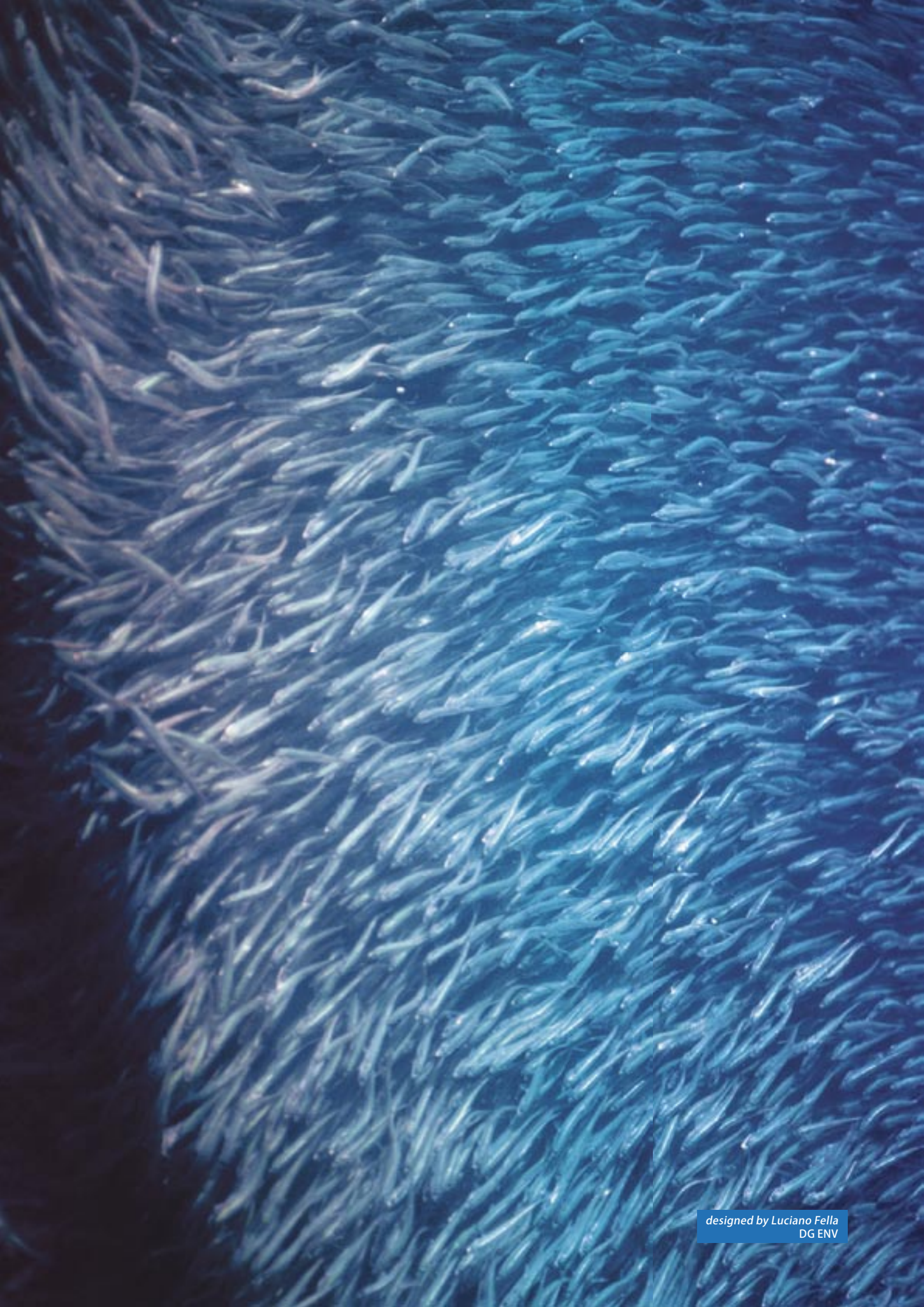


EU MARINE STRATEGY

The story behind the Strategy

European Commission





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European Commission





<http://europa.eu.int/comm/environment/water/marine.htm>

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1. Introduction

European environment policy has evolved significantly since the 1970s. It has given the EU cleaner air and water and a better understanding of our dependence on a healthy environment. It is one of the policy areas most supported by EU citizens who recognise that environmental problems go beyond national and regional borders and can only be resolved through concerted action at EU and international level. From an initial focus on single pollutants and impacts, it has moved into an integration phase, with the emphasis on understanding and addressing the pressures on the environment and examining the effects of different policies and behaviour patterns.

Seven thematic strategies are being proposed by the Commission during 2005 and 2006. They address various environmental areas and form part of this new approach to environmental policy-making. They are based on a deep review of existing policy, and required several years of scientific and economic analysis together with extensive consultation. They exemplify the better regulation approach of the Commission and will make an important contribution to sustainable development and the agenda set in Lisbon to make the EU the most competitive and dynamic knowledge-based economy in the world.

Moreover, the strategies are key mechanisms for delivering the objectives set out in the Sixth Environmental Action Programme (6th EAP)⁽¹⁾ adopted by the Council and Parliament for the period 2002-2012. The strategies - and the 2005 delivery date - are specified in the 6th EAP and fall under its four main priorities: climate change, biodiversity, health, and resource use. The seven strategies cover:

- Air quality
- The marine environment
- The sustainable use of resources
- Waste prevention and recycling
- Pesticides
- Soil quality
- The urban environment

The thematic strategies provide broad analyses of issues by theme. They look at pressures and impacts on the environment, which often cut across these themes. They examine the links between

environmental impacts and sectoral policies. They look at a broad range of options and a varied policy mix, including the use of market-based instruments, technology and innovation to deal with the problems identified in a strategic and effective manner. They take a longer-term perspective, setting the framework for Community and Member State action for the next two decades, i.e. they propose strategic objectives, and explore short and medium-term measures where appropriate, thus helping to meet the EU's global commitments.

Each strategy takes the form of a package comprised of:

- an overall approach towards the thematic issue presented in a Communication that highlights issues and proposes solutions;
- legislative proposals for some of the strategies;
- an impact assessment.

Each strategy is the result of a thorough development process. To begin with there is a preliminary communication that sets out issues and possible approaches to dealing with them. These documents are then subject to extensive consultation in expert working groups, in the impact assessment process, and on the internet. A broad range of stakeholders are consulted: Member States, academics, business and trade associations, individual companies, NGOs and other representatives of civil society. This process culminates in policy proposals that are knowledge-based and practical.

The thematic strategy on the protection and conservation of the marine environment (the Strategy) was adopted by the European Commission on 24 October 2005⁽²⁾. Its roots are in the 6th EAP (see Box p.8).

The purpose of this summary brochure is to describe the process leading to the adoption of the Strategy and to summarise its content.

The Marine Strategy is also to be seen in the wider context of the development of a new EU maritime policy⁽³⁾. A dynamic maritime economy in harmony with the marine environment is one of the European Commission's strategic objectives for 2005-2009. A Green Paper will be presented later this year, defining the scope and main orientations of this maritime policy. The marine strategy will deliver the environmental pillar of this future EU policy.



(1) Decision 1600/2002/EC laying down the Sixth Community Environment Action Programme; OJ L 242, 10.9.2002, p. 1

(2) Communication from the Commission to the Council and the European Parliament "Thematic Strategy on the Protection and Conservation of the Marine Environment" COM(2005)504; Impact Assessment SEC(2005)1290; Proposal for a Directive of the European Parliament and of the Council establishing a Framework for Community Action in the field of Marine Environmental Policy (Marine Strategy Directive) COM(2005)505, 24 October 2005.

(3) See http://europa.eu.int/comm/fisheries/maritime/index_en.htm

Sixth Environment Action Programme and the thematic strategy on the protection and conservation of the marine environment

The Sixth Environment Action Programme (6th EAP) is a programme of EU action on the environment with key objectives covering a period of ten years.

The priorities of the 6th EAP are climate change, nature and biodiversity, health and quality of life, and natural resources and waste.

The 6th EAP calls for the development of seven thematic strategies including a strategy on the protection and conservation of the marine environment. The overall aim of this strategy is to

promote sustainable use of the seas and to conserve marine ecosystems in the face of a series of threats (loss or degradation of biodiversity and changes in its structure, loss of habitats, contamination by dangerous substances and nutrients, and the future effects of climate change) and pressures (commercial fishing, oil and gas exploration, shipping, water-borne and atmospheric deposition of dangerous substances and nutrients, waste dumping, and physical degradation of habitat from dredging and extraction of sand and gravel).



2. Why a thematic strategy on the marine environment?

2.1. Introduction

The marine environment is a vital resource for life on earth. It is a heritage that must be protected, conserved and properly valued. The ultimate aim is to keep our oceans and seas biologically diverse and dynamic, and also safe, clean, healthy and productive.

Marine ecosystems perform a number of key environmental functions. They regulate the climate, prevent erosion, accumulate and distribute solar energy, absorb carbon dioxide, and maintain biological control.

The seas and oceans are our greatest source of biodiversity. They cover 71% of the Earth's surface and contain 90% of the biosphere. European marine waters cover 3 million square kilometres – equalling the total landmass of Europe; indeed, 50% of Europe's territory is under the sea.

The marine environment is also a great contributor to economic prosperity, social well-being and quality of life. It is a fund of resources which can be used to achieve greater economic potential, so its protection is crucial at a time when the EU is seeking to revitalise its economy. The EU's aim, according to the Lisbon Agenda, is to become the world's most competitive and dynamic knowledge-based economy by 2010.

The marine environment is faced with a number of increasingly severe threats⁽⁴⁾. Marine biodiversity is decreasing. Habitats are being destroyed, degraded and disturbed. There is significant contamination from dangerous substances, and climate change is having an impact on marine biodiversity.

In some parts of Europe, the very structures and functions of seas are being jeopardised. The Northeast Atlantic, the Mediterranean Sea and the Black Sea are three of the seven world marine regions where fish stocks are in greatest need of recovery⁽⁵⁾. The ecology of the Baltic region is reckoned to have "crashed" and to be locked into permanent eutrophication⁽⁶⁾. This is due to pressures from sea-bed activities like oil and gas exploration, dredging and extraction of sand and gravel, shipping, commercial fisheries and tourism.

However, land-based activities (agriculture and industry in general) account for 80% of marine pollution.

These pressures are exacerbated by the increasing impacts of climate change: rise in sea-water temperatures and acidification of oceans. The resultant changes in salinity will affect certain marine species. The increased temperatures could disturb the reproductive cycles of species and therefore their distribution. The abundance and distribution of fish could be affected. Evidence suggests that the reproduction and growth of North Sea cod has been influenced by the warming of the North Sea over the past ten years.

Urgent efforts are needed to safeguard the long-term productivity of economic and social activities such as fisheries, maritime transport, agriculture, industry, tourism, and coastal and regional development.

2.2. The policy context

At EU level, protection measures have been adopted, but most of them are sectoral and were not designed specifically for the marine environment⁽⁷⁾. Some Member States have adopted measures of their own, but national measures do not apply to the other countries bordering a given marine area.

European seas are protected by regional conventions, including:

- the Convention for the Protection of the Marine Environment in the North-East Atlantic of 1992 (further to earlier versions of 1972 and 1974)⁽⁸⁾,
- the Convention on the Protection of the Marine Environment in the Baltic Sea Area of 1992 (further to the earlier version of 1974)⁽⁹⁾,
- the Convention for the Protection of Marine Environment and the Coastal Region of the Mediterranean of 1995 (further to the earlier version of 1976)⁽¹⁰⁾,
- the Convention for the Protection of the Black Sea of 1992⁽¹¹⁾.

(4) The European Commission described these threats in a Communication to the Council and the European Parliament of 2 October 2002 entitled "Towards a strategy to protect and conserve the marine environment", COM(2002)539.

(5) FAO, 2005.

(6) <http://www.regeringen.se/sb/d/497/a/39302>

(7) See COM(2002)539 for a more detailed account of initiatives and policies in place.

(8) <http://www.ospar.org/>

(9) <http://www.helcom.fi/>

(10) <http://www.unepmap.org/home.asp>

(11) <http://www.blacksea-commission.org/>



These Conventions provide frameworks within which the EU, its Member States and third countries work jointly. They have done excellent work in protecting the marine environment. However, they have few enforcement and control powers so their commitments are difficult to implement.

At global level, there is little coordination between the large number of strategies, conventions and agreements in place. In addition, many international agreements on the marine environment are poorly implemented and enforced.

Important milestones in protecting the marine environment at UN level

In 1972, the United Nations conference on the human environment adopted the Stockholm Declaration, which laid down the fundamental principles and main objectives of environmental policy, including policy on the marine environment. According to Principle 7, it is the duty of States “to take all possible steps to prevent pollution of the seas”.

The body of international marine environmental regulations steadily grew throughout the 1980s.

1982 saw the adoption of the United Nations Convention on the Law of the Sea (UNCLOS), which lays down the general obligation of states to protect and preserve the marine environment.

At United Nations conference on environment and development (UNCED) of 1992, there was a general

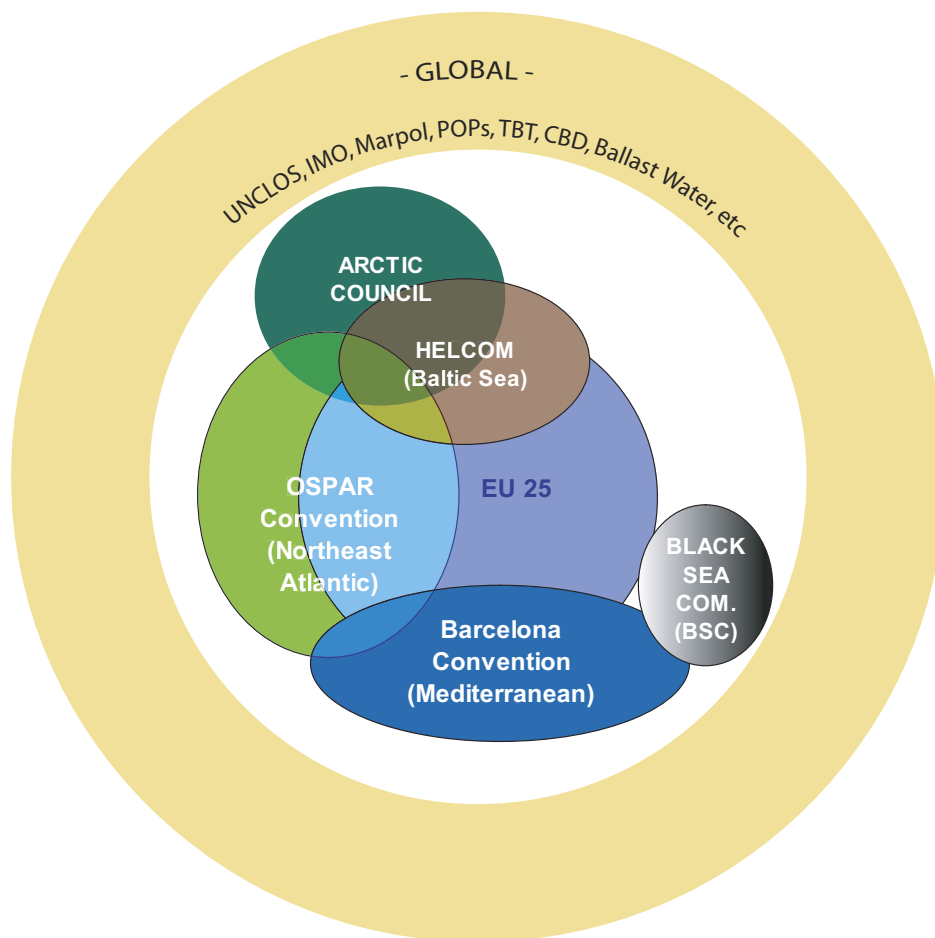
willingness throughout the world community to incorporate new environmental management principles into Agenda 21. The precautionary principle in particular was promoted through international marine environment management agreements.

The marine environment was also covered extensively at the Johannesburg summit of 2002, a follow-up to UNCED. The Johannesburg declaration on sustainable development reaffirmed the commitment to Agenda 21. It adopted an implementation plan which contains a special reference to ocean and coastal management and preservation issues, considered as “essential components of the earth’s ecosystem and critical for global good security and the well-being of many economies”.

JOHANNESBURG SUMMIT 2002



The institutional framework for the protection of Europe's seas and oceans



Please refer to the preliminary communication of 2002 for a more detailed description of the policy context at EU, regional and global level⁽¹²⁾.

2.3. Threats to the marine environment

Climate change

Almost all global models agree that surface temperature is going to rise if greenhouse gases continue to accumulate in the atmosphere. The potential consequences are far-reaching:

- **Increased acidification of seawater:** This could affect organisms whose skeletons or shells contain calcium carbonate (calcerous plankton, coral reefs etc.). The carbon regulation function of oceans could also be undermined. There are important knowledge gaps on acidification so more research needs to be done.

- **Reduced salinity:** Changes in air and sea water temperatures, and in ocean currents, and the predicted rise in sea level as ice caps melt could make seawater less salty and dense. This in turn would threaten many species.
- **Species shifts:** According to data from the Continuous Plankton Recorder Survey in the Northeast Atlantic between 1985 and 2002, the rise in seawater temperature coincides with an increase in the amount of phytoplankton (plankton made up of microscopic plants) in cooler regions and a decrease in warmer regions. Over the last ten years, the numbers of young cod have declined in the North Sea as temperatures have risen.
- **Colder climate in Europe:** The rise in surface temperature could affect the formation of North Atlantic deep water



(12) Towards a strategy to protect and conserve the marine environment, COM (2002)539.

in the Arctic. This in turn could change the movement of seawater (thermohaline circulation) and make Europe a colder place to live.

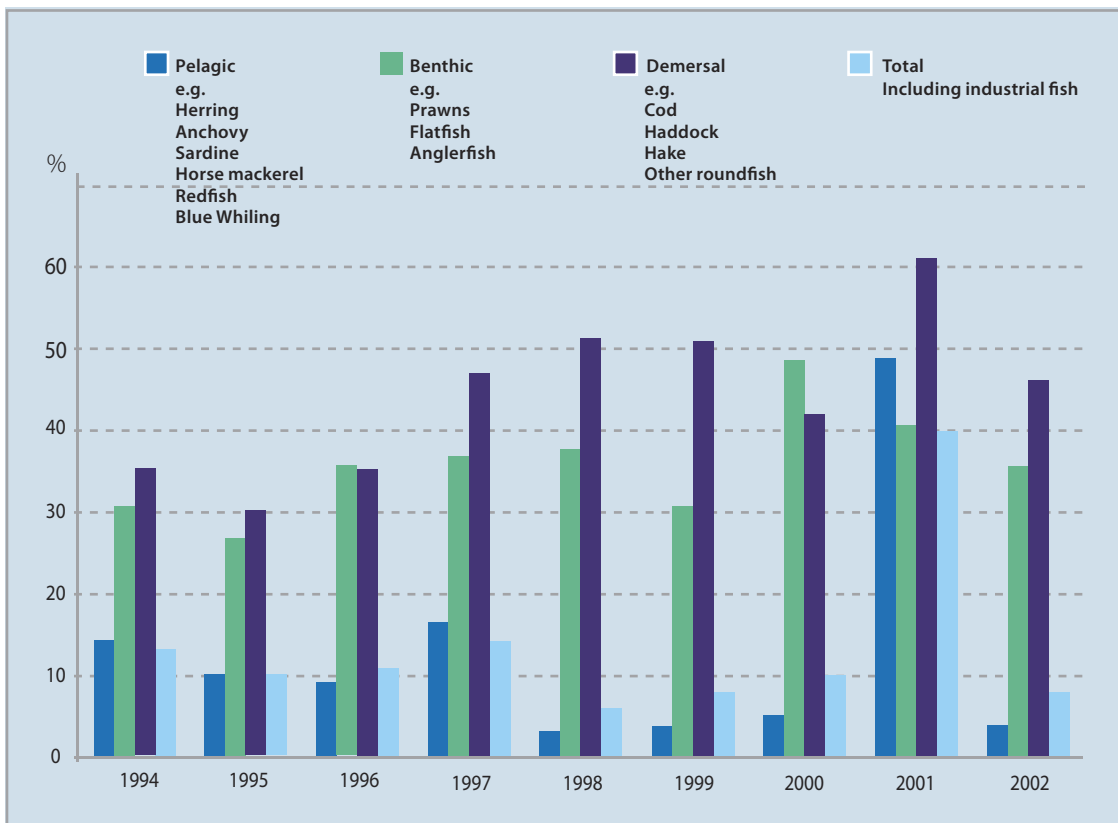
What is being done?

Efforts to fight climate change are driven by the 1997 Kyoto Protocol (to the United Nations framework convention on climate change of 1994), which aims to stabilise greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous human interference with the climate system. Major steps have been taken at EU level in the fight against climate change. The Kyoto Protocol entered into force in 2005 and the world's biggest emissions trading scheme for CO₂ began in the EU. The Montreal Climate Change Conference paved the way for post-2012 global action, including ways to engage countries currently outside Kyoto commitments.

Decline in biodiversity and damage to habitats

- **Over-fishing:** This is a problem throughout the world. Many stocks of commercial fish species are in a poor state. The detailed fish stock assessments provided regularly for Europe by the International Council for the Exploration of the Seas (ICES) indicate that the majority of the most valuable fish stocks in EU waters are outside safe biological limits (i.e. their survival is threatened). Over-fishing also threatens species that are not the target of fishing vessels, as well as non-fish species (e.g. cetaceans). Commercial fishing also has an impact on sensitive habitats such as deep-sea reefs, and alters the structure and functioning of marine ecosystems.

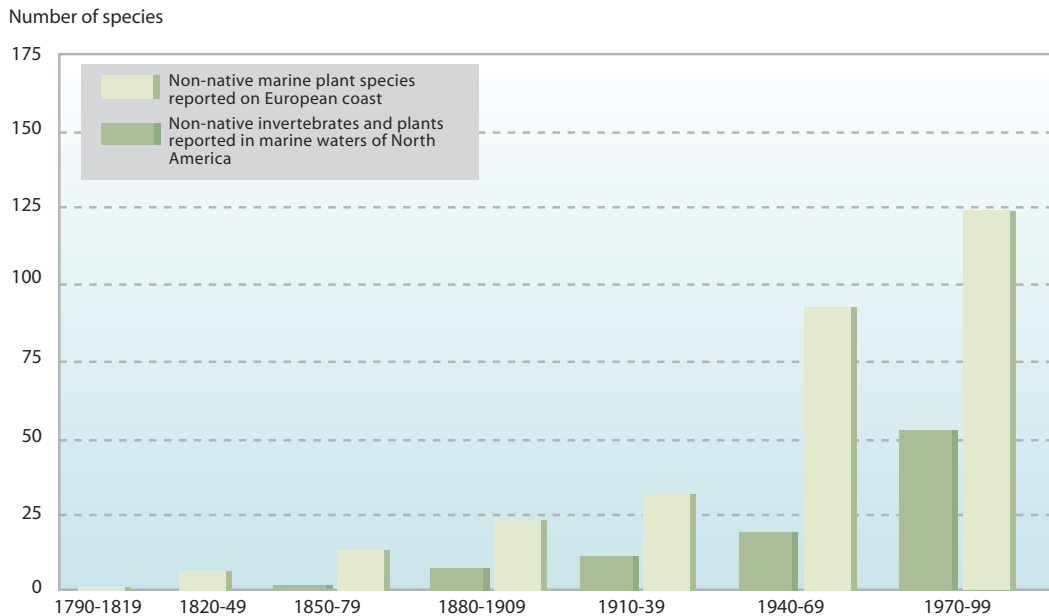
Trend in the proportion of catches from Atlantic fish stocks under EU management considered to be outside safe biological limits



Source: International Council for the Exploration of the Sea, ICES (2002); European Commission, DG Fisheries (2004); Eurostat (2004)



Growth in number of marine species introduced in North America and Europe



Source: Millennium Ecosystem Assessment

- **Non-indigenous species:** Non-indigenous or genetically modified species and disease-bearing organisms are being unintentionally introduced into European seas from ship hulls, anchors and discharge of ballast water, and through aquaculture.
- **Human activity along coasts:** Human activity along coasts is more and more intensive. Nearly 50% of the EU population lives within 50 kilometres of the coast. There is more and more maritime traffic. Ports and harbours are developing; there are some 1,200 ports in Europe. Oil and gas exploration, urbanisation of coastal areas, tourism, and sand and gravel extraction are increasing. This has a great impact on coastal habitats and their ecological processes. Barrages and wind-parks may also have an impact on habitats and sensitive species. Much of the EU coast - 20% - is affected by erosion and the sea is reshaping significant areas year by year.

What is being done?

European Union: Instruments include the Habitats, Birds and Water Framework Directives, the Common Fisheries Policy (CFP), the Common Agricultural Policy (CAP), the Biodiversity Action Plans, and the directives on Strategic Environmental Assessment and Environmental Impact Assessment.

Regional conventions: The OSPAR, Helsinki and Barcelona Conventions, the Baltic 21 Agenda.

International conventions: The main instruments are the Convention on Biological Diversity (CBD) or the Regional Agreements under the Bonn Convention on Migratory Species. However, they are either too general, or else focus too much on specific species or populations. International conventions on fisheries focus on specific stocks and fisheries.

Other international organisations are beginning to take a more integrated approach, but they could do much more to protect biodiversity, especially in the high seas.

Eutrophication

Nutrients such as nitrogen and phosphorus are generated in particular by agriculture and urban waste water. When they reach the ocean, they "enrich" seawater and accelerate the growth of algae, upsetting the balance of marine ecosystems in the process. This phenomenon is known as "eutrophication". Efforts have been made to reduce eutrophication but it is still an important threat in several areas. It is considered to be the most significant cause of the Black Sea's environmental decline since the 1960s. It has also led to significant alterations in the Baltic Sea. In the Northeast Atlantic,



the impact of eutrophication is confined to the coastal areas of the south-eastern part of the North Sea, the Wadden Sea, the Kattegat and the eastern Skagerrak. In the Mediterranean, eutrophication threatens mostly the northern and western coast of the Adriatic Sea.

What is being done?

European Union: The main EU instruments to combat eutrophication are the Nitrates Directive, the Urban Wastewater Directive, the Water Framework Directive, and certain measures taken under the Common Agricultural Policy.

Regional conventions: Both OSPAR and HELCOM stress the need to implement the EU measures and to identify what additional measures would be required. OSPAR has a eutrophication strategy.

Pollution

- **Hazardous substances:** Industrial processes, and commercial or household activities, release natural or man-made hazardous substances, which ultimately reach the marine environment. These substances may be toxic, persistent and liable to bioaccumulate to varying degrees. They may impair biological processes in aquatic organisms. While quantities of some of these substances are decreasing, quantities of others are increasing. New substances have been detected and their impact is unknown.
- **Marine litter:** Marine litter causes environmental, safety and economic problems. It may come directly from ships or from coasts and rivers. It is a general problem in all European seas and there is no sign that it is improving.
- **Discharge of oil and other substances:** Existing regulations are frequently violated. Ships wash their tanks or flush their bilge water, causing chronic and diffuse oil pollution that contaminates seabirds, shellfish and other organisms, and the coastline. Refineries are tending to discharge less into the sea, and the input of oil from the offshore industry in the North Sea has been reduced substantially since 1985. However, there is a need for continual vigilance, as drilling platforms extend into new sectors, into deeper waters, and into waters seasonally affected by ice.
- **Shipping accidents:** These are still a threat

despite all the preventive measures which have been put in place (routing of ships and measures to increase the safety of maritime transport). Accidents cause pollution by oil and other substances.

- **Underwater noise:** Man-made underwater noise may harm marine life. Noise is caused by shipping, oil and gas exploration and production, dredging, construction and military activities. It can be heard over very great distances. This form of pollution has not yet been regulated.
- **Radionuclides:** Discharges of radionuclides by nuclear fuel processing plants are a matter of concern. The size and impact of other sources of radionuclides (phosphate and offshore industry) are also being assessed.
- **Direct effects of pollution on human health:** A number of EU beaches are still affected by microbiological pollution, especially in parts of the Mediterranean outside the European Union and in the Black Sea. Contamination by marine phytoplankton biotoxins or by pathogens from inadequately treated sewage may directly affect health.

What is being done?

European Union: The main EU response to pollution is a framework for cooperation in the field of accidental or deliberate marine pollution. It is intended to support and supplement efforts by Member States. As a contracting party to existing regional agreements, the European Commission cooperates with the regional organisations in this area. In general, these activities are well coordinated and beneficial to all. The European Union has also adopted measures to control pollution from hazardous substances, such as the Water Framework Directive. The new EU law on chemicals, REACH (Registration, evaluation and authorisation of chemicals), is also an important contribution. Whenever the EU identifies weaknesses and gaps in international regulations and in their implementation, it adopts specific laws. For example, EU legislation on maritime transport is often related to legislation adopted at global level. There are EU rules for ships bound for EU ports. Several pieces of EU environmental legislation are applicable in the areas where offshore oil and gas installations are situated, such as the Habitats and Birds Directives. There are EU directives on air emissions, Environmental Impact Assessment and Strategic Environmental Assessment. Discharges



are regulated by the EU Member States under the regional sea conventions (OSPAR, HELCOM and the Barcelona Convention).

Regional conventions: All regional conventions include measures to control hazardous substances, although the level of detail varies.

International conventions: Shipping is highly regulated at international level. MARPOL73/78 and its annexes apply worldwide in preventing pollution from ships.

What is the issue here?

In the past, marine conventions attempted to control chemical products and industrial installations which were also covered by EU legislation. This led to duplication of effort, and in some cases measures conflicted. Recently, successful attempts have been made to co-ordinate work programmes and follow the same methodology. Work under the regional conventions now focuses much more on creating synergies and identifying added value for specific situations in the different European seas. Broader international action has been agreed under the Stockholm Convention on persistent organic pollutants (POPs).

2.4. Outstanding issues

Although sectoral policies tend to pay more attention to environmental concerns than in the past, major threats persist. There is more need than ever before for an integrated policy focused on protecting Europe's seas and oceans.

Analysis of the present situation

- **EU and regional policies:** A whole range of EU measures already help to protect the marine environment, but most of them are sectoral. They vary in geographical scope and were not designed specifically to protect the marine environment. Various international organisations also contribute but their geographical scope overlaps to a large extent with EU waters. There is also an overlap in terms of membership and activities, although this varies from one organisation to another. Although control measures have been put in place by the regional marine conventions, some of which are legally binding, existing policies need to be better implemented, both within the EU and internationally.

- **Other policies:** The European Commission has scrutinised the reports, studies and policy statements made by national and regional organisations, other countries, research institutions and UN bodies. They all point to the fact that our seas and oceans are at risk and that the current international arrangements are not delivering the required level of protection.
- **Knowledge base:** The existing monitoring and assessment programmes have generated scientific knowledge. They have revealed a significant number of information gaps. However, much more research is needed. Risk-based management techniques must be developed. Scenario testing must be used more extensively to study both natural variation and human impacts. Methodologies must be developed to better quantify the economic and socio-economic value of marine resources, including non-market values and services. The results of public-funded research must be disseminated and exploited. Communication between the research community and those engaged in decision-making and operational activities must be improved.
- Since publication of the preliminary communication in 2002, cooperation and coordination has substantially improved. However, the aggregate of all existing measures is not sufficient to deliver the desired level of protection and conservation. A coherent EU framework is therefore required.

On a global level, the situation is the same. Various sectoral United Nations instruments do exist in the framework of UNCLOS, UNEP, FAO, CBD and IMO. The state of the marine environment is being assessed within the UN system. However, a common EU approach on marine monitoring and assessment would certainly help. It is also necessary to reinforce capacity building, particularly in developing countries, both to develop the knowledge base and to implement management measures.

The marine strategy concept

In view of all this, four challenges were identified:

1. The Strategy should adopt a **common vision** and general approach to all sea areas (Baltic, North East Atlantic, Mediterranean, and Black Sea). Indeed, all the present EU



Member States are in these catchments areas and most of the present and future Member States, after the next enlargement of the EU, will be bordering them. Many common and/or transboundary problems exist within and between these sea areas.

2. At the same time, problems and priorities differ from one sea area to another, due to the fact that socio-economic situations vary. In addition to the need for a common approach, **a specific approach** is therefore required on a regional scale, to address **regional diversification**.
3. There is also a need to address all human uses in a holistic and integrated way, rather

than through a sector-by-sector approach. This will require all users to work towards common goals following **an ecosystem approach**. This in turn will entail developing appropriate policies and making institutional changes.

4. Implementing the Marine Strategy will require a sustained **long-term** political commitment to deliver. Humans have had an impact on the marine environment for centuries. The rate and scale of change can vary from a few years to many decades, and the benefits of applying a more coherent approach to marine uses will become fully apparent only after several decades.



3. The consultation process

3.1. Introduction

An extensive stakeholder consultation process to help prepare the Strategy took place from 2002 to 2004. It involved representatives from all EU Member States and candidate countries, key European third countries sharing oceans and seas with the Union, 16 international commissions and conventions, and 21 key industry and civil society organisations, including the European Anglers Alliance, FORATOM (European Atomic Forum), KIMO International (Local Authorities International Environmental Organisation), WWF (World Wildlife Fund for Nature), IFAW (International Fund for Animal Welfare), OGP (International Association of Oil and Gas Producers), Greenpeace, World Nuclear Association and EEAC (European Environmental Advisory Councils).

3.2. The preliminary communication

First of all, in 2002, the Commission adopted a preliminary communication entitled "Towards a thematic strategy to protect and conserve the marine environment". This consultation document called for a comprehensive EU strategy to improve co-ordination, strengthen the knowledge-base and promote coherent actions, and identified a number of objectives and associated actions.

The communication was welcomed by the Environment Council of Ministers on 4 March 2003, and it asked the Commission to present a Strategy by 2005. It also requested that the Member States, neighbouring countries and other stakeholders should be involved in drawing up this Strategy. Finally, it stressed the need to enhance and facilitate coordination and cooperation with and between the regional sea conventions and agreements, the European Environment Agency, the European Maritime Safety Agency, and other relevant bodies.

The Commission established a consultation and coordination mechanism. Under the overall guidance of EU Water Directors (senior civil servants in charge of water policy in the national administrations), a total of 34 European countries and 30 international governmental and non-governmental organisations were invited to participate in meetings.

3.3. The first stakeholder conference

The consultation process was kicked off at the Stakeholder Conference held in Køge, Denmark, from 4 to 6 December 2002. The Conference

supported the objectives, actions and timetables suggested in the preliminary communication.

Further to the Køge Conference, four *ad hoc* working groups were set up involving all key stakeholder constituencies to discuss the following key aspects:

- strategic goals and objectives
- ecosystem approach to management of human activities
- European marine monitoring and assessment
- hazardous substances

All background information and meeting documents were made available on the Marine Strategy CIRCA site (<http://forum.europa.eu.int/pbpublic/irc/env/marine/home>). The Commission also created an internal Inter-Service Group on Marine Protection and Conservation, to coordinate all issues related to marine protection and conservation and their integration into sectoral regulations. The Group was also in charge of coordinating the activities of the Commission in international fora, following and supporting the development of initiatives under the strategy, and identifying opportunities for promoting protection.

An Inter-Organisational Consultation Forum was created to facilitate partnerships between the international governmental organisations involved and to create a sense of common ownership of the Strategy.

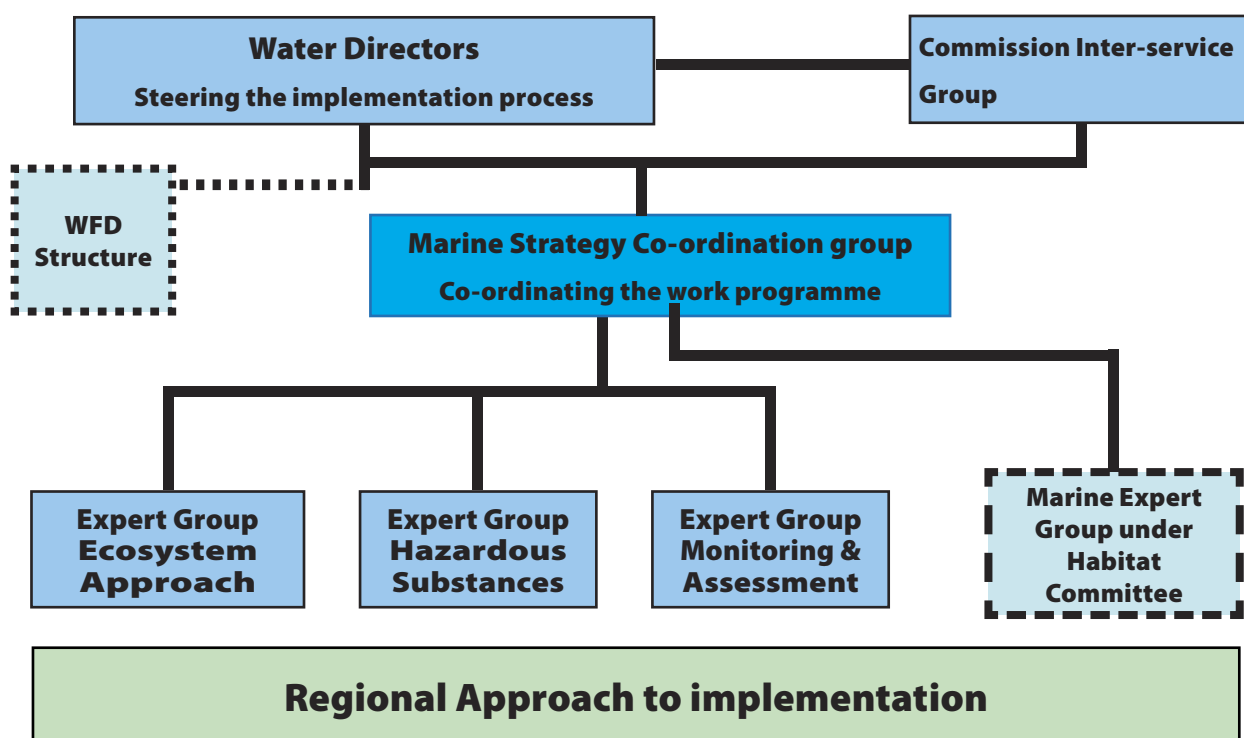
At the request of the Nature Directors in the national administrations of the Member States, a Marine Working Group was also established to work on practical guidelines for applying the EU Birds and Habitats Directives to the marine environment.

3.4. The working groups

- **Strategic goals and objectives.** The role of this group was to develop proposals for an ambitious, clear and coherent set of objectives.
- **Ecosystem approach to management of human activities.** This group had to lay down guidelines for an ecosystem approach and to put forward proposals for applying it to human activities. On the basis of the work carried out in a core group set up jointly by ICES and the European Commission,



Organisational structure of the consultation process



the working group engaged in extensive stakeholder consultation before preparing the guidance document. It proposed an approach by objectives, supported by indicators, limits, reference points and targets. It created a mechanism to support the delivery of sustainable development. The outcome of this work was published by ICES (<http://www.ices.dk/pubs/crr/crr273/crr273.pdf>).

- **European Marine Monitoring and Assessment.** This group was set out to develop a common approach for monitoring and assessing the quality status of the European marine environment and to help implement this approach. It agreed on a set of four basic principles and drew up a roadmap for future assessment and monitoring activities.
- **Hazardous substances.** This group agreed on a set of recommendations for future cooperation regarding the selection and prioritisation of hazardous substances and the development of measures to control such substances.

3.5. The second stakeholder conference

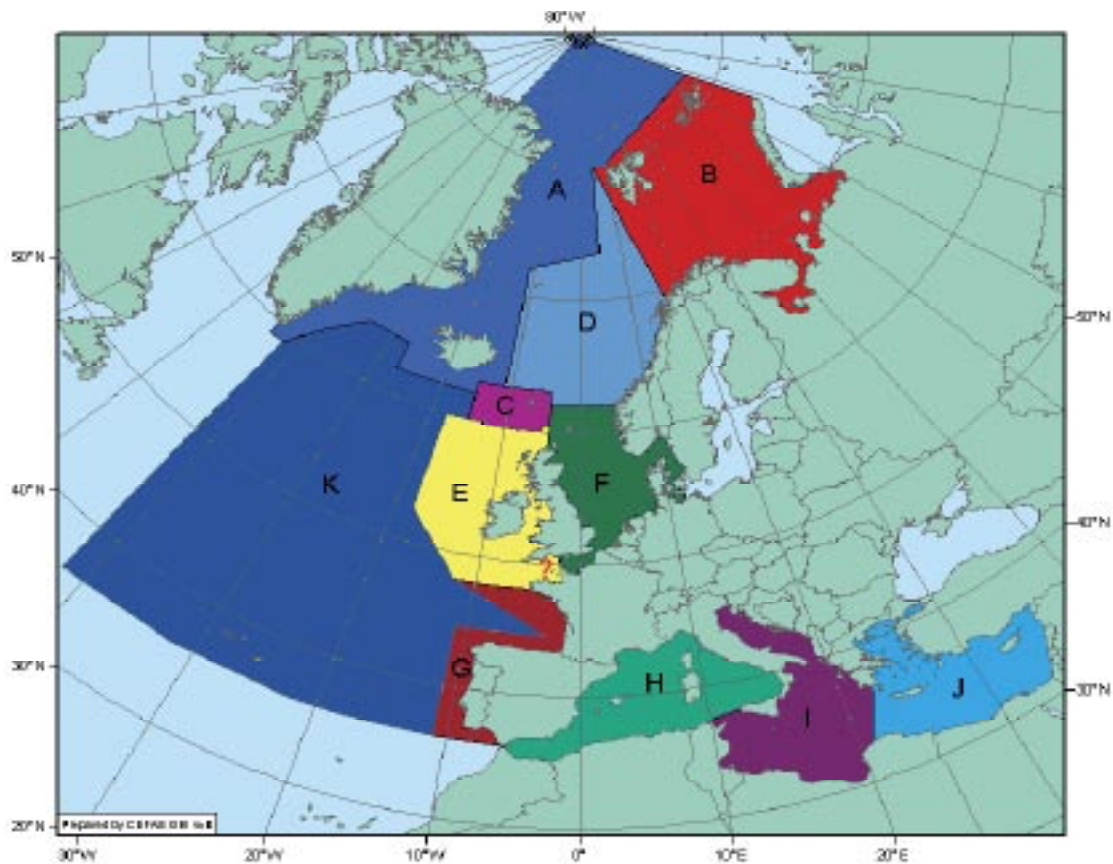
All these working groups delivered contributions to a closing stakeholder conference organised by the European Commission and the Dutch Presidency of the European Union and held in Rotterdam on 10, 11 and 12 November 2004. There, a wide consensus emerged on analysis of pressures and in favour of the overall approach. In particular there was agreement on the need for a dual EU/regional approach - i.e. the Strategy would be implemented and managed at regional level (marine regions) - and on the need for co-operation between Member States in devising marine strategies, notably through the use of existing instruments deriving from international agreements. ICES provided a very valuable analysis so as to identify marine regions in Europe on the basis of ecological criteria.

3.6. The internet consultation

An Internet consultation took place from 15 March to 9 May 2005 (see box). The aim was to elicit opinions from stakeholders on the specific measures being considered, in particular the possibility of a legal framework. The text and



Result of the ICES study on the identification of marine eco-regions in Europe



Marine eco-regions proposed by ICES for implementation of the ecosystem approach in European waters: Greenland and Iceland Seas (A), Barents Sea (B), Faroes (C), Norwegian Sea (D), Celtic Seas (E), North Sea (F), South European Atlantic Shelf (G), Western Mediterranean Sea (H), Adriatic-Ionian Seas (I), Aegean-Levantine Seas (J) and Oceanic Northeast Atlantic (K). The Baltic and Black Seas are not listed on this map but would of course also constitute single marine eco-regions.

evaluation of this Internet consultation is available at http://europa.eu.int/comm/environment/water/consult_marine.htm.

3.7. International activities

The EU is a contracting party to the Helsinki Convention on the Baltic, the OSPAR Convention on the North East Atlantic and the Barcelona Convention on the Mediterranean.

Development of the Strategy helped improve coordination of marine protection efforts with the above and other conventions.

The Strategy was one of the main items on the

agenda of the Joint Ministerial meeting of the Helsinki and OSPAR Commission, which was held on 25 and 26 June 2003. Both HELCOM and OSPAR agreed to cooperate with the EU in developing a European Marine Strategy and identified in detail how they could contribute to this.

The OSPAR Commission invited its committees to study various ways of cooperating with the EU. HELCOM met in March 2004 and finalised a document on its future role, on priority areas for action, and on the way to put this into practice.

Both OSPAR and HELCOM are studying the relationship between their own monitoring and assessment programmes and the requirements of EU directives and other international instruments.



Internet consultation

Strong support from 133 respondents

There were a total of 133 replies to the questionnaire, from 22 EU Member States and non-EU countries. However, half of the replies were from the UK, Belgium and the Netherlands. Half of the replies came from organisations and institutions and half from individuals. About 75% of the replies were from organisations or individuals not involved in the previous stages of consultation. They were less supportive than the respondents who had been actively involved in the stakeholder consultation over the past three years.

The majority of respondents emphasised the need for strong EU action. The objectives that had been identified were considered of "high" importance by a large majority. There was strong support for the dual EU/regional approach, for setting up marine

regions, for co-ordinated regional marine strategies between Member States involving the non-EU countries concerned, and for using structures already existing under international agreements.

There was slightly less support for the need to produce cost-benefit analyses of the measures introduced but strong support for the proposed monitoring methodology.

Opinions on the timetable for implementation were more mixed. While many argued that the timeframe for achieving good environmental status was too long, others felt the proposed deadlines were too ambitious. Others even questioned the very idea of proposing precise deadlines before there had been a clear assessment of the state of the marine environment. Some suggested adjusting the timeframe, to take account of other processes, such as the Water Framework Directive, international targets, etc.

The European Commission has dedicated more resources to improving cooperation with the Barcelona Convention, through the Secretariat, the Regional Activity Centres and programmes such as MEDPOL and SAP. The ministerial declaration of the meeting of the contracting parties to the Barcelona Convention held in Catania in November 2003 welcomed the Marine Strategy initiative and recommended that the Parties participate.

Particular aspects concerning the Strategy will be included in a future memorandum of understanding between the European Commission and the Mediterranean Action Plan Coordination Unit. Preparation of the new MEDPOL Programme (phase IV) will provide new opportunities in this respect.

The European Commission is also an observer to the Black Sea Commission (BSC), the executive

body of the Bucharest Convention. The Permanent Secretariat of the BSC took part in the working groups. Representatives from Romania, Bulgaria and Turkey were also invited to take part.

The 2002 meeting of the Arctic Council acknowledged that existing and emerging activities in the Arctic required a more coordinated and integrated approach. A strategic plan for the protection of the Arctic marine environment was adopted in November 2004.

The European Commission participated as an observer in the development of this strategy. At the meeting in Reykjavik from 20 to 22 October 2004 it undertook to do more to coordinate development of the EU's marine strategy and create synergies with the Arctic plan. This led to an exchange of information and offers of participation. Links were created between working groups.



4. The building blocks of the Strategy

4.1. Introduction

The second stakeholder conference in Rotterdam from 10 to 12 November 2004 came out in favour of the approach taken by the European Commission, i.e. a holistic and integrated approach, based on a common vision and recognition of the specific regional situations.

The conference concluded that implementation of the Strategy would require:

- bordering non-EU countries to endorse the common goals and related objectives of the Strategy and actively participate in its further development and implementation;
- action at the right level of governance, depending on what the 25 EU Member States can do on the basis of legal commitment, how they can cooperate with non-EU countries in the regional conventions, and what the EU can achieve in other international fora;
- close cooperation with existing regional conventions;
- integration and coherence between freshwater and marine programmes or policies; and continued integration of environmental concerns into other policies, a particular need being to jointly establish collective data sets and common assessments of problems, in order to identify the right corrective measures;
- more public awareness, communication and education efforts.

4.2. Working out the Strategy

During the consultation process, it was suggested that the Strategy should contain the following aim, scope, vision, principles and strategic goals.

Aim

The Strategy should be common to all seas, uses and sectors and consider people as an intrinsic part of the ecosystems. It should embrace regional diversity through a regional approach and through an ecosystem approach to the management of all human activities that have an impact on the marine environment.

This approach is based on adaptive management, the precautionary, polluter pays and prevention principles and appropriate means for risk

assessment. It should focus on the environment without undermining the socio-economic dimension.

Scope

Society at large will have to define limits in order to prevent irreversible damage. Safe boundaries should be established within which the marine environment could be used in a sustainable way. It is up to society to establish objectives and targets for its services and goods, and the intrinsic values it wants to achieve. This requires widespread stakeholder participation.

The Strategy should not propose concrete management measures. Such measures should be devised and implemented at regional level. Each sector which directly or indirectly affects the marine environment will have to contribute to this.

In geographical terms, the Strategy should be directed first to those parts of the North East Atlantic, the Baltic Sea and the Mediterranean Sea which are under the jurisdiction of EU Member States. However, as sea areas do not have borders, the Strategy should also be directed at non-EU countries bordering these areas and at the international organisations in which countries cooperate.

Through these international organisations, the Strategy should address the adjacent seas outside national jurisdictions, especially the conservation and use of deep waters.

Finally, it should also address the EU footprint in other parts of the world.

Vision

During the consultation process, broad consensus was reached on the following vision: "Our vision for the marine environment is that both we and future generations can enjoy and benefit from biologically diverse and dynamic oceans and seas that are safe, healthy and productive".

Principles

Human activities should be managed on the basis of a set of principles. These should reflect the needs for a high level of precaution, adequate stakeholder participation, concern for the conservation, recovery and restoration of the ecosystem (rather than simply maintaining degraded ecosystems), and increasing public awareness.



A Strategy based on a set of proposed principles

- Policy should rest on a vision shared by all stakeholders.
- Planning and management of human activities should be integrated, strategic and adaptive. It should be supported by clear objectives and take a long-term perspective.
- The geographical span of management should reflect ecological characteristics and make it possible to manage the natural resources of both the marine and terrestrial component of the coastal zone.
- The objectives should be consistent with the requirement for sustainable development and

reflect a societal choice. They should address the desired quality status of the structure and dynamic functions of the ecosystem.

- Action should be based upon the precautionary principle, the polluter-pays principle, and the prevention principle.
- Best available technologies and best environmental practices should be applied, with appropriate risk assessment and cost-benefit analysis, and applying tools for assessing priorities for action.
- The process should be supported by coordinated programmes for monitoring, assessment, implementation and enforcement, and by peer reviewed scientific research and advice. It should make the best use of existing scientific knowledge.

Objectives

The proposal for a Marine Strategy Directive introduces the notion of "good environmental status". Although it would apply across all EU marine waters, it would give rise to measures which differ to a certain extent from one region to the other.

Objectives have already been set at various levels by a broad range of international organisations. They cover a variety of geographical scales, from global to European and regional, and should continue to apply. The same goes for objectives which have been laid down by national authorities. Their legal or political nature and their geographical scope

should not be altered. They should form part of the Strategy.

Consensus was reached during the consultation process on a series of aspirational objectives which are summarised in the next box p.23.

4.3. The ecosystem approach

Extensive work on application of the ecosystem approach to the marine environment was carried out during the stakeholder consultation process. Below is a description of some of the reflections that helped to formulate the Commission's view on this important issue.



Aspirational objectives suggested during the stakeholder process

Achieve and maintain good ecological status of ecosystems

- By 2010, implement an ecosystem approach, halt the decline in biodiversity; establish a system of networks representing marine and coastal protected areas but also covering the high seas. Finally, reduce the risk of accidental invasion of alien species and prevent intentional introduction of alien and invasive species.

Phase out pollution

- Progressively reduce discharges, emissions and losses of hazardous substances. Concentrations of such substances should approximate background values naturally occurring for natural substances and should be close to zero for man-made synthetic substances.
- Prevent pollution from ionizing radiation by reducing discharges, emissions and losses of radioactive substances. Reach concentrations near background values for naturally occurring radioactive substances and close to zero for artificial ones.
- By 2010, put in place measures to control all sources of nutrients, in order to reduce human-induced eutrophication to acceptable levels. Where these measures address agriculture within the EU, consider them in the forthcoming review of the Common Agricultural Policy.
- By 2010 at the latest, improve compliance with all discharge regulations for ships, and with regulations on the protection of the marine environment from pollution arising from shipping and maritime transport.
- Further reduce the environmental impact of shipping, inter alia by developing and applying the "clean ship" concept and further promoting "safe shipping".
- Progressively reduce discharges, releases and losses of marine debris by improving the implementation of waste legislation and developing more effective waste management, including campaigns to increase the awareness of the public and stakeholders about the problem of litter and ship-generated waste or cargo residues.

Control the use of marine services and goods and other activities affecting the marine environment

- Carry out environmental assessments of human activities, even in cases where the EU directives regarding Environmental Impact Assessment of Strategic Environmental Assessment do not apply.
- Implement as soon as possible the governing principles of the FAO Code of Conduct for Responsible Fisheries and its instruments, and the International Plans of Actions (IPOA), and invite countries which have not yet done so to ratify the 1995 New York Agreement.
- Reverse the decline in fished stocks by reducing fishing pressure, both in the EU and globally. Restore and maintain stocks to levels that can produce maximum sustainable yields by 2015.
- Reduce the impact of the exploitation of non-renewable marine resources.
- Promote the application and wider use of management tools such as adaptive management, Integrated Coastal Zone Management, risk assessment and spatial planning.
- Implement the Guidelines on Biodiversity and Tourism Development which were adopted by the 2004 conference of the Convention on Biological Diversity.

Good governance.

- Render sectoral policies more coherent.
- Improve law enforcement.
- Up-grade coordination between different institutions, regional and global conventions and action plans.
- Introduce more transparency.
- Make the public more aware.
- Encourage stakeholder participation.
- Improve communication between researchers, managers and other end-users.
- Enrich the knowledge base.
- Promote the development of coordinated and strategic research programmes.



The ecosystem approach is instrumental to the sustainable development of Europe's oceans and seas and to the effective protection of the marine environment. It is consistent with the Habitat and Water Framework Directives. It builds upon concepts such as "favourable status of conservation" and "good ecological status". It should apply to all areas, including coastal seas, territorial waters, exclusive economic zones or equivalent ones.

Individual marine regions have to be identified on the basis of bio-geographic and oceanographic features, together with the human activities and their impact on the areas concerned. The ICES study suggesting European marine regions (see p.18) was an important contribution to this process.

Countries bordering a particular marine region should draw up implementation plans (or marine strategies) in close cooperation with one another, based on an assessment of the pressures and

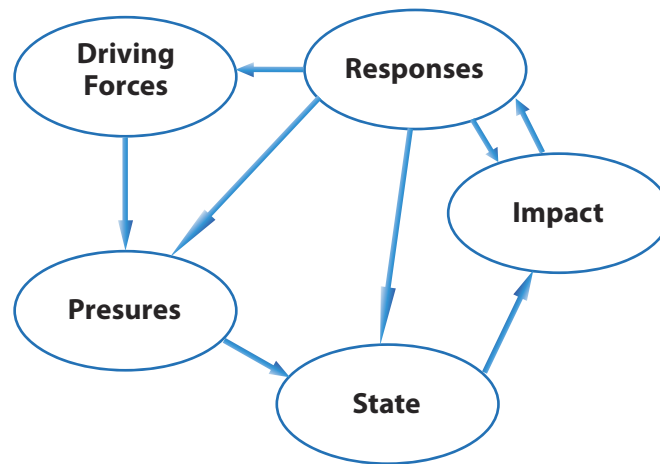
impacts acting upon the region and taking into account the specific economic and social conditions which prevail in that region.

The plans should contain a coherent set of objectives, supported by a range of indicators with limits and target reference points, aimed at achieving "good environmental status" of the EU's marine environment. Indicators should follow the structure of the DPSIR framework, as outlined in the graph below.

Some objectives and measures might fall outside the control of the countries cooperating in a particular marine region. In this case, proposed measures can be introduced into the implementation plans, under the form of suggestions directed to the competent authority.

If an assessment reveals that the objectives are unlikely to be achieved, the reasons for this

Developing indicators on the basis of the DPSIR framework



should be investigated. Adaptive management – which provides structured feedback to support management decisions - would then lead to a series of adjustments. These adjustments are the best way to take into account the way in which marine ecosystems vary naturally, as it is difficult to forecast the future reaction of such systems or some of the impacts of climate change on them.

Each implementation plan should also contain a monitoring and assessment programme. It should be based on existing programmes but it should be

coherent with the objectives defined within each marine region. They should ensure convergence and consistency with the programmes drawn up in the other marine regions and integrate the obligations for monitoring and assessment contained in existing legislation.

To ensure that the different programmes are coherent and consistent across the whole of the EU, a set of basic principles should underpin the way the status of the marine environment is assessed by the different organisations. Where objectives,



targets and benchmarks are comparable, the assessment should address them in a comparable way. Different assessments covering various parts of a marine region should be consistent with that region as a whole.

Assessments should be scientifically sound. They should aim for the broadest level of acceptability possible so that they may be used

by other organisations. Information on the marine environment should be shared to the fullest extent possible.

When a coherent plan has been developed for a marine region, each country, sector and even local actor could develop and implement the required measures and the actions necessary to achieve it.

Applying the ecosystem-based approach to the marine environment, step by step



Credit : Dan Laffoley, English Nature



4.4. The impact assessment

It is standard practice for the Commission to produce a report assessing the economic, environmental and social impacts of its policy and legislative proposals. This assessment is contained in the Commission staff working paper entitled "Impact assessment of the thematic strategy on the protection and conservation of the marine environment".

A set of preferred options has emerged from this assessment. They will increase the environmental efficiency and cost-effectiveness of the policy. They are now part of the building blocks of the strategy. The report is available on the Commission's website (<http://europa.eu.int/comm/environment/water/marine.htm>).

During the study, two main options were considered:

- Option A – A strictly voluntary approach, based on a communication setting non-binding recommendations without any new legislative measures.
- Option B – A flexible legal instrument combined with a communication containing non-binding recommendations.

The cost of Option A was not likely to differ from the cost (potentially very high, in the medium and long term) of a no-additional action scenario.

Under Option B, there would be administrative costs which will amount to about € 90 million over two years for the initial phase and about € 70 million annually beyond that. Other implementation costs would result from the programmes of measures drawn up at regional level. However, it is not possible at this stage to fully anticipate those measures.

The legislative instrument will provide for detailed impact assessment of the regional programmes, so that the environmental objectives can be reached at minimum cost.

Indications regarding likely impact and costs on key sectors remain to a large extent theoretical at this stage, but they indicate that there may be important social and economic costs in the short term for those sectors most dependent on the marine environment and most directly affecting it (e.g. fisheries) or where the environmental regulatory framework is comparatively less developed (e.g. extraction, dredging, and to a lesser extent shipping).

Implementing the Strategy will bring a whole series of medium- to long-term benefits:

- The marine environment would be effectively protected and key ecological services restored.
- The sustainable future of marine industries would be ensured through effective protection of the resource base on which they depend, in particular fisheries, the fast growing aquaculture sector, and the key sector of tourism.
- The health costs that would have arisen from pollution of bathing sites and contamination of fish products if no additional action were taken would be considerably reduced.
- It would open up prospects for more scientific research.

In the light of these potential benefits and of the inability of Option A to reduce the cost of no additional action, the European Commission chose to proceed in accordance with Option B.



5. The Strategy itself

The European Commission adopted the Strategy in October 2005. It is set out in a Communication, accompanied by a proposal for a Marine Strategy Directive and an Impact Assessment.

The Strategy establishes four marine regions and identifies eight potential sub-regions. Its objective is to achieve good environmental status of the marine environment by 2021. The first programmes of measures to be developed as part of the regional strategies will have to be established by 2016 at the latest. The measures themselves will have to be made operational within two years of their establishment.

These deadlines are consistent with the Water Framework Directive of 2000, which requires that surface freshwater and groundwater bodies (including lakes, streams and rivers, estuaries and coastal waters) should achieve good ecological status by 2015, and that the first review of the River Basin Management Plan should take place in 2021. The combined implementation of the Water Framework Directive and of the Marine Strategy will bridge the gap between environmental protection of inland waters and the open seas.

The Commission proposal sets out common objectives and methods. It is based on the concept of regional seas, so that the Member States sharing an area will be responsible for developing strategies on how to achieve good environmental status. These strategies would include a detailed assessment of the state of the environment, define what achieving good environmental status means in the context of each regional sea, and establish clear environmental targets and monitoring programmes. Impact assessments, including detailed cost-benefit analyses of the measures proposed, will be required prior to the introduction of any new measure.

An important part of achieving good environmental status will involve close co-operation with non-EU countries which share areas with EU Member States. EU and non-EU countries will be encouraged to work within the framework of existing regional seas conventions.

The Marine Strategies will be drawn up in the framework of a legal instrument – a directive – due to be adopted by the EU Council of Ministers and the European Parliament. The Member States will be required to submit key steps in the development of the Strategies to the European Commission for approval.

While this Thematic Strategy is focused primarily on protection of the regional seas bordered by EU countries, it also takes into account the international dimension and the need to reduce the EU's footprint in other parts of the world, including the High Seas.

The EU will continue to lead in the framework of the UN Convention on Biological Diversity to halt the loss of biodiversity globally. The European Commission will step up its efforts to increase the sustainability of fisheries agreements with developing countries, contracted under the Common Fisheries Policy. EU development co-operation policy continues to remain essential to support developing countries' efforts to protect, conserve and exploit their own marine resources in a sustainable way.

The Strategy will boost the EU's profile and credibility on marine issues at international level. It will enable the EU to fulfil the obligations it has under international agreements and will help it meet globally agreed targets. This in turn will increase the EU's ability to persuade partners to improve global governance of the marine environment, in particular in the highly sensitive area of conservation and use of deep water resources.



VI. The next steps

The Strategy, and in particular the draft Marine Strategy Directive, is now going through the EU decision-making process. It has been submitted for opinion to the EU Economic and Social Committee and to the Committee of the Regions, before being amended and adopted by the European Parliament and the EU Council of Ministers in the framework of the co-decision procedure.

The Strategy also establishes mechanisms that will ensure continued stakeholder participation and a transparent reporting process. Part of the network set up by the European Commission to prepare the Strategy will be maintained on an informal basis. For instance, the working group on European marine monitoring and assessment will be maintained as it provides a platform for liaising with the regional conventions, EEA, ICES and the Member States.

Applying an ecosystem approach to managing human activities will also require a smooth

information flow, in order to come up with a coherent approach. It is a challenge which cuts across several organisations and policy frameworks.

The Strategy is to be seen within the broader context of the development of a new EU maritime policy. The need for such a policy stems from the economic, social and environmental importance of the maritime dimension in Europe. The vision is that of a Europe with a dynamic maritime economy in harmony with the marine environment. The Strategy will deliver the environmental pillar of the future EU Maritime Policy.

The effective protection of the marine resource base is indeed a precondition for achieving sustainable wealth and generating employment, at a time when the EU is seeking to reinvigorate its economy. It will also enhance the quality of life in the European Union.



<http://europa.eu.int/comm/environment/water/marine.htm>



ANNEX

GLOSSARY AND ABBREVIATIONS

<i>Acidification</i>	Ocean acidification is the name given to the ongoing decrease in the pH of the Earth's oceans, caused by their uptake of anthropogenic carbon dioxide from the atmosphere.
<i>Arctic Council</i>	Forum which addresses the common concerns and challenges faced by the Arctic governments and the people of the Arctic.
<i>Ballast water</i>	The water carried by ships to ensure stability, trim and structural integrity ("ballast water") is responsible for the introduction of invasive marine species into new environments. Ballast water can include bacteria and other microbes, small invertebrates and the eggs, cysts and larvae of various species.
<i>Barcelona Convention</i>	Convention for the Protection of the Mediterranean Sea against Pollution, which was adopted in 1976 and entered into force in 1978.
<i>BAT</i>	Best Available Technologies.
<i>BEP</i>	Best Environmental Practices.
<i>Bilge water</i>	Water accumulated in the bilge of a ship, which is often mixed with oil from the engine room.
<i>Birds Directive</i>	Directive on the Conservation of Wild Birds (Council Directive 79/409/EEC).
<i>Bonn Convention</i>	Convention on the Conservation of Migratory Species of Wild Animals.
<i>BSC</i>	Black Sea Commission.
<i>Calcareous plankton</i>	Plankton consisting of microscopic organisms using the calcite or aragonite polymorphs of calcium carbonate to construct exoskeletons or shells (ex. coccolitophores, foraminifera and pteropods).
<i>CAP</i>	Common Agricultural Policy.
<i>CBD</i>	Convention on Biological Diversity.
<i>CFP</i>	Common Fisheries Policy.
<i>EAP</i>	6th Environmental Action Programme, adopted by the Council and Parliament, covering the period 2002-2012.
<i>Eutrophication</i>	The enrichment of water by nutrients such as nitrogen and phosphorus- principally from agriculture and urban waste water. They enter into oceans and seas and accelerate the growth of algae and higher plants, upsetting the balance of the marine ecosystem.
<i>FAO</i>	Food and Agriculture Organization of the United Nations.
<i>Habitats Directive</i>	Directive on the Conservation of Natural Habitats and of Wild Fauna and Flora (Council Directive 92/43/EEC).
<i>Helsinki Convention</i>	The 1992 Convention on the Protection of the Marine Environment of the Baltic Sea Area, which entered into force on 17 January 2000.



<i>ICES</i>	International Council for the Exploration of the Seas.
<i>ICZM</i>	Integrated Coastal Zone Management.
<i>IMO</i>	International Maritime Organization.
<i>LRTAP Protocols</i>	The Protocol to the regional UNECE Convention on Long-Range Transboundary Air Pollution (CLRTAP) on POPs, which opened for signature in June 1998 and entered into force on 23 October 2003.
<i>MARPOL 73/78</i>	Convention for the Prevention of Pollution from Ships.
<i>Marine Strategy</i>	Thematic Strategy on the Protection and Conservation of the Marine Environment: COM(2005) 504; COM(2005) 505 & SEC(2005) 1290.
<i>MEDPOL</i>	The Programme for the Assessment and Control of Pollution in the Mediterranean Region.
<i>Non-indigenous species</i>	Non-local alien and invasive species.
<i>OSPAR</i>	The Convention for the Protection of the Marine Environment of the North-East Atlantic of 1992, which came into force on 25 March 1998.
<i>Phytoplankton</i>	Plankton consisting of microscopic plants.
<i>POPs Convention</i>	The global Stockholm Convention on Persistent Organic Pollutants (POPs), which opened for signature in May 2001 and came into force on 17 May 2004.
<i>Preliminary communication</i>	Towards a strategy to protect and conserve the marine environment; COM(2002) 539.
<i>REACH</i>	EU regulation for Registration, Evaluation and Authorisation of Chemicals (the European Parliament adopted its first reading on REACH on 17 November 2005).
<i>SAP</i>	Strategic Action Programme.
<i>Themohaline circulation</i>	The movement of seawater in a pattern of flow dependent on variations in temperature, thus causing changes in salt content and hence in density.
<i>UNCLOS</i>	United Nations Convention on the Law of the Sea (Montego Bay, 1982).
<i>UNEP</i>	United Nations Environment Programme.
<i>WFD</i>	Water Framework Directive (Directive 2000/60/EC).



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