies – and horizontal – between the services of the different Member States.

Such cooperation is already in place in some cases. Resources and assets for certain maritime surveillance missions are already pooled, in particular for fisheries supervision, under the coordination of the CFCA<sup>(1)</sup>, or within the framework of legislation on the safety of maritime traffic in European waters, coordinated by the EMSA<sup>(2)</sup>. Similarly, the Frontex<sup>(3)</sup> agency oversees the development of a European patrol network that covers certain Mediterranean and Atlantic zones, primarily to prevent illegal immigration by sea from Africa.

(1) Community Fisheries Control Agency.

(2) European Maritime Safety Agency.

(3) European Agency for the Management of Operational Cooperation at the External Borders.

The idea is nevertheless to move beyond mere cooperation. The Commission seeks to promote interoperability between maritime surveillance services for the EU. The main outcome should be an integrated global vessel tracking network, a single system that can be used to locate, identify and track all vessels in order to facilitate synergies, including possible rescue operations.

The Commission is already working to attain this objective, with a review of all the surveillance, monitoring and notification systems currently in use in the EU. It will then propose a detailed work programme aimed at bringing these systems together. It is also encouraging the Member States to integrate their own national maritime surveillance systems to facilitate the introduction of European interoperability.

### Maritime spatial planning

Maritime spatial planning is another tool for integrated management. The expansion of economic activities in coastal areas and at sea is creating conflicts for space between different users. The enlargement of a port may be detrimental to a protected nature reserve; the installation of an offshore wind generator park may encroach upon a fishing zone of particular importance to a community; the installation of an aquaculture site may be a source of concern to the operator of a nearby beach facility and so on.

The sea and the coastlines need a spatial planning policy similar to the terrestrial planning policies that has been in use for many years. This may involve the development of coastal and maritime zones and the limitation or encouragement of certain activities based on their characteristics. It is clear that developing and maintaining such a tool requires an integrated approach, involving consultation with all the stakeholders who are familiar with and use maritime space and based on scientific knowledge of the underwater ecosystem and geology.

Maritime spatial planning in the exclusive economic zones of European Union Member States is vital to help the public authorities provide a framework for the sustainable development of maritime activities. The authorities need such planning primarily as the basis for negotiation between competing interests. Since the sea is by definition a transnational space, it must be put in place by all the European Union coastal states and compatible between neighbouring states.

To achieve its goal, the Commission plans first to draw up a roadmap to steer the Member States' efforts to establish maritime spatial planning. It will draw from the experience

already gained in certain maritime regions, especially those that have prepared an integrated management plan, as the Commission recommended in 2002 as part of the coastal zones policy<sup>(1)</sup>. Second, it will review needs and the different options possible and set up a system for the exchange of best practice among public authorities.

### The European marine observation and data network

Finally, maritime stakeholders also need a wide range of natural and human-activity data on the seas and oceans. The public powers, companies, maritime services and researchers need accurate and accessible data to be able to adopt informed decisions on maritime policy or economic development.

Such data exist. The problem is that they are highly dispersed. Tracking them down is a long and arduous task. In addition, their long-term conservation is not guaranteed and standards are not constant throughout Europe. So it is essential to bring together all existing data into a single, integrated and accessible system that can be used to nurture economic development projects and policy initiatives.

This data system has already been baptised the 'European marine observation and data network'. It will have to be integrated into and made compatible with the Global Earth Observation System of Systems (GEOSS)<sup>(2)</sup> and the European GMES initiative<sup>(3)</sup>. The network could be used, for example, to monitor and predict the scope and multiple consequences of climate change on the oceans and seas, thus representing a crucial tool for adaptation to this phenomenon in maritime regions.

This is an ambitious undertaking, requiring a clear and coherent plan over a period of years. The European Commission, with the aid of a group of experts from different scientific disciplines, is already preparing a roadmap that is expected to be published this year. Initially, the plan will take stock of the data and information services to be built into the network. The Commission will also launch a programme to develop multidimensional maps of the Member States' seas, which will obviously be compatible with one another.

To succeed, the project will require the active participation of the Member States and all stakeholders.

(1) Integrated coastal zone management (ICZM) (<http://ec.europa.eu/environment/iczm/home.htm>).

(2) Global Earth Observation System of Systems ([www.earthobservations.org](http://www.earthobservations.org)).

(3) Global Monitoring for Environment and Security ([www.gmes.info](http://www.gmes.info)).



## Out and about

The German EEZ hosts a range of activities in a highly complex interaction: shipping, gas pipelines, underwater cables, environmental conservation, wind farms, and so on. There was a clear need to plan the development of all these activities.



# Germany organises its maritime spatial planning system

**Maritime spatial planning, one of the fundamental tools for implementing an integrated maritime policy, is already becoming a reality in Germany and a number of other Member States. The aim is to provide a framework for coexistence of different economic activities, to guarantee the safety of maritime transport and to ensure protection of the marine environment.**

**Germany's** exclusive economic zone (EEZ) covers part of the North Sea (45 000 km<sup>2</sup>) and part of the Baltic (28 600 km<sup>2</sup>). It is relatively narrow compared to those of other European Union Member States, such as Portugal or the United Kingdom, but is home to a wide range of varied activities and complex interactions. It is traversed by several maritime routes, serving the major German ports of Bremerhaven, Hamburg, Kiel, Lubeck or Rostock. Cables cross the zone. Pipelines – already in place or in the planning stages – bring gas from North Sea platforms or from Russia by way of the Baltic. The area boasts a rich biodiversity; it includes the Wadden Sea on the North Sea side and the saltiest waters of the Baltic Sea. Its windiness provides a key benefit for Germany's supply of renewable wind energy.

The need for integrated management of all these activities was particularly apparent here. So in 2004, the German government launched an initiative to develop a maritime spatial planning system, the aim being to establish a framework for the coexistence of various activities: environmental protection, shipping, scientific research, oil and gas extraction, production of wind energy and the transport of gas, oil, electricity, water and data through pipelines and cables.

### Maritime routes as boundaries

In 2004, the spatial planning law was extended to all of Germany's EEZ, which established the legal framework allowing planning of the different activities.

The Federal Maritime and Hydrographic Agency (BSH)<sup>(1)</sup> was then charged with drawing up the maritime development plan. The agency began by choosing a starting point for its work. 'Maritime traffic is the main activity in our EEZ', explains Nico Nolte of the BSH. 'So we decided to analyse traffic data to identify its distribution throughout the zone and then determine maritime routes. This network of routes formed the basis of our zoning. They became the boundaries of the different activity areas.'

The North Sea zones assigned to wind generator parks, for example, were situated between the maritime route towards British ports and the one leading to Dutch, Belgian and French ports. This made it possible to determine the locations where the cables linking the generator parks to the coast will cross the maritime routes.

The development of wind energy was one of the factors that triggered the planning process. 'Following Germany's decision to boost its production of renewable energy, many companies applied for permits to exploit offshore wind generator parks', continues Nico Nolte. 'This development underlined the growing use of the sea and the importance of organising and planning its use.'

### Three types of zones

The draft development plan does not systematically grant sectoral exclusivity in each zone. Some can support different coexisting activities, while others cannot. The BSH therefore established different types of zones:

- the **priority zone** (*Vorranggebiete*) is reserved exclusively for a given activity, barring all access for other activities;
- the **reserved zone** (*Vorbehaltsgebiete*) is assigned a priority activity but other activities are not excluded;
- the **qualification zone** (*Eignungsgebiete*) is reserved for one or more given activity that are not to be located outside this zone.

An initial draft was presented to the government in November 2007, together with the Environmental Strategic Evaluation that analyses its impact on the marine environment. As this issue of *Fishing and Aquaculture in Europe* went to press, this first draft was in the inter-ministerial consultation phase, after which it will be adapted by BSH to take account of the suggestions made. A consultation of stakeholders will follow in 2008. They will be able to submit their views via internet and at two meetings, one in Hamburg for the North Sea and the other in Rostock for the Baltic Sea. An implementing decree will then be issued for the final version that results from the second consultation.

Participation has been a key point throughout this process. Stakeholders were also consulted in 2005 when the work began. In association with the Federal Nature Conservation Agency<sup>(2)</sup>, the BSH organised a large-scale meeting to clarify the economic and environmental stakes of such planning. All the national, regional and local players were invited, including representatives of neighbouring countries likely to be interested in this transnational matter.

(1) Bundesamt für Seeschifffahrt und Hydrographie ([www.bsh.de](http://www.bsh.de)).

(2) Bundesamt für Naturschutz ([www.bfn.de](http://www.bfn.de)).

## Profile

# A highly stimulating role

**Peter Heffernan, who has headed the Irish Marine Institute since its founding in 1993, is one of the many scientists who support the integrated maritime policy recommended in the Blue Paper. Placing marine research at the heart of this policy will promote the coordination of scientific disciplines that have remained isolated until now.**

**The** Irish Marine Institute, the national agency responsible for marine research, was created in the early 1990s thanks to a combination of private capital and European funds. Its aim for scientific research to serve economic development of marine resources and protection of the marine environment.

Peter Heffernan, age 48, was appointed Chief Executive of the Institute. After earning a doctorate in marine zoology at National University of Ireland, Galway, he did post-doctoral studies at University of Georgia in the United States. *'At the time, Ireland's economy was very depressed and I was lucky to be able to emigrate to the United States, where I discovered a very open and competitive research environment'*, he explains. During the seven years he spent in the United States, Peter Heffernan engaged in research on diseases affecting crustaceans in an aquaculture environment and worked closely with the fishing industry.

When he took up the helm at the Marine Institute in 1993, Peter Heffernan knew he would be leaving pure research for the world of applied research, where he would be developing government programmes to promote the ocean's resources.

The Marine Institute started out with only five members appointed by the government and a budget of € 0.3 million. It has been growing ever since and now has a staff of 229 and last year's budget was nearly € 40 million, 85 % from national public funds and 7 % from the EU.

### Research and management

The fact that Peter Heffernan's career has embraced both research and management of maritime programmes probably helps explain why he quickly became one of the most fervent supporters of the integrated maritime policy recommended in the European Commission Green Paper of June 2006. For Peter Heffernan, adopting a transversal approach to the different spheres of maritime activity – transport, fishing, environment, ties to industry, etc. – was a necessity that also spawned a debate on maritime

and marine affairs in his country. *'Even though over 90 % of Irish territory is underwater, the ocean seems almost invisible to our citizens'*, he regrets. The consultation on the Green Paper brought maritime issues to the attention of Ireland's public opinion.

The core policy areas defined at the conclusion of the consultation reinforce the researcher's view. *'In this field, it is the first time in Europe that science will make such a direct contribution to society and take up both economic and environmental challenges'*, he explains.

The development of research has in fact always been a key activity for the Marine Institute. Despite its modest size, the agency has made major investments and acquired research vessels employing international research teams: in 1997 the Institute launched the *Celtic Voyager*, a vessel used by a team of eight scientists to gather data on the situation of fish stocks and on geophysical and environmental aspects. In 2003, the Institute financed the *Celtic Explorer*, a 65 m long low-noise vessel that can accommodate some 20 researchers and is designed for deep-sea survey operations. Ireland also immediately lent its backing to the plan to develop a European atlas of the seas, because the country has already mapped 90 % of its coastal waters under an ambitious national programme.



*'In the maritime field, it is the first time in Europe that science will make such a direct contribution to society and take up both economic and environmental challenges.'*



© David Brannigan, Oceansport

*'Each speciality had its own set of data: one for geology, one for the environment, yet another for the fishing industry, and so on. Bringing together isolated scientific disciplines is very stimulating for scientists, governments and industry.'*

Also totally in line with the Commission's approach, the agency has also focused on new sources of energy. At the end of 2007, the Marine Institute installed a 37-hectare site one mile off the coast of Galway to test electricity generation from wave and tidal resources. The Irish firm Wavebob recently deployed a generating device at the site. Given Ireland's dependence on imported energy, the development of new energy sources is both an economic and environmental necessity. With this programme, Ireland is opening its doors to European exchanges. *'Entrepreneurs will be able to test their systems here, in one of Europe's areas most exposed to powerful waves'*, adds Peter Heffernan.

### Common database

Another very promising area for scientific partnerships is marine biotechnology. *'The deep seabed holds tremendous biotechnology potential'*, continues Heffernan. *'According to experts, the most effective agents for combating diseases, particularly certain types of cancer, have been found in marine organisms'*. Identifying these natural components and their properties is one of the big challenges facing Europe.

Peter Heffernan sees the creation of an EU-wide common database as crucial. *'Historically, each speciality has had its own data: a geological database, an environmental database, yet another database for the fishing industry, and so on. Bringing together isolated scientific disciplines is very stimulating for scientists, governments and industry'*. Very simple questions can be answered using a series of criteria. For example, to measure the situation of certain fish stocks, it is not enough simply to calculate the number of fish in a given zone. Data are also needed on topography, geology, water quality, species migration and so on. They can be collected by a European marine observation and data network, an initiative Peter Heffernan supports because

scientific findings still tend to remain too patchy. Observation centres can collect both oceanographic and meteorological data in real time. With such a network, Europe will have an extraordinary tool for deciphering geological and biological phenomena and their interactions with the oceans.

Finally, the use of common systems will give European players the opportunity to prepare the ground to meet the vast challenge of climate change. The idea is to observe and predict the areas that will be positively or negatively affected by climate change. *'Locally, we will be able to determine the extent of erosion of certain coastal areas'*, explains Peter Heffernan, *'but we will also be able to identify regions further north that will benefit from the migrations of certain fish species'*. Such data will further the effort to anticipate and lessen the impacts of climate change.

None of these significant advances would be possible without a European strategy for marine and maritime research.



# [ In brief

## > Discards: converging towards a regulation

A year ago the European Commission launched a wide consultation with stakeholders in the fishing sector on the question of discards. This consultation was based on a communication laying out proposals to solve this problem, which plagues all fisheries to varying degrees. According to experts, 10 to 60% of catches are thrown back into the sea, and the figure is even higher for some fisheries. The fish are generally under-size juveniles, unmarketable species, or quota overruns. In all cases this is a waste of resources. The Commission intends to curb this phenomenon, which is a serious threat to the sustainability of fish stocks.

One of the solutions the Commission discusses in its communication is a legal limit on discards. Respect for a limit set for each fishery and introduced progressively could be controlled by obliging fleets to land unwanted by-catches. The aim of this measure is to motivate fishermen to use more selective fishing methods and gears more systematically and to work with scientific institutions to perfect them. Along with technical measures, the Commission proposes other means such as real-time closure of zones showing high levels of by-catches.

The consultation, which ended in January, brought in a number of detailed contributions, in particular from the Advisory Committee on Fisheries and Aquaculture, and most of the Regional Advisory Councils and NGOs. In general, fisheries stakeholders say they are aware of the gravity of the situation and of the need to use all technical means possible to reduce the volume of discards. They also stress the importance of developing the specific approach (fishery-by-fishery) recommended by the Commission.

The European Council has also welcomed the approach adopted by the Commission and encouraged it to continue in the same direction. Likewise, the European Parliament adopted in January a resolution underlining the urgency of halting this waste of marine resources as well as the more specific need to launch pilot projects for the fisheries posing the most serious problems.

Drawing on the views submitted during the consultation and a workshop scheduled for spring 2008 bringing together all the actors concerned, the Commission will be ready for the last phase of its regulatory process: finalising a legislative proposal.

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