

OSPAR Commission
for the Protection of the Marine Environment
of the North-East Atlantic

Quality Status Report 2000
Region IV Bay of Biscay and Iberian Coast

Quality Status Report 2000
Region IV – Bay of Biscay and Iberian coast

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FOREWORD

The Convention for the Protection of the Marine Environment of the North-East Atlantic (OSPAR Convention 1992) requires that Contracting Parties shall 'take all possible steps to prevent and eliminate pollution and shall take the necessary measures to protect the maritime area against the adverse effects of human activities so as to safeguard human health and to conserve marine ecosystems and, when practicable, restore marine areas which have been adversely affected'.

To provide a basis for such measures, the Contracting Parties are required to undertake and publish at regular intervals joint assessments of the quality status of the marine environment and of its development. These assessments should also evaluate the effectiveness of measures taken and planned for the protection of the marine environment and should identify priorities for action.

The Ministerial Meeting at which the OSPAR Convention was signed also issued an action plan for the OSPAR Commission, with a commitment to prepare a quality assessment of the whole maritime area by the year 2000. A comprehensive quality status report on this scale has not previously been produced.

To implement these commitments the OSPAR Commission decided, in 1994, to subdivide the maritime area into five regions and to prepare, coordinated by the Environmental Assessment and Monitoring Committee, five detailed quality status reports. As a result, five regional task teams were set up to produce reports for the following areas (see inset in **Figure 1.1**): Region I (Arctic Waters), Region II (Greater North Sea), Region III (The Celtic Seas), Region IV (Bay of Biscay and Iberian Coast) and Region V (Wider Atlantic). It was agreed that these reports should be developed in a scientifically sound manner and should be based upon an assessment plan and a scientific programme (covering monitoring, research and the use of assessment tools). It was also agreed that the information contained in the reports should reflect the outcome of the appropriate quality assurance procedures.

In 1995 the OSPAR Commission adopted a Joint Assessment and Monitoring Programme, to take over and build upon experience gained through its former Joint Monitoring Programme and the Monitoring Master Plan of the North Sea Task Force.

The findings of the five regional quality status reports ('the regional QSRs') form the basis of a holistic quality status report for the entire maritime area (the 'QSR 2000'). This regional report is thus part of an overall quality status assessment for the North-east Atlantic in the year 2000. The QSR 2000 will represent an integrated summary of the quality status of the entire OSPAR maritime area and will both fulfil the commitment made by the parties to the 1992 Convention and provide a basis upon which the future work programmes of the Commission can be decided. In the Sintra Statement, which concluded the 1998 Ministerial Meeting of the OSPAR Commission, importance was attached to the outcome of the QSR 2000 as a basis for identifying and prioritising future tasks at the Ministerial Meeting of the OSPAR Commission to be held in 2003.

The term 'OSPAR Commission' is used in this report to refer to both the OSPAR Commission and the former Oslo and Paris Commissions. The 1972 Oslo Convention and the 1974 Paris Convention were superseded by the 1992 OSPAR Convention when it entered into force on 25 March 1998.

The conclusions and recommendations contained in this report draw attention to problems and identify priorities for consideration within appropriate fora as a basis for further work. Within its sphere of competence, the OSPAR Commission will decide what follow up should be given to these conclusions, recommendations and priorities for action. The rights and obligations of the Contracting Parties are not therefore affected by this report.

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The Environmental Monitoring and Assessment Committee (ASMO) has overall responsibility for the preparation of periodic quality status reports, assisted by a working group, the Assessment Coordination Group (ACG). ASMO outlined the basic arrangements for the quality status reports in the Joint Assessment and Monitoring Programme (JAMP). Further scientific and technical arrangements were prepared by ACG. Regional Task Teams (RTTs) were set-up for each of the regions of the maritime area. The lead countries for the respective RTTs were responsible for providing logistical support to the RTT.

Information relating to the entire maritime area was prepared in 1996 – 1998 by the following OSPAR working groups: the Working Group on Inputs to the Marine Environment (INPUT), the Working Group on Impacts on the Marine Environment (IMPACT), the Working Group on Concentrations, Trends and Effects of Substances in the Marine Environment (SIME) and its Ad Hoc Working Group on Monitoring (MON). This information constituted the basis of the five regional quality status reports, and was supplemented by relevant national information as appropriate.

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QUALITY STATUS REPORT 2000: REGION IV – BAY OF BISCAY AND IBERIAN COAST

EXECUTIVE SUMMARY

Introduction

This report is one of five regional quality status reports prepared by the OSPAR Commission as part of its commitment to produce the first quality status report of the North-east Atlantic by the year 2000.

The report presents an assessment of environmental conditions in that part of the maritime area which, for assessment purposes, is known as the Bay of Biscay and Iberian Coast or Region IV. The area extends from 48° N to 36° N and from 11° W to the coastlines of France, Portugal and Spain.

This is the first time a quality status report has been prepared for this region and the report is based upon the most recent information available, compiled initially by scientists based in government and university laboratories in France, Portugal and Spain. The information on human activities was provided by the respective administrations.

Biologically the region can be subdivided into a subtropical zone (from the Strait of Gibraltar to Finisterre) and a subtropical/boreal transition zone (from Finisterre to Brittany). Within the two major zones, the topographical diversity and the wide range of substrates result in many different types of coastal habitat. This diversity is reflected in the biological richness of the region, which includes a wide range of fish species many of these of commercial interest.

The coastal morphology varies considerably, ranging from long sandy beaches in Aquitaine and the Gulf of Cadiz to an almost continuous rocky stretch along the northern and north-western Iberian coast. In the Galician region the coast is dissected by a large number of rias. Rias are unique systems with a wind-modulated estuarine type of circulation; they are highly productive and contain the world's largest mussel raft cultures.

The morphology of the seabed is also highly variable. The continental shelf is relatively wide along the eastern coast of the Bay of Biscay and virtually absent along its southern coast, as well as off the Iberian west coast to the south of Lisbon. Several submarine canyons dissect the continental margin, two of these being among the most pronounced in the world.

Eight river systems represent the principal sources of freshwater input to the region, together comprising an average annual input of 180 km³; 50% flowing into the Bay of Biscay and 10% into the Gulf of Cadiz. This distribution is a consequence of the position of Region IV relative to the main weather systems. As a result of river regulation, fine particulate material is virtually the only type which reaches the estuaries and adjacent coastal areas. These silt and mud deposits tend to act as sinks for contaminants.

On the continental shelf, the transport is driven by tides and wind, with buoyancy important off major rivers during

periods of high run-off, particularly in the Bay of Biscay. Typical tidal ranges of 2.5 m and associated tidal currents of 0.1 m/s may reach 6 m and 1 m/s in confined sections of the Bay of Biscay shelf. Sea and swell dominate from the north-west (the south-west in the Gulf of Cadiz), with higher seas occurring in autumn and winter. Storm waves are the main agents promoting sediment mobilisation over the shelf. Seabed disturbances are relatively short-lived, mainly occurring during repetitions of energetic events.

The most conspicuous upper layer mesoscale features are a poleward-flowing slope current in autumn and winter, and wind-induced coastal upwelling in spring and summer. At intermediate levels the dominant mesoscale phenomenon is the northward propagation of cores of Mediterranean Water. Eddies, and in summer upwelling filaments, are the structures that most effectively transport mass and heat between coastal and offshore waters.

Assessment

A lack of information concerning many aspects of the human activities in Region IV has meant that unambiguous conclusions about the effects of these activities could not be drawn and that it was difficult to establish the appropriate levels of concern. However, it was concluded that the quality status of the Bay of Biscay and Iberian Coast is generally good.

Eutrophication does not appear to be a problem in Region IV although an apparent increase in the occurrence of harmful algal blooms has been reported in recent decades. Contamination by metals and organic compounds associated with urban activities, old mining areas and industrial sources is observed but is rarely of concern, except in some urbanised estuaries.

Several issues are highlighted as being of particular concern because of their present impacts or their possible future impacts:

- several fish stocks – sardine, hake, anglerfish, megrims and swordfish – are outside safe biological limits for sustainable fisheries. This results from the combined effects of overfishing and the influence of natural processes on the recruitment and abundance of these resources;
- mariculture is mainly confined to the cultivation of bivalve molluscs (mussels, oysters and clams) and its impact is usually minimal. However, in some areas the deposition of organic detritus beneath suspended mussels has resulted in benthic enrichment, with an increase in the organic content of the sediments, a decrease in faunal diversity and a predominance of opportunistic organisms;
- that only a small proportion of shellfish farming areas are of good microbiological quality;
- recurrent shellfish toxicity outbreaks caused by marine biotoxins;
- effects in harbours and estuaries associated with the release of TBT from TBT-based antifouling paints;

- conflict of uses in the coastal zone that can lead to a loss of important components of the ecosystem and habitats. For example, damming rivers reduces freshwater flow which may induce coastal erosion;
- a loss of biodiversity due to human impact;
- an increase in mean sea level as a consequence of climate change;
- the risk of introducing non-indigenous species in ballast waters; and
- the sources and effects of marine litter.

A major obstacle to the assessment of environmental quality in Region IV was the lack of comparable, compatible and verifiable data. This lack of fundamental information hinders a prediction of the effects of human activities in the region. Nevertheless, it is recommended that the appropriate authorities consider:

- establishing a Code of Good Practice for Coastal Zone Management;
- implementing the FAO Code of Conduct for Responsible Fisheries;
- increasing the use of Marine Protected Areas as tools for the integrated management of coastal zones, their living resources and the protection and conservation of biological diversity;
- promoting more studies on ecosystem functioning and the sources of variability (natural and anthropogenic), as well as on investigations into the impact of human activities on coastal and marine habitats;
- increasing research on non-indigenous species, ballast water transfers and the control of particular nuisance species;
- increasing research on toxification and detoxification processes, phytoplankton bloom dynamics and their relation to oceanographic events, and inputs of nutrients and organic matter of anthropogenic origin;
- implementing the 1994 ICES Code of Practice on the Introductions and Transfers of Marine Organisms;
- improving the monitoring and forecasting of human impact on the marine ecosystem, identifying trends in marine ecosystems based on key species and by monitoring the state of conservation in selected areas (mainly estuaries and coastal lagoons);
- developing research and management policy programmes for all activities affecting the marine environment, including the obligatory establishment of environmental assessments for specific areas of concern related to significant effects of human activities;
- applying the precautionary approach to fisheries management;
- promoting experimental work on resident biota in different coastal ecosystems to establish reference levels for marine contaminants; and
- establishing national programmes aimed at the recovery of degraded coastal habitats.