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Background

In June 1980 the Council of Environmental Advisors, an independent body of experts appointed by the German government, presented its report on the environmental problems of the North Sea. The report concluded that, although there was considerable difficulty in obtaining empirical ecological evidence, there was a case from the limited knowledge about pollution loads that certain harmful substances could cause long-term and perhaps irreversible damage as a result of their chronic toxicity. The growing inputs of heavy metals, chlorinated hydrocarbons (and especially PCBs) and other persistent substances were identified for action. The Council of Environmental Advisors concluded that:

• a successful environmental protection policy for the North Sea had to be based on the "precautionary principle" (Vorsorgeprinzip);
• protection of the North Sea was only possible through international cooperation.

The early 1980s were characterized by certain changes in the economic and sociological climate which, although they differed in their intensity from one country to another, nevertheless affected all North Sea riparian states to some degree. Many countries experienced severe recession affecting particularly the older, and generally more polluting, heavy industries; consequently, there were political pressures not to impose too stringent environmental conditions on industry.

On the other hand, there was growing environmental awareness, particularly in the countries of...
northern Europe, which expressed itself in different forms, from the growth of dedicated non-governmental organizations (NGOs) to the formation of specific "green" parties with their own political agenda. Even though such parties did not constitute the parties of government, their opinions and actions were influential in requiring all political parties to reconsider and assess their own policies towards environmental protection.

Furthermore, some countries were dissatisfied with the lack of progress in the competent international organizations charged with protecting the marine environment. In part this was due to the wider geographical coverage of the bodies concerned and the lack of focus at North Sea level.

It was in this climate that in 1983 the government of the Federal Republic of Germany took the initiative of inviting the North Sea coastal states to an International Conference on the Protection of the North Sea at ministerial level. From the outset it was acknowledged that it would not be the aim of the Conference to create a new set of international agreements. On the contrary, the aim was to provide political impetus for the intensification of the work of the competent commissions and international bodies and to ensure more efficient and effective implementation of the existing international rules in all the North Sea States.

Bremen, 1984

History
The discovery of a number of oiled seabirds washed ashore in the German Bight during the winter of 1983 was a further occurrence which prompted the German government to propose an international conference for the protection of the North Sea environment. The purpose was to make a political declaration which, from a North Sea perspective, would stimulate and further ongoing work within the existing international conventions (e.g. the Oslo Convention for dumping at sea; the Paris Convention for pollution from land-based sources; the IMO Conventions for shipping issues).

At a preparatory meeting of all the North Sea coastal states in December 1983 an important agreement was reached that the Conference should not restrict itself to general principles but should examine all pollution sources and adopt definite decisions. The decision to address all pollution sources ensured that a holistic approach to the North Sea's environmental problems would be followed and it enabled both ministers and their advisors to look at the wider problems rather than through the constraints imposed by the respective scope of the existing international legal frameworks.

In preparation, expert groups compiled resolution proposals on the range of subjects to be discussed at the Conference. Subsequently, a hearing took place in August 1984 at which international associations and NGOs presented their suggestions. In September 1984 the preparatory work was concluded in Wilhelmshaven at a meeting of the permanent Secretaries of State responsible for North Sea affairs. Finally, the Conference itself was held in Bremen from 31 October to 1 November 1984 and was attended by the Ministers responsible for the protection of the North Sea of all the riparian states (Belgium, Denmark, France, the Federal Republic of Germany, the Netherlands, Norway, Sweden and the United Kingdom) and by the Member of the European Commission responsible for environmental protection. Observers from the states which were parties to the Oslo and Paris Conventions and member states of the EEC also attended the Conference, as did representatives of the international bodies concerned.

Although the Bremen Conference was initially envisaged as a unique event, the Ministers welcomed the invitation of the United Kingdom government to host a Second International Conference on the Protection of the North Sea for the purpose of reviewing the implementation and effectiveness of the decisions taken in Bremen and to adopt further concrete measures for the maintenance of the quality of the North Sea.

Principal outcome
In the Bremen Declaration the Ministers underlined their joint responsibility in safeguarding the North Sea as an important and irreplaceable ecosystem, and in doing so they undertook to bring
forward a number of initiatives to improve the protection of the North Sea. These initiatives focused on five main areas:

• reduction of inputs from rivers and coastal waters to the North Sea by quickly establishing further internationally binding measures;
• reduction of atmospheric pollution through the preparation of a new Protocol to the Paris Convention;
• reduction of pollution from ships, off-shore platforms and waste dumping at sea, as well as strengthening the possibilities to combat oil pollution by extension of existing conventions and cooperation (e.g. by coordinated aerial surveillance);
• promotion of environmentally compatible technologies and products;
• improvement of joint monitoring and assessment of the North Sea environment.

The Bremen Conference brought together for the first time the Ministers responsible for the protection of the North Sea environment to discuss common problems in a specific geographical context. It brought political focus on an important ecosystem which is the responsibility of all neighbouring states. It did indeed result in increased activity within the international fora as a result of the heightened political interest. Perhaps most significantly, it paved the way for further political activity on the North Sea at subsequent Ministerial Conferences.

London, 1987

History
The United Kingdom set out with the intention that the London Conference should reach conclusions about the state of the North Sea having regard to the best scientific evidence available, in other words that it should be science based and the preparatory work would produce a comprehensive quality status report (QSR) of the North Sea environment. The focus of the London Conference was essentially determined by the political priorities of the North Sea States. After 21 months, the preparatory work was concluded at a meeting of the permanent Secretaries of State in Edinburgh in September 1987. The Second International Conference on the Protection of the North Sea took place in London on 24 and 25 November 1987 and was attended by representatives of the same interests as the First Conference. For the first time, NGOs were permitted to attend the opening session only and make brief statements to the Conference.

Based on the gaps in the data in evidence in the QSR, the London Conference concluded that there was a need to enhance the scientific knowledge and understanding of the North Sea. Although a great deal was known, the QSR showed that there were still shortcomings in the data and that it was not possible to make links between contaminant levels and environmental changes. The Oslo and Paris Commissions and ICES were therefore charged with establishing a joint working group, which was subsequently instituted as the North Sea Task Force (NSTF), to organize a coordinated scientific programme leading, in a reasonable timescale, to a dependable and comprehensive statement of circulation patterns, inputs and dispersion of contaminants, ecological conditions and effects of human activities in the North Sea.

Principal outcome
One of the most important political decisions at the London Conference was the acceptance by all North Sea States that the basis of their action in regard to the reduction of inputs of substances that are persistent, toxic and liable to bioaccumulate should be based on “the principle of precautionary action” and that such inputs should be limited “by the use of the best available technology and other appropriate measures”. The key elements of the political programme which was agreed at the London Conference were:

• a substantial reduction (of the order of 50 %) between 1985 and 1995 in total inputs to the North Sea via rivers and estuaries of substances that are persistent, toxic and liable to bioaccumulate;
• a substantial reduction (of the order of 50 %) between 1985 and 1995 in inputs of phosphorus and nitrogen to those areas of the North Sea where such inputs are likely, directly or indirectly, to cause pollution;
• to prepare national action plans to achieve both these goals;
• to reduce atmospheric emissions of pollutants from key industrial and other sectors by taking appropriate action, including the use of strict emission standards based upon best available technology, if practicable within 4 years;
• to phase out the dumping of industrial wastes in the North Sea by 31 December 1989;
• to reduce the use of marine incineration by not less than 65% by 1 January 1991 and to phase out the practice totally by 31 December 1994;
• to initiate action within IMO for designating the North Sea a Special Area for the purpose of Annex V (garbage) of MARPOL 73/78.

Ministers repeated their commitment to renewed efforts, both nationally and within the framework of the international conventions, to take measures which would protect the North Sea. One of these measures was the decision to establish the North Sea Task Force to enhance the scientific knowledge and understanding of the North Sea.

The Hague, 1990

History
It was also decided in London that a Third Conference should be held at Ministerial level in the Netherlands in early 1990 in order to review the implementation of commitments entered into at the First and Second North Sea Conferences and, in particular, to evaluate the measures agreed in the London Declaration from a policy viewpoint. The international preparations began with a high level government executives’ meeting at The Hague in October 1988 and was effected by the establishment of a Preparatory Working Group with several sub-groups. The Third International Conference on the Protection of the North Sea was held in The Hague on 7 and 8 March 1990 and was the subject of much media attention and public interest. In recognition of the importance of the contribution of riverine inputs to the North Sea, the ministers were joined for the first time by a colleague from the Swiss Confederation, whose government also endorsed the commitments entered into at Bremen and London. Observers from the former Czechoslovakia and the former German Democratic Republic also attended the Conference.

Principal outcome
The principal task of The Hague Conference was to review the implementation of the Bremen and London Conferences and to clarify the political decisions in measurable terms. For example, with respect to inputs of hazardous substances, a list of 36 substances was identified in respect of the 50% reduction target and a 70% reduction target was established for the most dangerous substances to the environment, i.e. dioxins, cadmium, mercury and lead. Further concrete steps were taken to alleviate eutrophication: notably measures with respect to municipal waste water and industrial effluents and measures in agriculture. The termination date for marine incineration was brought forward to 31 December 1991.

As regards new measures, agreement was reached to phase out and destroy PCBs and hazardous PCB-substitutes and to aim for a substantial reduction in the quantities of pesticides reaching the North Sea. The Ministers also turned their attention for the first time to matters concerning the protection of species and habitats (a Memorandum of Understanding on Small Cetaceans in the North Sea was adopted) and on the impact of fishing activities. It was further agreed to seek a global strengthening of the regulations for ships’ operational discharges of oil and chemical residues, and to exercise greater control over the activities of the offshore industry.
Intermediate Ministerial Meeting, Copenhagen, 1993

History
The Hague Conference accepted the offer of the Danish government to host a Fourth International Conference on the Protection of the North Sea in 1995. It was also agreed to hold an Intermediate Ministerial Meeting in 1993:
• to discuss the 1993 Quality Status Report on the North Sea;
• to evaluate the actions taken within IMO on Annex I and Annex II of MARPOL 73/78 and to decide what additional measures might be required, including the possibility of declaring the North Sea a Special Area under these Annexes;
• to discuss problems of implementation of the North Sea Conference Declaration with regard to nutrients and pesticides, for which purpose Ministers of Agriculture would also participate.

The IMM 93 was held in Copenhagen on 7 and 8 December 1993. It was essentially a review meeting to determine at ministerial level what issues needed to be addressed in preparation for the Fourth North Sea Conference.

Principal outcome
In preparing for the Fourth North Sea Conference, the Intermediate Ministerial Meeting (IMM-93) in Copenhagen reached conclusions on:
• the need for measures to make significant reductions (of the order of 50%) of anthropogenic inputs of polyaromatic hydrocarbons (PAHs) between 1985 and 2000 from all sources of concern to the marine environment;
• the possible need for a joint initiative to designate the North Sea as a Special Area for the purposes of Annexes I and II of MARPOL 73/78 and to study intersessionally the possibility of declaring the North Sea a Special Area for the purposes of the new air pollution Annex;
• the need for proposals on economic arrangements, control and monitoring systems for port reception facilities;
• an agreement to work to adopt international rules as soon as possible concerning liability and compensation for damage caused by accidents involving ships carrying cargoes of hazardous and noxious substances;
• the acknowledgement that, although most North Sea States expect to reach the 50% reduction target for phosphorus, the 50% nitrogen target will not be achieved mainly because the reductions in the agriculture sector are insufficient, as well as the time lag between the application of measures and their effects; the Ministers encouraged the development of an operational definition of balanced fertilization with a view to adoption as a common international standard;
• the fact that insufficient progress had been made in reducing the use of pesticides to reach the goals of The Hague Declaration.

The IMM 93 was particularly noteworthy in that it provided the first opportunity for a cross-sectoral approach at political level to certain environmental problems affecting the North Sea. Ministers of agriculture were able to discuss issues of common concern, notably measures for nutrients and pesticides, with their colleagues responsible for the protection of the North Sea environment. The Ministers drew attention to the need for suitable regimes for the protection of coastal and marine areas (including species and habitats) and to the importance of fisheries management in the context of safeguarding the sustainability of the North Sea ecosystem as a whole.

Esbjerg, 1995

History
At The Hague Conference in 1990 it was decided that a Fourth International Conference on the Protection of the North Sea should be held at Ministerial level in Denmark in 1995. The purpose of the Conference in Denmark was to address the following issues:
• progress made in reducing pollution of the North Sea and in implementing measures agreed during the three previous Conferences as well as during
the Intermediate Ministerial Meeting in 1993;
• national experience regarding control and enforcement of measures taken with respect to the reduction of inputs of hazardous substances and the need for further improvements;
• the current environmental status of the North Sea and the need for further measures, based on the 1993 Quality Status Report;
• global perspectives of the experience gained through the joint efforts of the participants.

The approach to the work undertaken at the Conference reflected the significant changes that had occurred since the Hague Declaration. Progress had been made in converting the political initiatives launched by the previous Conferences into compulsory provisions of international and European Union law. These new and comprehensive requirements substantially transformed the approach to the protection of the North Sea in many fields by establishing or substantially extending legally binding frameworks. The signing of the OSPAR Convention in Paris in September 1992 (which superseded the 1972 Oslo Convention and the 1974 Paris Convention) represented important progress, particularly in adopting the precautionary principle and the ‘polluter pays’ principle and by making it possible to address all matters relating to the protection of the marine environment through one Convention. Instruments adopted by the European Union and OSPAR in the field of protection for the other issues addressed within the Esbjerg Declaration also contributed to the creation or improvement of these frameworks.

The Fourth International Conference on the Protection of the North Sea was held in Esbjerg, Denmark on 8 and 9 June 1995.

**Principal outcome**

One of the most important issues agreed upon by the Ministers was the prevention of the pollution of the North Sea by continuously reducing discharges, emissions and losses of hazardous substances thereby moving towards the target of their cessation within one generation (25 years) with the ultimate aim of concentrations in the environment near background values for naturally occurring substances and close to zero concentrations for man-made synthetic substances. Furthermore they agreed to take concerted action within the International Maritime Organization (IMO) to ultimately phase out the use of tributyltin (TBT) compounds on all ships worldwide. A majority agreed that decommissioned offshore installations shall either be reused or be disposed of on land. The Esbjerg Declaration also addressed actions with regard to the protection of species and habitats in coastal and offshore areas, fisheries, further reduction of nutrient inputs to the North Sea, other forms of pollution from ships and offshore installations and management of radioactive substances, including waste.

At the Esbjerg Conference it was also decided that there should be regular meetings of senior officials representing the North Sea States and the European Commission. The Committee of North Sea Senior Officials (CONSSO) was established to undertake the following:

• to organize the necessary follow-up work resulting from the Esbjerg Declaration;
• to review progress in the implementation of actions agreed upon at the four International Conferences;
• to take an overview of the North Sea environment and the action being taken to protect it;
• to consider the need for and means of undertaking additional actions;
• to prepare for the Fifth International Conference on the Protection of the North Sea.

**Intermediate Ministerial Meeting, Bergen, 1997**

**History**

At the Esbjerg Conference it was agreed to hold an Intermediate Ministerial Meeting in Norway before the next North Sea Conference. The purpose of the IMM was to focus on the integration of fisheries and environmental issues with the Ministers responsible for environmental protection and Ministers responsible for fisheries participating.

During preparations for the IMM 97, it was regarded as important to establish close cooperation
between the fisheries and the environmental sectors and to include all relevant stakeholders in a constructive dialogue. To provide a good basis for discussion, a thorough documentation of the status of the living resources and the habitats in the North Sea was needed. The Assessment Report on Fisheries and Fisheries related Species and Habitats Issues was duly completed as the result of a joint effort by scientists, managers and NGOs. This transparent and participatory approach contributed to mutual trust and improved understanding of the issues. The report was accepted by all stakeholders as a basis for the following negotiations on actions needed for the protection of North Sea fish stocks, other species and their habitats.

The IMM 97 was held in Bergen, Norway on 13 and 14 March 1997.

**Principal outcome**

Ministers agreed that the future fisheries and environmental protection, conservation and management measures, including the management of the North Sea fisheries, should be guided by the principle of further integration of fisheries and environmental protection, conservation and management measures, drawing upon the development and application of an ecosystem approach which, as far as the best available scientific understanding and information permit, is based on in particular:

- the identification of processes in, and influences on, the ecosystems which are critical for maintaining their characteristic structure and functioning, productivity and biological diversity;
- taking into account the interaction among the different components in the food-webs of the ecosystems (multi-species approach) and other important ecosystem interactions;
- providing for a chemical, physical and biological environment in these ecosystems consistent with a high level of protection of those critical ecosystem processes.

Ministers also agreed upon the following:

- **guiding principles:**
  - utilization of the ecosystems of the North Sea in a manner consistent with sustainable development;
  - conservation of biological diversity and the sustainable use of its components;
  - application of the precautionary approach management of living marine resources;
  - integration of environmental objectives into fisheries policy;
- **management objectives:**
  - to ensure sustainable, sound and healthy ecosystems;
  - to restore and/or maintain biological diversity;
  - to achieve sustainable exploitation of the living marine resources;
  - to ensure economically viable fisheries;
- **strategies:**
  - to take appropriate measures to minimize adverse impacts of fishing activities;
  - to take appropriate measures to minimize adverse impacts resulting from human activities other than fishing;
- **main areas for action:**
  - rebuilding or maintenance of spawning stock biomass;
  - protection of juvenile fish, crustaceans and molluscs;
  - protection of species and habitats;
  - protection from activities other than fisheries;
  - control and enforcement;
  - science, technology and economic impacts;
  - information and involvement;
  - further integration of fisheries and environmental policies;
  - implementation of the guiding principles, strategies and foregoing actions and a review of progress.
## State of Stocks in the North Sea and Adjacent Seas

Based on reports from the ICES Advisory Committee on Fisheries Management 2000 and 2001.

<table>
<thead>
<tr>
<th>Species</th>
<th>Stock definition</th>
<th>Reference points (Biomass in '000 t)</th>
<th>Present state</th>
<th>Overall</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cod (Gadus morhua)</td>
<td>IV, VIIId, Skagerrak</td>
<td>$B_{\text{lim}}$: 70 &lt;br&gt;$B_{\text{pa}}$: 150 &lt;br&gt;$F_{\text{lim}}$: 0.86 &lt;br&gt;$F_{\text{pa}}$: 0.65</td>
<td>No (0.83) No (55)</td>
<td>Outside safe biological limits</td>
</tr>
<tr>
<td>Haddock (Melanogrammus aeglefinus)</td>
<td>IV and IIIa</td>
<td>$B_{\text{lim}}$: 100 &lt;br&gt;$B_{\text{pa}}$: 140 &lt;br&gt;$F_{\text{lim}}$: 1.0 &lt;br&gt;$F_{\text{pa}}$: 0.7</td>
<td>No (0.92) Yes (215)</td>
<td>Harvested outside safe biological limits</td>
</tr>
<tr>
<td>Whiting (Merlangius merlangus)</td>
<td>IV and VIIId</td>
<td>$B_{\text{lim}}$: 225 &lt;br&gt;$B_{\text{pa}}$: 315 &lt;br&gt;$F_{\text{lim}}$: 0.9 &lt;br&gt;$F_{\text{pa}}$: 0.65</td>
<td>Yes (0.46) No (257)</td>
<td>Outside safe biological limits</td>
</tr>
<tr>
<td>Saithe (Pollachius virens)</td>
<td>IV, IIIa and VI</td>
<td>$B_{\text{lim}}$: 106 &lt;br&gt;$B_{\text{pa}}$: 200 &lt;br&gt;$F_{\text{lim}}$: 0.60 &lt;br&gt;$F_{\text{pa}}$: 0.40</td>
<td>Yes (0.29) Yes (232)</td>
<td>Inside safe biological limits</td>
</tr>
<tr>
<td>Plaice (Pleuronectes platessa)</td>
<td>IV</td>
<td>$B_{\text{lim}}$: 210 &lt;br&gt;$B_{\text{pa}}$: 300 &lt;br&gt;$F_{\text{lim}}$: 0.6 &lt;br&gt;$F_{\text{pa}}$: 0.3</td>
<td>No (0.43) No (289)</td>
<td>Outside safe biological limits</td>
</tr>
<tr>
<td>Sole (Solea solea)</td>
<td>IV</td>
<td>$B_{\text{lim}}$: 25 &lt;br&gt;$B_{\text{pa}}$: 35 &lt;br&gt;$F_{\text{lim}}$: undefined &lt;br&gt;$F_{\text{pa}}$: 0.4</td>
<td>No (0.46) Yes (40)</td>
<td>Harvested outside safe biological limits</td>
</tr>
<tr>
<td>Nephrops norvegicus</td>
<td>IV</td>
<td>Limit reference points not defined - currently no biological basis &lt;br&gt;$F_{\text{pa}}$: 0.30</td>
<td>No (indication but assessment uncertain)</td>
<td>Exploited at sustainable levels or (in one area) scope for further cautious increase in landings and effort</td>
</tr>
<tr>
<td>Nephrops norvegicus</td>
<td>IIIa</td>
<td></td>
<td></td>
<td>Exploited at sustainable levels</td>
</tr>
<tr>
<td>Anglerfish (Lophius piscatorius)</td>
<td>IV and VI</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Species</td>
<td>Stock definition</td>
<td>Reference points (Biomass in '000 t)</td>
<td>Present state</td>
<td>Overall</td>
</tr>
<tr>
<td>---------</td>
<td>------------------</td>
<td>-------------------------------------</td>
<td>---------------</td>
<td>---------</td>
</tr>
</tbody>
</table>
| Herring (Clupea harengus) | IV, VIIa, IIIa (autumn spawners) | $B_{lim}$: 800  
$B_{pa}$: 1300  
$F_{lim}$: undefined  
$F_{pa}$: for juveniles 0.12, for adults 0.25 | No (0.27 for adults)  
No (1145) | Recovery plan in place. Stock is recovering |
| Sprat (Sprattus sprattus) | IV | None available | | Stock biomass high in 2000 |
| Mackerel (Scomber scombrus) | North Sea component | Not defined | Estimated by egg surveys to be 68 000 t in 1999 | Severely depleted |
| Mackerel (Scomber scombrus) | Combined Northeast Atlantic stock | $B_{lim}$: not defined  
$B_{pa}$: 2300  
$F_{lim}$: 0.26  
$F_{pa}$: 0.17 | Yes (0.17)  
Yes (4023) | Inside safe biological limits overall, but see North Sea component above |
| Horse mackerel (Trachurus trachurus) | North Sea (IVb and c), eastern Skagerrak and eastern Channel | Not sufficient information | | Not known |
| Horse mackerel (Trachurus trachurus) | Western (northeast Atlantic including the northern North Sea) | $B_{lim}$: not defined  
$B_{pa}$: (reference point withdrawn in 2001)  
No F-based points advised | ? (0.23)  
? (862) | |
| Norway pout (Trisopterus esmarki) | IV and IIIa | $B_{lim}$: 90  
$B_{pa}$: 150  
No F-based points advised | (0.48)  
Yes (325) | Inside safe biological limits |
| Sandeel (Ammodytes sp.) | IV and Shetland | $B_{lim}$: 430  
$B_{pa}$: 600  
No F-based points advised | (0.55)  
Yes (825) | Inside safe biological limits |
| Pandalus borealis | IIIa+IVa East | $B_{pa}$: not defined | | Stock is around the long-term average |
| Sprat (Sprattus sprattus) | IIIa | Not known | | Unknown |
| Sandeel (Ammodytes sp.) | IIIa | Not known | | Not known |
| Plaice (Pleuronectes platessa) | VIIa | $B_{lim}$: 5.6  
$B_{pa}$: 8  
$F_{lim}$: 0.54  
$F_{pa}$: 0.45 | No (0.52)  
Yes (9.5) | Harvested outside safe biological limits |
| Sole (Solea solea) | VIIa | $B_{lim}$: not defined  
$B_{pa}$: 8  
$F_{lim}$: 0.55  
$F_{pa}$: 0.4 | Yes (0.34)  
Yes (12.6) | Inside safe biological limits |
State of Rays and Skates in the North Sea

11 species of rays and skates have been reported from the North Sea of which five species are considered resident. The evaluation is based on long-term trends as observed in research vessel surveys. Landings reported did not include starry ray.

Based on the Report from the ICES Advisory Committee on Fisheries Management 1997.

<table>
<thead>
<tr>
<th>Species</th>
<th>Sub-area</th>
<th>Present state</th>
<th>Overall</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rays and Skates (Raja spp.)</td>
<td>IV</td>
<td>Most ray species are able to support only relatively low exploitation rates. Landings (by-catch) have been fairly constant since 1970.</td>
<td>Maximum length decreased for all species comparing data from 1930s to recent survey results</td>
</tr>
<tr>
<td>Common skate (R. batis)</td>
<td>IV</td>
<td>1</td>
<td>Virtually disappeared after the 1950s</td>
</tr>
<tr>
<td>Thornback ray (R. clavata)</td>
<td>IV</td>
<td>2</td>
<td>Decreased abundance</td>
</tr>
<tr>
<td>Spotted ray (R. montagui)</td>
<td>IV</td>
<td>3</td>
<td>Caught irregularly recently more frequently</td>
</tr>
<tr>
<td>Cuckoo ray (R. naevus)</td>
<td>IV</td>
<td>4</td>
<td>Abundance remained fairly constant</td>
</tr>
<tr>
<td>Starry ray (R. radiata)</td>
<td>IV</td>
<td>No commercial value</td>
<td>Increased abundance</td>
</tr>
</tbody>
</table>
The conclusions most relevant to the management of North Sea Fisheries were parts of the points 31 and 32 regarding the management of natural resources and the finalization of the European Community Sustainable Development Strategy and conclusions number 4-10 and 12, 13, 15, 16, 18 and 19 in the fisheries council conclusions of 25 April 2001 as follows:

31. that the review of the Common Fisheries Policy in 2002 should, based on a broad political debate, address the overall fishing pressure by adapting the EU fishing effort to the level of available resources, taking into account the social impact and the need to avoid over-fishing.

- halting biodiversity decline with the aim to reach this objective by 2010 as set out in the 6th Environmental Action Programme.

32. The Council is invited to finalize and further develop sector strategies for integrating environment into all relevant Community policy areas with a view to implementing them as soon as possible and present the results of this work before the Spring European Council in 2002. Relevant objectives set out in the forthcoming 6th Environmental Action Programme and the Sustainable Development Strategy should be taken into account.

Conclusions from the Council meeting of 25 April 2001 on the integration of environmental concerns and sustainable development into the Common Fisheries Policy (CFP).

4. The Council recognizes that heavy fishing pressure and use of inappropriate fishing techniques, along with a series of other factors unrelated to fisheries, threatens marine biodiversity and the long-term sustainability of the
European fisheries sector. Continued fishing pressure may have influenced the genetic variability of some commercially harvested stocks. Possible changes of genetic variability, sensitive species and the level of biodiversity need to be monitored. The impact of fisheries on biodiversity still requires thorough study, particularly in relation to genetic diversity, long-living species, non-target species and the ecological functions of various ecosystems.

5. The Council agrees that targeted reductions in fishing pressure are the most important management measures in order to achieve sustainable development. Total allowable catches (TACs) are a key instrument in limiting fishing pressure. This instrument needs to be further developed in the light of the Council conclusions on the application of the precautionary principle and multi-annual arrangements for setting TACs.

6. The Community has not yet succeeded in establishing a sustainable balance between fishing effort (the product of capacity and activity) and available fish resources, and this also may have a negative effect on the marine environment as a whole. The Council therefore invites the Commission to develop a fleet policy which would secure appropriate targeted reductions in fishing effort.

7. The Council considers that significantly enhanced technical conservation measures should also be a central part of the overall strategy to integrate fisheries and environment policy. In this context, the Council supports the development and implementation of more selective fishing gears in order to reduce discards, incidental by-catch and impact on habitats. Time and site-specific protection measures should be considered in order to protect juveniles or sensitive and threatened species. The Council invites the Commission to continue to develop actively this important dimension of fisheries conservation policy in consultation with all players.

8. The Council notes the importance of adequate data collection and that scientific knowledge of the marine environment must improve so that appropriate and scientifically based environmental actions can be taken. The contribution of scientific research from both the fisheries and the environmental sector must be further developed and a higher level of cooperation is needed in order better to focus research on ensuring sustainable, sound and healthy ecosystems.

9. The Council stresses the crucial importance of effective and comprehensive use of fishery control and enforcement instruments applied in a consistent manner across all Member States. In addition, it notes the importance of satellite monitoring and the progress in its use.

10. The Council is aware of the need for greater involvement of the individual fishermen and other relevant stakeholders in fisheries management with a view to improving the conservation of living marine resources and securing a sustainable use of these resources.

12. The Council acknowledges the critical economic and social situation in coastal regions, which are highly dependent on fisheries. In particular, further consideration should be given, within the CFP review, to small-scale coastal fisheries, which are a force for balance in regional development.

13. The Council agrees that the impact of subsidies on the fisheries sector should be assessed as part of the CFP review. Where they are provided, subsidies should, in accordance with the principles of the Common Fisheries Policy, take full account of the need to conserve fishery resources and to protect the environment.

15. The Council recognizes the importance of international cooperation to fully achieve the integration objectives and that the Community should adopt a leading role in promoting sustainable management and environmental integration in regional fisheries organizations (RFOs), in other relevant international fora and in the framework of third country agreements, in accordance with the Fisheries Council’s conclusions of October 1997.
16. The Council welcomes the Commission’s initiative in presenting, after its communication on fisheries management and nature conservation in the marine environment of July 1999, a communication on elements of a strategy for the integration of environmental protection requirements into the Common Fisheries Policy (CFP) as well as a biodiversity action plan for fisheries and aquaculture.

18. The Council encourages the Commission’s initiative to develop a set of indicators in order to measure in an integrated way ecological, economic and social sustainability as well as specific indicators to monitor long term effects on and changes in biodiversity for key target and non-target species and their habitats.

19. The Council invites the Commission to monitor and evaluate the process of the integration of environment and sustainable development into the CFP. The Council calls on the European Council to invite the Commission to present, within the CFP review, concrete proposals for the integration of environment and sustainable development into the CFP, including priority actions such as reduction in fishing pressure and increased selectivity of fishing gear, measurable targets, timetables, improved protection of marine biodiversity and progress towards an ecosystem-based management.
### Proposals for EcoQOs for the ten issues identified for development

**Table 1** List of proposed Ecological Quality Objectives (EcoQOs) for 10 issues identified for development in the North Sea. Report from OSPAR to CONSSO January 2002: 'Background Document on the Development (within the OSPAR framework) of Ecological Quality Objectives (EcoQOs) for the North Sea'. This report of progress and its contents have not been formally agreed within OSPAR, and as such the report does not contain any formal OSPAR agreements, or provide any recommendations from OSPAR to CONSSO, on EcoQOs.

<table>
<thead>
<tr>
<th>Issue</th>
<th>EcoQOs proposed</th>
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<tbody>
<tr>
<td>1. Reference points for commercial fish species</td>
<td>- Reference points† for commercial fish species†</td>
</tr>
<tr>
<td>2. Threatened and declining species</td>
<td>- Presence and extent of threatened and declining species in the North Sea#</td>
</tr>
<tr>
<td>3. Sea mammals</td>
<td>- Seal population trends in the North Sea† - Utilisation of seal breeding sites in the North Sea† - By-catch of harbour porpoises†</td>
</tr>
<tr>
<td>4. Seabirds</td>
<td>- Proportion of oiled Common Guillemots among those found dead or dying on beaches† - Mercury concentrations in seabird eggs and feathers† - Organochlorine concentrations in seabird eggs† - Plastic particles in stomachs of seabirds# - Local sandeel availability to black-legged Kittiwakes† - Seabird populations trends as an index of seabird community health†</td>
</tr>
<tr>
<td>5. Fish communities</td>
<td>- Changes in the proportion of large fish and hence the average weight and average maximum length of the fish community†</td>
</tr>
<tr>
<td>6. Benthic communities</td>
<td>- Changes/kills in zoobenthos in relation to eutrophication* - Imposex in dog whelk† - Density of sensitive (e.g. fragile) species# - Density of opportunistic species#</td>
</tr>
<tr>
<td>7. Plankton communities</td>
<td>- Phytoplankton chlorophyll a* - Phytoplankton indicator species for eutrophication*</td>
</tr>
<tr>
<td>8. Habitats</td>
<td>- Restore and/or maintain habitat quality#</td>
</tr>
<tr>
<td>9. Nutrient budgets and production</td>
<td>- Winter nutrient (DIN and DIP) concentrations*</td>
</tr>
<tr>
<td>10. Oxygen consumption</td>
<td>- Oxygen*</td>
</tr>
</tbody>
</table>
Proposals for Ecological Quality Objectives in the North Sea

† See paragraph 37 for progress on developing these EcoQOs.
# See paragraph 40 for progress on developing these EcoQOs.
* See Paragraph 38 for progress on developing these EcoQOs. These EcoQOs proposed for nutrients and eutrophication effects are elaborated based upon their cause-effect relationship with nutrient enrichment (see EUC 01/5/3-Rev.1). The development of these four was carried out on the basis of the common assessment criteria, and their respective assessment levels used for the classification of the eutrophication status of the OSPAR Maritime Areas under the Comprehensive procedure (see EUC 01/2/2, Annex 2). The elaborated EcoQOs-eutro should, inter alia, be considered as an integrated set to help evaluate the 50% nutrient (N and P) reduction target in relation to the general objective, which is to achieve by the year 2010 a healthy marine environment where eutrophication does not occur.

1) In this context, "reference points" are defined as those used in advice given by ICES in relation to fisheries management, and not as defined by "reference levels" set by OSPAR.

The further Development of Ecological Quality Objectives

Report from OSPAR to CONSSO January 2002: 'Background Document on the Development (within the OSPAR framework) of Ecological Quality Objectives (EcoQOs) for the North Sea'. The following paragraphs are mentioned in footnotes to Table 1 in this Annex:

36. The proposed EcoQOs for the 10 issues are in different stages of development. They can be broadly classified into those which are in an advanced stage and those which are in a less advanced stage and where therefore more work remains.

37. The EcoQOs which BDC considered to be in an advanced stage are the following:
   • Reference points for commercial fish species (issue 1)
   • Seal population trends in the North Sea (issue 3)
   • Utilisation of seal breeding sites in the North Sea (issue 3)
   • By-catch of harbour porpoises (issue 3)
   • Proportion of oiled guillemots among those found dead or dying on beaches (issue 4)
   • Local sandeel availability to black-legged Kittiwakes (issue 4)
   • Seabird population trends as an index of seabird community health (issue 4)
   • Mercury concentrations in seabird eggs and feathers (issue 4)
   • Organochlorine concentrations in seabird eggs (issue 4)
   • Changes in the proportion of large fish and hence the average weight and average maximum length of the fish community (issue 5)
   • Imposex in dog whelk (issue 6)

38. The EcoQOs which EUC considered to be in an advanced stage are the following:
   • Winter nutrient (DIN and DIP) concentrations (issue 9)
   • Phytoplankton chlorophyll a (issue 7)
   • Phytoplankton indicator species for eutrophication (issue 7)
   • Oxygen (issue 10)
   • Changes/kills in zoobenthos in relation to eutrophication (issue 6)

39. These proposed EcoQOs are developed to a stage where they could be considered by CONSSO with the aim of the 5NSC concluding on whether to recommend their implementation. Some work to finalize details remains for several of these EcoQOs. The lead countries (Netherlands and Norway) and CONSSO are encouraged to complete as much as possible of this work prior to the 5NSC, in consultation or co-operation with ICES.

40. The following EcoQOs are in a less advanced stage and more work remains to finalize them:
   • Presence and extent of threatened and declining species in the North Sea (issue 2)
   • Plastic particles in stomachs of seabirds (issue 4)
   • Density of sensitive (e.g. fragile) species (issue 6)
   • Density of opportunistic species (issue 6)
   • Restore and/or maintain habitat quality (issue 8)
Annex 5:

References


References


OSPAR 1999. Substances/preparations used and discharged offshore which are considered to pose little or no risk for the environment. Internal meeting document No. SEBA 1999/9/5. OSPAR Commission, London.


Annex 6:

**Acronyms and Abbreviations**

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Definition</th>
</tr>
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<tbody>
<tr>
<td>ACFA</td>
<td>Advisory Committee on Fisheries and Aquaculture (EC)</td>
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<tr>
<td>ALARA</td>
<td>As low As Reasonably Achievable</td>
</tr>
<tr>
<td>Am</td>
<td>Americium</td>
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<tr>
<td>AOX</td>
<td>Adsorbable organically bound halogens</td>
</tr>
<tr>
<td>APEOs</td>
<td>Alkylphenolethoxylates</td>
</tr>
<tr>
<td>As</td>
<td>Arsenic</td>
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<tr>
<td>ASCOBANS</td>
<td>Agreement on the Conservation of Small Cetaceans in the Baltic and North Seas</td>
</tr>
<tr>
<td>BAT</td>
<td>Best Available Techniques</td>
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<tr>
<td>BEP</td>
<td>Best Environmental Practice</td>
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<tr>
<td>BFR</td>
<td>Brominated flame retardants</td>
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<tr>
<td>B&lt;sub&gt;lim&lt;/sub&gt;</td>
<td>Limit spawning stock biomass</td>
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<tr>
<td>BNFL</td>
<td>British Nuclear Fuel</td>
</tr>
<tr>
<td>B&lt;sub&gt;pa&lt;/sub&gt;</td>
<td>Biomass below which action should be taken (pa stands for precautionary approach)</td>
</tr>
<tr>
<td>Bq</td>
<td>Becquerel (1 disintegration per second)</td>
</tr>
<tr>
<td>BREF</td>
<td>BAT Reference document</td>
</tr>
<tr>
<td>Bunker Convention</td>
<td>International Convention on Civil Liability for Bunker Oil Pollution Damage</td>
</tr>
<tr>
<td>CBD</td>
<td>Convention on Biological Diversity</td>
</tr>
<tr>
<td>Cd</td>
<td>Cadmium</td>
</tr>
<tr>
<td>CHARM</td>
<td>Chemical Hazard Assessment and Risk Management</td>
</tr>
<tr>
<td>CEFIC</td>
<td>The Conseil Européen des Fédérations de l'Industrie Chimique</td>
</tr>
<tr>
<td>CFP</td>
<td>Common Fisheries Policy</td>
</tr>
<tr>
<td>CITES</td>
<td>The Convention on International Trade in Endangered Species of Wild Fauna and Flora</td>
</tr>
<tr>
<td>Common Procedure</td>
<td>Common Procedure for the Identification of the Eutrophication Status of the Maritime Area (OSPAR)</td>
</tr>
<tr>
<td>CONSSO</td>
<td>Committee of North Sea Senior Officials</td>
</tr>
<tr>
<td>Cs</td>
<td>Caesium</td>
</tr>
<tr>
<td>Cu</td>
<td>Copper</td>
</tr>
<tr>
<td>DDT</td>
<td>Dichlor-diphenyl-trichloroethane</td>
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<tr>
<td>DecaBB</td>
<td>Decabromobiphenyl</td>
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</tbody>
</table>
DecaBDE  Decabromodiphenyl ether
DIN     Dissolved inorganic nitrogen
DIP     Dissolved inorganic phosphorus
DYNAMEC Dynamic selection and prioritization mechanism for hazardous substances (OSPAR)
EARP    Enhanced Actinide Removal Plant
EcoQ    Ecological Quality
EcoQO   Ecological Quality Objective
EcoQOs-eutro Ecological Quality Objectives for nutrients and eutrophication effects
EEA     European Environment Agency
EEZ     Exclusive Economic Zone
EIA     Environmental impact assessment
EMAS    Eco-Management and Audit Scheme
EMEP    Co-operative programme for monitoring and evaluation of the long range transmission of air pollutants in Europe
E&P     Dutch Association for the Exploration and Production (E&P) Industry
EPER    European Pollutant Emission Register
EUNIS   European Nature Information System
EURATOM European Atomic Energy Community
EUROHARP Towards European Harmonised Procedures for Quantification of Nutrient Losses from Diffuse Sources
F       Fishing Mortality
FAO     Food and Agriculture Organization (UN)
FASSET  Framework for the Assessment of Environmental Impact
FISIS   Fisheries Inspection Information System
F\text{lim} Limit fishing mortality
F_{pa}  Fishing mortality above which management action should be taken (pa stands for precautionary approach)
GESAMP  Joint Group of Experts on the Scientific Aspects of Marine Environmental Protection
GMO     Genetically modified organism
GOOS    Global Ocean Observing System
ha      Hectare
HARP    Harmonized Quantification and Reporting Procedures for Nutrients
HARP-HAZ Prototype Harmonized Quantification and Reporting Procedures for Hazardous Substances
HBCDD   Hexabromocyclododecane
HCH     Hexachlorocyclohexane
HELCOM  Helsinki Commission
HEX     Uranium hexafluoride
Hg      Mercury
HMCS    Harmonized Mandatory Control System
HNS Convention International Convention on Liability and Compensation for Damage in Connection with the Carriage of Hazardous and Noxious Substances by Sea
IAEA    International Atomic Energy Agency
IBC Code International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk
ICES    International Council for the Exploration of the Sea
ICRP    International Commission on Radiological Protection
IMM 93  Intermediate Ministerial Meeting held in Copenhagen in 1993
IMM 97  Intermediate Ministerial Meeting on the Integration of Fisheries and Environmental Issues held in Bergen in 1997
IMO     International Maritime Organization
IOC     Intergovernmental Oceanographic Commission
IPOA-SEABIRDS International Plan of Action for Reducing Incidental Catch of Seabirds in Longline Fisheries
IPOA-SHARKS International Plan of Action for the Conservation and Management of Sharks
IPP Integrated Product Policy
ISO International Organization for Standardisation
ISPA Financial Instrument for Structural Policies for Pre-Assessment
ITQ Individual Transferable Quota
IUR International Union of Radioecology
kt Kilotonne
LOA Load-orientated approach
LRTAP Convention on Long-Range Transboundary Air Pollution
MAGP Multi-annual Guidance Programme
MARPOL 73/78 International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto
MEPC Marine Environment Protection Committee (IMO)
MPA Marine Protected Area
mSv Millisievert
N Nitrogen
NAFO North Atlantic Fisheries Organization
NASCO North Atlantic Salmon Conservation Organization
Natura 2000 EU-wide coordinated ecological network of areas for species and habitat conservation
NEAFC North-East Atlantic Fisheries Commission
ng Nanogramme
Ni Nickel
nm Nautical mile
NOGEPa Nederlandse olie-en gas exploratie en productie associatie
NORM Naturally occurring radioactive materials
NOSE Nomenclature for Sources of Emissions
NOx Nitrogen oxides
NP Nonylphenol
NPEOs Nonylphenol ethoxylates
NVZ Nitrate vulnerable zones
O2 Oxygen
OBM Oil-Based Mud
OctaBDE Octabromodiphenyl ether
OECD Organization for Economic Co-operation and Development
OIC Offshore Industry Committee (OSPAR)
OPF Organic-Phase Drilling Fluid
OSPAR OSPAR Commission
P Phosphorus
PAHs Polycyclic aromatic hydrocarbons
PARCOM Paris Commission
Pb Lead
PBBs Polybrominated biphenyls
PBDEs Polybrominated diphenylethers
PBTs Compounds that are persistent, liable to bioaccumulate and toxic
PCBs Polychlorinated biphenyls
PCDDs Polychlorinated dibenzo-dioxins
PCDFs Polychlorinated dibenzofurans

Progress Report
PCP
Pentachlorophenol
PCTs
Polychlorinated terphenyls
p.e.
Population equivalent
PentaBDE
Pentabromodiphenyl ether
PLONOR list
List of Substances / Preparations Used and Discharged Offshore Which Are Considered to Pose Little or No Risk to the Environment (OSPAR)
POP
Persistent Organic Pollutant
PSSA
Particularly Sensitive Sea Area
Pu
Plutonium
Ra
Radium
RSC
Radioactive Substances Committee (OSPAR)
SAC
Special Area of Conservation
SCCPs
Short chained chlorinated paraffins
SFT
Norwegian Pollution Control Authority
SIXEP
Site Ion-Exchange Effluent Plant
SMEs
Small and medium enterprises
SMRU
Sea Mammal Research Unit
SOA
Source-orientated approach
SoC
Ministerial Statement of Conclusions
SOLAS
International Convention for the Safety of Life at Sea
SOx
Sulphur oxides
SPA
Special Protection Area
Sr
Strontium
SSB
Spawning Stock Biomass
STECF
Scientific, Technical and Economic Committee for Fisheries
STP
Sewage treatment plants
TAC
Total Allowable Catch
TBBP-A
Tetrabromobisphenol A
TBq
Terabecquerel
TBT
Tributyltin
Tc
Technetium
TCBs
Trichlorobenzenes
THCs
Total hydrocarbons
TMAP
Trilateral Monitoring and Assessment Program
TPT
Triphenyltin
UKOOA
United Kingdom Offshore Operators Association
UNCED
United Nations Conference on Environment and Development
UNCLOS
UNEP
United Nations Environment Programme
VMS
Vessel monitoring system
VOC
Volatile organic compounds
VPVB
Substances that are very persistent and very bioaccumulative
WEEE
Directive on waste electrical and electronic equipment (EC)
WFD
Water Framework Directive (EC)
WSP
Wadden Sea Plan
WWF
World Wide Fund for Nature
Zn
Zinc
2NSC
Second International Conference on the Protection of the North Sea, held in London 1987
$^3$H
Tritium
<table>
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<tr>
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<tr>
<td>3NSC</td>
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</tr>
<tr>
<td>4NSC</td>
<td>Fourth International Conference on the Protection of the North Sea, held in Esbjerg in 1995</td>
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<td>5NSC</td>
<td>Fifth International Conference on the Protection of North Sea, held in Bergen in 2002</td>
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<td>Mass percentage</td>
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