

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

Annual Report 2002 - 2003

Volume 1

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More information about OSPAR

The Convention for the Protection of the Marine Environment of the North-East Atlantic (the "OSPAR Convention") was opened for signature at the Ministerial Meeting of the former Oslo and Paris Commissions in Paris on 22 September 1992. The Convention entered into force on 25 March 1998. It has been ratified by Belgium, Denmark, Finland, France, Germany, Iceland, Ireland, Luxembourg, Netherlands, Norway, Portugal, Sweden, Switzerland and the United Kingdom and approved by the European Union and Spain.

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Annual Report of the OSPAR Commission, 2002 – 2003

Volume 1

Contents

Chapter 1	OSPAR's Work – A Summary	5
	Introduction	5
	The Ministerial Meetings	5
	Joint HELCOM/OSPAR Ministerial Meeting	5
	OSPAR 2003 and the second OSPAR Ministerial Meeting	6
Chapter 2	Marine Biodiversity and Ecosystems	8
	Introduction	8
	Ecological quality objectives	8
	Assessment of needs for protection and control	9
	Evaluation of progress and identification of priorities	12
Chapter 3	Eutrophication	13
	Introduction	13
	Assessment and classification of the eutrophication status	13
	Progress on actions to combat eutrophication	14
	Evaluation of progress and consideration of further measures	15
	Reporting tools	16
Chapter 4	Hazardous Substances	18
	Introduction	18
	Main actions towards achieving the objectives	18
	Identification and selection of priority substances	18
	Development of Programmes and Measures	20
	Assessment of the implementation and effectiveness of programmes and measures	22
	Measuring progress towards the 2020 cessation target for substances on the OSPAR List of Chemicals for Priority Action	23
	Substitution of hazardous substances	24
	Cooperation with industry and other stakeholders	24
	Evaluation of progress and identification of priorities	24

Chapter 5	Offshore Oil and Gas Industry	33
	Introduction	33
	Prevention and elimination of pollution from offshore sources	33
	Protection and conservation of the maritime area against adverse effects of offshore activities other than pollution	34
	Restoration of marine areas	35
	Disposal of disused offshore installations	35
	Implementation and enforcement	35
	Reporting	35
	Evaluation of progress and identification of priorities	36
Chapter 6	Radioactive Substances	39
	Introduction	39
	Identification of radioactive substances, including wastes that are of concern	39
	Environmental quality criteria	40
	Implementation of BAT	40
	Other sources of radioactive substances	40
	Programme for the more detailed implementation of the Strategy with regard to Radioactive Substances	41
	Evaluation of progress and identification of priorities	42
Chapter 7	Monitoring and Assessment	46
	Introduction	46
	The Quality Status Report 2000	46
	Further assessment of the quality status of the maritime area	47
	Comprehensive atmospheric monitoring programme and other aspects of airborne contaminants	47
	Coordinated environmental monitoring programme	47
	Comprehensive study of riverine and direct inputs	48
	Harmonised reporting	48
	Joint assessment	49
	Quality assurance	49
	Revision of the Joint Assessment and Monitoring Programme	49
	Overall evaluation of monitoring and assessment work	49
Chapter 8	Organisation	51
	Contracting Parties	51
	Observers	51
	Working Structure	52
	Officers	52
	Finance	52

Appendices

Appendix 1	Development of OSPAR	54
Appendix 2	OSPAR achievements 1998-2003	57
Appendix 3	Initial OSPAR list of threatened and/or declining species and habitats (2003)	60
Appendix 4	Executive summary: Background document on tourism	64
Appendix 5	Executive summary: OSPAR integrated report 2003 on the eutrophication status of the OSPAR maritime area based upon the first application of the comprehensive procedure	65
Appendix 6	OSPAR list of chemicals (update 2003)	67
Appendix 7	Executive summaries: Background documents on triphenylphosphine, 4- <i>tert</i> -butyltoluene, trichlorobenzenes, octylphenol, 2,4,6-tri- <i>tert</i> -butylphenol	71
Appendix 8	Executive summary: Background document on possibilities of reducing lead in paints	75
Appendix 9	Executive summary: Background document on possibilities of reducing lead in PVC	76
Appendix 10	List of publications agreed by OSPAR 2003	77
Appendix 11	Outline of income and expenditure	79

Contents of Volume 2**Annexes of major outcomes of Ministerial Meetings**

Annex 1	Bremen statement	3
Annex 2	Joint HELCOM/OSPAR Ministerial declaration	9
Annex 3	Statement on the ecosystem approach	16
Annex 4	Statement on the European marine strategy	23
Annex 5	Joint HELCOM/OSPAR work programme on marine protected areas	33
Annex 6	OSPAR 2003 Strategies	35
Annex 7	OSPAR Strategy for the JAMP	57
Annex 8	OSPAR Convention with Annexes and Appendices	80

chapter 1

OSPAR's Work – A Summary

Introduction

This annual report gives a picture of the work of the OSPAR Commission for the Protection of the Marine Environment of the North East Atlantic over the year 2002 – 2003. This year's work was the culmination of the first five year's work in implementing the strategies for OSPAR resulting from the first Ministerial Meeting of the Commission in Sintra, Portugal, in July 1998¹. This work was reported to the second Ministerial Meeting of the Commission, held in Bremen, Germany, in June 2003, and that Ministerial Meeting summed up its conclusions in the Bremen Statement (Annex 1 in Volume II).

2. The second OSPAR Ministerial Meeting was held alongside a first Joint Ministerial Meeting of the OSPAR Commission with the Baltic Marine Environment Protection Commission (the Helsinki Commission – "HELCOM"). The conclusions of this joint meeting were embodied in a Joint HELCOM/OSPAR Ministerial Declaration (Annex 2 in Volume II).

The Ministerial Meetings

3. The first Ministerial Meeting of the OSPAR Commission agreed that, after five years, there would be a need for a review at Ministerial level of the progress that had been made with the path-breaking strategies that they had adopted and of OSPAR Decision 98/3 on the disposal of disused offshore installations, which had represented the agreed solution to the questions raised, *inter alia*, by the events surrounding the *Brent Spar* in 1995. The meeting therefore agreed that there would be a second Ministerial Meeting in 2003.

4. Germany kindly agreed to host this 2003 Meeting. As work progressed, the German Government came to the conclusion that there was a need for more organised cooperation between the Helsinki and OSPAR Commissions, of both of which Germany as well as Denmark, Finland, Sweden and the European Community are members. They therefore proposed that the second Ministerial Meeting of the OSPAR Commission should be accompanied by a Joint Ministerial Meeting of the two Commissions to consider issues of common interest.

5. This initiative proved particularly timely because of:

- a. the intended extension of the European Union, as a result of which all except one of the Helsinki Contracting Parties would become Member States of the European Union;
- b. the proposal of the European Union, in consequence of its Sixth Environmental Action Programme, to develop a European Marine Strategy.

6. Accordingly, the two Commissions both held Ministerial Meetings and held a Joint Ministerial Meeting in Bremen on 25 – 26 June 2003. In addition to representatives of all the OSPAR Contracting Parties, Ministers from all the other HELCOM Contracting Parties (that is, Estonia, Latvia, Lithuania, Poland and the Russian Federation) took part.

Joint HELCOM/OSPAR Ministerial Meeting

7. The Joint Ministerial Meeting was aimed at improving cooperation between the two Commissions. The important outcomes of this meeting included commitments on:

- a. applying the ecosystem approach to the management of human activities affecting the marine environment. This approach was set out in detail in a joint statement (Annex 3 in Volume II) adopted by the two Commissions, which will help implement the commitments made in the field at the World Sustainable Development Summit (Johannesburg, September 2002);
- b. the development of a European Marine Strategy and the role of the regional marine conventions in it. The approach of the two Commissions to this work is set out in a

¹ The development of the OSPAR Convention and the role of the Sintra Meeting are summarised in Appendix 1.

- joint statement on what HELCOM and OSPAR can bring to a European Marine Strategy (Annex 4 in Volume II);
- c. creating by 2010 an ecologically coherent network of well-managed marine protected areas covering the two regions. The framework for this work is set out in a Joint Work Programme (Annex 5 in Volume II);
 - d. improving the integration of all the policies needed to manage the environmental impact of fisheries. The Joint Ministerial Declaration sets out fields in which cooperation is particularly valuable between the regional marine conventions and the international bodies and national administrations responsible for fisheries management. The statement on the ecosystem approach likewise lists issues needing consideration in the context of developing the European Marine Strategy;
 - e. measures to reduce the adverse environmental impacts of shipping. The Joint Ministerial Declaration welcomes the steps already being taken in many fields, and details further commitments for this purpose, including joint work between HELCOM and OSPAR in regional implementation of global agreements.

OSPAR 2003 and the Second OSPAR Ministerial Meeting

8. The second Ministerial Meeting of the OSPAR Commission reviewed progress² on the five OSPAR strategies on biodiversity and ecosystems, eutrophication, hazardous substances, the offshore oil and gas industry and radioactive substances, and adopted revised strategies on all these issues. The basis of the review is set out in the chapters in this annual report on the various work programmes, and the revised strategies are set out in Annex 6 in Volume II.

9. On **assessment and monitoring**, the second Ministerial Meeting also adopted a Strategy on the Joint Assessment and Monitoring Programme (Annex 7 in Volume II). This is based on the experience in implementing the 1994 Joint Assessment and Monitoring Programme, which served as a basis for the 2000 Quality Status Report on the North East Atlantic and its five sub-regions. The new strategy provides for periodic assessments of progress on the five thematic strategies and other important aspects of the marine environment, and will give the basis for a further comprehensive Quality Status Report in 2010.

10. 2002-2003 saw the first main outputs from the OSPAR strategy on **biodiversity and ecosystems**. The first Ministerial Meeting in 1998 adopted Annex V to the OSPAR Convention, which extended³ the scope of the Convention and the OSPAR Commission to the protection and conservation of the marine environment from adverse impacts of human activities other than pollution. The Annex came into force for the first seven Contracting Parties to have ratified it in 2000. Under the four-fold approach adopted by the OSPAR strategy on biodiversity and ecosystems:

- a. *to set objectives for the protection and conservation of marine biodiversity*: OSPAR 2003 confirmed the work on the North Sea pilot project on ecological quality objectives, as a basis for considering how to extend the approach to the whole OSPAR maritime area;
- b. *to identify the species and habitats in need of protection*: OSPAR 2003 adopted the Texel/Faial criteria for identifying such species, and the Initial OSPAR List of Threatened and/or Declining Species and Habitats (Appendix 3);
- c. *to protect specific areas or sites*: OSPAR 2003 adopted a Recommendation on a Network of Marine Protected Areas, together with guidelines for identifying and selecting and for managing such areas;
- d. *to analyse human activities with potential adverse effects and develop measures to control them*: OSPAR 2003 adopted agreements on offshore wind-energy farms, sand and gravel extraction, and a Recommendation on a framework for reporting encounters with sea-dumped munitions.

11. On **eutrophication**, a report was presented to the Ministerial Meeting on the identification of the eutrophication status of the different parts of the OSPAR maritime area. This is the result

² The main achievements of the OSPAR Commission in 1998 – 2003 in each of these fields and in monitoring and assessment are summarised in Appendix 2.

³ Subject to limitations in respect of questions relating to the management of fisheries, and special provisions relating to maritime transport.

of an extensive common programme with the aim of aligning the criteria used by the Contracting Parties to identify how far their waters present eutrophication problems. This will serve both as a basis for further harmonisation of criteria and for assessing what additional action is needed to combat eutrophication.

12. On **hazardous substances**, OSPAR 2003 revised the OSPAR list of chemicals for priority action, adding two further substances, and pursued the examination for these priority chemicals of their sources, the threats that they pose, the measures already taken and the further measures need to protect the marine environment against them, by achieving the cessation targets in the OSPAR strategy. This programme of examination results in a series of Background Documents on the chemicals, and OSPAR 2003 adopted a further five Background Documents, bringing to 21 the Background Documents completed. OSPAR 2003 also adopted a Recommendation on controlling the dispersal of mercury from crematoria.

13. On the **offshore oil and gas industry**, OSPAR 2003 adopted a Recommendation to promote the use and implementation of environmental management systems by the offshore industry, and a programme for establishing environmental goals for chemicals discharged offshore and the implementation of such goals. The Ministerial Meeting also reviewed OSPAR Decision 98/3 on the disposal of disused offshore installations, and concluded that no changes were needed at present.

14. On **radioactive substances**, the Ministerial Meeting considered a report on the implementation of the programme for the detailed implementation of the strategy. There was welcome for the production by all Contracting Parties of detailed national plans for achieving the commitments in the OSPAR radioactive substances strategy. Agreement was reached on how to establish the baseline for measuring progress on the strategy and on the development of statistical techniques for this purpose. The Ministerial Meeting also noted the concerns expressed by a number of Contracting Parties about discharges of technetium-99 from Sellafield and their view that these discharges should cease immediately, and welcomed the initiative of the United Kingdom to request the operator of Sellafield to stop discharges from the MAC treatment process for the next nine months while further research and development of abatement technology is carried out.

15. A final significant step taken by OSPAR 2003 was to confirm the commitment to cooperation with the Abidjan Convention for the Conservation and Development of the Marine and Coastal Areas of West and Central Africa.

chapter 2

Marine Biodiversity and Ecosystems

Introduction

16. This chapter of the Annual Report presents the relevant section of the Overall Evaluation and Review of the OSPAR Strategies prepared for the 2003 Ministerial Meeting, showing under each of the sections of the Biodiversity and Ecosystems Strategy what has been done in the five years 1998-2003 to implement this strategy and with what success. The outcomes of this overall evaluation and review were incorporated in the 2003 OSPAR Biodiversity and Ecosystem Strategy, which was adopted by the Ministerial Meeting. The text of this revised strategy is set out in Annex 6 of Volume II.

17. The Biodiversity Strategy has a very broad focus, since it is concerned with all human activities (excluding those which may cause pollution) which can have an adverse effect on the protection and conservation of the ecosystems and the biological diversity of the North East Atlantic. (Human activities with the potential to cause pollution are addressed by the other strategies). However, programmes and measures relating to questions of fisheries management cannot be adopted by the OSPAR Commission. The attention of the competent authorities and relevant international bodies is to be drawn to concerns related to such questions.

18. As the timeframe section makes clear, the Biodiversity Strategy was adopted as an interim measure, pending the entry into force of Annex V to the OSPAR Convention, which was adopted in 1998. Until the entry into force of that Annex, OSPAR had no competence to adopt any programmes and measures not related to pollution or monitoring and assessment. The Biodiversity Strategy therefore confined itself, in effect, to providing that OSPAR would assess which species and habitats need to be protected and what human activities are likely to have an actual or potential adverse effect on those species and habitats or on ecological processes, and thus to preparing for the entry into force of the Annex.

19. Annex V entered into force on 30 August 2000 for the seven Contracting Parties which had by then ratified it (Denmark, the European Community, Finland, Luxembourg, Spain, Switzerland, and the United Kingdom). It has subsequently entered into force for Sweden (5 October 2000), Iceland (18 July 2001), Norway (22 July 2001), the Netherlands (24 August 2001), Germany (13 January 2002) and Ireland (21 June 2003). Ratifications by Belgium, France and Portugal are still awaited.

20. Since the entry into force of this Annex, there is an explicit duty for OSPAR to adopt programmes and measures for the control of the human activities identified by applying the criteria on their extent, intensity and duration, their actual and potential adverse effects and their irreversibility or durability, set out in Appendix 3 to the Convention, subject to the qualifications in respect of the management of fisheries and maritime transport. The Biodiversity Strategy therefore needs revision to take account of these new duties.

Ecological quality objectives

21. In order to give more precision to the overall objective of the Biodiversity Strategy in protecting ecosystems and biological diversity, a major effort has been devoted to identifying ecological quality objectives (EcoQOs) which can guide this work. In March 2002, the Fifth International Conference for the Protection of the North Sea (5NSC) committed North Sea Ministers to an approach based on EcoQOs and established a pilot project for the North Sea for their development and application. As part of this pilot project, 10 ecological quality issues were identified and 21 ecological quality elements, with related objectives for 10 of them, were specified.

22. The North Sea Ministers invited OSPAR to take on the further development of this pilot project, which the OSPAR Commission agreed in June 2002. Under the lead of Norway and the Netherlands, a programme of work was identified, involving a substantial input from the International Council for the Exploration of the Sea (ICES), and this was approved by OSPAR 2003.

Assessment of needs for protection and control

23. As a basis for the future development of programmes and measures, the Biodiversity Strategy sets out a programme for assessing the species and habitats that need to be protected and the human activities which are likely to have an actual or potential adverse impact on those species and habitats or on ecological processes. This programme covers the following areas.

Species and habitats

24. *Development of criteria for the selection of species, habitats and ecological processes that need to be protected:* When the Biodiversity Strategy was adopted, work had already started on the development of these criteria. The Netherlands held a major international workshop on the island of Texel in February 1997, which developed an initial draft of the criteria for the selection of threatened and/or declining species and habitats, together with an initial list of species and habitats for illustrative purposes. An international workshop held at Faial, in the Azores, Portugal, further developed these criteria and lists. In 2000/2001, Contracting Parties nominated species and habitats for inclusion on an initial OSPAR list, and identified the scientific evidence on which consideration of these nominations should be based. Under the lead of the United Kingdom, with the assistance of Norway, the criteria were further developed in 2001/2002. The Biodiversity Committee approved the Texel/Faial criteria in January 2003, and they were adopted by OSPAR 2003.

25. *Compilation of lists of species and habitats, including the development of lists of threatened or declining species and threatened habitats:* As has been said, the initial stages of the development of an initial list of threatened and/or declining species and habitats proceeded in parallel with the development of the selection criteria. After the nomination of species and habitats, and the identification of the scientific evidence, by the Contracting Parties, the Netherlands organised an international workshop at Leiden in September 2001. The results of this workshop were considered by the Biodiversity Committee in November 2001. Agreement was reached on the further development of the list, together with the production of a justification statement and the review of the scientific evidence by ICES. The Netherlands organised the drafting of the justification statement and its review by the Contracting Parties. The OSPAR Commission commissioned the review by ICES, through its relevant working groups and its Advisory Committee on Ecosystems. On the basis of all this work, the Biodiversity Committee approved the initial OSPAR list of threatened and/or declining species and habitats in January 2003. This list was adopted by OSPAR 2003.

26. *Classification and mapping of the habitats:* A classification of the habitats to be found in the marine environment is an essential conceptual tool for defining and describing what habitats need protecting. Likewise, tools for converting the data collected on the nature and extent of habitats into habitat maps are necessary for the management of such protection effort. Under the lead of the United Kingdom, the EUNIS classification system has been developed. This has been done on the basis of international workshops and reviews of the descriptive scientific literature by the coastal States. Reviews have now been completed by all coastal states except Germany, Iceland, and Spain. These final three reviews will be completed during 2003. On the basis of this information, the United Kingdom, with the assistance of the European Environment Agency and its Water Topic Centre will produce a revised classification for use in implementing the Biodiversity Strategy. As far as mapping is concerned, the United Kingdom organised an international workshop at Stansted in October 2002, which developed programmes both for holistic mapping of all habitats in a given area and for individual mapping of specific habitats. The implementation of these programmes is resource-intensive, and work will proceed as resources can be made available. In the meantime, further survey work is being carried out in the field – for example, the survey by Ireland of its continental shelf and the United Kingdom's pilot project on the Irish Sea.

Human activities

27. The Biodiversity Strategy provides for the assessment, in accordance with the criteria of Appendix 3 of the OSPAR Convention, and in the light of work in other international forums, of a first candidate list of human activities. The results of the assessments of this list are as follows.

28. *Sand and gravel extraction from the maritime area:* Under the lead of Denmark, a review has been carried out of the need for an assessment of the environmental effects of sand and gravel extraction, for reporting data on sand and gravel extraction and for guidelines on the management of such extraction. The conclusion of this review was that work done by, or under way in, ICES covered practically all of the ground. The ICES Cooperative Research Report on

“Effects of the extraction of marine sediments on the marine ecosystem” was sufficient to cover OSPAR’s requirements. The ICES system for the collection of data on sand and gravel extraction was adequate for future OSPAR work, provided that some Contracting Parties could be persuaded to contribute data and ICES Guidelines for the Management of Marine Sediment Extraction provided sufficient guidance for Contracting Parties, provided that emphasis was placed on the need for special consideration of specially sensitive areas (such as marine protected areas) and on strategic environmental assessment. The 2003 meeting of the OSPAR Commission adopted an agreement on sand and gravel extraction (*reference number: 2003-15*) committing Contracting Parties to taking the ICES guidance into account.

29. *Dredging for navigational purposes, other than within harbours:* Under the lead of Germany and the Netherlands, the environmental effects of dredging operations and the dumping/disposal of dredged material have been reviewed. This review has concluded that the dumping of dredged material and the relocation of dredged material by hydrodynamic and sidecast dredging should be dealt with adequately by the forthcoming revision of the OSPAR Guidelines on the Management of Dredged Material. A further review will be carried out during 2003-2004 on the need for additional measures to control the effects of dredging on species and habitats.

30. *Exploration for oil, gas and solid minerals and placement of structures for the exploitation of oil and gas:* A joint meeting of the Heads of Delegation to the Biodiversity Committee and to the Offshore Industry Committee in September 2001 agreed a programme of work in these fields. The progress of this work is described further under the Offshore Oil and Gas Strategy.

31. *Construction or placement of artificial islands, artificial reefs, installations and structures:* Under the lead of Denmark and Germany, an initial assessment has been prepared of the problems and benefits associated with the development of offshore wind-energy installations (“wind-farms”). This will be developed further and submitted to a workshop which the United Kingdom will hold on this subject in the autumn of 2003. This workshop will, it is hoped, consider, *inter alia*, how to progress the request from the Fifth North Sea Conference (5NSC) for the development of a description of the best available techniques for the location, construction, operation and removal of wind-farms. Draft guidance on a common approach to handling proposals for the authorisation of wind-farms was developed by Germany, and a revised version was adopted by the 2003 meeting of the OSPAR Commission. Arrangements have also been made for establishing an OSPAR database on proposed, authorised and operational wind-farms in the OSPAR maritime area, and for its publication on the OSPAR web-site.

32. A preliminary assessment on the construction or placement of installations and structures in the OSPAR maritime area (excluding those for oil and gas and for wind energy) was prepared by the United Kingdom. Based on this, the Biodiversity Committee in January 2003 concluded that all coastal Contracting Parties had in place very wide-ranging arrangements for the control of such constructions and placements, and that in consequence the further development of guidelines in this field was a low priority. The question will be reviewed in five years’ time, and in the meantime OSPAR 2003 agreed to publish the preliminary assessment.

33. *Placement of cables and pipelines:* Germany prepared a preliminary assessment of the potential problems related to the placement of cables, excluding those related to oil and gas. On this basis, the Biodiversity Committee concluded that there was a case for developing guidance on the placement of electric cables, excluding those related to oil and gas. Germany will take the lead in preparing proposals for such guidance for consideration in 2004.

34. *Introduction of alien or genetically modified species:* This issue has close links to the management of ballast water, since ballast water is a significant vector for the introduction of new species. A major international convention on ballast water management is under negotiation within the International Maritime Organization, but it is not yet clear when this will be adopted or enter into force, and it is also unclear precisely what form it will take. In January 2003, the Biodiversity Committee therefore asked the Secretariat to review what work is in hand in the various international organisations related to the prevention, control and monitoring of the introduction of non-indigenous species, as a basis for further decisions by OSPAR in this field. OSPAR noted that because a lead country could not be found for this issue, the Secretariat would report to the next meeting of BDC on ways in which work on the management of ballast water could be organised and taken forward in the report to be produced by the Secretariat on introduction of non-indigenous or genetically modified species. The 5NSC agreed to take all possible actions in connection with Directive 2001/18/EC on the deliberate release into the environment of genetically modified organisms and comparable national legislation, to ensure

that the culture of genetically modified marine organisms is confined to secure, self-contained, land-based facilities, in order to prevent their release to the marine environment.

35. *Land reclamation:* In developing its work programmes, the Biodiversity Committee concluded that this was not a priority, and agreed to take the issue up as and when necessary.

36. *Tourism:* In addition to the candidate list of human activities to be assessed, the Biodiversity Strategy requires the examination of tourism and recreational activities with the aim of identifying whether specific activities within this group would require a further assessment. As a result of a major commitment by Spain, a background document has been developed for this purpose. This analyses the pressures on the marine environment from tourism, the mechanisms involved and the possible responses to protect and conserve the marine environment. OSPAR 2003 agreed to publish the background document on tourism. It is intended to follow this up with further work to review the possibilities identified, and to consider how to take them forward.

Marine protected areas

37. The Biodiversity Strategy requires the collection and evaluation of relevant information concerning existing protection programmes for marine species and habitats. Under the lead of the Netherlands, an inventory has been produced of marine areas which are already protected.

38. The Biodiversity Strategy envisages that programmes and measures could include guidance for the selection and the establishment of a system of specific areas and sites which need to be protected and the management of human activities in these areas and sites. Under the lead of Germany, and with support from France and Sweden, four major international workshops were held and guidelines have been developed for the identification and selection of marine protected areas, and for their management, with the aim of achieving by 2010 an ecologically coherent network of well-managed marine protected areas across the OSPAR maritime area. OSPAR 2003 adopted a formal recommendation, in order to give authority to the two sets of guidelines and to put in place the necessary machinery to fulfil the commitment.

39. It has been judged premature, in the light of resource constraints, to proceed to the assessment, foreseen by the Biodiversity Strategy, of marine areas which have been adversely affected, with a view to identifying areas for restoration where practicable.

Fisheries

40. The Biodiversity Strategy foresees that OSPAR will continue to assess, in accordance with Annex IV of the OSPAR Convention, the effects on ecosystems and biological diversity of human activities in relation to which programmes and measures cannot be adopted under the Convention, with a view to drawing the attention of the competent authorities and relevant international bodies to any questions on which action is desirable.

41. As a result of the QSR 2000, OSPAR wrote to the relevant fisheries authorities drawing their attention to the general agreement that fisheries management and environmental policies must be further integrated, within the framework of the ecosystem approach, and to the further conclusions that the scientific basis for fisheries management should be continually improved and that the application of the Code of Conduct for Responsible Fisheries be further promoted. With a view to achieving stock sizes and exploitation rates that are within safe biological limits and to minimise ecological damage, OSPAR suggested that action on the following issues could be considered by the appropriate authorities:

- a. excessive fishing effort and overcapacity in the fishing fleet in some regions;
- b. lack of precautionary reference points for the biomass and mortality of some commercially exploited stocks;
- c. how to address the particular vulnerability of deep-sea species;
- d. the risks posed to certain ecosystems and habitats, for example, sea mounts, hydrothermal vents, sponge associations and deep-water coral communities;
- e. adverse environmental impacts of certain fishing gear, especially those leading to excessive catches of non-target organisms and habitat disturbance; and
- f. the benefits for fisheries and/or the marine environment of the temporary or permanent closure or other protection of certain areas.

Evaluation of progress on the Biodiversity Strategy and identification of priorities for the revised Biodiversity Strategy

42. As can be seen, the bulk of the work on the Biodiversity Strategy over the past five years has been preparatory. Most of the preparatory work foreseen by the Biodiversity Strategy has been completed. The position has now been reached where the emphasis must switch to implementing what has been prepared.

43. This will require very substantial resources. Major efforts are needed for the pilot project on EcoQOs for the North Sea, to complete the full suite of EcoQOs envisaged, to work out the implications of these objectives for policy, and to collect the information to show whether the objectives are being attained.

44. In parallel, the development of lists of species and habitats in need of protection will also require significant resources, together with the consequential and larger task of developing and implementing the protective measures.

45. Likewise, the selection of marine protected areas to constitute an ecologically coherent network of sites will demand major resources, and again there will be an even more significant need for resources to ensure that the sites in that network are well managed and properly monitored.

46. Similarly, moving from analysis of the impacts of the various human activities to developing and implementing programmes and measures to prevent and control adverse impacts from them on the marine environment will also demand resources. It is already frequently difficult to find a Contracting Party which is able to take the lead in such work, and the competing pressures for resources will almost certainly make this worse.

47. The Contracting Parties will need to consider very carefully their priorities in this field. What is already clear is that the existing level of resources in the field covered by the Biodiversity Strategy is not sufficient to enable the Contracting Parties to construct a full implementation of the Biodiversity Strategy on the basis of the preparatory work done over the past five years and to monitor it properly, in order to demonstrate that it is being achieved.

chapter 3

Eutrophication

Introduction

48. This chapter of the Annual Report presents the relevant section of the Overall Evaluation and Review of the OSPAR Strategies prepared for the 2003 Ministerial Meeting, showing under each of the sections of the Eutrophication Strategy what has been done in the five years 1998-2003 to implement this strategy and with what success. The outcomes of this overall evaluation and review were incorporated in the 2003 OSPAR Eutrophication Strategy, which was adopted by the Ministerial Meeting. The text of this revised strategy is set out in Annex 6 of Volume II.

49. The objective of the Eutrophication Strategy is focused on combating eutrophication in order to achieve and maintain a healthy marine environment where eutrophication does not occur.

Assessment and classification of the eutrophication status

50. The Common Procedure for the Identification of the Eutrophication Status of the OSPAR Maritime Area (the Common Procedure; *reference number: 1997-11*) sets out the two-step process by which Contracting Parties are to identify the eutrophication status of their parts of the maritime area. To facilitate the second step in this process, the Commission needed to develop and adopt common assessment criteria and to assess the results of the first application of the Common Procedure by Contracting Parties.

Identification of non-problem areas resulting from the application of the screening procedure

51. The first step in the Common Procedure is the Screening Procedure which Contracting Parties use to identify those areas of their waters that are obvious non-problem areas with regard to eutrophication, and the remaining areas to which the second step of the Common Procedure (the Comprehensive Procedure) would be applied. Belgium, Denmark, Germany, the Netherlands and Sweden applied the Comprehensive Procedure to all of their waters and therefore did not apply the Screening Procedure. In 2000/2001 France, Iceland, Ireland, Portugal, Spain, and the UK reported the outcome of applying the Screening Procedure to their waters. In 2002/2003 Norway reported on the outcome of applying the Screening Procedure on parts of their waters and on progress towards finalising this procedure.

52. OSPAR in 2001 agreed on those parts of the OSPAR maritime area to which the Comprehensive Procedure of the Common Procedure should be applied (*reference number: 2001-5*).

Identification of problem areas, potential problem areas and non-problem areas resulting from the application of the comprehensive procedure

53. The Eutrophication Strategy requires the identification of the eutrophication status of all parts of the maritime area by the year 2002.

54. On the basis of work completed under the lead of Germany and the Netherlands in cooperation with the Eutrophication Task Group, the Eutrophication Committee finalised and agreed in 2001, common assessment criteria, their assessment levels and area classification within the Comprehensive Procedure of the Common Procedure (*reference number: 2002-20*). These supplement the guidance on the application of the Comprehensive Procedure already contained in the Common Procedure.

55. Those Contracting Parties who applied the Comprehensive Procedure to some or all of their waters completed in 2002 their Comprehensive Assessments under the Common Procedure to identify the non-problem, potential problem and problem areas with regard to eutrophication in their waters. From these reports a detailed list of those areas to which the Comprehensive Procedure was applied was prepared within a common assessment of the eutrophication status of the entire OSPAR maritime area.

56. The Eutrophication Strategy requires urgent implementation of monitoring, as specified in the Nutrient Monitoring Programme, and research in order to enable a full assessment of the eutrophication status of each potential problem area with regard to eutrophication within five

years of it being characterised as a potential problem area. As a supplement to the Nutrient Monitoring Programme, further guidance on the frequency and spatial coverage of monitoring will be developed under the Joint Assessment and Monitoring Programme (JAMP).

Progress on actions to combat eutrophication

Agreed national and international measures, including those of the EU, throughout the Convention area

57. One major impetus to work on eutrophication was given in the 1980s by the events in the German Bight which led to large-scale algal blooms and, with their death and decay after the nutrients had been exhausted, to major fish deaths from the resulting lack of oxygen in bottom waters where there was a reduced vertical water exchange. Work had produced a range of measures at the international level – commitments in the North Sea Conference, European Community legislation⁴, other international agreements⁵, and OSPAR measures. Among these were:

- PARCOM Recommendation 88/2 on the Reduction in Inputs of Nutrients to the Paris Convention Area;
- PARCOM Recommendation 89/4 on a Coordinated Programme for the Reduction of Nutrients;
- PARCOM Recommendation 92/7 on the Reduction of Nutrient Inputs from Agriculture into Areas where these Inputs are likely, directly or indirectly, to cause Pollution.

The need to continue such work became again evident in 2002 in Danish marine areas where high loads of nutrient inputs together with extreme climatic conditions led to a long period of oxygen depletion resulting in dead and dying fish being washed ashore.

Implementation of agreed national and international measures in relation to problem areas and potential problem areas

58. Where problem areas are identified, measures have to be taken to reduce or eliminate the anthropogenic causes of eutrophication. In all areas from which nutrient inputs are likely, directly or indirectly, to contribute to inputs into potential problem areas with regard to eutrophication, preventive measures have to be taken in accordance with the precautionary principle. Contracting Parties concerned should report to the Commission on proposed action in this respect and should explain their expected results.

Progress on reductions at source (discharges, emissions and losses)

59. In 2002/2003 Belgium, Denmark, Germany, the Netherlands, Norway, Sweden and Switzerland submitted reports on the implementation of PARCOM Recommendations 88/2 and 89/4 with respect to their achievements of the 50% reduction target for nutrients. All these Contracting Parties have met the reduction target for phosphorus. However, none of them have achieved the 50% reduction target for nitrogen. Agriculture and sewage treatment are still the major sources. Only the Netherlands and Sweden have presented their expectations on when they would achieve this 50% reduction target for nitrogen. More details are available in the overview assessment published in 2003 by the Commission on the OSPAR website (www.ospar.org).

60. Inevitably there is a need to pursue full implementation of the EC Nitrate Directive and the Urban Waste Water Treatment Directive. However, so far implementation has progressed slowly and there is also a time lag between measures taken in agriculture and a decrease of inputs of nitrogen into the marine environment. It is unclear whether the implementation of the Nitrate Directive and the Urban Waste Water Treatment Directive will achieve the 50% reduction target for nitrogen inputs into the maritime area. The Eutrophication Committee has agreed that the implementation of PARCOM Recommendations 88/2 and 89/4 will be reviewed again in

⁴ Council Directive 91/272/EEC of 21 May 1991 concerning urban waste water treatment. Council Directive 91/676/EEC of 12 December 1991 concerning the protection of waters against pollution caused by nitrates from agricultural sources. Council Directive 96/61/EC of 24 September 1996 concerning integrated pollution prevention and control.

⁵ E.g. the 1988 Sofia NO_x Protocol under the 1979 UN-ECE Convention on Long Range Transboundary Air Pollution.

2005. Following the finalisation of the first application of the Common Procedure, all Contracting Parties that have identified their problem areas should report in 2005 on their achievements of the 50% reduction target for nutrients in these areas. Where potential problem areas have been identified, the relevant Contracting Parties should provide information on preventive measures taken by 2005.

Development of Ecological Quality Objectives with respect to nutrients and eutrophication effects and intermediate targets (EcoQOs-eutro)

61. The target oriented approach described in the Eutrophication Strategy has as one of its main elements the development, where possible, of an agreed procedure to derive EcoQOs and the adoption of such objectives, possibly in the form of region-specific EcoQOs, aimed at avoiding harm to marine ecosystems. The Eutrophication Strategy also requires intermediate targets to be set in order to work towards such objectives. The development of appropriate assessment criteria in the Common Procedure was fundamental to the development of ecological quality objectives, and both developments have proceeded in parallel under the lead of Norway and the Netherlands.

62. The 5NSC agreed⁶, on the basis of the work completed by OSPAR, on issues for which EcoQOs would be developed. The 5NSC also agreed on a number of EcoQOs, including those developed by the Eutrophication Committee on nutrients and eutrophication effects, that will be applied as a pilot project for the North Sea. In response to the invitation from North Sea Ministers to take this work forward, OSPAR has agreed on a programme of work that will deliver (i) recommendations on the adoption in 2004 of the further EcoQOs foreseen by the 5NSC, (ii) proposals on the future development of EcoQOs with the aim of completing the pilot project of EcoQOs for the North Sea and reporting on progress in 2005, and (iii) coherent monitoring arrangements to enable progress towards meeting the EcoQOs to be assessed.

Evaluation of progress and consideration of further measures

Evaluation of the situation after implementation of agreed measures within OSPAR, the EU and other international organisations

63. OSPAR published in 2001 an evaluation of the expected situation of the eutrophication status of the maritime area following achievement of the OSPAR 50% reduction target for nutrient inputs. This evaluation concluded, *inter alia*, that (i) for direct causative factors, a reduction of up to 25-30% in N and P concentrations in coastal waters is expected, (ii) for direct effect parameters, up to 25-30% reduction of chlorophyll in coastal waters, and up to ca. 30% reduction in primary production in coastal waters, and (iii) for indirect effect parameters, no pronounced oxygen depletion in normal climatic years and decreased risk of oxygen depletion in stratified coastal waters as well as in stratified offshore waters and sedimentation areas.

64. A further evaluation in 2005 is still required of whether the 50% reduction target will be achieved through internationally agreed existing measures, and whether this in turn will be sufficient and appropriate to achieve the 2010 target of a marine environment where eutrophication does not occur.

Need for the development and/or revision of OSPAR programmes and measures needed to achieve a healthy marine environment by 2010

65. The Eutrophication Strategy requires agreement, by the year 2002, on any additional programmes and measures deemed necessary to achieve by 2010 a healthy marine environment where eutrophication does not occur, including, as appropriate, further intermediate targets for specific areas and the development of EcoQOs.

66. Initial consideration has been given to the revision of PARCOM Recommendation 92/7, and the need to develop any additional OSPAR measure, taking into account the outcome of the 5NSC and the effectiveness of specific national and international agreed measures with respect to agriculture.

67. As stated above, it is of utmost importance that the Nitrate Directive and the Urban Waste Water Treatment Directive should be fully implemented without delay. Since 1998, other legally binding international agreements under the 1979 UN-ECE LRTAP Convention and EC

⁶ The Bergen Declaration - Ministerial Declaration of the Fifth International Conference on the Protection of the North Sea, 20-21 March 2002, Bergen, Norway.

legislation have been established that, following their implementation, will further contribute to the achievement of the OSPAR objective with regard to eutrophication. Air emission ceilings have been set for, *inter alia*, NO_x and NH₃ for 2010 including reduction percentages compared to emission levels in 1990⁷. The EU Water Framework Directive⁸ requires, *inter alia*, the establishment of river basin management plans describing pressures and impacts of pollutants on fresh water and coastal waters and the measures needed to achieve good ecological status. The Eutrophication Committee has therefore agreed that, for the time being, PARCOM Recommendation 92/7 should not be revised nor any additional OSPAR measure be developed. PARCOM Recommendation 92/7 is a helpful additional instrument in assessing progress of the implementation of measures taken in agriculture.

68. OSPAR should therefore focus on the continuation in 2005 of the submission by Contracting Parties of reports on the implementation of PARCOM Recommendation 92/7 and drawing up overview assessments of measures taken and their effectiveness. In this context there should be renewed attention to the calculation of mineral balances in accordance with the PARCOM guidelines adopted in 1995 (*reference number: 1995-2*) and regular reporting on them. The Eutrophication Committee is investigating whether in this respect an outlook to the future could be promoted by sharing information between Contracting Parties on scenario studies with respect to nutrient losses resulting from different measures.

69. In order to work towards progress on the 50% reduction target for nitrogen, the Eutrophication Committee will also pay attention to other sources of nitrogen for example, through developing an assessment of air emissions and their deposition into the maritime area (in cooperation with EMEP), and assessing the developments of measures within other international organisations such as the EU (discharges of nutrients from industrial installations, air emissions of NO_x from shipping) and IMO (NO_x emissions from shipping). As appropriate, the Eutrophication Committee will consider action within OSPAR or request other international organisations to act. Work by Contracting Parties in the context of the Common Procedure will identify the need for further action with respect to locally significant nutrient discharges from aquaculture in (potential) problem areas.

Reporting tools

70. Reporting information on discharges and losses of nutrients has been facilitated by the adoption by OSPAR 2000, on a trial basis, of OSPAR Guidelines for Harmonised Quantification and Reporting Procedures for Nutrients (HARP-NUT) (*reference number: 2000-12*) except draft Guideline 6 for diffuse sources.

71. In 2002/2003, Contracting Parties followed the HARP-NUT Guidelines when reporting on the implementation of PARCOM Recommendation 88/2 (50% reduction target for nutrients). Most of the Contracting Parties have reported their experiences to the lead country, Norway, and are generally satisfied with their first application. Considerable resources have been spent in implementing the guidelines in national data collection systems, but this was also necessary to satisfy other reporting demands, e.g. in the framework of the EU.

72. When adopting the HARP-NUT Guidelines in 2000 on a trial basis, OSPAR had anticipated that they should be further developed and adopted in 2003. Following the first application of the guidelines and the experience gained, the Eutrophication Committee has made arrangements to review the Guidelines 1-5 and 7-9 with a view to, if necessary, the adoption at OSPAR 2004 of revised guidelines. The further development of draft Guideline 6 on quantification and reporting of nitrogen and phosphorus losses from diffuse anthropogenic sources, and natural background losses is carried out on the basis of a study on the intercomparison of catchments in the context of the EUROHARP project, undertaken through funding received from the EC Fifth Research Framework Programme and a number of OSPAR Contracting Parties. It is expected that, depending on progress of the EUROHARP project, OSPAR 2006 could adopt a revised Guideline 6.

⁷ 1999 Gothenburg Protocol to abate acidification, eutrophication and ground-level ozone and Directive 2001/81/EC of the European Parliament and of the Council of 23 October 2001 on national emission ceilings for certain atmospheric pollutants.

⁸ Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy.

73. So far, OSPAR has focused in its implementation reporting on all diffuse sources together. Under the Water Framework Directive, the European Commission has established guidance and identified different sources of diffuse pollution. It is important that the HARP-NUT Guidelines are used in different international forums in a consistent manner so as to use limited resources efficiently.

chapter 4

Hazardous Substances

Introduction

74. This chapter of the Annual Report presents the relevant section of the Overall Evaluation and Review of the OSPAR Strategies prepared for the 2003 Ministerial Meeting, showing under each of the sections of the Hazardous Substances Strategy what has been done in the five years 1998-2003 to implement this strategy and with what success. The outcomes of this overall evaluation and review were incorporated in the 2003 OSPAR Hazardous Substances Strategy, which was adopted by the Ministerial Meeting. The text of this revised strategy is set out in Annex 6 of Volume II.

75. The Hazardous Substances Strategy sets the objective of preventing pollution of the maritime area by continuously reducing discharges, emissions and losses of hazardous substances, with the ultimate aim of achieving concentrations in the marine environment near background values for naturally occurring substances and close to zero for man-made synthetic substances.

76. As its timeframe, the Hazardous Substances Strategy further declares that the Commission will implement this Strategy progressively by making every endeavour to move towards the target of the cessation of discharges, emissions and losses of hazardous substances by the year 2020.

Main actions towards achieving the objectives

77. The Hazardous Substances Strategy sets out the following activities which have been addressed since 1998:

- identifying the hazardous substances of possible concern to the marine environment and deciding which of these should be selected for priority action;
- identifying the sources and the pathways by which the priority substances could reach the sea, determining their associated risks to the marine environment, and agreeing on what measures should be taken, either in OSPAR or by other relevant organisations;
- assessing the implementation and effectiveness of existing programmes and measures taken to address the problems identified;
- developing and implementing an appropriate tool to demonstrate progress towards meeting the 2020 cessation target for priority substances;
- developing mechanisms to address the substitution of hazardous substances with less hazardous substances;
- developing cooperation with industry and other stakeholders.

78. In addition, this review addresses, *inter alia*, the follow-up of the findings of (periodic) quality assessment reports, initially the QSR 2000.

Identification and selection of priority substances

79. The Hazardous Substances Strategy, as adopted in 1998, contained 15 substances (or groups of substances) identified for priority action and a list of 246 candidate substances for selection, assessment and prioritisation. Work was put in hand to review the candidate substances and other relevant lists of chemicals in order to review the List of Chemicals for Priority Action. This was done through completing the development of a “dynamic selection and prioritisation mechanism” (DYNAMEC). The first step was making an initial selection of the substances to be studied in more detail. These substances were then ranked to establish which should be selected for priority action.

Initial Selection and the OSPAR List of Substances of Possible Concern

80. The initial selection addressed the 246 substances (or groups of substances) in the List of Candidate Substances and all substances in the Nordic Substance Database (about 18 000 substances), the Danish Miljøstyrelsen QSAR database (more than 166 000 substances) and

the database of the Netherlands' BKH/Haskoning report (about 180 000 substances). They were examined against a set of cut-off values for persistence, liability to bioaccumulate and toxicity and ("PBT criteria"), which are part of the Hazardous Substances Strategy's definition of hazardous substances. A "safety-net" procedure was applied to identify other substances (or groups of substances) which do not fulfil all the PBT criteria, but which give rise to an equivalent level of concern. Proposals from Contracting Parties were examined by an informal group of experts and, if judged appropriate, included in the initial selection of substances. The results of this initial selection of substances were examined by the experts in order to check the plausibility and consistency of the substance-specific data, and to exclude those substances that had been incorrectly selected.

81. The result in 2000 was a preliminary list of about 400 substances of possible concern - that is, a list of those substances which have to be treated as hazardous for the purposes of the Hazardous Substances Strategy. By its nature, this list is not final. It will be revisited from time to time as further information becomes available, and additions or deletions may be made. Since 2002, the List of Substances of Possible Concern including supporting data sheets for the individual substances is published on the OSPAR website with an invitation to submit improved data and information so that, following examination by experts, this list can be updated. In order to produce a realistic list of chemicals identified for priority action, substances are flagged up if they have intrinsic properties similar to persistent organic pollutants (POPs) or are suspected of being endocrine disruptors (and therefore clearly give rise to a high level of concern) or are already being addressed in other forums.

First ranking of substances of possible concern

82. In 2000, the substances on the preliminary list of substances of possible concern were characterised by their production volumes, use patterns and/or measured occurrence in the environment. The level of potential concern with regard to each substance was indicated by an effect score (relative toxicity and liability to bioaccumulate) and an exposure score (relative level of predicted or measured occurrence in the environment). The mathematical product of the effect exposure scores is an indicator of the relative risk from each substance. The calculated results were then reviewed by the group of experts. The ranking algorithms were based on those which had been established for the Combined Monitoring-based and Modelling-based Priority Setting (COMMPS) procedure in the context of the Water Framework Directive 2000/60/EC. Some algorithms or weighting factors were modified in order to render them more suitable for the marine environment. Conservative default values were used in cases where certain substance-specific data were not known.

83. The substance-specific data needed for the ranking were taken from a variety of sources. In general, the highest-quality and most stringent data were chosen in cases where more than one data set for a substance was available. Because of commercial confidentiality, the assessment of the outcome of the ranking and the data used could only be undertaken and validated by a limited number of experts.

84. The outcome of the work of the Ad-hoc Group DYNAMEC on initial selection and ranking was published in more detail by the Commission on the OSPAR website.

Results of DYNAMEC

85. On the basis of this ranking in 2000 and recommendations from the group of DYNAMEC experts in 2000 and 2003, OSPAR added at its four meetings in this period a further 32 substances (or groups of substances) to the OSPAR List of Chemicals for Priority Action. The current list is available on the OSPAR website (www.ospar.org) and will be updated from time to time.

86. OSPAR also considered in 2001/2002 that the appropriate priority action for substances on the OSPAR List of Chemicals for Priority Action will vary according to the circumstances. For 13 substances, or groups of substances, where there is no production interest in the OSPAR States or in the European Community, or because they are intermediates used in closed systems, the appropriate OSPAR actions are to monitor for the presence of these chemicals, and to take the appropriate steps open to the Contracting Parties to prevent the import or use (also as intermediates in non-closed systems), or the start of production, of these chemicals in circumstances in which they might reach and affect the maritime area. In adding these substances to the OSPAR List of Chemicals for Priority Action, OSPAR therefore agreed that, commencing in 2003 and every five years thereafter or earlier, Contracting Parties and, where appropriate, observers representing the chemicals industries should report to OSPAR:

- whether they have found any evidence that these chemicals are being produced, used or discharged without being subjected to safeguards to avoid reasonable concerns that discharges, emissions or losses of the substances could reach the marine environment, and, if so, what that evidence is, and what action (if any) has been taken;
- whether there have been any cases where applications have been made for approvals involving these chemicals, and, if so, what decision was taken.

Finalisation and further development of DYNAMEC

87. OSPAR finalised in 2001/2002 the following products:

- Cut-Off Values for the Selection Criteria Used in the Initial Selection Procedure of the OSPAR Dynamic Selection and Prioritisation Mechanism for Hazardous Substances (*reference number: 2001-1*);
- Guidance on How to Apply the Safety Net Procedure for the Inclusion of Substances in the List of Substances of Possible Concern (*reference number: 2002-10*);
- Provisional Instruction Manual for the DYNAMEC Mechanism (*reference number: 2002-11*);
- material for the List of Substances of Possible Concern for uploading and maintaining its regular updates on the OSPAR web site (*reference number: 2002-17*).

88. On the basis of the earlier development of DYNAMEC for its first application and the material above, OSPAR published in 2002 the Dynamic Selection and Prioritisation Mechanism for Hazardous Substances (DYNAMEC) in the form of a manual for its application regarding the initial selection of substances to be added to, or removed from the OSPAR List of Substances of Possible Concern, and for a future ranking of substances of possible concern prior to identification for priority action. This manual can be downloaded from the OSPAR website.

89. The Hazardous Substances Strategy also requires the preparation of criteria to be used for the identification of endocrine disruptors as priority substances through the DYNAMEC mechanism. In view of the fact that appropriate test methodologies for endocrine disrupting effects will not become available before 2005 in other international forums such as the OECD and the EC, OSPAR will await the outcome of these developments before deciding what criteria could be applied for such effects in the application of the DYNAMEC mechanism together with the cut-off values for PBT in the initial selection procedure.

Development of programmes and measures

Individual priority substances

90. Actions and measures on individual priority substances are justified by extensive background documents. These documents drawn up by lead countries contain chapters in which the production and use of the substance and its discharges, emissions and losses to the marine environment are identified and quantified.⁹ Monitoring data to indicate the concentrations of the substance in the marine environment is included where available. An assessment of the extent of the problems caused by the substance is carried out, and for a number of substances, this has included a marine risk assessment. Existing national and international actions and measures on the substances are reviewed, and possible measures which could be taken are drawn up. On the basis of all the relevant information, recommendations for action which OSPAR could take are proposed and agreed. Since 2000, the Commission has published

⁹ Diffuse sources are also covered in this analysis and there is therefore no need for a specific programme of work on diffuse sources of pollution called for in § 5.9 of the 1998 Hazardous Substances Strategy.

21 background documents for 21¹⁰ priority substances, or groups of such substances (see OSPAR website www.ospar.org under “publications”). Background documents for 6 priority substances are under preparation.

91. The actions agreed by the Commission for each individual substance, and a review of these actions, which is carried out on a regular basis, are published on the OSPAR website together with the background documents. The review of progress is updated from time to time. A number of actions are more appropriately taken in other international organisations and in these cases, OSPAR has invited those organisations, such as the European Commission (marketing and use related action) and the UN-ECE LRTAP Convention (POPs Protocol)¹¹ to take these recommended actions forward. In the period 1998-2003, the Commission adopted 10 OSPAR Decisions and Recommendations that regulate, *inter alia*, priority substances for several sectors such as the production of vinyl chloride monomer, suspension and emulsion PVC, the primary non-ferrous metal industry, aluminium electrolysis plants, crematoria and with respect to the application of pesticides in agriculture and amenity areas.

92. The recommendation in the QSR 2000 that a review of action at national level to implement PARCOM Decision 90/3 (atmospheric emissions from mercury-cell chlor-alkali plants) should be carried out and, if need be, OSPAR measures to facilitate this implementation adopted, was followed up by a thorough review of whether new OSPAR measures were needed to address discharges, emissions and losses of mercury from the chlor-alkali sector. The Commission concluded that no new measures were necessary, but that the focus should be on reviewing implementation of PARCOM Decision 90/3. To this end, an implementation format has been developed for this Decision which requires Contracting Parties to submit national implementation reports on a regular basis to assess progress towards phasing out mercury-cell technology by 2010. The annual OSPAR report on losses of mercury from the chlor-alkali industry provides a comprehensive overview of discharges, emissions and losses from this sector.

93. The QSR 2000 had also recommended that the measures in PARCOM Recommendation 87/1 (use of tributyl-tin compounds) and PARCOM Recommendation 88/1 (docking facilities) should be completed with the development of a measure on BAT for the disposal of organotin wastes resulting from the removal of such antifouling treatments from ships and that monitoring should be urgently undertaken on the impacts of alternatives to organotin antifouling treatments (for example, copper and booster biocides). Following the adoption of the OSPAR background document on organic tin compounds, this recommendation was reviewed and the conclusion was drawn that shipyards were a local problem which should be addressed by the competent authorities of Contracting Parties and solved mainly through the implementation of the phasing-out by the IMO of the use of TBT on ship hulls. For the time being, there was no need for an additional OSPAR measure and this would be addressed in the review of the background document in 2004 in relation to the implementation by Contracting Parties of PARCOM Recommendation 88/1.

Marine risk assessment

94. OSPAR and the European Commission have cooperated to develop the relevant scientific tools for assessing risks of potential hazardous substances in the marine environment drawing upon the relevant elements in the existing EU Technical Guidance in Support of Directive 93/67/EEC on Risk Assessment for New Notified Substances and Regulation EC 1488/94 on Risk Assessment for Existing Substances. This common EU/OSPAR marine risk assessment methodology has been incorporated in the existing EU Technical Guidance and will now be used, together with OSPAR's further guidance on the role of marine risk assessment

¹⁰ Background documents (prepared with the specified Contracting Party in the lead) have been approved for publication on: brominated flame retardants (Sweden); cadmium (Spain); dicofol (Finland); dioxins and furans (Belgium and Denmark); endosulphan (Germany); lead and organic lead compounds (Norway); lindane (Germany); mercury and organic mercury compounds (United Kingdom); methoxychlor (Finland); musk xylene and other musks (Switzerland); nonylphenol and nonylphenol ethoxylates (Sweden); octylphenol (United Kingdom); organic tin compounds (the Netherlands); pentachlorophenol (Finland); polychlorinated biphenyls (Belgium and Germany); polycyclic aromatic hydrocarbons (Norway); short-chain chlorinated paraffins (Sweden); 4-*tert*-butyltoluene (Germany); trichlorobenzene, 1,2,3-trichlorobenzene and 1,2,4-trichlorobenzene (Belgium and Luxembourg); triphenylphosphine (Germany) and 2,4,6-tri-*tert*-butylphenol (United Kingdom).

¹¹ These actions implement the recommendation in the QSR 2000.

within the framework of the Hazardous Substances Strategy (*reference numbers: 2002-19 and 2003-20*), as tools in the development of background documents on chemicals identified for priority action.

International cooperation on control measures

95. In order to achieve internationally harmonised approaches and to avoid duplication of work, on hazardous substances, regular overviews are established of measures and other information (e.g. principles and methodologies, specific targets and BAT/BEP work) which have already been agreed in the framework of the EU and are considered by the OSPAR Commission, as appropriate, in the development of measures and initiatives to control hazardous substances within OSPAR. There is specific focus on Directive 96/61/EC on integrated pollution prevention and control (IPPC), the Water Framework Directive 2000/60/EC, Directive 76/769/EEC on the marketing and use of dangerous substances, Directive 91/414/EEC concerning plant protection products and the evolving EU new chemicals policy. These overviews guide the drawing up of OSPAR background documents on priority substances in recommending actions more effectively. In this context, these background documents usually also pay attention to measures agreed, or being negotiated by Contracting Parties in other international forums.¹²

International cooperation on BAT/BEP

96. The EC Directive on IPPC requires the preparation of background reference documents (BREFs) to guide national authorities in authorising activities subject to the controls of this directive and ensuring that best available techniques (BAT) are applied covering all aspects of the environment. The definition of BAT for the purposes of the Directive is on the same lines as that in the OSPAR Convention. Within OSPAR most available IPPC BREFs are scrutinised to determine whether OSPAR priority substances have been sufficiently covered and, on a case-by-case basis, decisions are made whether further action is required. An example of such action is the adoption of OSPAR Recommendation 2003/4 on Controlling the Dispersal of Mercury from Crematoria as no such action had been undertaken in other international forums.

97. The proposed development of the European Marine Strategy offers an excellent opportunity to set out clearly for the future the role of OSPAR in relation to programmes and measures for the control and elimination of discharges, emissions and losses of hazardous substances.

Assessment of the implementation and effectiveness of programmes and measures

98. A rolling programme exists for the assessment of the implementation and effectiveness of programmes and measures adopted to control discharges, emissions and losses of hazardous substances. Contracting Parties are required to submit on a regular basis structured information on their national implementation of OSPAR measures. Overview assessments on the implementation of a specific measure are drawn up by a lead country and after agreement by the Commission, published on the OSPAR website. More than 50 overview assessments have been published in 1998-2003 (see OSPAR website www.ospar.org under "Measures"). The publication in 2002 of the report on the implementation of PARCOM Decision 92/3 on the Phasing Out of PCBs and Hazardous PCB Substitutes was particularly important as follow-up of the recommendation in the QSR 2000 that this reporting should continue.

99. In order to improve implementation reporting by Contracting Parties, the Commission has produced since 2001 for management purposes regular reports on progress of the submission of national implementation reports. Consequently, the results of reporting have already improved. Currently, an initiative is underway to further improve implementation reporting on hazardous substances by grouping OSPAR measures according to industrial sectors for point sources and groups of chemicals for diffuse sources. Additionally, a test will be carried out in simplifying and streamlining implementation report formats for several measures of a specific industrial sector in order to judge whether this will lead to a more efficient way of reporting.

¹² Other forums include the OECD, UN-ECE, UNEP (the Global Programme of Action for the Protection of the Marine Environment against Pollution from Land-Based Sources), the Helsinki and Barcelona Conventions, the international river organisations, the Arctic Council and the North Sea Ministerial Conference.

Measuring progress towards the 2020 cessation target for substances on the OSPAR List of Chemicals for Priority Action

Chemicals for priority action covered in this report

100. This part of the progress report focuses on the chemicals for priority action identified by the Commission in 1998 (see Annex 2 of the Hazardous Substances Strategy; *reference number: 1998-16*). Other hazardous substances which have been subsequently added to the OSPAR List of Chemicals for Priority Action are not covered, but will be addressed in future progress reports.

Current information on progress towards meeting the cessation target

101. Currently, there are a number of ways in which information on chemicals for priority action is gathered by OSPAR, through which indications on progress towards the cessation target can be assessed:

- the comprehensive study of riverine inputs and direct discharges (RID), which measures, and reports annually on lead, cadmium, mercury, PCBs and lindane;
- the Comprehensive Atmospheric Monitoring Programme (CAMP) which measures, and reports annually on lead, cadmium, mercury, lindane, PCBs and PAHs;
- the Coordinated Environmental Monitoring Programme (CEMP), which requires Contracting Parties to monitor cadmium, lead, mercury, PCBs, PAHs and organic tin compounds in biota and sediments;
- information in the OSPAR background documents on priority substances;
- information in implementation reports of OSPAR measures concerning particular substances.

102. The progress report of the 5th North Sea Conference (5NSC) and the UNECE EMEP database on air emissions also contain relevant data which can be used to enhance the OSPAR information.

Quantitative information on lead, mercury, cadmium, PAHs and dioxins/furans

103. The RID programme gives a reasonable overview of how waterborne loads have generally developed since 1990 for lead, cadmium and mercury (see figure 1; all figures are presented at the end of this chapter).

104. OSPAR collects atmospheric deposition data (CAMP programme) and marine concentration data (CEMP programme). Assessments of this data are foreseen for 2004/2005. However, using data on emissions from the EMEP database (to which most Contracting Parties report), it is possible to see that there has also been a similar downward trend in emissions to air (see figure 2).

105. Furthermore, the progress report for the 5NSC shows that between 1985 and 1995/1999, the North Sea countries have broadly achieved the 50% and 70% reduction targets set in this framework for Hg, Cd, Pb, HCH, PCP, TBT, dioxins and PAHs. For full details, see the 5NSC website (www.dep.no/md/nsc). The 5NSC progress report also shows the main sources of discharges/releases to water and emissions to air of mercury, cadmium, lead, dioxins and PAHs in 1985 and 1999/2000 (see figure 3).

Qualitative information regarding the status of other Chemicals for Priority Action

106. Relevant qualitative information on progress towards the cessation target taken from OSPAR background documents and implementation reports, and the 5NSC progress report on SCCPs, TBT, NP/NPEs, musk xylene, BFRs and certain phthalates is available in a separate note at the end of this chapter. This shows that generally, the sources and pathways of these chemicals are well understood, and measures which should achieve the cessation target are being developed.

Planned activities to address the 2020 cessation target for discharges, emissions and losses of hazardous substances

107. It is recognised that OSPAR only has a limited amount of information on the chemicals for priority action and a number of products are planned in the revised Joint Assessment and Monitoring Programme (JAMP) which will assist in making a more thorough assessment using a

more integrated approach. Of particular relevance are the elaboration of monitoring strategies for every chemical for priority action using the guidance established for this (*reference number: 2003-12*).

108. Following the adoption of a monitoring strategy for an individual substance, a suite of reporting systems for each chemical for priority action will be developed. The JAMP also recognises that other marine indicators (for example biological effects, and actual concentrations in the marine environment) will need to be integrated into individual monitoring strategies and any assessment of the OSPAR objectives on hazardous substances.

Challenges Ahead

109. It has been recognised that completing the relevant JAMP products and providing the necessary data will be a complex and time-consuming process that will depend on, *inter alia*, (i) the unique sources and pathways to the marine environment for each individual chemical, (ii) the existing and planned data collection systems foreseen for it in a variety of international forums, (iii) the availability of established methodologies for evaluation, sampling and analysis and (iv) the relevant infrastructure present in individual countries for collecting the required information.

110. The HARP-HAZ guidance documents established under the 5NSC for a number of the substances will facilitate this process, but for the majority of the chemicals for priority action, similar documents have still to be developed. Realising that resources for this process are likely to be limited, and to optimise their use, the existing mandatory requirements in other forums (for example the EC Water Framework Directive) will need to be considered. Making best use of the various international reporting obligations and avoiding duplication of effort will be a key challenge in taking forward the various JAMP requirements.

Substitution of hazardous substances

111. After considering various options of how OSPAR could deal with the substitution of hazardous substances with less hazardous substances, the Commission agreed in 2002 that there was no role for OSPAR to develop general guidance on the substitution of hazardous substances (as identified in § 5.4c of the Hazardous Substances Strategy as “the development of criteria and methods”) and that OSPAR should not generally develop measures on substitution. The need to promote substitution in specific cases can best be addressed in background documents for priority substances with a view to identifying available substitutes in the form of alternative substances and/or products.

Cooperation with industry and other stakeholders

112. A further constructive dialogue and cooperation has been established with industrial and environmental observers in particular for the development and application of the DYNAMEC mechanism. Relevant information has been submitted by industry on production volumes, use patterns, emission scenarios, exposure concentrations and on properties of substances, the latter in particular for the evaluation of data for persistence, toxicity and bioaccumulation (PBT) for substances which are on the OSPAR List of Substances of Possible Concern. In this context, representatives from industrial trade associations and environmental non-governmental observer organisations have both played an active part in the DYNAMEC Informal Group of Experts, and this has led to both the provision of vital information and a growing trust and understanding between all stakeholders. Furthermore, industrial representatives have made valuable contributions to the development of OSPAR measures.

Evaluation of progress on the Hazardous Substances Strategy and identification of priorities for revision

113. The main actions which have been taken in the Hazardous Substances Committee to achieve the OSPAR objectives on hazardous substances are given in the foregoing section. It can be seen that a good start has been made, and that several achievements are particularly worthy of note.

114. Work on the Hazardous Substances Strategy is now underpinned by an effective, scientifically based selection and prioritisation mechanism which has already delivered a List of Substances of Possible Concern with supporting fact-sheets showing the data on which selection is based and a List of Chemicals for Priority Action comprising hazardous substances

which are considered to be of most concern to the marine environment, either potentially or in practice. The development of the lists has been a collaborative process which has involved input from all stakeholders, with the chemicals industry assisting in the provision of the data and information on intrinsic properties and production volumes. Publication of the lists and the associated methodologies has given a high degree of transparency and scientific rigour to the implementation of the Hazardous Substances Strategy, and has already led to the provision of new information on intrinsic properties and use patterns of some substances.

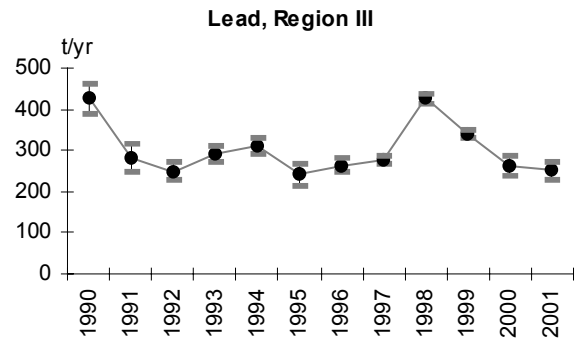
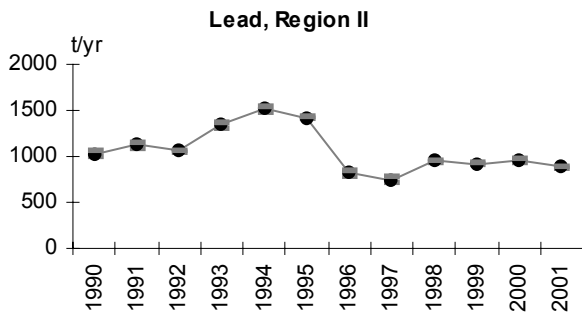
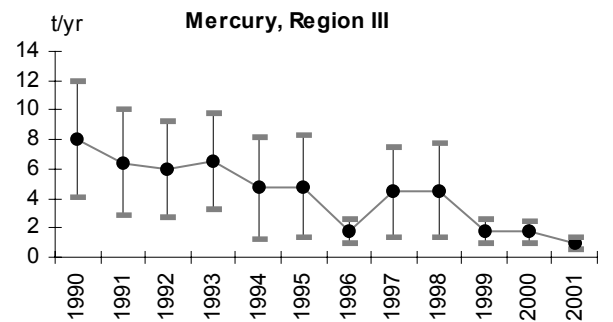
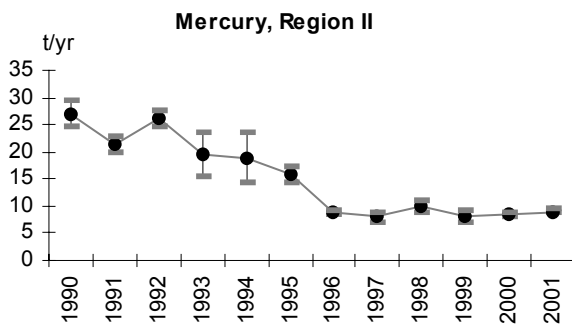
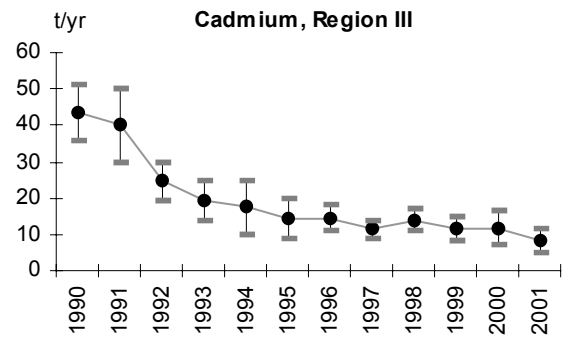
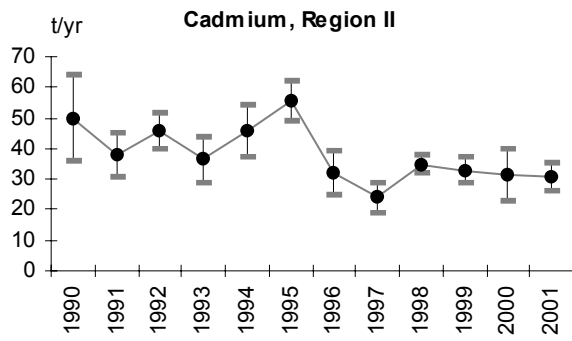
115. The development and publication of comprehensive background documents on the chemicals for priority action clearly indicating the sources and pathways and associated risks to the marine environment has provided a transparent and scientifically based rationale for the appropriate actions proposed to meet the cessation target. However, for some substances, there has been a lack of information available on specific use and emissions data, which has not facilitated the development of appropriate measures, and has flagged up the need for better information exchange between international organisations. A number of measures have been adopted by OSPAR, and in some cases, other international forums have been asked to consider appropriate actions.

116. However, the development of other parallel instruments and measures, at both the global level (the Stockholm Convention on Persistent Organic Pollutants), the UNECE-LRTAP POP and Heavy Metals protocols and European level (the EC Water Framework Directive, the IPPC Directive, and the new EC Chemicals Policy initiative) has meant that OSPAR is now not necessarily the most appropriate organisation to take actions. Therefore, OSPAR will need to check that its objectives for hazardous substances are being addressed in the various relevant international forums, particularly in the EC framework, and decide whether additional activities to protect the marine environment should be taken. It is therefore becoming increasingly important for OSPAR to raise the concerns of the marine environment in other international legislative forums (particularly the European Community) either collectively, or through the work of individual Contracting Parties active in these forums.

117. In the light of the above developments, it has also become clear that, in future, the resources for further work in OSPAR to implement the Hazardous Substances Strategy must be targeted at activities which make best use of existing working capacities and experiences and have a clear added-value and do not duplicate work under way in other international forums. However, OSPAR may have an important complementary role in identifying substances of high concern related to the marine environment.

118. Another important priority for new work is the development of machinery to deliver a comprehensive and coherent assessment of the progress towards achieving the 2020 cessation target for the chemicals for priority action, and the effectiveness of the various regulatory systems which contribute to this goal.

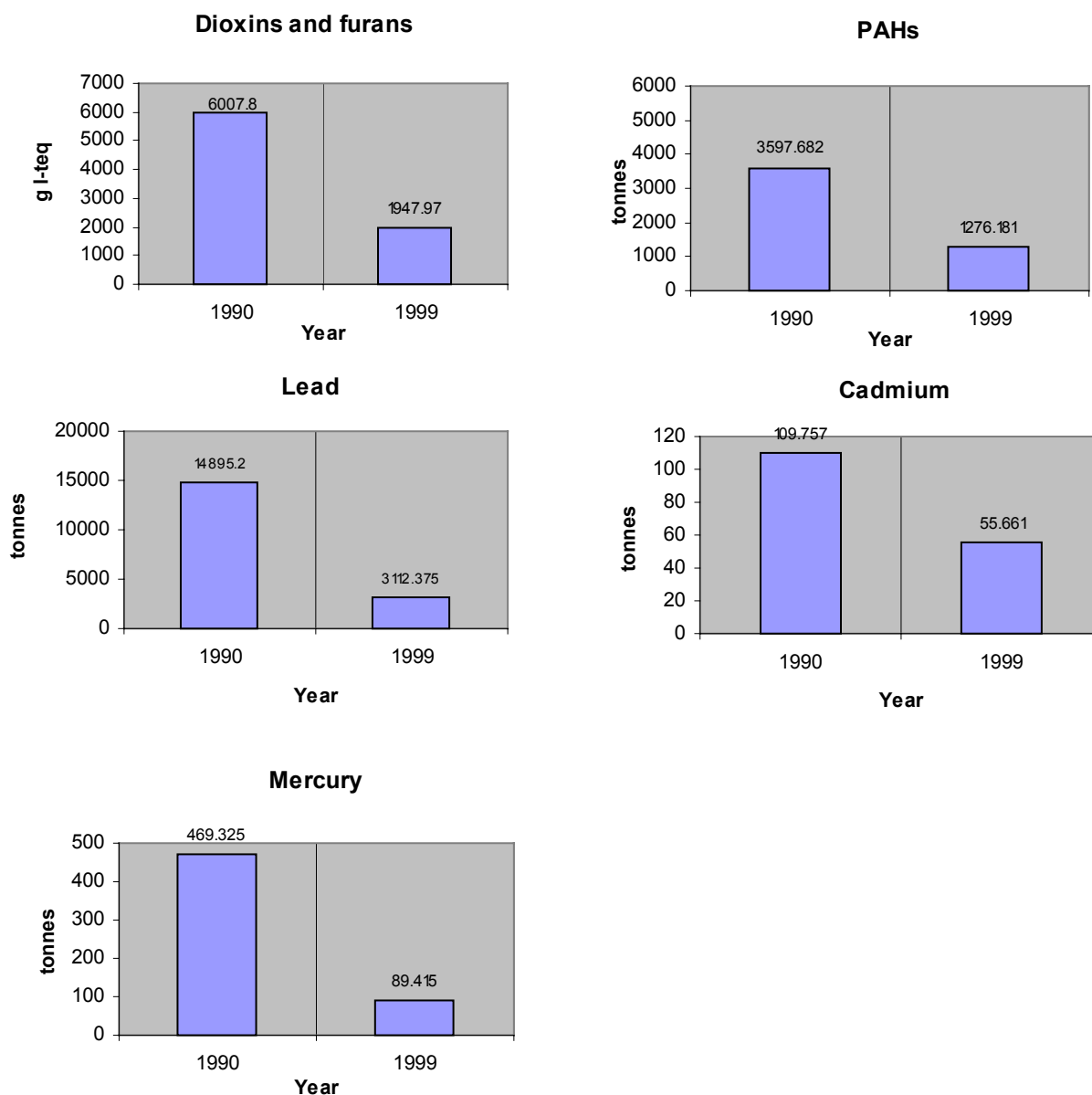
Figure 1: Graphical representation of input data for 1990-2001 of cadmium, mercury and lead



Region II: Greater North Sea

Region III: Celtic Seas

Figure 2: Air emissions of Dioxins and Furans, PAHs, Lead, Cadmium and Mercury from OSPAR countries who have reported to EMEP¹³ in 1990 and 1999¹⁴



Notes: Germany: reference year for Dioxins/furans and PAHs 1994, for Pb, Cd and Hg 1995, PAH emissions are Borneff-6-PAH

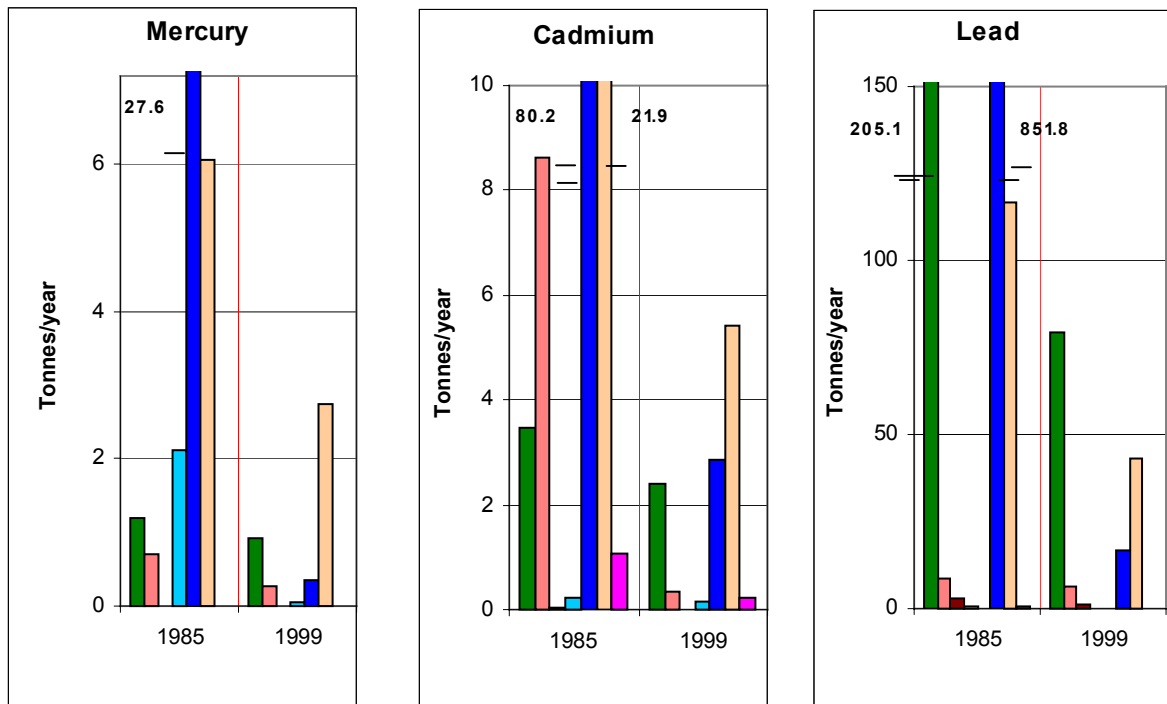
Switzerland: the figure for dioxins and furans is for the year 2000.

¹³ Data is taken from the EMEP database (<http://webdab.emep.int/>).

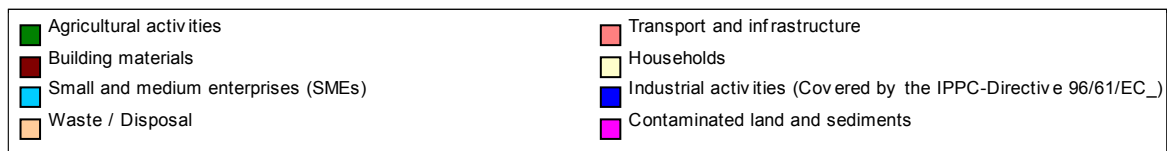
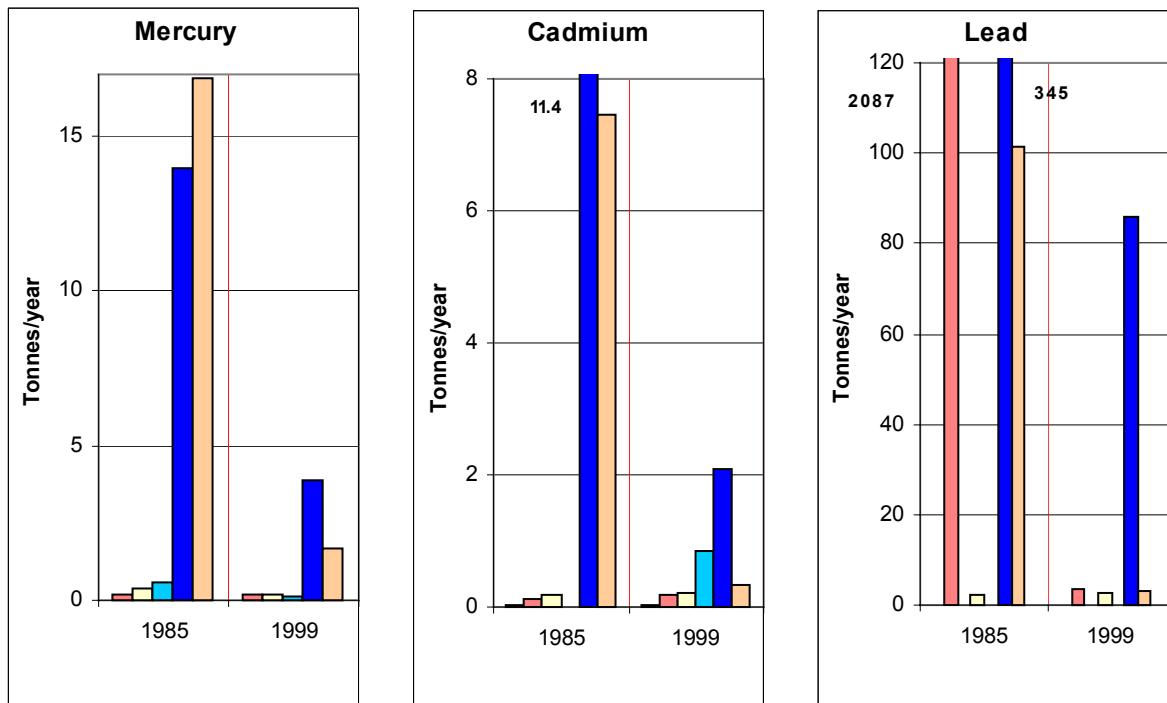
¹⁴ Countries who have not provided data for both years to EMEP are as follows:
Iceland (all parameters), Ireland (all parameters), Portugal (all parameters), Luxembourg (dioxins and PAHs), Switzerland (PAHs), Denmark (dioxins).

Figure 3a: Main Sources of discharges/releases to water and emissions to air of mercury, cadmium and lead in 1985 and 1999/2000 taken from the 5th North Sea Conference Progress Report

Water – main sources of mercury, cadmium and lead



Air – main sources of mercury, cadmium and lead



Note: Figure 3a gives an indication of the importance of the main sources of heavy metal releases in 1985 and 1999/2000 respectively. The countries who provided information of discharges/releases to water¹⁵ and emissions to air¹⁶ are given in the footnotes.

The following changes are of note:

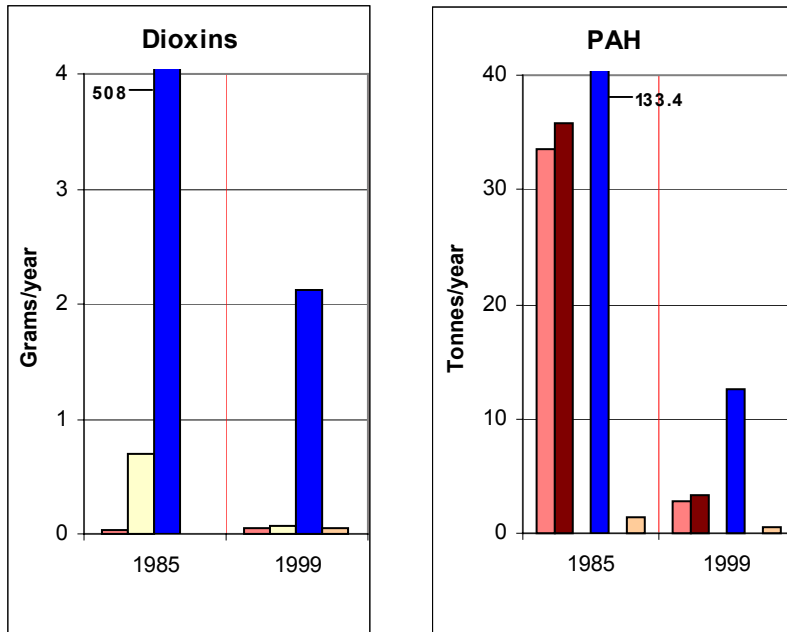
- In 1985, 'industrial activities' were a major source, but due to the large reductions achieved especially as regards discharges/releases to water from various industry sectors, other sources now seem to be of greater importance.
- For emissions to air, large reductions have been achieved between 1985 and 1999/2000. Mercury emissions were reduced from all sources, especially from 'waste disposal' and 'industrial activities', which nevertheless remain the predominant main sources in 1999/2000.
- For cadmium, large reductions are recorded in emissions from 'industrial activities' and from 'waste disposal', whereas the relative significance of 'transport and infrastructure' and 'small and medium enterprises (SMEs)' as sources has increased.
- The major reductions in emissions to air for lead are not surprisingly connected to the transport sector and the decline in use of leaded petrol. Considerable decreases are also recorded in the total emissions from 'industrial activities' and 'waste disposal'. Industry, *i.e.* industry covered by the IPPC Directive and SMEs, remains an important source.
- 'Agricultural activities' are a dominating main source for lead discharges to water in 1999/2000 for the countries shown in the illustration. This is due to the sub-source 'fishing equipment' which is included in this main source and constitutes the main amount of lead discharges.

¹⁵ Based on data reported by Denmark (Hg, Cd, Pb), Germany (Hg, Cd), Norway (Hg, Cd, Pb), the Netherlands (Hg, Cd, Pb) and Sweden (Hg, Cd, Pb).

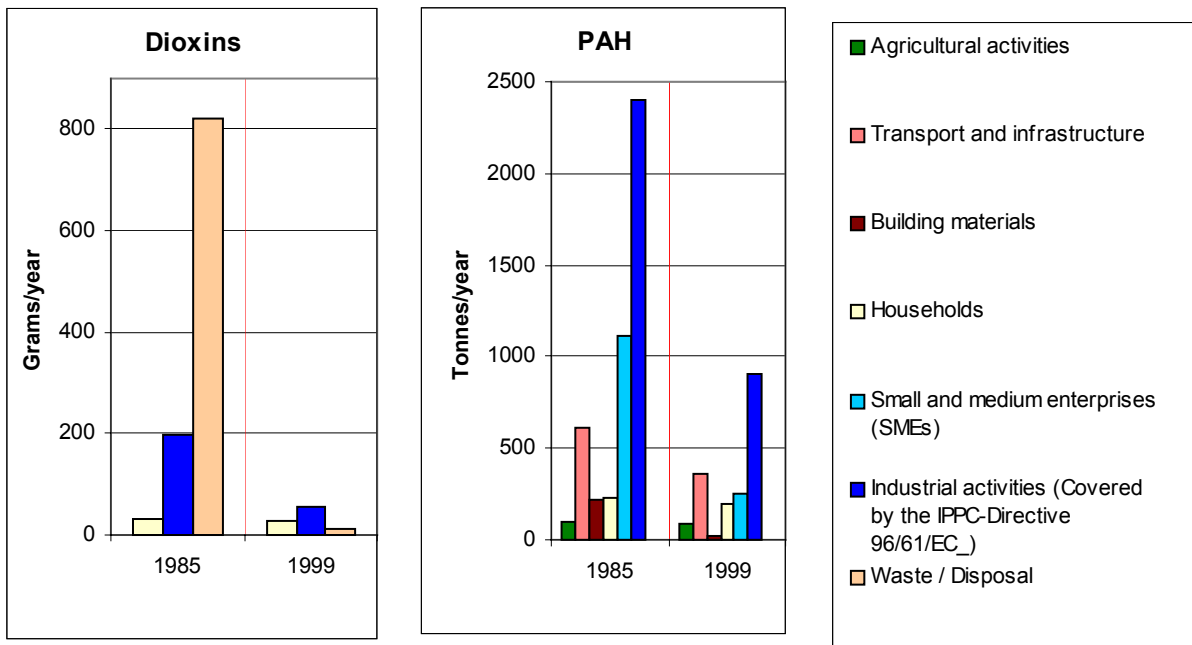
¹⁶ Based on data reported by Belgium (Hg), Norway (Hg, Cd, Pb), the Netherlands (Hg, Cd, Pb), and Sweden (Hg, Cd, Pb).

Figure 3b: Main Sources of discharges/releases to water and emissions to air of dioxins and PAHs in 1985 and 1999/2000 taken from the 5th North Sea Conference Progress Report

Water – main sources of dioxins and PAHs



Air – main sources of dioxins and PAHs



Note: Figure 3b gives an indication of the importance of the main sources of dioxins and PAHs in 1985 and 1999/2000 respectively. The countries who provided information of discharges/releases of dioxins¹⁷ and PAH¹⁸ are given in the footnotes.

The following changes are of note:

- The largest reduction in discharges of dioxins to water has been achieved in industry, although 'industrial activities' (covered by the IPPC Directive) still remains the most important source. In addition, there have been significant reductions in the discharges from 'households'. For PAH, the figure indicates that large reductions have been achieved in discharges/releases from 'transport and infrastructure', 'building materials' and 'industrial activities'.
- For emissions of dioxins to air, there have also been significant total reductions. The emissions from 'waste disposal', in 1985 by far the largest source, have been substantially reduced. Emissions from 'industrial activities' have also been reduced in the period from 1985 to 1999/2000, whereas reported emissions from 'households' remained more or less constant.
- For PAH, the emissions seem to have been reduced between 1985 and 1999/2000 to a larger extent from 'transport and infrastructure', 'building materials', 'industrial activities' and 'Small and medium enterprises (SMEs)', and to a lesser degree from 'agricultural activities' and 'households'. The largest remaining source is still industry covered by IPPC Directive.

¹⁷ Based on dioxin data reported by the Netherlands and Norway (discharges to water) and from the Netherlands, Norway and Sweden (emissions to air).

¹⁸ Based on PAH data reported by Belgium, the Netherlands and Norway (discharges to water) and by Belgium, the Netherlands, Norway and Sweden (emissions to air).

Qualitative Information on progress towards the cessation target for SCCPs, musk xylenes, NP/NPEs, BFRs, certain phthalates and TBT

Short Chained Chlorinated Paraffins (SCCPs): The main sources of SCCPs are metal working fluids, paints, coatings and sealants, rubber/flame retardants, leather fat liquors, and textiles and polymers (other than PVC). Use has declined considerably in the 1990s (70% between 1994 to 1998, mainly due to voluntary agreements with industry) and the recent EU Existing Substances Regulation risk assessment concluded that risk reduction in metal working would eliminate 98% of the total environmental burden. As well as PARCOM Decision 95/1, there are two recent EC Directives (Directive 2002/45/EC which controls the marketing and use of SCCPs, and the EC Water Framework Directive, which has identified SCCPs as a priority hazardous substance) which should enable SCCPs to meet the OSPAR cessation target.

Musk Xylenes: The main use areas of musk xylenes are consumer products (soaps and detergents, fabric softeners, cosmetics etc.) and the main discharge route to the environment is through domestic wastewater. Several countries report that voluntary agreements with industry on reductions in use have been agreed and that the use of musk xylene is decreasing as a switch to polycyclic musks takes place. Musk ketone and Musk xylene have been included in the third EU priority list of existing substances (Regulation 793/93) and an EU risk assessment is currently nearing completion. The resulting risk reduction measures, combined with the national voluntary actions recommended by OSPAR should enable musk xylenes to meet the OSPAR cessation target.

Nonylphenols/Nonylphenoethoxylates (NP/NPE): The main use areas are industrial and institutional cleaning (the main source), polymerisation, plastic stabilisers, epoxy resins, paint, metal working fluids, textiles, impregnated and emulsion coated paper, pesticides, personal care products and contact adhesives. The main pathways to the marine environment are through industrial and municipal waste water and waste water treatment plants. PARCOM Recommendation 92/8 requires that the use of NP/NPE as cleaning agents for domestic uses should be phased out by the year 1995; and for industrial uses by the year 2000. Implementation reports for this measure show that these targets have been broadly achieved. As well as several national bans and voluntary agreements, there are two initiatives underway in the European Community (the development of risk reduction proposals through the Marketing and Use Directive to control the main uses, and the identification of NP/NPE as a priority hazardous substance under the Water Framework Directive) which should enable NP/NPEs to meet the OSPAR cessation target.

Brominated Flame Retardants: Brominated flame retardants (BFRs) are a diverse group of chemicals used to prevent combustion in commercial goods, particularly in firefighting foams, foams for furniture, textiles, plastics and resins. The main pathways to the marine environment are through diffuse routes, arising from leaching or destruction of the products in which they are used. The main controls so far have been through voluntary commitments by industry within the framework of the OECD. OSPAR has recognised that various EC Directives which are either agreed or in the process of development are an efficient way to control these substances and written to the EC accordingly. These include the EC Marketing and Use Directive (which propose restrictions on pentaPBE and octaPBE) the Water Framework Directive, which has identified BFRs as a priority hazardous substance group, the Directive on Waste from Electrical and Electronic Equipment, and the Incineration Directive. These initiatives should enable BFRs to meet the OSPAR cessation target.

Certain Phthalates: OSPAR has currently identified dibutylphthalate (DBP) and diethylhexylphthalate (DEHP) in this category. The OSPAR background document on certain phthalates is still in preparation and no recommendations regarding control measures have yet been formulated. These chemicals are used in very large tonnages mainly as plasticisers in plastics and resins and enter the marine environment through a variety of routes including wastewater treatment, industrial effluent, waste disposal, and precipitation. Both chemicals are undergoing risk assessments under the EC Existing Substances regulation. DEHP is on the EC endocrine disruptor list, and currently being evaluated to determine whether it should be classified as a priority hazardous substance under the Water Framework Directive. The EC has temporarily prohibited the use of DBP in toys for young children. It is too early to tell whether the current international and EC activities will enable the OSPAR cessation target to be met.

Organic tin compounds: For organic tin compounds, the main primary sources for releases to the environment are used as antifouling, pesticide and other consumer products. Releases from antifouling and related releases from shipyards will cease soon due to the ban on this use from 2003 onwards and the obligation to have removed or sealed existing organotin antifouling by 2008 within the framework of IMO. Use as a pesticide (triphenyltins) is being assessed within the framework of EU-Directive 91/414 – in most countries, use as a pesticide has ceased. Releases and risks related to other consumer products that contains organotins are now being studied and assessed within the EU existing substances framework and OSPAR.

chapter 5

Offshore Oil and Gas Industry

Introduction

119. This chapter of the Annual Report presents the relevant section of the Overall Evaluation and Review of the OSPAR Strategies prepared for the 2003 Ministerial Meeting, showing under each of the sections of the Offshore Oil and Gas Strategy what has been done in the four years 1999-2003 to implement this strategy (adopted in 1999) and with what success. The outcomes of this overall evaluation and review were incorporated in the 2003 OSPAR Offshore Oil and Gas Strategy, which was adopted by the Ministerial Meeting. The text of this revised strategy is set out in Annex 6 of Volume II.

120. The Offshore Oil and Gas Strategy (Offshore Strategy) sets the objective of preventing and eliminating pollution and taking the necessary measures to protect the maritime area against the adverse effects of offshore activities so as to safeguard human health and of conserving marine ecosystems and, when practicable, restoring marine areas which have been adversely affected.

121. As its timeframe, the Offshore Strategy further declares that the Commission will implement this Strategy progressively and, in so far as they apply, following on and consistent with the commitments made in the other OSPAR Strategies.

122. The Offshore Strategy provides that OSPAR will address the programmes and measures:

- a. needed to prevent, control and eliminate pollution under Annex III of the OSPAR Convention;
- b. to be adopted under Annex V of the OSPAR Convention following the identification of relevant human activities.

123. In doing so, the Offshore Strategy requires the Commission to collect information about threats to the marine environment from pollution or from adverse effects from offshore activities; establish priorities for taking action; and establish and periodically review environmental goals to achieve the Offshore Strategy's objectives.

124. As a basis for pursuing the Offshore Strategy, the Commission's Offshore Industry Committee began by establishing the principles to be followed in a goal setting approach and by (re)identifying all potential impacts on the environment from offshore oil and gas activity. The Commission then prioritised those areas to be addressed leading up to the Ministerial Meeting 2003 and beyond on the basis of expert judgement, the Offshore Strategy and the QSR 2000 which supported the development and implementation by the offshore industry of environmental management mechanisms and continued public openness regarding their activities.

Prevention and elimination of pollution from offshore sources

Chemicals used and discharged offshore

125. The OSPAR Commission meeting in 2000 adopted:

- a. OSPAR Decision 2000/2 on a Harmonised Mandatory Control System for the Use and Reduction of the Discharge of Offshore Chemicals;
- b. OSPAR Recommendation 2000/4 on a Harmonised Pre-Screening Scheme for Offshore Chemicals;
- c. OSPAR Recommendation 2000/5 on a Harmonised Offshore Chemical Notification Format (HOCNF);
- d. a suite of related agreements (e.g. guidelines, lists of chemicals) in support of these measures. These agreements have been updated from time to time as needed.

126. The purpose of Decision 2000/2 is to 'ensure and actively promote the continued shift towards the use of less hazardous substances (or preferably non-hazardous substances) and, as a result, the reduction of the overall environmental impact resulting from the use and discharge of offshore chemicals'. It seeks to achieve this through the screening of chemicals

against pre-defined criteria and to identify those substances for which substitutes should be sought. It also calls for the ranking of chemicals according to their potential hazard to allow informed selections to be made by operators and the appropriate issuing of permits.

127. Taken together all these measures represent a coherent harmonised control system as called for by the Offshore Strategy. In doing so they also contribute to the implementation of the Hazardous Substances Strategy by identifying those offshore chemicals which contain substances on the OSPAR List of Chemicals for Priority Action and requiring their substitution.

Produced water

128. In 2001, the Commission adopted OSPAR Recommendation 2001/1 for the Management of Produced Water from Offshore Installations. The overall goal of this Recommendation is to:

- a. reduce the input of oil and other substances into the sea resulting from produced water from offshore installations, with the ultimate aim of eliminating pollution from those sources;
- b. ensure that an integrated approach is adopted, so that reduction in oil discharge is not achieved in a way that causes pollution in other areas and/or other environmental compartments;
- c. ensure that effort is made to give priority to actions related to the most harmful components of produced water.

129. To achieve this the Recommendation asks each Contracting Party to ensure that the total quantity of oil in produced water discharged into the sea in the year 2006 from all offshore installations under its jurisdiction has been reduced by a minimum of 15% compared to the equivalent discharge in the year 2000 from all offshore installations under its jurisdiction at that time. For remaining discharges of produced water to the sea a more stringent performance standard at an installation level for dispersed oil of 30 mg/l should be complied with by the end of the year 2006.

130. A new reference analytical method was agreed for the determination of dispersed oil in produced water. This method will become fully effective in 2007.

131. In support of OSPAR Recommendation 2001/1, a background document was published in 2002 on the management of produced water from offshore installations including an overview of various techniques for the removal of contaminants.

132. OSPAR Recommendation 2001/1 required the consideration of performance standards including appropriate reference analytical methods for aromatic hydrocarbons in produced water. Progress was made but work continues on this issue.

Drilling fluids and cuttings

133. OSPAR Decision 2000/3 on the Use of Organic Phase Drilling Fluids (OPF) and the Discharge of OPF-Contaminated Cuttings was adopted by the Commission to deal with the possible problems that could be created by drilling fluids introduced since the entry into force of PARCOM Decision 92/2 on the Use of Oil-based Muds. The Decision requires Contracting Parties to ensure that no OPF is used or discharged without prior authorisation by the national competent authority; reaffirms the existing prohibition on the use of diesel based fluids and the discharge into the sea of oil based fluids at a concentration greater than 1% by weight on dry cuttings; and allows the discharge into the sea of cuttings contaminated with synthetic fluids in exceptional circumstances only. Other agreements were also adopted in support of this Decision. Work continues on establishing criteria for exceptional circumstances.

Protection and conservation of the maritime area against adverse effects of offshore activities other than pollution

134. The Biodiversity Strategy identified:

- a. the exploration for oil and gas;
- b. the placement of structures for the exploitation of oil and gas;

among the first candidate list of human activities for assessment. A questionnaire has been circulated to Contracting Parties to collect information on this topic.

Restoration, where practicable, of marine areas which have been adversely affected by offshore activities

Cuttings Piles

135. The Offshore Strategy required the investigation of the environmental impact of, the need for, and possible means for cleaning up seabeds contaminated by oily cuttings. The offshore industry conducted a project on the issues associated with the accumulations of drill cuttings beneath some offshore installations with the objective of identifying options for their management.

136. In the light of this work and other information, work will continue to seek a common approach aimed at reducing pollution from cuttings piles and restoring the seabed where practicable. Contracting Parties are to consider with their industries the feasibility of surveying representative cuttings accumulations and establishing a timescale within which this work could be carried out, so as to provide an indication of the environmental impacts of individual piles.

Disposal of disused offshore installations

137. OSPAR Decision 98/3 on the Disposal of Disused Offshore Installations provides for a review of the categories of installations for which it is possible to seek derogation from the general prohibition on sea disposal in the light of experience in decommissioning, relevant research and exchange of information. The outcome of the first review was considered by the Commission at its meeting in 2003.

138. The review gave rise to the following conclusions:

- a. no Contracting Party has proposed that the categories for derogation be revised at this time;
- b. decommissioning activity has not developed as quickly as expected in 1998 and the information gathered in this review is not sufficient to provide a rationale for amending Annex 1 in order to reduce the scope of possible derogations under paragraph 3 of Decision 98/3. In particular:
 - (i) there is no substantive evidence to suggest that any of the categories is no longer needed;
 - (ii) there is no substantive evidence on which revised criteria for these categories could be based.

139. On the basis of these conclusions, OSPAR 2003 agreed that:

- a. the evidence available has been reviewed;
- b. the evidence is not sufficient to enable the categories in Annex 1 to Decision 98/3 to be revised at this time; and that
- c. evidence will be gathered and considered again in 5 years, for the Commission meeting in 2008.

Implementation and enforcement

140. The Offshore Strategy called on the Commission to promote the development and implementation by the offshore industry of environmental management mechanisms, including elements for auditing and reporting, which are designed to achieve both continuous improvement in environmental performance, environmental goals developed under the Offshore Strategy and more generally to fulfil the objective of the Offshore Strategy.

141. The Commission fulfilled this objective by adopting OSPAR Recommendation 2003/5 to Promote the Use and Implementation of Environmental Management Systems by the Offshore Industry.

Reporting

142. The reporting of data on discharges, waste handling and air emissions from offshore installations was adapted to the Offshore Strategy with a view to monitoring the efficiency of OSPAR measures implemented and could be further adapted to take into account any additional measure. The development of the new tool for reporting led to a better harmonisation between the reports from the Contracting Parties, and eased the comparison between data.

143. OSPAR Reports on Discharges, Waste Handling and Air Emissions from Offshore Installations for 1998-1999 and 2000-2001 show that, despite an increase of the total quantity of hydrocarbons produced between 1997 and 2001 of 9%, and the ageing of many major fields, the measures taken have achieved:

- a. to significantly reduce the discharge of organic-phase fluids (discharged through contaminated drill cuttings), which represented 1327 tonnes in 2001;
- b. to stabilise the quantity of oil discharged into the maritime area by accidental oil spillage or through flaring releases. These discharges are minor, compared to the other sources (154 tonnes accidentally spilled in 2001, less than 2 tonnes from flaring);
- c. to reduce the forecast increase of oil discharged into the maritime area by production and displacement water, although the trend has not been inverted yet (OSPAR Recommendation 2001/1 entered into force only in mid 2001). 9162 tonnes were discharged in 2001;
- d. to stabilise the quality of production and displacement water discharged (with an average of 20 mg/l of dispersed oil). 2001 data collection showed that aromatic compounds represent a third of the total oil in produced waters.

144. A more detailed assessment for the period 2000-2001 of discharges of oil and organic phase fluids into the sea is presented at the end of this chapter. Partly due to reporting difficulties, it had not been possible yet to draw any conclusion on the effectiveness of the measures related to chemicals.

145. Revised guidelines for monitoring the environmental impact of offshore oil and gas activities were also adopted (*reference number: 2001-10*).

Evaluation of progress on the Offshore Strategy and identification of priorities for revision

146. Good progress has been made in pursuing the Offshore Strategy, particularly in the areas considered to be of highest priority in preventing and eliminating pollution from offshore sources. A coherent harmonised control system for chemicals used and discharged offshore has been agreed and implemented by Contracting Parties; an ambitious goal adopted to reduce by 15% the total quantity of oil in produced water discharged into the sea in the year 2006 compared to that discharged in 2000; and a Decision introduced to ensure that cuttings contaminated by OPF are not discharged without prior authorisation.

147. In addition, as called for by the Offshore Strategy, agreement has been reached on a goal for all operators in the OSPAR area to have Environmental Management Systems in accordance with the principles of internationally recognised standards which will also provide the mechanism for the goal based approach envisaged by the Offshore Strategy to be applied effectively.

148. The review of the categories of installations for which it is possible to seek derogation from the general prohibition on sea disposal under Decision 98/3 on the Disposal of Disused Offshore Installations was successfully completed. The review concluded that there was insufficient evidence to justify changes to the categories now but that a further review should be carried out before the 2008 meeting of OSPAR.

149. Work continues in several areas and in particular on:

- a. further developing intermediate goals from which to assess the success of the harmonised controls on offshore chemicals with a view to their agreement in 2004;
- b. establishing the need for performance standards for aromatics in produced water;
- c. further developing the background document on the management of produced water;
- d. developing a common approach on handling existing cutting piles;
- e. collecting data on oil from reservoirs on cuttings; and
- f. assessing the effects of offshore activities other than pollution in relation to the Biodiversity Strategy.

150. It is too early to determine the effectiveness of the measures taken but there is a clear common desire to achieve the objectives they set. The Offshore Strategy has established an excellent framework to continue to protect the maritime area against the adverse effects of offshore activities and no priorities for its revision have been identified. The priorities for the Offshore Strategy in the period leading up to the next review of the Offshore Strategy will be to complete the tasks listed above.

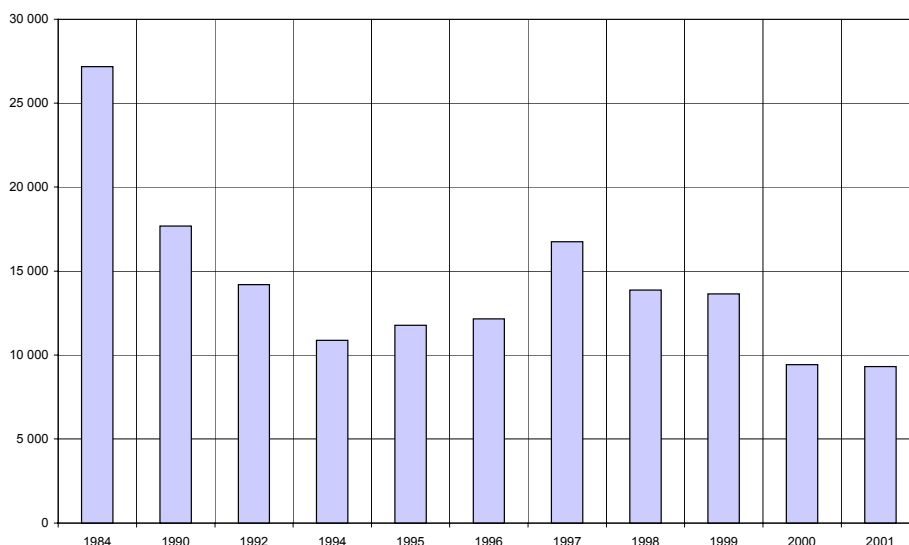
Offshore discharges of oil and organic phase fluids into the sea¹⁹

The total quantity of dispersed oil discharged into the maritime area of OSPAR (resulting from discharges of production and displacement waters, and from accidental spillage) was 9 420 tonnes in 2000 and 9 317 tonnes in 2001 excluding organic phase drilling fluids (OPF), compared to 9053 tonnes in 1999.²⁰ An accidental spill in 2000 partly explains the increase between 1999 and 2000 and the decrease in 2001 and hides the fact that total quantity of dispersed oil discharged by production and displacement waters increased by 1,5 % between 1999 and 2000 and by 2,9 % between 2000 and 2001.

2000 and 2001 are the first years for which data related to the discharge of OPF are meaningful. The amount of OPF discharged into the sea was 3 951 tonnes in 2000, but decreased to 1 327 tonnes in 2001. The 2001 discharge represented 14 %, compared to the oil discharged through production waters.

In addition to the discharge of OPF through drill cuttings, three sources of oily discharges are identified: production and displacement water, spills and flaring operations. As in the previous years, production and displacement water are the main contributors. They represented 94,5 % of the total amount of oil discharged to the sea in 2000, and even 98,3 % in 2001 (due to the decrease in spillage). Spillage is a minor contributor, flaring being even less.

The figure below provides an overview of total discharges of dispersed oil in tonnes per year over the period 1984 to 2001.



The quality of the water discharged (expressed in terms of content of dispersed/aliphatic hydrocarbons in the water discharged) remained more or less stable: its 2000 average was 20,5 mg/l, and its 2001 average 19,7, still better than in 1993, although the quantity of water discharged has more than doubled since then.

2001 was the very first year where comprehensive data regarding the discharge of both aromatic and aliphatic compounds was made available, at least for production water. It shows that aromatics represent over a third of the total oil discharged.

¹⁹ Taken from the assessment of the OSPAR Report on Discharges, Waste Handling and Air Emissions from Offshore Installations, 2000-2001.

²⁰ The production of hydrocarbons increased by 2 % both in 2000 and in 2001. 483 million tonnes of oil equivalent were produced in 1999, 492 in 2000, and 502 in 2001.

Average concentration of dispersed oil in production and displacement water discharged (mg/l):

1993	1997	1998	1999	2000	2001
21,5	19,8	19,5	19,8	20,5	19,7

2001 production water*		
aliphatics	aromatics	total
22,3	12,7	35

* Split available for production water only (insufficient data available for displacement water).

Remark: This table cannot be compared to the one published in the 1998-1999 Assessment report as some data related to the quantity of production water discharged into the sea have been significantly revised.

Between 1999 and 2001, the number of installations which exceeded the 40 mg/l target standard for dispersed oil first decreased (from 27 down to 14 in 2000), and then increased again (up to 23 in 2001). Meanwhile the total quantity of hydrocarbons discharged by these installations followed a reversed curve: it increased from 153 to 365 tonnes in 2000 and then decreased to 313 tonnes in 2001. This erratic evolution is due to several factors: (1) the performance standard of a significant percentage of the installations concerned is close to 40 mg/l and therefore subject to annual variations; (2) reliability of data is questionable for some installations, especially for unmanned installations and for installations which discharge small volumes of water. Therefore this overall picture does not reflect the wide spectrum of cases: in 2001, out of the 23 installations concerned, 11 discharged less than 2 tonnes per year; and only 5 over 20 tonnes per year; some installations are still equipped with simple devices (e.g. skimmer tanks) while other are equipped with significantly more sophisticated treatment units (e.g. hydrocyclones, filter coalescers).

It shows that despite the efforts made to reduce the number of installations which have poor records, there are still some installations which raise significant concern.

In 2000 and 2001, there have been no discharges of oil-based drillings fluids (OBM) and cuttings, except by accidental spillage. So the oil discharged via cuttings is presently related only to the use and discharge of non-OBM OPF. As OSPAR is now regulating OPF, some Contracting Parties started to report their use and discharge of OPF in 2000; all of them did report in 2001. The hydrocarbons discharged via the use of OPF was 3 951 tonnes in 2000, and 1 327 tonnes in 2001.

205 tonnes of oil were spilled in 1999, over 453 in 2000, and 154 in 2001. In 2000, one accidental spill of 337 tonnes occurred, which explains the comparatively bad record of that year, while 2001 is one of the best recorded year.

Flaring is a very minor contributor to the total discharge of oil, and is not regulated by OSPAR, so far. Therefore not all Contracting Parties report their flaring, and the increase observed between 1999 and 2000, and followed by a decrease in 2001 cannot be considered as significant.

chapter 6

Radioactive Substances

Introduction

151. This chapter of the Annual Report presents the relevant section of the Overall Evaluation and Review of the OSPAR Strategies prepared for the 2003 Ministerial Meeting, showing under each of the sections of the Radioactive Substances Strategy what has been done in the five years 1998-2003 to implement this strategy and with what success. It also incorporates the further agreements reached at the Ministerial Meeting on work in this field. The outcomes of this overall evaluation and review were incorporated in the 2003 OSPAR Radioactive Substances Strategy, which was adopted by the Ministerial Meeting. The text of this revised strategy is set out in Annex 6 of Volume II.

152. The Radioactive Substances Strategy sets the objective of preventing pollution of the maritime area from ionising radiation through progressive and substantial reductions of discharges, emissions and losses of radioactive substances, with the ultimate aim of concentrations in the environment near background values for naturally occurring radioactive substances and close to zero for artificial radioactive substances. In achieving this objective, the following issues should, *inter alia*, be taken into account:

- a. legitimate uses of the sea;
- b. technical feasibility;
- c. radiological impacts on man and biota.

153. As its timeframe, the Radioactive Substances Strategy further declares that by the year 2020 the Commission will ensure that discharges, emissions and losses of radioactive substances are reduced to levels where the additional concentrations in the marine environment above historic levels, resulting from such discharges, emissions and losses, are close to zero.

Identification of radioactive substances, including wastes, that are of concern

154. The background of the implementation of the Radioactive Substances Strategy is described in the QSR 2000, which concludes that:

- a. nuclear weapons testing, the dumping of wastes in deep water, the foundering of a nuclear submarine, accidents during transportation and discharges from coastal installations have all added to the radionuclides present in the marine environment. The majority of these inputs have been drastically reduced;
- b. remaining inputs are largely due to ongoing releases from nuclear-fuel reprocessing plants. The greatest threats in the future are accidents in the civilian and military nuclear sectors. Releases from dumpsites are considered to pose negligible radiological risk to man, although it is difficult to draw firm conclusions about environmental impacts.

155. Contracting Parties report on an annual basis their data on liquid discharges from nuclear installations. From 1998 onwards (starting with 1996 data), the annual compilation reports published by the Commission contain an assessment of liquid discharges including a description of the trends from 1989 until the date of the report. There is a downward trend of the total alpha activity discharged from all nuclear installations between 1989 and 2001. The tritium release from all installations has increased over the same period. The reprocessing plants in Cap de la Hague and Sellafield contribute in aggregate, approximately 80% of the overall discharges. Discharges of tritium from nuclear power stations and research and development facilities show no pronounced trend over the period 1996-2000. The sum of total beta excluding tritium from all nuclear installations has fallen significantly over the period 1989 to 2001. The discharge data in terms of total beta activity show a continuously downward trend for nuclear power plants and research and development facilities since 1997²¹. Trends over the period

²¹ For further information see the Annual Reports on Liquid Discharges from Nuclear Installations available on the OSPAR website (www.ospar.org) in the section "Publications".

1989-2001 for total alpha, tritium and total beta (excluding tritium) in the discharges of nuclear installations are presented at the end of this chapter.

156. The question of radioactive contamination, particularly that arising from the Cap de la Hague and Sellafield nuclear-fuel reprocessing plants, is a matter of public concern. This stems from the higher levels of radioactivity discharged in the past and from recent increases in the discharge of certain less radiologically significant radionuclides, particularly technetium-99. There are now more sophisticated detection systems and there have been substantial net reductions in the levels of some more harmful radionuclides over the last decade. Low concentrations of some man-made radionuclides are found in seaweeds, shellfish and wildlife far from the sources. Impacts of radionuclides on wildlife have not been assessed. There are no internationally agreed standards for the assessment of the impact of man-made radionuclides on wildlife, although the OECD Nuclear Energy Agency, the International Commission on Radiological Protection, the European Commission and the International Atomic Energy Agency are now examining the issue.²²

Environmental quality criteria

157. The EC-funded projects FASSET (Framework for Assessment of Environment Impact) and EPIC (Environmental Protection from Ionising Contaminants in the Arctic) are important stages in the discussion on how to develop environmental protection criteria. Following the finalisation of these projects by the end of 2003, and taking into account ongoing international discussion in this field, a broad consensus on scientific principles for protection of biota and environment is not expected before 2007. The Commission needs to await the outcome of these international developments before it can start a discussion on how to apply environmental quality criteria.

Implementation of BAT

158. PARCOM Recommendation 91/4 on Radioactive Discharges commits Contracting Parties to applying the Best Available Technology (BAT) to minimise and, as appropriate, eliminate any pollution caused by radioactive discharges from all nuclear industries, including research reactors and reprocessing plants, into the marine environment. It requires regular reports over a four-year cycle on its implementation.

159. A summary report on the second round of implementation reporting was published by the Commission in 1999. The third round of reporting under these arrangements began in 2000 and covered the period 1995-1998. In order to assist in the reporting on implementation the Commission in 1999 established guidelines for the submission of information about, and the assessment of, the application of BAT in nuclear facilities (*reference number: 1999-11*).

160. In the light of the reports presented by Contracting Parties in 2000-2002, it was agreed that the Netherlands, Sweden and the United Kingdom (in 2000), France, Germany, Norway and Switzerland (in 2001) and Belgium, Denmark, Portugal and Spain (in 2002) had fulfilled their reporting requirements and that the information presented included indications that BAT had been applied in the nuclear installations of these Contracting Parties. There were reservations from one Contracting Party in respect of the nuclear reprocessing plant at Cap de la Hague and from two in respect of technetium-99 discharges from Sellafield. Finland, Iceland, Ireland and Luxembourg have no relevant installations. A summary of the national reports is published by the Commission in 2003. Following this report, the guidelines for the submission of information about, and the assessment of, the application of BAT in nuclear facilities will be reviewed in 2004 in order to further develop the BAT/BEP indicators and to reflect the wider context of the revised JAMP concerning existing and future reporting requirements such as the development of reporting formats for inputs of radioactive substances from the non-nuclear sector.

²² For further information see the QSR 2000 and the regional QSR for region III Celtic Seas available on the OSPAR website (www.ospar.org) in the section "Publications".

Other sources of radioactive substances

161. The Commission published in 2002 a report on discharges of radioactive substances into the maritime area by non-nuclear industry.

162. The longer-lived radionuclides are those of natural origin (NORM: naturally occurring radioactive materials) such as radium 226 and radium 228, lead 210 and polonium 210. The premises discharging these are in the extractive (or related) sector, from either historic onshore mining practices or from (generally) offshore oil and gas exploration and production facilities. Disposals of phosphogypsum from the phosphate ore processing industry into the marine environment in the OSPAR area have now ceased.

163. The European Commission's MARINA II study shows an estimate of discharges of alpha-emitting radionuclides in produced water from offshore oil and gas installations. In addition, broad estimates of the total discharges from other non-nuclear sectors are presented, albeit with admittedly large imprecision, thus giving order of magnitude figures for discharges from all non-nuclear sectors. Discharges for 1999 of alpha emitting radionuclides by the extractive sector and phosphate ore industry are estimated to be considerably larger than discharges from the nuclear industry. For total beta activity and tritium the nuclear industry discharges exceed those from the non-nuclear sector. The estimates for non-nuclear sectors are subject to considerable uncertainty due to the paucity and variability of data submitted, and further work is necessary to refine the numerical values if more robust assessments of activity discharged from this sector were required.

164. Discharges from most other non-nuclear sectors are made to public sewers which then discharge, after treatment, to rivers or direct to the sea. Data in the submissions received indicate that the medical sector is dominant in terms of overall activity in discharges. A wide range of radionuclides are used in healthcare; most radionuclides used in this sector are of short half-life, the most significant entering the marine environment being technetium 99m and iodine 131.

165. Therefore, the Commission has set up a work programme on non-nuclear industry with the aim of (i) determining the extent to which NORM discharges are regulated and to achieve greater harmonisation between Contracting Parties, (ii) characterising the activity concentration and composition of NORM wastes from the oil and gas extraction industry, (iii) reviewing international best practice in the abatement of discharges of short half-life anthropogenic radionuclides used in therapeutic and diagnostic procedures in hospitals and (iv) improving quantitative information on discharges from the non-nuclear sector. The Commission will also investigate the possibility of reporting data on discharges of radioactive substances from oil and gas installations and developing guidance for collecting harmonised information on radioactive discharges from the non-nuclear sector.

Programme for the More Detailed Implementation of the Strategy with regard to Radioactive Substances

166. In 2000, the Commission adopted, on the basis of national contributions, the 2000 Progress Report on the Implementation of the OSPAR Strategy with regard to Radioactive Substances (OSPAR 2000 Summary Record, Annex 11), and subsequently the Programme for the More Detailed Implementation of the Strategy with regard to Radioactive Substances (*reference number: 2001-3*). This programme required the establishment of baselines against which to measure progress and national plans by 2002 for the implementation of the Radioactive Substances Strategy.

167. In 2003, the Commission adopted a methodology for the establishment of baseline elements for discharges of radioactive substances, their concentrations in the marine environment and resultant doses to the public. The period 1995-2001 was agreed as the reference period for the baseline. Further work is needed on how the baselines should be applied to measure progress of the implementation of the Radioactive Substances Strategy.

168. The Commission also assessed (i) the combined effect of Contracting Parties' national plans towards the achievement of the objective of the Radioactive Substances Strategy to the extent required by its timeframe for 2020, (ii) their statements of intermediate goals which are forecast to be achieved under each of the national plans between 2003 and 2020, and the dates by which they are expected to be achieved, and (iii) their proposals for monitoring, and reporting on, progress towards those intermediate goals. The outcome is presented in the 2003 Progress

Report on the More Detailed Implementation of the Strategy with regard to Radioactive Substances.

Evaluation of progress on the Radioactive Substances Strategy and identification of priorities for revision

169. A very valuable outcome of the adoption of the Radioactive Substances Strategy and its Programme for a More Detailed Implementation has been the adoption of national plans for achieving the objective of the Radioactive Substances Strategy. These plans make a forecast to the year 2020 of anthropogenic discharges and releases of radioactive substances which may reach and affect the maritime area.

170. Provided that national plans are implemented as forecast, the overall level of discharges, emissions and losses will be reduced by 2020. However, at this stage, it is not possible to make a final assessment whether or not the combined effects of the national plans will be to achieve the objective of the Radioactive Substances Strategy to the extent required by its time frame for 2020. The content and detail of each plan, while broadly covering the key areas for each Contracting Party defined in the programme for a more detail implementation, do not represent a harmonised and standardised approach among the Contracting Parties, whose plans may be subject to further development over time.

171. A crucial future step in the implementation of the Radioactive Substances Strategy and the achievement of its objectives could be the collective monitoring of the implementation of national plans. This collective monitoring should take into account the importance of assembling data on discharges, emissions and losses of radioactive substances also from the non-nuclear sector. The possibility of including additional radionuclides or groups of radionuclides may also be considered.

Total Alpha

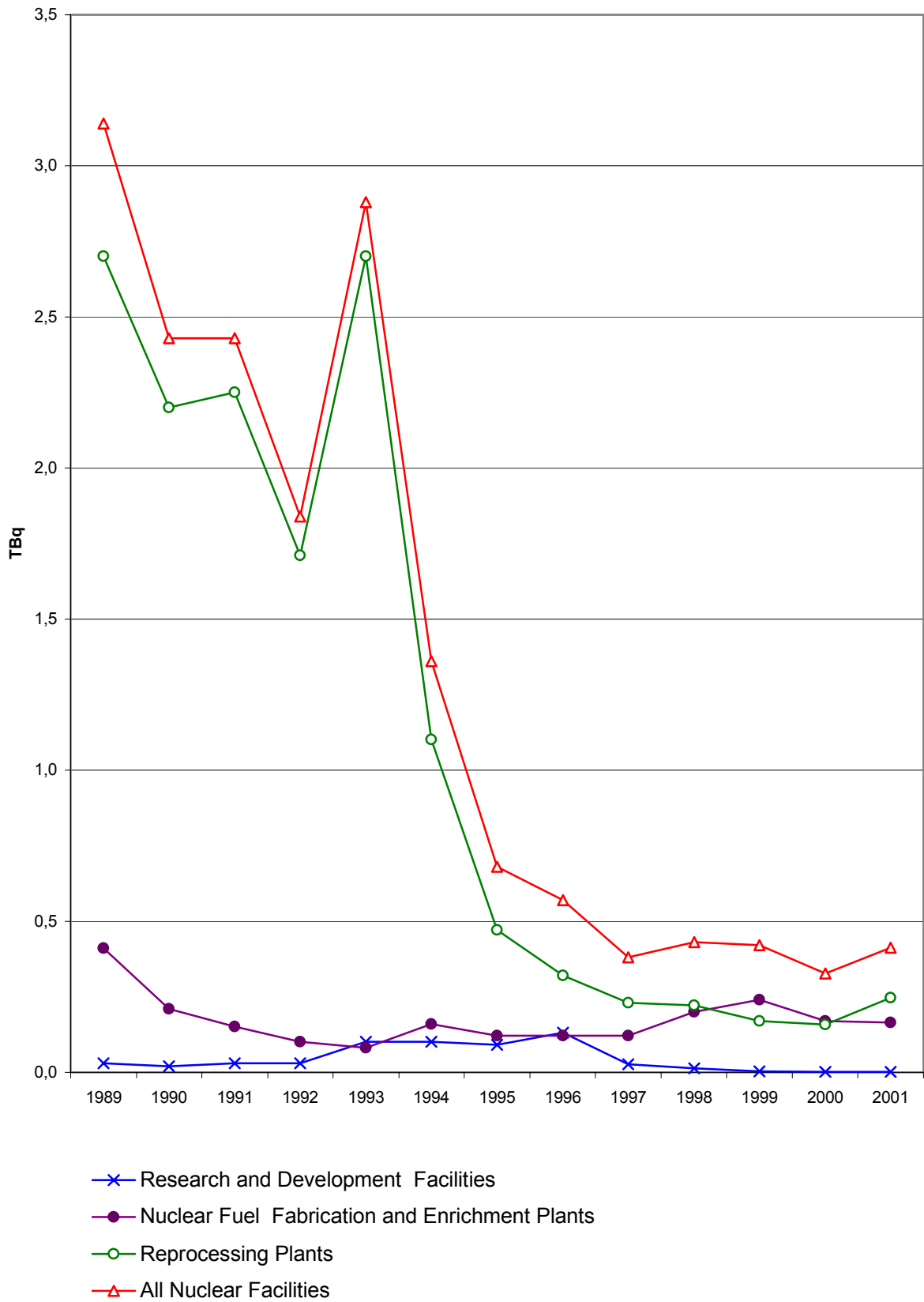


Figure 4: Annual releases of Total Alpha in liquid discharges from all nuclear installations of Contracting Parties to the OSPAR Convention, 1989-2001

Tritium

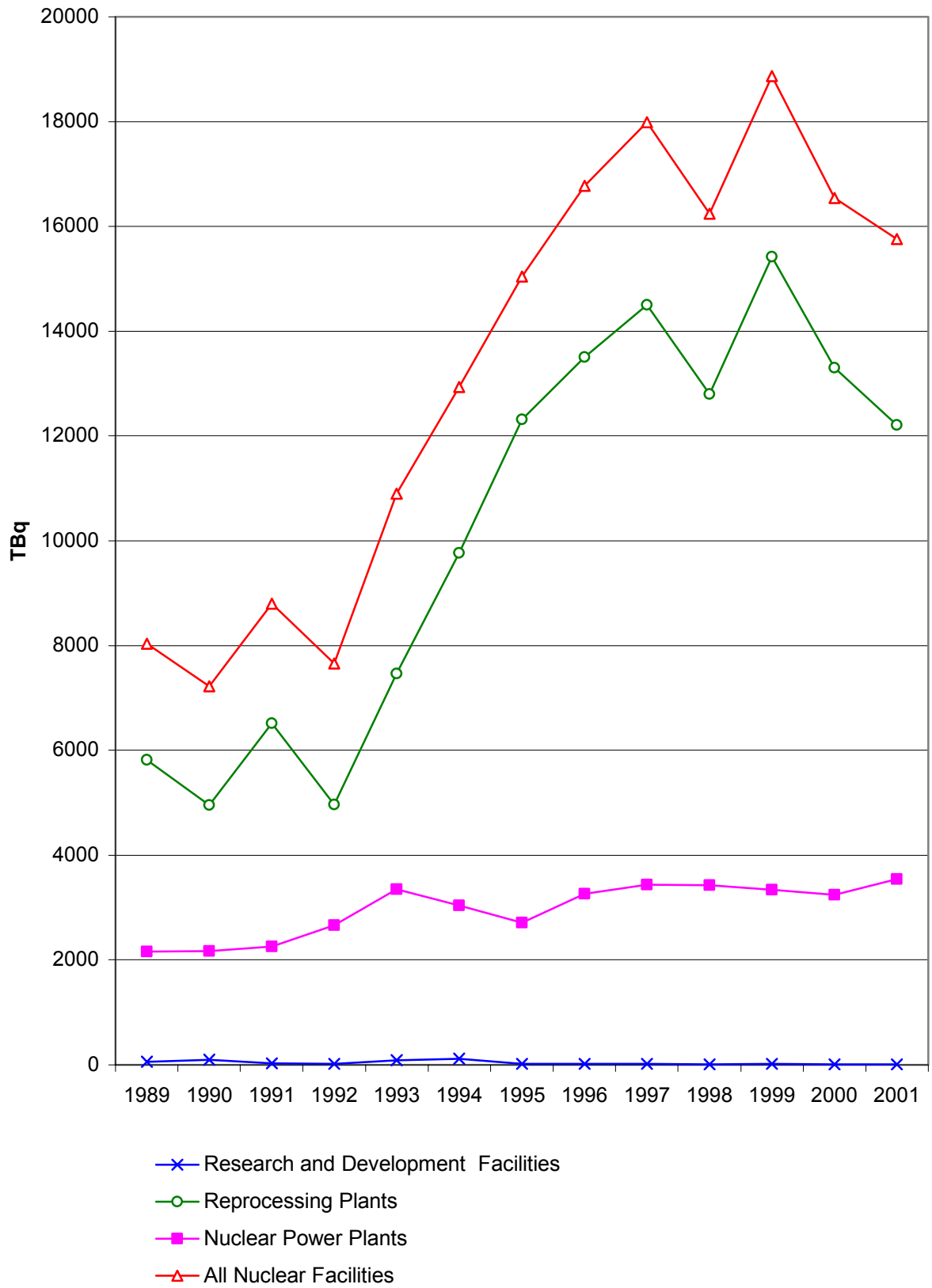


Figure 5: Annual releases of Tritium in liquid discharges from all nuclear installations of Contracting Parties to the OSPAR Convention, 1989-2001

Total Beta
(Other Radionuclides excluding Tritium)

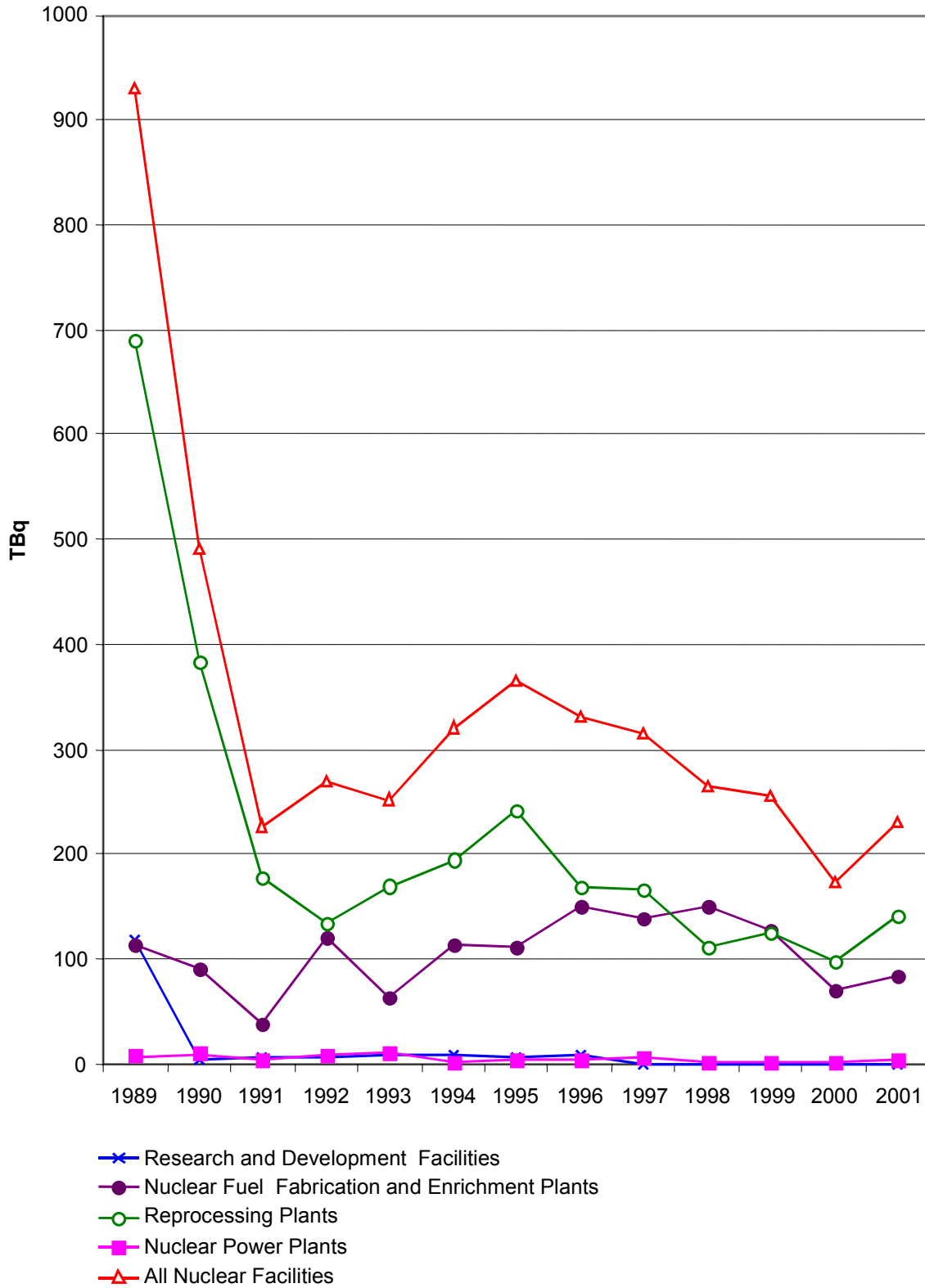


Figure 6: Annual releases of Total Beta in liquid discharges from all nuclear installations of Contracting Parties to the OSPAR Convention, 1989-2001

chapter 7

Monitoring and Assessment

Introduction

172. This chapter of the Annual Report presents the relevant section of the Overall Evaluation and Review of the OSPAR Strategies prepared for the 2003 Ministerial Meeting, showing the follow-up to the Joint Assessment and Monitoring Programme (JAMP) as adopted in 1994. In the light of experience with the implementation of the JAMP, the JAMP was revised and adopted by the Ministerial Meeting as a Strategy in parallel with the other five strategies. The Strategy for the Joint Assessment and Monitoring Programme is set out in Annex 7 of Volume II.

173. One of the new features of the 1992 OSPAR Convention was the general obligation to collaborate in regular monitoring and assessment of the state of the marine environment in the maritime area. Annex IV to the Convention provides for cooperation in monitoring programmes, joint quality assurance arrangements, the development of scientific assessment tools, such as modelling, remote sensing and risk assessment strategies, and the preparation of assessments.

174. In 1995 a Joint Assessment and Monitoring Programme was agreed to provide the basis for a comprehensive quality status report. In the 1998 Sintra Statement, Ministers noted the work in hand to produce this report, agreed a special budget for OSPAR's work on it, and welcomed the idea of establishing, through it and the Joint Assessment and Monitoring Programme, a sound, scientific basis for identifying and prioritising future tasks in an overall comparative approach.

The Quality Status Report 2000

175. The QSR 2000, and its five supporting regional quality status reports, represent the first fruits of the work to fulfil these obligations. It is the first attempt anywhere in the world to produce a detailed quality status report on such a large area of marine environment. Both the overall QSR 2000 and the regional reports follow the same structure. Following an introductory chapter, Chapter 2 gives an overview of the geography, hydrography and climatic conditions of the North-East Atlantic in order to give a baseline for the detailed descriptions of the physical, chemical and biological characteristics of the area presented in following chapters. Chapter 3 provides an outline of the most important human activities that influence the North-East Atlantic. Chapter 4 summarises information on the chemical aspects of the North-East Atlantic, focusing on inputs of contaminants and nutrients, and their concentrations in different environmental media and compartments. Chapter 5 deals with the biological features of the coastal and offshore ecosystems, focusing in particular on the causes, impact and implications of the changes that are occurring to their natural characteristics. Finally, Chapter 6 draws on Chapters 2 to 5 to identify trends, the effectiveness of measures and the major causes of any environmental degradation within the area and the managerial and scientific actions needed to redress this.

176. This detailed, comprehensive assessment shows clearly that the overall ecological quality of the North East Atlantic has been improved over the past generation, and is improving. Nevertheless, it also shows that substantial problems remain, and that it will take concerted and sustained effort to resolve them.

177. The work towards the production of this assessment has also had an important value in itself. To achieve the monitoring and assessment of about 13,5 million square kilometres of sea, it has been necessary to create, in cooperation with the International Council for the Exploration of the Sea:

- a. a network of scientists and policy-makers in 15 countries, representing most of Western Europe, focused on evaluating the combined effects of human impacts on the adjoining seas;
- b. New ways of monitoring a frequently hostile environment;
- c. New ways of observing phenomena in that environment;
- d. Detailed guidance on how to assess the significance of what has been observed.

178. The agreements between scientists and policy-makers of several different traditions have been achieved both at the overall level of the Convention and in each of the five sub-regions, thus breaking new ground in European cooperation.

Further assessment of the quality status of the maritime area

179. As a basis for the first joint meeting at Ministerial Level of the OSPAR Commission and the Helsinki Commission and for the information of the public, the German Ministry for the Environment, Nature Conservation and Nuclear Safety invited ICES to prepare a report on the environmental status of European seas. Since the meeting also discussed a European Strategy for the Marine Environment, the report is intended to inform on the overall environmental status and on issues of concern, focused on the maritime areas covered by these two Commissions, and to provide brief overviews also for the Arctic, the Mediterranean Sea, and the Black Sea. The report provided a summary of the main human impacts on marine ecosystems and biodiversity, and indicated success stories where previous environmental problems are being dealt with, pointed to remaining problems and potential new problems, and indicated areas that require attention or action.

Comprehensive Atmospheric Monitoring Programme and other aspects of airborne contaminants

180. As the OSPAR Convention recognises, airborne transport of contaminants is as important for many impacts on the sea as their waterborne transport. The sources involved are as diverse as the fumes from factory smoke-stacks and the output of methane from the digestive systems of cows.

181. The Comprehensive Atmospheric Monitoring Programme (CAMP) has been created by setting up a network of atmospheric monitoring stations across the countries that are OSPAR Contracting Parties, monitoring depositions of a range of determinands²³ on a common basis and reporting their observations to a data-management centre – the Norwegian Institute for Air Research (Norske Institutt for Luftforskning – NILU), which acts as a contractor to OSPAR. The CAMP has ensured that we can have an understanding of the airborne components of human contamination of the North East Atlantic.

182. In order to assess the implications of airborne transport of contaminants to the maritime area, in addition to the CAMP monitoring programme, there is a need for further assessments of emissions to air and the spatial distribution of atmospheric depositions in the OSPAR maritime area. Cooperation is being developed between OSPAR and the three centres of the European Monitoring and Evaluation Programme (EMEP), which supports the Convention on the Long-Range Transport of Air Pollution (LRTAP), operating under the aegis of the UN Economic Commission for Europe. This Convention covers not merely the OSPAR states, but also central and eastern Europe and the states of the Commonwealth of Independent States, many of which have a significant role as sources of contaminants entering the North East Atlantic – for example, agriculture in Poland is a source of nutrients carried by the atmosphere to the northern parts of the OSPAR maritime area.

Coordinated Environmental Monitoring Programme

183. Through the three decades of work under, first, the Oslo and Paris Conventions and now the OSPAR Convention, there has been cooperation in monitoring and reporting what is happening in the marine environment of the North East Atlantic. The work of preparing the QSR 2000 showed increasingly that more was needed to build the sort of cooperation upon which improved successors to that assessment could be built. The work was therefore started to set out clearly both the issues on which collaborative monitoring was needed and the standards to which that monitoring was performed.

²³ The determinands are: in precipitation - mandatory: arsenic, cadmium, chromium, copper, lead, mercury, nickel, zinc, ammonium (NH₄⁺), nitrate (NO₃⁻). voluntary: γ -HCH (lindane), specific polycyclic aromatic hydrocarbons (PAHs), specific polychlorinated biphenyls (PCBs). In air - mandatory: NO₂, HNO₃, and NH₃ ammonium (NH₄⁺), nitrate (NO₃⁻). voluntary: cadmium, chromium, copper, lead, mercury, nickel, zinc, NO, γ -HCH (lindane), specific polycyclic aromatic hydrocarbons (PAHs), specific polychlorinated biphenyls (PCBs).

184. This resulted in 1999 in the adoption of the Coordinated Environmental Monitoring Programme. This specifies the crucial set of parameters²⁴ for which monitoring is needed, and – even more importantly – gained the commitment of all coastal OSPAR states to carrying out this monitoring of the parameters identified as mandatory in accordance with the agreed guidance developed by OSPAR, unless they presented to OSPAR a detailed justification why such monitoring was not needed. The International Council for the Exploration of the Sea acts as contractor to OSPAR in handling the data thus generated, which is adding significantly to our knowledge base about the North East Atlantic.

Comprehensive Study of Riverine and Direct Inputs

185. Many coastal OSPAR states have a long tradition of measuring the inputs of their rivers to the sea. The oldest runs of statistics of this kind are concerned with the quantity of the riverine inputs, but time-series for water quality for some rivers and for some determinands go back at least to the 1920s. As pollution issues became recognised for the problem that they are, more detailed and comprehensive measurements of the contaminant load of riverine inputs to the sea were developed. Measurements of the contaminant load of direct inputs (mainly through coastal pipelines) were also developed, largely as a result of the impulse given to the regulation of such inputs by the commitments under the Paris Convention.

186. The Comprehensive Study of Riverine Inputs and Direct Discharges (RID) provides a means of bringing together the data of this kind collected by OSPAR coastal states.²⁵ The coverage of inputs varies considerably from area to area, and cannot yet be considered as fully satisfactory. The methods of measurement also differ from country to country, which can make inter-comparison difficult. Nevertheless, progress is being made to extend the coverage – for example, Denmark has recently committed itself to the monitoring of riverine and direct inputs of certain hazardous substances, and France has widened the area over which it monitors and reports inputs.

187. This set of data is likely to be further developed as the requirements of the EC Water Framework Directive for the monitoring of the chemical and ecological quality status of estuarial (transitional) and coastal waters take effect.

Harmonised Reporting

188. The internal requirements of states for environmental monitoring naturally varies according to the way in which they have decided to structure their environmental regulation systems. This makes it difficult to compare statistics for different countries. This problem became especially clear in the development of the Progress Report for the Fourth North Sea Conference (4NSC) in 1995 on the fulfilment of the commitments of the Second and Third North Sea Conferences to 50% reductions in inputs of certain hazardous substances and nutrients.

189. As a result, the 4NSC invited OSPAR to consider how reporting of such inputs could be harmonised. Two OSPAR programmes on the development of harmonised reporting were developed under the leadership of Norway – for nutrients (HARP-NUT) and for hazardous substances (HARP-HAZ). As a result of this work, OSPAR has been able to develop agreed guidelines, which are now undergoing extensive testing. The results were used in the Progress Report for the 5NSC in 2002, and are proving useful as a basis for developing methods to respond to the requirements of the EC Water Framework Directive.

²⁴ The determinands are cadmium, mercury, lead, polycyclic aromatic hydrocarbons (PAHs), polychlorinated biphenyls (PCBs), nutrients (nitrogen and phosphorus in various forms, together with silicon in problem areas and potential problem areas); phytoplankton chlorophyll and species composition; macrophytes, oxygen and benthic communities; and tributyl tin and its biological effects.

²⁵ The determinands are: mandatory - mercury, nitrate, cadmium, orthophosphates, copper, total nitrogen, zinc, total phosphorus, lead, suspended particulate matter, γ -HCH (lindane), salinity, ammonia; voluntary - specific polycyclic aromatic hydrocarbons (PAHs), mineral oil, specific polychlorinated biphenyls (PCBs), other hazardous substances (particularly organohalogen compounds).

Joint Assessment

190. Work on assessing the effects of contaminants has tended, in the past, to focus on single causal links – seeing what effects can be attributed to a specific contaminant. This has had some striking successes – for example, the link established between the elimination of the dogwhelk (*Nucella lapillus*) in some areas and the use of tributyl tin anti-fouling treatments on vessels. OSPAR has recognised the need to move towards integrated assessments, through which the links are considered between a wider range of causes and their effects. To this end, the Assessment and Monitoring Committee has undertaken, on a pilot scale, joint assessments of inputs and concentrations in the marine environment. The issues that have been addressed have been focused on nutrients and hazardous substances. Results so far have indicated that, in some cases, the correlations that could be expected are not found, and that the supplementary information required to provide an explanation is not always available. This highlights the need to take into account all the factors that can affect the area of study and the results of the monitoring and, to this end, to ensure that monitoring programmes are designed and undertaken as a holistic exercise.

Quality Assurance

191. When a large number of different institutions are contributing to the information base that will be used for making assessment of the quality status of the marine environment, it is essential that great emphasis is placed on ensuring the quality of the information contributed. With the assistance of the International Council for the Exploration of the Sea and the European Community, and in cooperation with the laboratory performance schemes QUASIMEME and BEQUALM, OSPAR has therefore established quality assurance programmes in this field to guarantee, as far as possible, that the conclusions reached are not undermined by doubts about the quality of the data on which they rest.

Revision of the Joint Assessment and Monitoring Programme

192. With the adoption of the five thematic strategies on biodiversity protection, eutrophication, hazardous substances, the offshore industry and radioactive substances, it became clear that a new focus for further monitoring and assessment work was needed. As well as developing an overall view of the quality status of the marine environment of the maritime area, it was necessary to be able to reach conclusions both about how far the strategies were being implemented, and about how successful they are being in addressing the problems at which they are aimed.

193. With the completion of the QSR 2000, it therefore became necessary to redesign the Joint Assessment and Monitoring Programme, and to establish its strategy. A revised Joint Assessment and Monitoring Programme was therefore drafted, which has been examined in detail by all the main OSPAR Committees twice, with inputs from the International Council for the Exploration of the Sea. This specifies for each of six themes what products will be produced, and the timetables for their production. It is supported by an implementation plan, which details for each product its purpose, content and the method by which it will be produced. The main end-point for this version of the programme is a further comprehensive Quality Status Report in 2010. The new Joint Assessment and Monitoring Programme contains provisions for its own updating and for its adjustment to fit in with the development of a European Marine Strategy.

Overall Evaluation of Monitoring and Assessment Work

194. Scientific knowledge of the seas is the indispensable basis for all marine management. The OSPAR Convention rightly requires the Contracting Parties, amongst other things, to “cooperate in carrying out monitoring programmes”, to develop quality assurance methods, and assessment tools and to “carry out...research which is considered necessary...to increase knowledge and understanding of the marine environment”, “take into account scientific progress which is considered to be useful for...[such]...assessment purposes and which has been made elsewhere”, and imposes on the OSPAR Commission duties to “define and implement collaborative monitoring programmes”, to “approve the presentation and interpretation of their results” and to “carry out [quality status] assessments”, including in such assessments “both an evaluation of the effectiveness of the measures taken and planned for the protection of the marine environment and the identification of priorities for action”.

195. A holistic approach to monitoring and assessment is essential, because it offers a reliable means of integrating all the various strands of policy. There is always a risk that policies, no

matter how well thought-out, will miss some vital development, which will undermine the health of the environment. This is particularly important with the marine environment, which is of such significance for the well-being of the planet, but which is not easy to observe and does not undergo the same daily scrutiny by everyone as the land. Holistic assessments can address this problem by ensuring that **all** aspects are covered and any effects that have slipped through the net of the applicable policies are brought to the attention of those concerned.

196. Without a sound scientific basis for policy-making, the process is reduced to mere speculation. The benefit of the monitoring and assessment programmes is to ensure that this basis is available and to show the value delivered by the programmes for the protection and conservation of the marine environment. Such programmes are also vital for identifying the value to society of the marine environment, which is one of the less obvious aspects of the total world environment. The OSPAR monitoring and assessment programmes can be judged to play an essential, integrative role in underpinning the overall work under the OSPAR Convention.

chapter 8

Organisation

Contracting Parties

197. The Contracting Parties to the OSPAR Convention, and thus under article 10(1) the members of the OSPAR Commission, are: the Kingdom of Belgium, the Kingdom of Denmark, the European Community (represented by the European Commission), the Republic of Finland, the French Republic, the Federal Republic of Germany, the Republic of Iceland, Ireland, the Grand Duchy of Luxembourg, the Kingdom of the Netherlands, the Kingdom of Norway, the Portuguese Republic, the Kingdom of Spain, the Kingdom of Sweden, the Swiss Confederation and the United Kingdom of Great Britain and Northern Ireland.

Observers

198. Under article 11, the OSPAR Commission may, by unanimous vote of the Contracting Parties, admit as an observer any State which is not a Contracting Party to the Convention and any international governmental or non-governmental organisations, the activities of which are related to the Convention. Such observers are entitled to participate in meetings of the Commission, its main committees and its working groups.

199. The following international governmental organisations have been admitted as observers: the Arctic Monitoring and Assessment Programme (AMAP); the Agreement on the Conservation of Small Cetaceans of the Baltic and North Seas (ASCOBANS); the Baltic Marine Environment Protection Commission (the Helsinki Commission - HELCOM); the Barcelona Convention for the protection of the Marine Environment of the Mediterranean Sea; the Common Wadden Sea Secretariat (CWSS); the Cooperative Programme for Monitoring and Evaluation of Long-Range Transmission of Air Pollutants in Europe (EMEP); the European Environment Agency (EEA); the Intergovernmental Oceanographic Commission (IOC); the International Commission for the Protection of the Rhine against Pollution; the International Council for the Exploration of the Sea (ICES); the International Atomic Energy Agency (IAEA); the International Maritime Organization (IMO); the Organisation for Economic Cooperation and Development (OECD); the United Nations Environment Programme (UNEP). OSPAR 2003 granted intergovernmental observer status to the North Atlantic Marine Mammal Commission (NAMMCO) and the North-East Atlantic Fisheries Commission (NEAFC).

200. Arrangements are being made for the Agreement for Cooperation in Dealing with the Pollution of the North Sea by Oil and Other Harmful Substances (the Bonn Agreement) and the OSPAR Commission to become formally observers at each other's meetings. Since the two organisations share a common secretariat, there has always been close cooperation.

201. The OSPAR Commission has decided to admit some international non-governmental organisations as general observers (who are entitled to participate in all aspects of the Commission's work which are not concerned with internal management or finance) and others as specialist observers who participate only in those aspects which are of concern to them. The general observers are: Bird Life International; the Conseil Européen des Fédérations de l'Industrie Chimique (CEFIC); Friends of the Earth; Greenpeace International; the International Association of Oil and Gas Producers (OGP) together with the Oil Companies' European Organisation for Environmental and Health Protection (CONCAWE); Kommunenes Internasjonale Miljøorganisasjon (Local authorities' international environmental organisation – KIMO); Seas at Risk; the Union of Industrial and Employers' Confederations of Europe (UNICE); and the World Wide Fund for Nature (WWF). OSPAR 2003 granted general non-governmental observer status to the Conference of Peripheral Maritime Regions of Europe (CPMR).

202. The specialist non-governmental observers are: the Advisory Committee on the Protection of the Sea (ACOPS); the Central Dredging Association (CEDA); the Confederation of European Paper Industries (CEPI); EuroChlor Federation; the European Apparel and Textile Organisation (EURATEX); the European Crop Protection Association (ECPA); the European Federation of Pharmaceutical Industries and Associations (EFPIA); the European Fertiliser Manufacturers Association (EFMA); the European Oilfield Speciality Chemicals Association (EOSCA); the European Soap and Detergent Industry (AISE); EUROPECHE (the Association of National Fisheries Organisations); the European Union of National Associations of Water Suppliers and Waste Water Services (EUREAU); the International Association of Ports and

Harbours (IAPH); the International Navigation Association (PIANC); the Union of the Electricity Industry (EURELECTRIC); the Union européenne des producteurs de granulats (UEPG); and the World Nuclear Association.

Working Structure

203. The working structure is specified in the Rules of Procedure. Under article 10(4), these require the unanimous approval of the Contracting Parties. Following the adoption of the OSPAR Strategies, the working structure has been revised to give a single subordinate body prime responsibility for each of the main themes of the Commission's work.

204. The OSPAR Commission meets regularly – at the level of officials – once every year, usually in late June. Following a reorganisation in 1999/2000, it is supported by six main committees: the Environmental Assessment and Monitoring Committee (ASMO); the Biodiversity Committee (BDC); the Eutrophication Committee (EUC); the Hazardous Substances Committee (HSC); the Offshore Industry Committee (OIC); and the Radioactive Substances Committee (RSC). Each of these usually meets once in each year's cycle of meetings, and is supported as necessary by working groups which prepare specific issues.

205. In addition, there are three other regular subordinate bodies. The Meeting of Heads of Delegations to the Commission consists of the heads of the Contracting Parties' delegations to the Commission and, where appropriate, their advisers. It meets usually twice a year to prepare issues for the Commission's meeting, to consider the implementation of the Commission's decisions and to advise on management and financial issues. The Committee of Chairmen and Vice-Chairmen consists of the Chairman of the Commission, the two Vice-Chairmen of the Commission and two of the Chairmen of the main committees selected by the Commission (currently the Chairmen of the Environmental Assessment and Monitoring Committee and the Hazardous Substances Committee). It meets as necessary to advise the Chairman and the Executive Secretary on their functions. The Group of Jurists and Linguists meets usually once a year to review the drafting of formal Commission instruments and to advise on legal questions.

Officers

206. The Chairman of the Commission is elected by consensus by the Commission. He or she serves for a two-year term, which may (in exceptional circumstances) be renewed once. He or she is assisted by two Vice-Chairmen, who serve for the same periods. The current Chairman is Mr Bob Dekker (Netherlands). The current Vice-Chairmen are Ms Lindis Nerbø (Norway) and Mr Victor Escobar (Spain). They were re-elected in June 2002. The Chairman presides over the meetings of the Commission, the Meeting of the Heads of Delegation to the Commission, the Committee of Chairmen and Vice-Chairmen and (unless he or she appoints someone else to do so) the Group of Jurists and Linguists. He or she is also authorised to take any initiatives which will promote the work of the Commission.

207. The chief executive officer of the Commission is the Executive Secretary, who is appointed by the Commission, by consensus, for a term of three years, which is renewable once only. He or she is assisted by four Deputy Secretaries, who are appointed on the same basis. The Secretariat also contains seven Assistants. During 2002/03, the Executive Secretary was Mr Alan Simcock (United Kingdom). The Deputy Secretaries were Ms Amparo Agraït (Spain), Mr Reinier Goud (Netherlands), Dr Dornford Rugg (United Kingdom), and Dr Suzanne Wiandt (Germany). The Assistants were: Ms Sylvie Ashe, Ms Paula Creedon, Ms Hélène Hughes, Ms Corinne Michel, Ms Barbara Middleton, Ms Lise Rossi and Ms Kati Rowson.

Finance

208. The Commission is financed by the Contracting Parties. The Commission's financial year is the calendar year. After a contribution from the United Kingdom of 80% of the rent of the Secretariat's offices, contributions to the General Budget are apportioned between Contracting Parties as follows:

a. Tranche 1:

five-sixths of the amount to be contributed, or basic budget, is divided first in equal contributions of 2,5% by all Contracting Parties, and then, for all Contracting Parties except the European Community, according to the UN Scale of Assessment (which is based on GNP), subject to a maximum share of 22% of Tranche 1;

b. Tranche 2:

the remaining sixth, North Sea budget, is divided equally between the 8 North Sea riparian States.

Since the Secretariat is based in London, the General Budget is denominated in pounds sterling. In addition to the General Budget, there is regularly a Special Budget for the work done by the International Council for the Exploration of the Sea (ICES) (denominated in Danish kroner, since ICES is based in Copenhagen), and there can be other special budgets. The apportionment of contributions to a special budget is determined according to its purpose.

209. In 2002, the total expenditure was £851 956, and in 2003 the General Budget was £936 910. The General Budget approved for 2004 is £940 420. An outline of the income and expenditure for these three years is given in Appendix 11. The ICES Special Budget was DKK 986 390 for 2002 and DKK 1 035 389 for 2003, and is DKK 1 035 389 for 2004.

210. The accounts of the OSPAR Commission are audited by the National Audit Office of the United Kingdom. All statements of accounts of the OSPAR Commission have been certified as presenting fairly the state of affairs of the OSPAR Commission and as having been properly prepared in accordance with the Financial Regulations of the Commission. The audit certificates have also stated that, in all material respects, the income and expenditure have been applied to the purposes intended by the Commission and that the financial transactions conform to the authorities which govern them. No observations have been made by the auditor.

Appendix 1

Development of OSPAR

1. The OSPAR Commission ("OSPAR") is the means by which the countries of the North-East Atlantic cooperate in protecting their seas. It was created by the Convention for the Protection of the Marine Environment of the North-East Atlantic, which was opened for signature in Paris on 22 September 1992, and entered into force on 25 March 1998.

The origins of the Commission

2. OSPAR is the latest stage in developments which began in the late 1960s.

The Oslo Convention

3. In 1967, the oil tanker Torrey Canyon ran aground on the Seven Stones reef to the south-west of England. This led to the release of 117 000 tonnes of oil into the sea, with disastrous consequences for the environment. These events proved to be a pivotal point for international cooperation to combat marine pollution in the North-East Atlantic. It ultimately stimulated the signature, in 1969, of the Agreement for Cooperation in Dealing with Pollution of the North Sea by Oil (the "Bonn Agreement").

4. At the same time, concern about the effects of chemicals on the environment was leading to stricter controls over chemical waste. One reaction was the rapid growth in the dumping of such waste at sea. In 1968 the International Council for the Exploration of the Sea (ICES) drew attention to the vast quantities of waste which were being disposed of in this way.

5. Several initiatives by Governments resulted. The Nordic States met in January 1971, and agreed both to adopt bans on dumping toxic and persistent substances from their own ships, and to set up an international conference to consider an international agreement on the subject. The German Government was considering a similar initiative. Preparations were in hand for the 1972 United Nations Stockholm Conference on the Human Environment, and a meeting was organised in London in June 1971 to prepare material for that conference on the issue of dumping at sea.

6. Events then precipitated international action. A Dutch ship, the Stella Maris, sailed from the port of Rotterdam on 16 July 1971 to dump 650 tonnes of chlorinated chemical waste in the North Sea. The combined weight of public opinion and the views of the Governments of many North-East Atlantic countries obliged her to return to port on 25 July without carrying out the planned dumping. While this was happening, a meeting between Belgium, France, the Federal Republic of Germany, the Netherlands and the United Kingdom started on 23 July 1971 in Paris, as a result of the London meeting in June 1971, to develop a common position on the issue of dumping. The coincidence of the events led to agreement to develop international rules to control dumping at sea. In cooperation with the Nordic States, the Oslo Convention was negotiated and signed on 15 February 1972 - within eight months of these events. It entered into force on 6 April 1974.

The Paris Convention

7. In June 1972, the UN Stockholm Conference on the Human Environment adopted a declaration setting out the Stockholm Principles. Principle 7 states that "States shall take all possible steps to prevent pollution of the seas by substances that are liable to create hazards to human health, to harm living resources and marine life, to damage amenities or to interfere with other legitimate uses of the sea."

8. To give effect to this principle for the North-East Atlantic, the French Government organised a diplomatic conference in Paris in December 1972. There was ready agreement to draw up an international agreement dealing with the prevention of marine pollution by discharges of dangerous substances from land-based sources, watercourses or pipelines, but the details proved more complex to resolve than those of the Oslo Convention. Nevertheless, by June 1974, all the details had been resolved and the Paris Convention for the Prevention of Marine Pollution from Land-Based Sources was opened for signature. It entered into force on 6 May 1978.

The Oslo and Paris Commissions

9. The Oslo Commission was established to administer the Oslo Convention. Initially, the Commission's task was to regulate and control the dumping at sea of industrial wastes, sewage sludge and dredged material and the incineration at sea of liquid industrial wastes. The dumping of industrial wastes and sewage sludge and incineration at sea have now been phased out.

10. The Paris Commission was established to administer the Paris Convention. The Commission regulated and controlled inputs of substances and energy to the sea from land-based sources (via the atmosphere, rivers, or direct discharges) and also from offshore installations. The Commission was involved in a thorough review of the use and manufacture of various substances in order to establish the best environmental practice or best available techniques to prevent pollution. It also embarked on a series of measures to protect parts of the Convention area adversely affected by nutrient enrichment ("eutrophication"), which has been linked to accelerated growth of algae, blooms of toxic algae and oxygen depletion with consequent deaths of benthic organisms and fish. From the start, the Oslo Commission and the Paris Commission worked together, and set up a common secretariat, based in London.

The OSPAR Convention

11. With the approach of the twentieth anniversary of the Oslo Convention, there was general agreement that the Oslo and Paris Conventions needed to be updated, to take account of the developments in thinking about the protection of the marine environment. Accordingly, a review was put in hand to update and consolidate the Conventions.

12. This review culminated in a meeting of the Oslo and Paris Commissions at Ministerial level in Paris on 21-22 September 1992. This meeting was attended by Ministers responsible for the marine environment in the 14 States which were Contracting Parties or signatories to one or both of the Oslo and Paris Conventions, by Switzerland and by the relevant member of the Commission of the European Communities. The most important outcome of this Ministerial meeting was the adoption of a new Convention for the Protection of the Marine Environment of the North-East Atlantic (the "OSPAR Convention"), together with a Final Declaration and an Action Plan to guide the future work of the Commissions.

13. The main themes of the new Convention are set out in its recitals: the importance of the marine environment, the need for international cooperation to protect it, the developments in international law that led to Part XII (Protection and Preservation of the Marine Environment) of the UN Convention on the Law of the Sea, the need for more stringent measures in a regional context than are provided in conventions with a global scope, the consequent need for a new convention which addresses all sources of pollution of the marine environment and the adverse effects of human activities upon it.

14. The new Convention, amongst other things:

- a. sets out a general obligation, in accordance with the detailed provisions of the Convention, to take all possible steps to prevent and eliminate pollution, to take the necessary measures to protect the North-East Atlantic against the adverse effects of human activities so as to safeguard human health and conserve marine ecosystems and, when practicable, to restore marine areas which have been adversely affected;
- b. requires the application of:
 - i. the precautionary principle;
 - ii. the polluter pays principle;
 - iii. best available techniques (BAT) and best environmental practice (BEP), including clean technology;
- c. provides for the Commission established by the OSPAR Convention to adopt binding decisions;
- d. provides for the participation of observers, including non-governmental organisations, in the work of the Commission;
- e. establishes rights of access to information about the maritime area of the Convention; and
- f. establishes the OSPAR Commission, as successor to the Oslo and Paris Commissions, to administer the Convention and to develop policy and international

agreements in this field; the Commission is supported by an international secretariat based in London.

15. The most significant development in the new Convention was the scope it provided for new initiatives. The four annexes to the Convention cover the achievements under the Oslo and Paris Conventions:

- a. Annex I: Prevention and elimination of pollution from land-based sources;
- b. Annex II: Prevention and elimination of pollution by dumping or incineration;
- c. Annex III: Prevention and elimination of pollution from offshore sources; and
- d. Annex IV: Assessment of the quality of the marine environment.

New annexes and appendices can, however, be adopted to address problems in new fields. Nevertheless, the OSPAR Convention makes clear that questions related to the management of fisheries are appropriately regulated under international and regional agreements dealing specifically with such questions, and not under the OSPAR Convention.

16. Although the OSPAR Convention did not finally enter into force until early 1998, for all practical purposes, the Oslo and Paris Commissions have worked as one entity since 1992.

The Sintra Ministerial Meeting

17. To mark the entry into force on 25 March 1998 of the new Convention, a Ministerial Meeting of the OSPAR Commission was held in Sintra, Portugal, in July 1998. This meeting adopted a new Annex V to the OSPAR Convention, on the protection and conservation of the ecosystems and biological diversity of the maritime area.

18. Subject to special provisions to maintain the principle that the Convention does not deal with questions relating to the management of fisheries and to deal with the special features of maritime transport, this annex extends the competence of OSPAR to adopt programmes and measures to protect and conserve the ecosystems and biological diversity of the maritime area, to restore, where practicable, marine areas which have been adversely affected and to control relevant human activities.

19. In addition, the Sintra Ministerial Meeting adopted long-term strategies to guide the work of OSPAR. These are:

- a. the OSPAR Strategy on the protection and conservation of ecosystems and biological diversity of the maritime area;
- b. the OSPAR Strategy with regard to hazardous substances;
- c. the OSPAR Strategy with regard to radioactive substances;
- d. the OSPAR Strategy to combat eutrophication.

In 1999, in fulfilment of a commitment made at the Sintra meeting, the Commission further adopted:

- e. the OSPAR Strategy on Environmental Goals and Management Mechanisms for Offshore Activities.

Appendix 2

OSPAR Achievements 1998-2003

The OSPAR Commission is the means through which fifteen European Governments and the European Community work together to protect the marine environment of the North East Atlantic. Since 1998, within the five strategies and the joint programme for monitoring and assessment, we have achieved the following:

Overall Quality Status of the North East Atlantic

- Detailed assessment of the North East Atlantic in the Quality Status Report 2000 (QSR 2000), which shows that the overall ecological quality has improved and is improving – and which has identified the areas where this is not the case and more work is needed.

Biodiversity and Ecosystems

- Entry into force in August 2000 of the 1998 Annex V to the OSPAR Convention, which extended the Commission's powers, so that it can adopt programmes and measures to protect biodiversity and ecosystems by regulating non-polluting human activities²⁶.
- Representations to the international bodies and national authorities responsible for fisheries management about serious environmental impacts from fisheries in the maritime area.
- The OSPAR List of Threatened and/or Declining Species and Habitats, and the Texel/Faial Criteria for their identification, as a basis for setting priorities for those programmes and measures.
- Assessments or Background Documents on miscellaneous offshore structures and installations, offshore wind-energy farms, sand and gravel extraction and tourism, to establish priorities for action in these fields.
- Agreements or guidelines on the approaches to authorising offshore wind-energy farms and sand and gravel extraction.
- A Recommendation on the creation of an ecologically coherent network of well-managed marine protected areas.
- A Recommendation on reporting encounters with munitions and chemical weapons dumped at sea.

Eutrophication

- An integrated report on the eutrophication status of the maritime area, based upon the first application of an agreed comprehensive assessment procedure, as a basis for setting priorities for further action.

Hazardous Substances

- The OSPAR List of Substances of Possible Concern, as a basis for identifying the hazardous substances to be addressed. This is based on a review of the whole range of potentially hazardous substances for which data is available.
- Revision of the OSPAR List of Chemicals for Priority Action, based upon the agreed dynamic mechanism for selection and prioritisation, as a basis for determining action.

²⁶ Subject to certain qualifications in the fields of fisheries management and maritime transport.

- Agreed Background Documents on twenty-one priority chemicals²⁷, setting out the reasons for concern about them, the identification and quantification of their sources and pathways to the marine environment, measures already being taken on them, and the options for further action.
- Recommendations on the best environmental practices for the reduction of inputs of agricultural pesticides to the environment through the use of integrated crop management techniques and for the use of pesticides on amenity areas.
- Recommendations on discharge and emission limits values for emulsion-PVC from vinyl chloride monomer, and on the best available techniques for the manufacture of suspension-PVC.
- A Recommendation on discharge limit values for existing aluminium electrolysis plants, to complement the earlier recommendation on emission limits for such plants.
- A Recommendation controlling the dispersal of mercury from crematoria.

Offshore Oil and Gas Industry

- A Decision on the use of organic-phase drilling fluids and the discharge of cuttings contaminated by such fluids, which complements the control on oil-based drilling fluids adopted in 1992, to give a comprehensive control of potentially hazardous drilling fluids.
- A Decision on a harmonised mandatory control system for the use and reduction of the discharge of offshore chemicals, associated with Recommendations on a harmonised pre-screening scheme for offshore chemicals and on a harmonised offshore chemical notification format. Together these provide a comprehensive approach to the control of chemicals in the offshore oil and gas industries.
- A Recommendation for the management of produced water from offshore installations, which is focused on achieving a 15% reduction in discharges of the amount of oil in produced water by 2006, in spite of substantial increases in the amount of produced water as North Sea oil-fields age.
- A Recommendation on environmental management systems.

Radioactive Substances²⁸

- A programme for the more detailed implementation of the Radioactive Substances Strategy.
- National plans for the implementation of the Radioactive Substances Strategy, in accordance with that programme, showing in detail how the reductions to which commitments were made will be achieved.
- A review of national reports on the application of best available techniques in managing radioactive discharges from all nuclear industries, including research reactors and reprocessing plants, into the marine environment. This review found indications that best available techniques were applied by all Contracting Parties.

²⁷ Brominated flame retardants; cadmium; dicofol; dioxins (PCDD and PCDF); endosulphan; 4-*tert*-butyltoluene; hexachlorocyclohexane (lindane); lead and organic lead compounds; mercury and organic mercury compounds; methoxychlor; musk xylene; nonylphenol and nonylphenol ethoxylates; octylphenol; organic tin compounds; pentachlorophenol and its compounds; polychlorinated biphenyls; polycyclic aromatic hydrocarbons; short-chained chlorinated paraffins; 2,4,6-tri-*tert*-butylphenol; trichlorobenzenes; triphenylphosphine.

²⁸ In addition, Decisions were adopted by majority votes on substantial reductions and elimination of discharges, emissions and losses of radioactive substances, with special emphasis on nuclear reprocessing, and on the review of authorisations for discharges or releases of radioactive substances from nuclear reprocessing activities, but these were not accepted by the only two Contracting Parties with operational nuclear reprocessing plants.

Assessment and Monitoring

- The QSR 2000, with its five supporting regional reports (on the Arctic Seas, the Greater North Sea, the Celtic Seas, the Bay of Biscay and the Iberian Coast, and the Wider Atlantic), setting out a comprehensive assessment of the quality of marine environment across the whole North East Atlantic, together with a review of the effectiveness of OSPAR measures and identification of priorities for action.
- Regular annual monitoring reports on dumping of waste at sea, riverine and direct inputs of hazardous substances and nutrients to the North East Atlantic, atmospheric monitoring, mercury losses from the chlor-alkali industry, discharges, waste handling and air emissions from offshore installations and liquid discharges from nuclear installations.
- Regular data on a wide range of chemical, physical and biological aspects of the sea.
- A series of reports on the implementation of programmes and measures.
- A revised Joint Assessment and Monitoring Programme, focused on assessing the progress in implementing the strategies over the decade 2000 – 2010.

Appendix 3

Initial OSPAR List of Threatened and/or Declining Species and Habitats (2003)

(Reference Number: 2003-14)

Introduction

1. Paragraph 2.2 of the OSPAR Strategy on the Protection and Conservation of the Ecosystems and Biological Diversity of the Maritime Area provides that the OSPAR Commission will assess which species and habitats need to be protected. This work is to guide the setting of priorities by the OSPAR Commission for its activities in implementing Annex V to the Convention ("On the Protection and Conservation of the Ecosystems and Biological Diversity of the Maritime Area").

2. The strategy further provides that the OSPAR Commission shall undertake the following actions to provide the basis for that assessment:

- a. development of criteria for the selection of such species, habitats and ecological processes (the Texel/Faial Criteria for the identification of species and habitats in need of protection have been adopted by OSPAR 2003 for this purpose);
- b. to the extent necessary, compilation of lists of species and habitats, including the development of lists of threatened or declining species and threatened habitats, based upon:
 - (i) the criteria developed under subparagraph (a) above;
 - (ii) inventories of species and habitats in the maritime area;
 - (iii) relevant lists developed by other international forums.

3. This initial list of threatened and/or declining species and habitats has been developed to fulfil these commitments. It is based upon nominations by Contracting Parties and observers to the Commission of species and habitats that they considered to be priorities for protection. The evidence in support of those nominations has been collectively examined by the OSPAR Commission and its subordinate bodies, with the assistance of an OSPAR workshop hosted by the Netherlands in Leiden in September 2001. The data used has been reviewed by the International Council for the Exploration of the Sea (ICES), in order to give assurance that its quality is suitable for the purpose for which it has been used²⁹. The information used has been compiled into a justification report, which is being published separately.

4. The purpose of the list is to guide the OSPAR Commission in setting priorities for its further work on the conservation and protection of marine biodiversity. The inclusion of a species or of a type of habitat on this list has no other significance.

5. Fish species affected by fishing in this initial list are marked with an asterisk (*). These species are subject to management by an international or national fisheries authority or body. The OSPAR Commission has no competence to adopt programmes or measures on questions relating to the management of fisheries. Where the OSPAR Commission considers that action is desirable in relation to such a question, it is to draw that question to the attention of the authority or international body competent for that question. The inclusion of species affected by fishing in this list must be read in this context.

6. In order to avoid duplication of work, other international agreements (in particular, EC Directives (including the Council Directive 92/43/EEC on the conservation of natural habitats and wild flora and fauna and the Council Directive 79/409/EEC on the conservation of birds) and measures under the Berne Convention, the Bonn Convention (including its regional agreements) and the Ramsar Convention, amongst other relevant instruments) should also be taken into account by Contracting Parties to the extent that they are bound by them or committed to them.

²⁹ The assessments of that data by the OSPAR Commission and by ICES differ in respect of *Polysticta stelleri*, *Puffinus assimilis baroli*, *Thunnus thynnus* and Oceanic ridges with hydrothermal vents/fields. The justification for the OSPAR assessment of these species and habitats is set out in the justification report.

7. The OSPAR Biodiversity and Ecosystems Strategy makes clear that it may be necessary to consider separate populations of species for the purposes of the strategy on the same basis as whole species. This list therefore specifies certain populations of species where separate treatment is justified, because the different populations are subject to differing pressures. Where this is done, there is no implication that other populations of the same species may be threatened and/or declining.

8. The OSPAR Commission wishes to consider any information that could improve the basis for the judgements that have been made in drawing up this list.

9. This initial OSPAR List of Threatened and/or Declining Species and Habitats will be subject to further development. Species and habitats will be added to or removed from the list, in the light of changes to their conservation status and to the threats they face and in the light of the latest scientific assessments, according to the Texel/Faial criteria.

10. The footnotes form an integral part of the list.

PART I : SPECIES

SCIENTIFIC NAME	Common name		OSPAR Regions ³⁰ where the species occurs	OSPAR Regions ³⁰ where the species is under threat and/or in decline
	English	French		
INVERTEBRATES				
<i>Arctica islandica</i> (Linnæus, 1767)	Ocean quahog	<i>praire d'Islande</i>	I, II, III, IV	II
<i>Megabalanus azoricus</i> (Pilsbry, 1916)	Azorean barnacle	<i>balane des Azores</i>	V	All where it occurs
<i>Nucella lapillus</i> (Linnæus, 1758)	Dog whelk	<i>pourpre</i>	All	II, III, IV
<i>Ostrea edulis</i> (Linnæus, 1758)	Flat oyster	<i>huître plate</i>	I, II, III, IV	II
<i>Patella ulyssiponensis aspera</i> (Röding, 1798)	Azorean limpet	<i>patelle des Azores</i>	V	All where it occurs
BIRDS				
<i>Larus fuscus fuscus</i> (Linnæus, 1758)	Lesser black-backed gull	<i>goéland brun</i>	I	All where it occurs
<i>Polysticta stelleri</i> (Pallas, 1769)	Steller's eider	<i>eider de Steller</i>	I	All where it occurs

³⁰ The OSPAR Regions are:

- I - **the Arctic:** the OSPAR maritime area north of latitude 62°N, but also including Iceland and the Færoes;
- II - **the Greater North Sea:** the North Sea, the English Channel, the Skagerrak and the Kattegat to the limits of the OSPAR maritime area, bounded on the north by latitude 62°N, on the west by longitude 5°W and the east coast of Great Britain, and on the south by latitude 48°N;
- III - **the Celtic Seas:** the area bounded by, on the east, longitude 5°W and the west coast of Great Britain and on the west by the 200 metre isobath (depth contour) to the west of 6°W along the west coasts of Scotland and Ireland;
- IV - **the Bay of Biscay/Golfe de Gascogne and Iberian coasts:** the area south of latitude 48°N, east of 11°W and north of latitude 36°N (the southern boundary of the OSPAR maritime area);
- V - **the Wider Atlantic:** the remainder of the OSPAR maritime area.

<i>Puffinus assimilis baroli</i> (auct.incert.)	Little shearwater	<i>puffin obscur</i>	V	All where it occurs
<i>Sterna dougallii</i> (Montagu, 1813)	Roseate tern	<i>sterne de dougall</i>	II, III, IV, V	All where it occurs
<i>Uria aalge</i> (Pontoppidan, 1763) – Iberian population (synonyms: <i>Uria aalge albionis</i> , <i>Uria aalge ibericus</i>)	Iberian guillemot	<i>guillemot marmette</i>	IV	All where it occurs
FISH				
* <i>Acipenser sturio</i> (Linnæus, 1758)*	Sturgeon	<i>esturgeon commun</i>	II, IV	All where it occurs
* <i>Alosa alosa</i> (Linnæus, 1758)	Allis shad	<i>alose vraie</i>	II, III, IV	All where it occurs
* <i>Cetorhinus maximus</i> (Gunnerus, 1763)	Basking shark	<i>requin pèlerin</i>	All	All where it occurs
<i>Coregonus lavaretus oxyrinchus</i> (Linnæus, 1758)	Houting	<i>corégone oxyringue</i>	II	All where it occurs
* <i>Dipturus batis</i> (Linnæus, 1758) (synonym: <i>Raja batis</i>)	Common Skate	<i>pocheteau gris</i>	All	All where it occurs
* <i>Raja montagui</i> (Fowler, 1910) (synonym: <i>Dipturus montagui</i>)	Spotted Ray	<i>raie douce</i>	II, III, IV, V	All where it occurs
* <i>Gadus morhua</i> (Linnæus, 1758) – populations in the OSPAR regions II and III ³¹	Cod	<i>Cabillaud (morue)</i>	All	II, III
* <i>Hoplostethus atlanticus</i> (Collett, 1889)	Orange roughy	<i>hoplostète orange</i>	I, V	All where it occurs
<i>Petromyzon marinus</i> (Linnæus, 1758)	Sea lamprey	<i>lamproie marine</i>	I, II, III, IV	All where it occurs
* <i>Salmo salar</i> (Linnæus, 1758)	Salmon	<i>saumon de l'Atlantique</i>	I, II, III, IV	All where it occurs ³²
* <i>Thunnus thynnus</i> (Linnæus, 1758)	Bluefin tuna	<i>thon rouge</i>	V	All where it occurs ³³
REPTILES				
<i>Caretta caretta</i> (Linnæus, 1758)	Loggerhead turtle	<i>caouanne</i>	IV, V	All where it occurs
<i>Dermodochelys coriacea</i> (Vandelli, 1761)	Leatherback turtle	<i>tortue luth</i>	All	All where it occurs
MAMMALS				
<i>Balaena mysticetus</i> (Linnæus, 1758)	Bowhead whale	<i>baleine franche boréale</i>	I	All where it occurs
<i>Balaenoptera musculus</i> (Linnæus, 1758)	Blue whale	<i>baleine bleue</i>	All	All where it occurs

³¹ That is, the populations/stocks referred to in ICES advice as the North Sea and Skagerrak cod stock, Kattegat cod stock, Cod west of Scotland, Cod in the Irish Sea, Cod in the Irish Channel and Celtic Sea.

³² In accordance with the comments of ICES in its review, the varying states of the numerous different stocks have to be taken into account.

³³ The main threat is the high rate of catch of juvenile fish of the species (SCRS Report, page 59).

<i>Eubalaena glacialis</i> (Müller, 1776)	Northern right whale	<i>baleine franche noire</i>	All	All where it occurs
<i>Phocoena phocoena</i> (Linnæus, 1758)	Harbour porpoise	<i>marsoûin</i>	All	II, III

PART II - HABITATS

DESCRIPTION	OSPAR Regions where the habitat occurs	OSPAR Regions where such habitats are under threat and/or in decline
HABITATS		
Carbonate mounds	I, V	V ³⁴
Deep-sea sponge aggregations	I, III, IV, V	V ³⁵
Oceanic ridges with hydrothermal vents/fields	I, V	V
Intertidal mudflats	I, II, III, IV	All where they occur
Littoral chalk communities	II	All where they occur
<i>Lophelia pertusa</i> reefs	All	All where they occur
<i>Ostrea edulis</i> beds	II, III, IV	All where they occur
Seamounts	I, IV, V	All where they occur ³⁶
Sea-pen and burrowing megafauna communities	I, II, III, IV	II, III
<i>Zostera</i> beds	I, II, III, IV	All where they occur

³⁴ To be confirmed in the light of further survey work being undertaken by Ireland.

³⁵ A search for further evidence will be made.

³⁶ A search for further evidence will be made.

Appendix 4

Executive Summary of the Background Document on Tourism

1. The 1998 OSPAR Biodiversity and Ecosystems Strategy provided that the Commission would examine tourism and recreational activities, with the aim of identifying whether specific activities of this kind require further assessment. A Background Document on tourism was therefore adopted by OSPAR 2003, in order to examine the impact of tourism on the marine environment, its species, habitats and biological diversity.

2. Tourism is one of the world's fastest growing industries and a major source of foreign exchange earnings for many countries. Even in Europe, it is still growing and is forecast to increase further over the next 20 years. Coastal zones have been, and still are, the most popular tourist destinations in Europe and thus tourism has had, and can be expected to continue to have, significant impact on the marine environment.

3. Coastal zones are characterised by their great variety of natural ecosystems – wetlands, seagrass meadows, beaches, sea-cliffs, and small islands – and the fragility of many of them. The balance between tourism and environment in coastal zones can therefore be very delicate. There need to be limits on quantitative growth, but there remains scope for tourism to improve its quality, and thus its economic benefits, within the carrying capacity of a given area. This emphasises the importance of appropriate planning and sustainable management of resources – including the protection, conservation and restoration of coastal zones.

4. This study therefore draws attention to some of the negative environmental impacts of tourism in coastal zones (Chapter 2) and makes proposals improve the sustainability of tourism sustainable, with special emphasis on the protection of the environment, through measures for the management of the environmental impacts of tourism in coastal zones (Chapter 3).

5. The document also identifies existing international actions related to sustainable tourism particularly in coastal zones (Chapter 4) and proposes a choice of possible further actions (Chapter 5) within the framework of the OSPAR biodiversity and ecosystem strategy, which is primarily concerned with the marine environment and therefore deals with landward environmental issues only in so far as they have trans-boundary impacts on the marine environment.

6. OSPAR is recommended to base its programme of work on the assumptions that the Contracting Parties will be applying either the EU ICZM Recommendation or (for the non-EU Contracting Parties) the principles upon which it is based, and similar agreed approaches to safeguarding water resources, the quality of bathing water, the protection of terrestrial species and habitats and the disposal of waste.

7. Against this background, OSPAR is recommended to focus on:

- a. the integration of management of marine protected areas with tourism management, including the control of motorboats, diving and recreational fishing;
- b. control of the foreshore and its immediate margin (including the use of motor vehicles), dunes, marshes, beaches, and breeding and spawning areas;
- c. combating marine litter;
- d. the protection of coastal freshwater supplies through better freshwater and irrigation management;
- e. establishing indicators for measuring the overall progress of tourist sites in coastal zones towards sustainable coastal tourism development, including the follow-up of Environmental Impact Assessments, to check actual level of environmental impact against that predicted;
- f. improved stakeholder participation in coastal management;
- g. improving environmental awareness in tourist zones.

Appendix 5

Executive Summary: OSPAR Integrated Report 2003 on the Eutrophication Status of the OSPAR Maritime Area Based Upon the First Application of the Comprehensive Procedure

1. A principal element of the OSPAR Strategy to Combat Eutrophication is the Common Procedure for the Identification of the Eutrophication Status of the Maritime Area (the Common Procedure). This Common Procedure, adopted by OSPAR in 1997, sets the framework within which it is the responsibility of individual OSPAR Contracting Parties to assess the eutrophication status of their parts of the OSPAR maritime area.

2. The Common Procedure comprises 2 steps. The first step, the Screening Procedure, is a broad brush process performed only once by Contracting Parties to identify obvious Non-Problem Areas with regard to eutrophication. The Screening Procedure was completed in 2000. The second step, the Comprehensive Procedure, is the iterative procedure by which those parts of the maritime area which are not obvious Non-Problem Areas with regard to eutrophication are classified by Contracting Parties into Problem Areas, Potential Problem Areas, or Non-Problem Areas with regard to eutrophication. Common harmonised assessment criteria, their respective region specific assessment levels and the area classification methodology were developed, and adopted by OSPAR in 2001/2, for application under the Comprehensive Procedure, so that Contracting Parties could undertake their assessments and area classification in a harmonised way and based on a common approach. The OSPAR Nutrient Monitoring Programme and its related monitoring guidelines form the basis for obtaining the required information on the agreed harmonised assessment criteria. The region specific assessment levels are based on background values that are derived from historical data or, where this is not possible, have been derived from other relevant information.

3. National reports on the first complete application of the Comprehensive Procedure by individual Contracting Parties to their parts of the OSPAR maritime area were completed in 2002 and, under the lead of Germany and The Netherlands, were integrated and finalised into this integrated report by EUC 2002. On the basis of their assessments and area classification, a number of Contracting Parties have concluded that several of their coastal areas, fjords and/or estuaries and some offshore areas are classified as Problem Areas and Potential Problem Areas with regard to eutrophication. The marine areas assessed and classified in this way range in size from parts of estuaries to major areas of the Contracting Parties' coastal and offshore waters. This report provides details, including the eutrophication status, of all the areas assessed by Contracting Parties under the Comprehensive Procedure.

4. The European Commission is currently unable to endorse the classification as 'Non Problem Area' of certain marine areas of France, Ireland, Portugal, Spain and the UK. In addition, the assessment under the Nitrate Directive of waters affected or at risk from nitrate pollution and the designation of nitrate "vulnerable zones", and the identification under the Urban Wastewater Directive of "sensitive areas", may, for certain areas classified as 'Potential Problem Area', point to a more impaired status. This assessment is, therefore, without prejudice to any disputes that are ongoing or may arise between the European Commission and EU Member States regarding the classification of the eutrophication status of the OSPAR maritime area.

5. The national assessments showed that many coastal areas, fjords and/or estuaries to which the Comprehensive Procedure was applied had increased or significant riverine and/or transboundary nitrogen and phosphorus inputs, and elevated winter concentrations of dissolved inorganic nitrogen and phosphorus, and elevated winter nitrogen/phosphorus ratios. However, the assessment of the direct effects of nutrient enrichment, such as chlorophyll a, nuisance/toxic phytoplankton eutrophication indicator species and nuisance macrophytes, was not undertaken consistently by Contracting Parties, and in a number of cases information on these direct effects was not available. With regard to assessment of the indirect or other possible effects of nutrient enrichment, the degree of oxygen deficiency proved to be a valuable tool but was not used and assessed in a similar way by all Contracting Parties. Other indirect effects such as changes/kills in zoobenthos, fish kills, organic carbon and organic matter, have been shown to have potential

for use in this assessment, but have not been extensively monitored in conjunction with the direct effect parameters or used to the same extent in this assessment.

6. Some Contracting Parties have indicated that they consider some of the areas they have identified as Problem Areas to result from nutrient enrichment due to transboundary transport from adjacent and other marine areas.

7. Contracting Parties used the assessment parameters, when monitored, according to the agreed procedure. All Contracting Parties applied in a harmonised way the second step of the Comprehensive Procedure, which is the integration of the assessment parameters resulting in an initial area classification. However, interpretation of the third step, "the appraisal of all relevant information concerning the harmonised assessment criteria and their respective assessment levels and the supporting environmental factors", differed between Contracting Parties.

8. The first application of the Comprehensive Procedure by Contracting Parties has therefore produced an assessment and area classification of the eutrophication status of OSPAR marine waters which is reasonably transparent but not totally harmonised. Transparency is greatest in respect of the data sets providing the raw material for the assessment and the initial area classification. The degree of harmonisation was diminished in respect of the final area classification.

9. To allow further harmonisation, there is a need for improvements to our assessment and area classification tools and for a common understanding of the way they should be applied and interpreted. These needs include issues to do with the derivation of background values for specific parameters, the nature of the classification process and research needs.

10. Some Contracting Parties indicated the need for improved information on atmospheric inputs especially to coastal areas and to include such information in the future eutrophication assessments. There is also a need to understand the contribution of nutrients from other marine areas relative to riverine-, direct- and atmospheric inputs, and the extent of their anthropogenic component. This indicates the need for concerted action to be taken in respect of transboundary affected areas. In order to address this there is a need for further development of tools (including validated numerical models) to arrive at total nutrient budgets for specific areas. Furthermore, where Contracting Parties' waters have common borders, they should aim to undertake joint assessments and area classification for their adjacent areas.

11. The assessment has shown some deficiencies in the available monitoring data and their quality, particularly for the direct and indirect effect parameters. The OSPAR Nutrient Monitoring Programme requires regular mandatory monitoring of nutrients and direct/indirect effects. The requirements of this programme should therefore be fulfilled and the data accommodated in future applications of the Comprehensive Procedure. There is also a need in some areas to improve the frequency and spatial coverage of the nutrients and eutrophication effects monitoring. Finally, there is a need to agree upon the time period that future applications of the Comprehensive Procedure should cover.

Appendix 6

OSPAR List of Chemicals for Priority Action (Up-date 2003)

(see endnotes)

Type	Group of substances / substances	CAS No	EINECS No	Identified at †: Lead country: Background document
A: CHEMICALS WHERE A BACKGROUND DOCUMENT HAS BEEN OR IS BEING PREPARED				
<i>Aromatic hydrocarbon</i>	4-tert-butyltoluene	98-51-1	202-675-9	OSPAR 2000: Germany: Published 2003 (ISBN 1-904426-09-3)
<i>Metallic compound</i>	cadmium			OSPAR/MMC 1998: Spain: Published 2002 (ISBN: 0 946956 93 6)
<i>Metal/organometallic compounds</i>	lead and organic lead compounds			OSPAR/MMC 1998: Norway: Published 2002 (ISBN 1-904426-00-X)
	mercury and organic mercury compounds			OSPAR/MMC 1998: United Kingdom: Published 2000 (ISBN: 0 946956 54 5)
<i>Organometallic compounds</i>	organic tin compounds			OSPAR/MMC 1998: The Netherlands: Published 2000 (ISBN: 0 946956 56 1) addressing TBT and TPT
<i>Organic ester</i>	neodecanoic acid, ethenyl ester	51000-52-3	256-905-8	OSPAR 2001: ‡
<i>Organohalogenes</i>	perfluorooctanyl sulphonic acid and its salts (PFOS)^λ	1763-23-1	217-179-8	OSPAR 2003: United Kingdom
	tetrabromobisphenol A (TBBP-A)	79-94-7	201-236-9	OSPAR 2000: United Kingdom
	hexachlorocyclopentadiene (HCCP)	77-47-4	201-029-3	OSPAR 2000: The Netherlands
	1,2,3-trichlorobenzene	87-61-6	201-757-1	OSPAR 2000: Belgium & Luxembourg: Published 2003 (ISBN 1-904426-10-7)
	1,2,4-trichlorobenzene	120-82-1	204-428-0	OSPAR 2000: Belgium & Luxembourg: Published 2003 (ISBN 1-904426-10-7)
	1,3,5-trichlorobenzene	108-70-3	203-608-6	OSPAR 2000: Belgium & Luxembourg: Published 2003 (ISBN 1-904426-10-7)
	brominated flame retardants			OSPAR/MMC 1998: Sweden: Published in 2001 (ISBN: 0 946956 70 7) addressing: polybrominated diphenylethers; polybrominated biphenyls; hexabromocyclododecane
	polychlorinated biphenyls (PCBs)			OSPAR/MMC 1998: Germany & Belgium: Published 2001 (ISBN: 0 946956 78 2)
	polychlorinated dibenzodioxins (PCDDs) polychlorinated dibenzofurans (PCDFs)			OSPAR/MMC 1998: Denmark & Belgium: Published 2002 (ISBN: 0 946956 92 8)
	short chained chlorinated paraffins (SCCP)			OSPAR/MMC 1998: Sweden: Published 2001 (ISBN: 0 946956 77 4)
<i>Organic nitrogen compound</i>	4-(dimethylbutylamino)diphenylamin (6PPD)	793-24-8	212-344-0	OSPAR 2002: ‡
<i>Organophosphate</i>	triphenyl phosphine	603-35-0	210-036-0	OSPAR 2001: Germany: Published 2003 (ISBN 1-904426-13-1)

Type	Group of substances / substances	CAS No	EINECS No	Identified at †: Lead country: Background document
Organosilicane	hexamethyldisiloxane (HMDS)	107-46-0	203-492-7	OSPAR 2000: France
Pesticides/Biocides/Organohalogens	dicofol	115-32-2	204-082-0	OSPAR 2000: Finland: Published 2002 (ISBN: 0 946956 97 9)
	endosulphan	115-29-7	204-079-4	OSPAR 2000: Germany: Published 2002 (ISBN: 0 946956 98 7)
	hexachlorocyclohexane isomers (HCH)			OSPAR/MMC 1998: Germany: Published 2002 (ISBN: 0 946956 94 4)
	methoxychlor	72-43-5	200-779-9	OSPAR 2000: Finland: Published 2002 (ISBN: 0 946956 99 5)
	pentachlorophenol (PCP)			OSPAR/MMC 1998: Finland: Published 2001 (ISBN: 0 946956 74 X)
	trifluralin	1582-09-8	216-428-8	OSPAR 2002: Germany
Pharmaceutical	clotrimazole	23593-75-1	245-764-8	OSPAR 2002: France
Phenols	2,4,6-tri-tert-butylphenol	732-26-3	211-989-5	OSPAR 2000: United Kingdom: Published 2003 (ISBN 1-904426-14-X)
	nonylphenol/ethoxylates (NP/NPEs) and related substances			OSPAR/MMC 1998: Sweden: Published 2001 (ISBN: 0 946956 79 0)
	octylphenol	140-66-9	205-426-2	OSPAR 2000: United Kingdom: Published 2003 (ISBN 1-904426-15-8)
Phthalate esters	certain phthalates: dibutylphthalate, diethylhexylphthalate			OSPAR/MMC 1998: Denmark & France
Polycyclic aromatic compounds	polyaromatic hydrocarbons (PAHs)			OSPAR/MMC 1998: Norway: Published 2001 (ISBN: 0 946956 73 X)
Synthetic musk	musk xylene			OSPAR/MMC 1998: Switzerland: Published 2000 (ISBN: 0 946956 55 3) addressing musk xylene, musk ketone, moskene and musk tibetene

Type	Group of substances / substances	CAS No	EINECS No	Identified at †: Lead country: Background document
B: CHEMICALS WHERE NO BACKGROUND DOCUMENT IS BEING PREPARED BECAUSE THEY ARE INTERMEDIATES IN CLOSED SYSTEMS †				
Aliphatic hydrocarbons	1,5,9 cyclododecatriene [†]	4904-61-4	225-533-8	OSPAR 2002: not applicable
	cyclododecane [†]	294-62-2	206-033-9	OSPAR 2002: not applicable
C: CHEMICALS WHERE NO BACKGROUND DOCUMENT IS BEING PREPARED BECAUSE THERE IS NO CURRENT PRODUCTION OR USE INTEREST*				
Organohalogens	2-propenoic acid, (pentabromo)methyl ester	59447-55-1	261-767-7	OSPAR 2003: not applicable
	2,4,6-bromophenyl 1-(2,3-dibromo-2-methylpropyl) *	36065-30-2	252-859-8	OSPAR 2001: not applicable
	pentabromoethylbenzene*	85-22-3	201-593-0	OSPAR 2001: not applicable
	heptachloronorbornene*	28680-45-7 2440-02-0	249-153-7	OSPAR 2001: not applicable
	pentachloroanisole*	1825-21-4	-	OSPAR 2001: not applicable

Type	Group of substances / substances	CAS No	EINECS No	Identified at †: Lead country: Background document
<i>Organohalogens (cont.)</i>	polychlorinated naphthalenes*^δ			
	trichloronaphthalene*	1321-65-9	215-321-3	OSPAR 2001: not applicable
	tetrachloronaphthalene*	1335-88-2	215-642-9	OSPAR 2001: not applicable
	pentachloronaphthalene*	1321-64-8	215-320-8	OSPAR 2002: not applicable
	hexachloronaphthalene*	1335-87-1	215-641-3	OSPAR 2001: not applicable
	heptachloronaphthalene*	32241-08-0	250-969-0	OSPAR 2001: not applicable
	octachloronaphthalene*	2234-13-1	218-778-7	OSPAR 2001: not applicable
	naphthalene, chloro derivs.*	70776-03-3	274-864-4	OSPAR 2002: not applicable
<i>Organic nitrogen compound</i>	3,3'-(ureylenedimethylene)bis(3,5,5-trimethylcyclohexyl) diisocyanate*	55525-54-7	259-695-6	OSPAR 2001: not applicable
<i>Pesticides/Biocides</i>	ethyl O-(p-nitrophenyl) phenyl phosphonothionate (EPN)*	2104-64-5	218-276-8	OSPAR 2001: not applicable
	flucythrinate*	70124-77-5	274-322-7	OSPAR 2001: not applicable
	isodrin*	465-73-6	207-366-2	OSPAR 2001: not applicable
	tetrasul*	2227-13-6	218-761-4	OSPAR 2001: not applicable
<i>Pharmaceutical</i>	diosgenin*	512-04-9	208-134-3	OSPAR 2002: not applicable

Endnotes

† The substances in this list were identified at the following OSPAR Commission meetings:

OSPAR/MMC 1998: Agreement reference number 1998-16 (Annex 2 to the OSPAR Strategy with regard to Hazardous Substances);

(Note: When identifying the substances or groups of substances, OSPAR/MMC 1998 has not allocated CAS and EINECS registration numbers. Background documents adopted by the OSPAR Commission for these substances or groups of substances may indicate which substances have been addressed so far by OSPAR).

OSPAR 2000: Agreement reference number 2000-10;

OSPAR 2001: Agreement reference number 2001-2;

OSPAR 2002: Agreement reference number 2002-18;

OSPAR 2003: Agreement reference number 2003-19.

ψ The identification of these substances and the consequent action required is explained in § 7.6 of the OSPAR 2002 Summary Record. In brief, these substances have rankings in terms of persistency, liability to bioaccumulate and toxicity which are of equal concern as the other substances on this list. However, to the best of OSPAR's knowledge, on the basis of information from industry, OSPAR accepts that this substance is produced and used exclusively as an *intermediate* in closed systems in the production of other substances, under conditions where the safeguards applying are sufficient to avoid reasonable concerns that discharges, emissions or losses of the substance could reach the marine environment. Therefore, every five years, commencing in 2003, Contracting Parties and, where appropriate, observers representing the chemicals industries should report to OSPAR:

- a. whether they have found any evidence that these chemicals are being produced, used or discharged without being subjected to safeguards to avoid reasonable concerns that discharges, emissions or losses of the substances could reach the marine environment, and, if so, what that evidence is, and what action (if any) has been taken;
- b. whether there have been any cases where applications have been made for approvals involving these chemicals, and, if so, what decision was taken.

* The identification of these substances and the consequent action required is explained in § 4.13 of the OSPAR 2001 Summary Record. In brief, these substances have rankings in terms of persistency, liability to bioaccumulate and toxicity which are of equal concern as the other substances on this list. However, to the best of OSPAR's knowledge, there is no

current production or use in the OSPAR states. Therefore, commencing in 2003 and every five years thereafter, or earlier, if information becomes available, Contracting Parties and, where appropriate, observers representing the chemicals industries should report to OSPAR:

- a. whether they have found any evidence that these chemicals are being produced, used or discharged, and, if so, what that evidence is, and what action (if any) has been taken;
- b. whether there have been any cases where applications have been made for approvals involving these chemicals, and, if so, what decision was taken.

‡ These substances have currently no lead country to further the work within OSPAR and will have to be considered at a later date.

δ Polychlorinated naphthalenes should be treated as a group of substances (OSPAR 02/21/1, § 7.7).

λ PFOS is the highly persistent and toxic breakdown product of a number of perfluorooctanyl sulphonyl compounds. Several PFOS precursors have been selected on the OSPAR List of Substances of Possible Concern. The background document will identify these precursors and, if necessary, appropriate control measures will be proposed. CAS and EINECS numbers refer only to the acid form of PFOS.

Appendix 7

Executive Summaries: Background Documents on Triphenylphosphine, 4-*Tert*-Butyltoluene, Trichlorobenzenes, Octylphenol, 2,4,6-Tri-*Tert*-Butylphenol

Triphenylphosphine

1. Triphenylphosphine is a neutral organic chemical. It is used as basic chemical in synthesis and as intermediate for production of complexing agents, reducing agents, process regulators, and pharmaceuticals. The three producers in Europe have confirmed that triphenylphosphine is produced and used in closed systems only. On the basis of the product registers of the Nordic countries, Sweden and Norway reported similar uses of triphenylphosphine. Norway reported some minor open uses in "paint" with a triphenylphosphine content of $\leq 1\%$.

2. The production volume of triphenylphosphine is 3 000 to 5 000 tonnes per year in Europe, about half the amount of which is used in industrial processes in other continents. There are no monitoring data available. Given the intended uses of triphenylphosphine as an intermediate or catalysing agent, the substance is supplied to the processors of the pharmaceutical, agro and chemical industry. According to industry, almost all deliveries of triphenylphosphine are made as pellets and flakes, as the handling and properties of the solid version are favoured. Transport is in sealed containers in accordance with the legal regulations applying and with the high standard of safety precautions and measures required.

3. Triphenylphosphine is "not readily biodegradable" and is therefore considered to be potentially persistent. It further shows a low acute aquatic toxicity within a wide range of species. Triphenylphosphine has a high estimated octanol – water-partitioning coefficient ($\log P_{OW}$ value), indicating a high potential for bioaccumulation. The data presented in the background document show that triphenylphosphine has a hazard potential, resulting from its intrinsic properties, but since this substance is practically not expected to occur in the environment in significant amounts, the risk for the marine environment is considered low.

4. At present, there is no need for OSPAR to propose measures for the reduction of emissions of triphenylphosphine. The action recommended is: to avoid any new open/and or widely dispersive uses of triphenylphosphine in order to prevent future risks resulting from changes in use of triphenylphosphine; to invite industry to report any new information on existing open and/or widely dispersive uses of triphenylphosphine and any changes in the use of triphenylphosphine, especially if the changes in use result in an open and/or wide dispersive use; OSPAR to communicate this background document to the European Commission and to other appropriate international organisations which deal with hazardous substances to take account of this background document in a consistent manner.

4-*Tert*-Butyltoluene

1. 4-*tert*-Butyltoluene is a neutral organic chemical. It is used primarily as a raw material in the commercial production of *p-tert*-butylbenzoic-acid, which is utilised in the manufacture of unsaturated polyesters and alkyd resins. 4-*tert*-Butyltoluene is produced in a closed system and is transported within the plant via pipes to a processing plant where it is entirely transformed in closed production facilities into secondary products through industrial chemical synthesis. According to industry, there are no open uses of 4-*tert*-butyltoluene. On the basis of the product registers of the Nordic countries, Finland, Sweden and Norway confirmed that 4-*tert*-butyltoluene is not registered. The Swiss Product Register lists 4-*tert*-butyltoluene in two products (as a glue or sealing agent and as an auxiliary chemical) with a content of far less than 1% in each of the products.

2. 4-*tert*-Butyltoluene is produced in a volume of 1 000-5 000 tonnes/year at the only European production site in Ludwigshafen, Germany.

3. 4-*tert*-Butyltoluene is "not readily biodegradable" and is therefore considered to be potentially persistent. Based on its octanol – water-partitioning coefficient ($\log P_{OW}$ value), a high potential for bioaccumulation can be assumed. It further shows a low acute aquatic toxicity.

The data presented in the background document show that 4-*tert*-butyltoluene has a hazard potential, resulting from its properties with respect to its liability to bioaccumulate and persistence. Since this substance is practically not expected to occur in the environment in significant amounts, the risk for the marine environment is considered low.

4. At present, there is no need for OSPAR to propose measures for the reduction of emissions of 4-*tert*-butyltoluene. The action recommended is to avoid any new open/and or widely dispersive uses of 4-*tert*-butyltoluene; to invite industry to report any new information on existing open and/or widely dispersive uses of 4-*tert*-butyltoluene and any changes in the use of 4-*tert*-butyltoluene, especially if the changes in use result in an open and/or wide dispersive use; OSPAR to communicate this background document to the European Commission and to other appropriate international organisations which deal with hazardous substances to take account of this background document in a consistent manner.

Trichlorobenzenes

1. Trichlorobenzenes are cyclic aromatic compounds formed by the addition of 3 atoms of chlorine to the benzene ring. There are 3 isomers: 1,2,3-trichlorobenzene (1,2,3-TCB), 1,2,4-trichlorobenzene (1,2,4-TCB) and 1,3,5-trichlorobenzene (1,3,5-TCB). TCBs are not readily biodegradable and very toxic to aquatic organisms and may cause long term adverse effects in the aquatic environment. The bioaccumulation potential is very high. Furthermore, recent reports have shown that TCBs have reproductive and endocrine disrupting effects and therefore TCBs have been included in the EU List of Substances with Suspected Endocrine Effects.

2. The EU production of TCBs was estimated 7 000-12 000 tonnes in 1994. 50 - 80% of the amount of TCBs produced is exported outside Europe. Industry predicts that in 2003 the EU production will not exceed 4000 tonnes. The mixture of the three isomers and 1,2,4-TCB are used as an intermediate for the production of herbicides, pigments and dyes (79%), as a process solvent (14%) or as a dye carrier, a process regulator (additive or lubricant) (7%). 1,2,3-TCB is used as an intermediate for pesticide production, as a solvent, as a dye carrier or as a heat transfer medium. 1,3,5-TCB is not marketed commercially.

3. TCBs can be released to the environment directly from production, from their uses, final treatment and waste disposal (e.g. leakage from landfills) and through other sources such as combustion of plastics, degradation of higher chlorinated benzenes. TCBs have been detected in fresh water in concentrations lower than 0,4 µg/l, whereas concentrations from 0,002 – 0,007 µg/l were detected in marine waters in open sea areas and concentrations from 0,02 – 0,03 µg/l in dispersion zones of rivers or important waste water treatment plants. High TCB-concentrations have been detected occasionally in river sediment on specific locations. The available monitoring data in the marine environment and marine biota were evaluated but due to the lack of knowledge on occurrence in the marine environment the need for further monitoring of TCB-concentrations in sediment and biota is recommended.

4. The action recommended is: the lead countries for TCBs (Belgium and Luxembourg) to develop a proposal for a monitoring strategy; the EU Advisory Committee for the IPPC Directive and the European Polluting Emissions Register (EPER) to consider in their work on monitoring the case for monitoring TCBs as specific substances in water; the lead countries for polychlorinated biphenyls (PCBs) (Belgium and Germany) to report in their revision on the PCB Background Document on the current situation on substitution of PCBs in transformers with TCBs; Contracting Parties to consider the requirements for investigation of remediation needs of sites historically acting as TCB sinks; the rapporteur within the EU on TCBs (Denmark) to present this Background Document to the appropriate EU meeting as a contribution to the risk assessment of these substances; OSPAR Contracting Parties that are also EU Member States to support the development of appropriate measures to control discharges, emissions and losses of TCBs through the implementation of the Water Framework Directive; the OSPAR lead countries for examining BREFs on fine chemicals and the textile industry (respectively the Netherlands and Belgium) to seek to ensure that those BREFs take appropriate account of the conclusions of this Background Document, and to report to OSPAR on this in their reports on these BREFs; OSPAR to communicate this background document to the European Commission and to other appropriate international organisations which deal with hazardous substances to take account of this background document in a consistent manner.

Octylphenol

1. The term "octylphenol" represents a large number of isomeric compounds of the general formula $C_8H_{17}.C_6H_4(OH)$. The octyl group (C_8H_{17}) may be branched in a variety of ways or be a straight chain and may be located at either the 2-, 3- or 4-position of the benzene ring. Of these potential isomers, 4-*tert*-octylphenol (CAS No. 140-66-9) is the most commercially important and has been included on the OSPAR List of Chemicals for Priority Action. Unless specified otherwise, the term "octylphenol" as used in this document refers to the substance 4-*tert*-octylphenol.

2. Octylphenol is very toxic to aquatic organisms, is not easily degraded in the environment, and has the potential to cause significant endocrine disruption effects and has been detected in surface waters.

3. The main areas of use of octylphenol are as an intermediate in the production of phenol/formaldehyde resins (98% of use) and in the manufacture of octylphenol ethoxylates (2% use). A small amount of the ethoxylates is used to produce ether sulphates. The end uses from the manufacture of these resins, ethoxylates and ether sulphates are various (e.g. a tackifier in rubber for tyres, water-based paints, pesticide formulations (as a dispersant) etc.), but the extent to which octylphenol reaches the environment from such products is not clear. It is also reported that octylphenol is present as an impurity in commercial grade nonylphenol and that this may account to some extent for its detection in the environment. Recent investigations have confirmed that nonylphenol is produced by the reaction of a commercial nonene feedstock with phenol and the feedstock may contain octene up to 10%. Consequently, a similar proportion of the "nonylphenol" produced will actually be octylphenol.

4. The action recommended is: to support the process of the development of appropriate measures to control discharges, emissions and losses of octylphenol through the implementation of the Water Framework Directive; to tackle impurities of octylphenol in nonylphenol through measures controlling discharges, emissions and losses of nonylphenols by the implementation of the Water Framework Directive 2000/60/EC and by the Marketing and Use Directive 76/769/EEC; Contracting Parties should finalise their implementation of PARCOM Recommendation 92/8 on Nonylphenol-Ethoxylates to ensure that any octylphenol compounds which may be impurities of nonylphenol ethoxylates (NPEs) are prevented from reaching the marine environment; to take national action to prevent the use of octylphenol ethoxylates as replacements for NPEs and to promote the development of substitutes for octylphenol where adequate substitutes are not currently available; OSPAR should publish, as a later supplement to this Background Document, the outcome of the exchanges of information within its Offshore Industry Committee on the presence of octylphenol as a production residue in ethoxylated resins and the possible effects of this; to invite industry to report how to improve emission estimates and derivation of effect values; OSPAR to communicate this background document to the European Commission and to other appropriate international organisations which deal with hazardous substances to take account of this background document in a consistent manner.

2,4,6-Tri-Tert-Butylphenol

1. At OSPAR 2000, the substance known as "dodecylphenol" (CAS number 732-26-3) was identified as a substance for priority action. However, the correct name of the chemical with CAS number 732-26-3 is 2,4,6-tri-*tert*-butylphenol. OSPAR 2001 therefore agreed that "dodecylphenol" should be renamed as 2,4,6-tri-*tert*-butylphenol in official OSPAR documentation.

2. Information provided by OSPAR Contracting Parties indicates possible uses at an annual amount of 33 tonnes in Denmark and 1 tonne in Norway. According to the Finnish Product Register, 2,4,6-tri-*tert*-butylphenol is listed, but no products, production or import is noted in 2001. The Swedish Product Register includes 19 registrations of products containing 2,4,6-tri-*tert*-butylphenol which correspond to a use of 1 tonne in 2001. There is still some uncertainty about the precise use pattern of 2,4,6-tri-*tert*-butylphenol, but five categories of potential production and use have been identified or suggested and discussed: as a chemical intermediate in the production of antioxidants used in rubber and plastic; as a lubricating agent in the transport sector; as a by-product in the production of 4-*tert*-butylphenol; as an additive for gasoline and fuel oil distillate and use in the offshore sector. As available data for 2,4,6-tri-*tert*-butylphenol are very limited, only the confirmed use as an intermediate is considered with respect to possible pathways to the marine environment.

3. No measured monitoring data are available for concentrations of 2,4,6-tri-*tert*-butylphenol in the marine environment. However, some marine PECs have been estimated using EUSES default modeling and the EU Technical Guidance Document on marine risk assessment methodology.

4. The data indicate that 2,4,6-tri-*tert*-butylphenol may be toxic, persistent and bioaccumulative, although data are limited and may need further validation. However, since this substance may not be manufactured and used in sufficient quantities to be likely to pose a significant concern to the open sea and is only likely to cause very local problems if indeed discharges do occur, the risk for the marine environment is considered low.

5. The action recommended is: to report confirmation that the operations of plants where 2,4,6-tri-*tert*-butylphenol is being used as an intermediate is controlled according to the best available techniques (BAT); industry to provide further data to clarify the use pattern of 2,4,6-tri-*tert*-butylphenol, particularly with respect to lubricants but also with respect to the other indicated uses, with review if significant sources are shown; the lead country UK to develop and propose an appropriate monitoring strategy; industry to provide the data needed to allow a completion of the risk assessment; OSPAR should publish, as a later supplement to this Background Document, the outcome of the exchanges of information within its Offshore Industry Committee on the presence of 2,4,6-tri-*tert*-butylphenol as a production residue in resins and the possible effects of this; OSPAR to communicate this background document to the European Commission and to other appropriate international organisations which deal with hazardous substances to take account of this background document in a consistent manner.

Appendix 8

Executive Summary: Possibilities of Reducing Lead in Paints

1. OSPAR 2002 adopted a background document on lead and organic lead compounds. The action recommended in this background document was *inter alia* to give focused consideration on the current use of lead in the production of paint including proposals for any relevant, practicable and cost-effective measures to promote substitution.
2. Lead compounds are used as pigments and siccative (drier) in some types of paint which are for red and yellow colours in paintings for ships, offshore and industrial maintenance (lead chromates), in some corrosion-inhibiting primers used for maintenance of iron constructions (red lead), and as siccative in alkyd paint (lead naphthenate).
3. It is technically possible to substitute lead pigments and siccatives in all types of paints. Lead free compounds are already widely used, both organic and inorganic compounds. Red lead may still be regarded as necessary for some limited use areas; maintenance of old ships and old iron constructions.
4. The action recommended is: in the light of Council Directive 76/769/EEC (restrictions on marketing and use) to consider substitution of lead in all paints and to take the necessary steps to achieve this; OSPAR should review progress of EC action by means of the future OSPAR monitoring strategy for lead thereby focusing particularly on the reductions achieved in the application of lead in paints on the basis of information from Contracting Parties and industry; OSPAR to communicate this background document to the European Commission and to other appropriate international organisations which deal with hazardous substances to promote action to take account of this background document in a consistent manner, in particular when considering the relevance for UNEP, as their Governing Council recently has paid attention to lead.

Appendix 9

Executive Summary: Possibilities of Reducing Lead in PVC

1. OSPAR 2002 adopted a background document on lead and organic lead compounds. The action recommended in this Background document was, *inter alia*, to give focused consideration on the current use of lead in the production of PVC including proposals for any relevant, practicable and cost-effective measures to promote substitution.
2. Lead compounds are used as heat stabilisers and pigments in various PVC-products, plasticised and non-plasticised PVC. Lead compounds may further function as lubricant and processing aid, and as UV-stabiliser. The total consumption of PVC in Western Europe was 5 677 million tonnes in 1999. The consumption of heat stabilisers (all types) was estimated to about 160 000 tonnes in 1998. Lead compounds accounted for approximately 70%, i.e. 112 000 tonnes. The lead contents of the PVC vary from 0,6 to 2% by weight, depending on the type of product.
3. Emissions and pathways by lead and lead compounds in PVC may occur during production and waste disposal. PVC stabilisers are likely to remain in the PVC during the service life of the product. As the PVC industry is heavily regulated and must meet with stringent standards for workers health and environmental protection, the emissions during production are believed to be low. The most important source of emission to the environment is waste disposal.
4. It is technically possible to substitute lead stabilisers in all PVC products. Such substitution has to a large degree already taken place, especially among producers in the Nordic countries. A voluntary commitment of the PVC Industry of 25 October 2001 also foresees a full phase out of lead stabilisers in PVC (by 2015).
5. The action recommended is: in the light of Council Directive 76/769/EEC (restrictions on marketing and use) to consider substitution of lead stabilisers in all PVC products and to take the necessary steps to achieve this; OSPAR should review progress of EC action by means of the future OSPAR monitoring strategy for lead thereby focusing particularly on the reductions achieved in the application of lead in PVC products on the basis of information from Contracting Parties and industry; OSPAR to communicate this background document to the European Commission and to other appropriate international organisations which deal with hazardous substances to promote action to take account of this background document in a consistent manner, in particular when considering the relevance for UNEP, as their Governing Council recently has paid attention to lead.

Appendix 10

List of publications agreed by OSPAR 2003

Title	Proposed language edition	
	English	French
Assessment of Implementation of:		
<i>PARCOM Recommendation 93/4 on the Phasing-Out of Cationic Detergents DTDMAC, DSDMAC and DHTDMAC in Fabric Softener</i>	Yes	No
<i>PARCOM Recommendation 94/5 on BAT and BEP for Wet Processes in the Textile Processing Industry</i>	Yes	No
<i>PARCOM Recommendation 94/6 on Best Environmental Practice (BEP) for the Reduction of Inputs of Potentially Toxic Chemicals from Aquaculture Use</i>	Yes	No
<i>PARCOM Recommendation 94/7 on the Elaboration of National Action Plans and Best Environmental Practice (BEP) for the Reduction of Inputs to the Environment of Pesticides from Agriculture Use</i>	Yes	No
<i>PARCOM Decision 96/2 on the Phasing-Out of Processes Using Molecular Chlorine (Cl₂) in the Bleaching of Kraft and Sulphite Pulp</i>	Yes	No
<i>PARCOM Recommendation 96/4 for the Phasing Out of the Use of One-Component Coal Tar Coating Systems for Inland Ships</i>	Yes	No
<i>OSPAR Recommendation 98/1 concerning Best Available Techniques and Best Environmental Practice for the Primary Non-Ferrous Metal Industry (Zinc, Copper, Lead and Nickel Works)</i>	Yes	No
<i>OSPAR Recommendation 2000/2 on Best Environmental Practice (BEP) for the Use of Pesticides on Amenity Areas (UK), taking into account in addition the commitments of North Sea States to apply and promote implementation of this recommendation</i>	Yes	No
<i>PARCOM Recommendation 88/2 on the Reduction of Inputs of Nutrients to the Convention Area</i>	Yes	No
<i>PARCOM Recommendation 89/4 on a Coordinated Programme for the Reduction of Nutrients</i>	Yes	No
<i>OSPAR Decision 2000/2 on a Harmonised Mandatory Control System for the Use and Discharge of Offshore Chemicals and the related OSPAR Recommendations 2000/4 and 2000/5</i>	Yes	No
<i>OSPAR Decision 2000/3 on the Use of Organic-phase Drilling Fluids (OPF) and the Discharge of OPF-contaminated Cuttings</i>	Yes	No
<i>OSPAR Recommendation 2001/1 for the Management of Produced Water from Offshore Installations</i>	Yes	No
OSPAR List of Threatened and/or Declining Species and Habitats including justification for their selection	Yes	Yes
OSPAR Database on offshore wind-farms	Yes	No
Background Document on Construction or Placement of Installations and Structures in the OSPAR Area (excluding those for oil and gas and for wind energy)	Yes	No
Background document on tourism	Yes	No

Title	Proposed language edition	
	English	French
2000 Report on Dumping of Wastes at Sea with the revised assessment of annual OSPAR reports for 1999 and 2000	Yes	No
2001 Report on Dumping of Wastes at Sea	Yes	No
Overall Assessment of Annual OSPAR Reports on Dumping of Wastes at Sea, 1990-2000	Yes	Yes
Overview on Convention-wide Practices and Procedures in Relation to Marine Dumped Chemical Weapons and Munitions	Yes	No
Updated overview on marine conventional and chemical munitions dumping sites	Yes	No
European and international legal regulations and instruments, as at June 2002, to achieve the management objectives in OSPAR Marine Protected Areas	Yes	No
Integrated report 2003 on the eutrophication status of the OSPAR maritime area based upon the first application of the Comprehensive Procedure	Yes	Yes
Revised Background Document on Mercury emissions from Crematoria and their Control in the OSPAR Convention Area	Yes	No
Annual Report on Mercury Losses from the Chlor-Alkali Industry, 2001	Yes	No
Report on a survey on applied methods and the development of tests for estrogenic activity within whole effluent assessment	Yes	No
Background document on 4- <i>tert</i> -butyltoluene	Yes	No
Background document on triphenylphosphine	Yes	No
Background document on octylphenol	Yes	No
Background document on 2,4,6-tri- <i>tert</i> -butylphenol	Yes	No
Background document on trichlorobenzenes	Yes	No
Background document on Possibilities of Reducing Lead in PVC	Yes	No
Background document on Possibilities of Reducing Lead in Paint	Yes	No
CAMP report for 2001	Yes	No
RID data report for 2001	Yes	No
Inventory of Oil and Gas Offshore Installations in the OSPAR maritime area	Yes	No
Annual Report on Discharges, Waste Handling and Air Emissions from Offshore Installations for 2000-2001	Yes	No
Annual Report on Liquid Discharges from Nuclear Installations, 2001	Yes	No
Summary of reports submitted in the third round of implementation in accordance with PARCOM Recommendation 91/4	Yes	No
Establishment of Baselines for the Strategy with regard to Radioactive Substances	Yes	No
Annual Report 2002-2003	Yes	Yes

Appendix 11

Outline of the Income and Expenditure of the OSPAR Commission

OSPAR Expenditure 2002		OSPAR Approved Budget 2003	OSPAR Approved Budget 2004	OSPAR Approved Budget 2004
£		£	£	EUROS*
594 890	1 Staff Costs	632 300	654 191	898 270
47 178	2 Travel and Subsistence	48 000	48 000	65 909
12 124	3 Translation Services	20 000	13 000	17 850
57 981	4 Office Services	73 050	58 800	80 738
122 353	5 Accommodation and Equipment	142 000	144 000	197 726
983	6 Hospitality Expenses	1 350	1 000	1 373
5 447	7 Audit Fee	5 700	5 700	7 827
11 000	8 Management of CAMP data	10 000	15 000	20 597
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851 956	ESTIMATED GROSS EXPENDITURE	932 400	939 691	1 290 290
0	Contribution to W.C.F.	4 510	729	1 001
851 956	TOTAL BUDGET	936 910	940 420	1 291 291
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ANTICIPATED INCOME FOR 2004

	Anticipated Income 2003 £	Anticipated Income 2004 £	Anticipated Income 2004 Euros
Contributions from Contracting Parties	936 910	940 420	1 291 291
Bank interest received	15 000	12 000	16 477
Sales of publications	1 000	700	961

*For information only

Exchange rate: 1£ = 1,3731 as at 22 May 2003