

6. Environment, research and EU actions



The sea, a fragile environment

Most human activities at sea have repercussions on the environment. These activities put a strain on the marine environment. The sources of such strain are many: overfishing, discharges from land-based and marine activities, emissions of nutrients and dangerous substances, shipping and more intense coastal activity (development of ports, protection of the seashore, tourism and land development).

- **Forms of marine pollution**

- **Chemicals and heavy metals**

Marine sediments show concentrations of heavy metals and residues of chemical substances which are now banned, such as organochlorine pesticides (DDT) and PCBs.

- **Eutrophication**

Caused by an excessive input of nutrients (nitrogen and phosphorous), eutrophication leads to the proliferation of algae.

- **Accidental oil spills and dumping of hydrocarbons at sea**

Damage to coastlines from oil slicks following accidental oil spills at sea is costly, and rehabilitation of the sides takes a long time. The release of hydrocarbons from oil rig waste water has gradually risen as oil drilling has been stepped up, with more and more installations in operation. Chronic pollution by hydrocarbons (degassing), while less concentrated and less spectacular than oil slicks, is a widespread phenomenon. This type of pollution is caused by the emptying of ships' tanks or the dumping of their bilge or ballast water. As a result, sea birds, crustaceans, other organisms and coastlines are polluted with oil.

- **Discharges of radionuclides**

Radioactivity created by submerged nuclear waste is harmful to marine life.

- **Discharges of non-biodegradable material**

The main sources of this pollution are navigation (fishing and merchant vessels) and recreational and tourist activities. This type of waste is difficult to quantify. It leads to the drowning of birds which get trapped in plastic waste material, and the death of birds, tortoises and whales which ingest plastic objects.

- **Other threats to the marine environment**

- **Overfishing**

Overfishing threatens to deplete certain stocks of fish and crustaceans. Recovery plans have been introduced and others are being developed under the Common Fisheries Policy to help rebuild certain stocks of cod, hake, sole and Norway lobster.

- **Destruction of natural habitats**

Coastal zones are home to a large part of the European population and are becoming increasingly built up, in addition to hosting economic and tourist activities. All these activities add to the strain on increasingly weakened natural habitats.

- **Accidental introduction of non-native species**

Native marine species are often threatened by invasive species coming from a different part of the planet.

- **Climate change**

Climate change is likely to have major consequences on the marine environment. It could affect the strength and transport capacity of ocean currents, the speed of formation of water masses, sea level, the intensity and frequency of climatic phenomena, rainfall and the flow of waterways, with downstream effects on ecosystems and fisheries.

- **Coastal erosion**

Coastal erosion is a gradual process where soil is worn away by the sea. One fifth of the European Union coastline is already affected and in places is losing from 0.5 to 2 metres a year, and even up to 15 metres in a few alarming cases.



Research

- The **Sixth Framework Programme for Research and Technological Development** allocates € 153 million to research in the field of maritime transport.
- European maritime research is investigating **important aspects** such as:
 - preventing oil slicks
 - improving the evacuation of passengers in the case of accidents
 - hydrodynamics, which can lead to improved energy efficiency in maritime transport.
- For the 2002-2006 period, the European Commission has a **budget of € 55 million** for developing scientific findings in four areas:
 - a scientific basis for fisheries management
 - a scientific basis for control and surveillance of fisheries activities
 - sustainable aquaculture production
 - the integration of environmental protection into the Common Fisheries Policy

Useful links: http://europa.eu.int/comm/research/index_en.cfm
http://www.eurocean.org/categories.php?category_no=155



The European Union's actions

- Despite of the steps already taken under the Common Fisheries Policy (CFP), a number of commercially important fish stocks have become depleted. To help rebuild these stocks, protect those at a safe level and guarantee sustainable fisheries, the CFP embarked upon a major reform in December 2002. The measures agreed as part of this reform have been introduced in most areas of the CFP to guarantee **sustainable fisheries from a biological, environmental and economic standpoint**.

Useful link: http://europa.eu.int/comm/fisheries/reform/index_en.htm

- All Union sector policies form an integral part of the **Lisbon Agenda**, a far-reaching reform programme launched in 2000 aimed at **ensuring sustainable growth and creating jobs**.

Useful link: http://europa.eu.int/growthandjobs/index_en.htm

- In 2003, the Commission kicked off "LeaderSHIP 2015", an ambitious strategy to ensure the long-term prosperity of the **shipbuilding** sector in a market destined to experience dynamic growth.

Useful link: http://europa.eu.int/comm/dgs/enterprise/index_en.htm

- With regard to **energy**, the European Union is working to diversify sources and to develop renewable energy.

Useful link: http://europa.eu.int/comm/energy/index_en.html

- The European Union works to improve standards of **maritime safety** and of environmental **protection**.

Useful link: http://europa.eu.int/comm/transport/maritime/safety/index_en.htm

- Through a targeted **tourism** policy, Europe is encouraging regional development and the creation of jobs in coastal regions.

Useful link: http://europa.eu.int/comm/regional_policy/themes/cultur_en.htm

- **The protection of the marine environment** is an ongoing concern for the European Union. In 2002, the Union announced an ambitious plan to improve protection and conservation of marine ecosystems. To counteract the threats to our seas and oceans, this new approach aims to develop an **integrated marine environment policy**.

Useful link: <http://forum.europa.eu.int/Public/irc/env/marine/library>