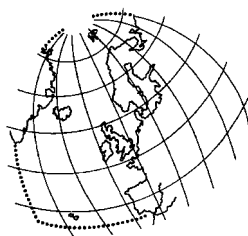


**OSPAR Stakeholder Workshop  
Towards Finalisation of  
Ecological Quality Objectives  
(EcoQOs)  
for the North Sea**

**Oslo, 13-14 December 2004**



**OSPAR Commission  
2005**

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 Community and Spain.

*La Convention pour la protection du milieu marin de l'Atlantique du Nord-Est, dite Convention OSPAR, a été ouverte à la signature à la réunion ministérielle des anciennes Commissions d'Oslo et de Paris, à Paris le 22 septembre 1992. La Convention est entrée en vigueur le 25 mars 1998. La Convention a été ratifiée par l'Allemagne, la Belgique, le Danemark, la Finlande, la France, l'Irlande, l'Islande, le Luxembourg, la Norvège, les Pays-Bas, le Portugal, le Royaume-Uni de Grande Bretagne et d'Irlande du Nord, la Suède et la Suisse et approuvée par la Communauté européenne et l'Espagne.*

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ISBN 1-904426-82-4

Publication Number: 2005/243

# contents

1	Introduction .....	4
1.1	Background.....	4
1.2	Aim of the workshop .....	4
1.3	Organisation of the workshop .....	4
2.	Chairman's conclusions .....	4
2.1	The chairman's conclusions.....	4
2.2.	Role of EcoQOs .....	5
2.3	Form of EcoQOs .....	5
2.4	Communicating EcoQOs .....	6
2.5.	Spatial and sectoral implications of EcoQOs .....	6
2.6.	Other points .....	7
3.	Subgroup reports .....	7
3.1	Subgroup on fisheries .....	7
3.1.1	First round .....	7
3.1.2	Second round .....	8
3.1.3	Subgroup participants: .....	9
3.2	Subgroup on oil and substances.....	10
3.2.1	Subgroup participants: .....	11
3.3	Subgroup on Governance.....	11
3.3.1	Subgroup participants: .....	12
3.4	Subgroup on Science.....	12
3.4.1	Subgroup participants: .....	13
Annex 1	Chairman's introduction .....	13
Annex 2	List of participants .....	15
Annex 3	Programme .....	17

## **1. Introduction**

### **1.1 Background**

The OSPAR Stakeholder Workshop Towards Finalisation of Ecological Objectives (EcoQOs) for the North Sea, was arranged by the Netherlands and Norway and hosted by Norway in Oslo, 13-14 December 2004. This workshop is the third stakeholder workshop in the process on developing EcoQOs for the North Sea.

### **1.2 Aim of the workshop**

The aim of this workshop was to inform stakeholders about the EcoQO framework and the state of development of the EcoQOs and to discuss the opportunities and difficulties connected with the pilot project. This was an opportunity for stakeholders to give their views before the final evaluation of the North Sea pilot project by OSPAR in 2005.

### **1.3 Organisation of the workshop**

The workshop was chaired by Mr Thorvald Stoltenberg, former minister of the government of Norway, with assistance from Mr Hein Rune Skjoldal, Institute for Marine Research, Norway.

The workshop gathered 37 participants representing industry, environmental NGO's, science and governments (List of participants is included in Annex 2).

The workshop was opened by Ms Inger Winsnes, Ministry of environment, Norway.

On the first day plenary presentations were given on:

- The status of development of EcoQOs by OSPAR;
- Scientific advice by ICES;
- The role of ecological objectives in the European Marine Strategy;
- Views of WWF.

After plenary, four subgroups discussed the further development and implementation of the EcoQO system, focusing on four different topics: fisheries, substances, government and science. The first round of discussions delivered concluding statements. The second round enabled participants to join another subgroup, building upon the statements and adding new statements (see Annex 3 for the programme).

In the subgroups the participant were asked to name their favourite EcoQO. Gathering the favourites from all subgroups the following non-official Top 3 results:

1. Proportion of oiled Common Guillemots among those found dead or dying on beaches
2. Changes in the proportion of large fish and hence the average weight and average maximum length of the fish community
3. Spawning stock biomass of commercial fish species in the North Sea

On the second day of the workshop statements from the subgroups were presented and discussed in plenary (see chapter 3 for subgroup reports). The Executive Secretary of OSPAR Mr. Alan Simcock summarised the main issues and viewpoints in the 'Chairman's conclusions' (Chapter 2). These conclusions correspond with chapter 9 in the draft report on the North Sea Pilot Project on EcoQOs BDC 05/3/1.

## **2. Chairman's conclusions**

### **2.1 The chairman's conclusions**

The chairman's conclusions from the work programme were as follows:<sup>1</sup> The workshop participants welcomed the further opportunity to make an input to the North Sea Pilot Project on ecological quality objectives (EcoQOs). No objections were raised to the general thrust of the project for the development of EcoQOs for the North Sea. The main views expressed can be summarised as follows.

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<sup>1</sup> Comments from WWF have not yet been taken into account

## 2.2. Role of EcoQOs

It is essential to have a consistent and clear relationship between the EcoQOs resulting from the North Sea Pilot Project and other over-arching goals for the management of human activities affecting the marine environment. This applies particularly to the objectives of the OSPAR thematic strategies and to the strategic goals and objectives of the developing European Marine Strategy, but also applies in such fields as the EC Common Fisheries Policy and OSPAR assessments of the quality status of the marine environment.

Opinion was divided on whether a complete and coherent set of EcoQOs was essential for an EcoQO system. Some thought that it was. Others took a more pragmatic approach, and thought that developing an EcoQO system would be worth while if it dealt only with those issues where it was necessary to focus political and public opinion on urgent issues.

A system of EcoQOs can only be justified if it adds value to the existing agreements on goals for the management of human activities affecting the marine environment and the existing related monitoring systems. The report on the pilot project needs to show how this added value is created. Added value can arise in a number of different ways: the existence of a system of EcoQOs can underpin the delivery of commitments to an ecosystem approach to management; individual EcoQOs can crystallise general commitments to progress in certain fields and enable management tools to be developed to deliver them; a complete set of EcoQOs defining an acceptable envelope for marine ecosystems can show whether general commitments to the health and sustainability of the marine environment are being delivered. In order to help judge the value added by a system of EcoQOs, every effort should be made to quantify the costs that it would impose, both through the changes needed in the real world to achieve them, and through the operation of the system itself (particularly in monitoring, reporting and assessment).

To achieve consistency and clarity, an EcoQO system needs to have an internal logic for the way in which the EcoQOs are expressed. Some of the EcoQOs that are being developed are general indicators of progress with some aspect of ecosystem health and sustainability, rather than specific objectives to be delivered by a particular management system, while others are clearly focused on particular cause/effect relationships. These differences make it difficult to interpret the overall role of the EcoQO system as so far developed. It was suggested that one possible way of clarifying the logic of the EcoQO system was to reflect a distinction between EcoQOs that measure the level of some parameter in the environment and those that set limits to the impacts of some human activity.

Such difficulties produce problems for stakeholders in understanding the implications of the EcoQO system for themselves and their activities. There is a need to bring out for the different industrial and commercial sectors which EcoQOs are relevant to their activities, and the way in which they interact with each other and with the overall EcoQO system

Where specific international management arrangements exist for certain human activities affecting the marine environment (such as fisheries or shipping), it must be the competent authorities under those arrangements that take decisions on management actions in the light of OSPAR's assessments of what the EcoQOs show.

It was not appropriate to expect stakeholders to take "ownership" of the EcoQO system or of individual EcoQOs. EcoQOs should determine, or at least influence, the ways in which regulatory systems are applied to industrial and commercial stakeholders. Such stakeholders can accept those implications, and even in some cases build them into their own internal management systems, but for the most part the EcoQOs will remain for them external pressures rather than internal goals.

## 2.3 Form of EcoQOs

It is clear that the EcoQOs in the pilot project have different functions. Some EcoQOs are formulated as limits, and thus show what conditions must be avoided. Others are formulated as targets, and thus show what conditions are desirable, even though failing to achieve them may be consistent with a healthy and sustainable marine environment. Yet others are formulated as indicators, and thus simply set a threshold for investigations to see whether (and, if so, what) management actions are needed. The different implications of the different forms of EcoQOs (limit and target) need to be brought out. Targets, in particular, can reflect aspirational goals set in the North Sea Ministerial Declarations.

The EcoQOs are at varying levels in relation to the marine environment. For example, EcoQO (a) (commercial fish stocks) covers twenty-six separate stocks. A question arises whether this should be considered separately in relation to each stock, or whether all the stocks should be aggregated together (perhaps showing the percentage of stocks where the EcoQO is not achieved for the individual stock, as recommended by ICES). If they are aggregated, then important information may be ignored – the North Sea cod or herring stocks have considerably greater significance than some of the other stocks, and if attention is

not drawn to failures to meet the EcoQO in relation to them, the wrong impression may be created. This situation should be contrasted with an EcoQO which relates specifically to one aspect of one species (such as EcoQO (e) (by-catch of harbour porpoises). The same issue arises over some of the contaminant EcoQOs.

If attention is not paid to this question of the proper level of aggregation, misleading pictures may be presented when an attempt is made to give an overall view of the health and sustainability of the ecosystems: ecological quality issues which are disaggregated into separate aspects may be made to appear, unwarrantedly, to be much more significant than others which cover a single aspect.

However, especially for communicating with the public, the emphasis needs to be on simple, easily understood indicators with an immediate impact on public understanding – and, in particular, on direct cause/effect relationships with identifiable human activities that are subject to regulation.

This question of aggregation/disaggregation cannot be separated from questions of presentation, because different audiences may need information at different levels of aggregation.

The forms of the North Sea Pilot Project EcoQOs do not distinguish clearly between those which have a clear cause/effect linkage to specific human activities (such as EcoQO (e) (by-catch of harbour porpoise, which has a direct link to fisheries) and those which are a more generalised index of a range of aspects of the marine environment (such as EcoQO (c) (seal population trends)). This is again an important issue of presentation. The present set of EcoQOs also relates to different aspects of the Driver-Pressure-State-Impact-Response analysis. There is emphasis, in particular, on “state” and “impact”. There are arguments for more emphasis on the earlier aspects of the analysis, especially on “pressures”.

The formulation of EcoQOs also needs to be looked at against the terminology used in formulating other systems of objectives, indicators and goals - especially the European Marine Strategy. It is not helpful to have variations between systems which cannot be quickly and easily understood. It would be important to show clearly how EcoQOs relate to the various objectives proposed to be set under the European Marine Strategy, and to the various criteria under the EC Water Framework Directive.

The form of EcoQOs needs to enable cost-effective monitoring. This may mean that more effort should be put into developing the monitoring of biological effects (including bio-markers) and the monitoring of causes rather than of effects.

## **2.4 Communicating EcoQOs**

It is important that the EcoQO system and its results are communicated effectively to the target audiences. There are at least five different target audiences with different needs (the general public, decision-makers at the political level (including those responsible for allocating regulatory resources), those responsible directly for the regulation of various human activities, commercial and industrial managers in the different sectors and the scientific community).

An effective communications strategy needs to address these different needs, and also needs to be proactive: it is not sufficient to make information available and to leave those affected to find out about it for themselves.

These different needs also have implications for the formulation of EcoQOs and the presentation of results in relation to them. The language and terminology used needs to be consistent for all audiences, but needs to be capable of being understood by each in their own terms.

## **2.5. Spatial and sectoral implications of EcoQOs**

The Pilot Project EcoQOs will have different implications in different areas within the North Sea. An increase or decrease of one percentage point in EcoQO (proportion of oiled guillemots among those found dead or dying on beaches) will have a very different significance in the Shetlands area (where current levels are about 2%) compared with the Netherlands coast (where current levels are about 10%). These spatial differences should be taken into account in setting up the system.

There will also be varying sectoral implications of some EcoQOs. Some will only be relevant to specific industrial or commercial sectors, while others will be affected by a wide range of such sectors. These varying sectoral implications also should be taken into account.

At the most extreme, it may be necessary to have variations in some EcoQOs within the North Sea area. For example, if there is a deliberate policy of culling seals in some parts of the North Sea area, then the goal for EcoQO (c) (seal population trends) may need to be modified in such parts.

Spatial and sectoral implications may also be important for reporting on the outcomes of EcoQOs. In the first place, clarity is needed whether to adopt a “one out, all out” approach to judging whether health and sustainability is being delivered. That is, it must be clear whether a failure to achieve one EcoQO (or one of some group of EcoQOs (such as the suite related to eutrophication)) is to be regarded as meaning that the North Sea is not healthy and sustainable, or whether the judgement can be made that, in spite of some shortfalls, the general objective is being achieved. This is particularly important for the eutrophication EcoQOs, which must be interpreted as a whole.

In addition, where the EcoQOs are being used as a guide to management response, it will sometimes (or, perhaps, often) be necessary to have different levels of response in different areas because of the different situations (for example, the proportion of oiled sea-birds is much higher near shipping-lanes). Where this is necessary, reporting for managers may need to be more detailed than reporting for other audiences.

Where a North Sea Pilot Project EcoQO is linked to a species, it should either be clear that the species is found in much the same way throughout the North Sea. If it is not, and different species are allowed to be used in different parts of the North Sea, there needs to be good scientific evidence of the intercalibration of the species.

## **2.6. Other points**

Sustainability involves three “pillars” – environmental, social and economic factors. The EcoQOs are focused primarily on the first. The second and third must not, however, be forgotten. At the same time, it must be remembered that social and economic policy are essentially for each State (or for each economic integration organisation, like the European Community, to which States’ social and economic functions have been transferred), while all States have an interest in ensuring that other States’ environmental policies do not have adverse transboundary effects.

The creation of an EcoQO system cannot proceed faster than the available science to underpin it. In some areas, it may be a relatively long time before there is adequate good science to cover some of the aspects which a comprehensive system of EcoQOs needs to cover. At the same time, the need for sound science must not be allowed to over-ride the precautionary principle.

There was concern over the complexity of the EcoQO system and the cost of implementing it. The development of the EcoQO system should not be at the expense of new initiatives to make changes in the real world by improving ecosystem health.

In some fields (such as the benthos), there may good arguments for focusing on communities rather than individual indicator species. In particular, it is inconsistent with the precautionary principle to set as a target the avoidance of “kills” of a species in an area – there must be good reason for action to prevent this before that level is reached. On the other hand, the general public may find it much easier to understand impacts on single species than changes in the composition of communities.

Some participants considered that it was important for OSPAR to put resources into developing EcoQOs for the threatened and/or declining species and habits and for benthic communities, since these aspects of the marine environment had not yet received sufficient attention, particularly in data collection.

## **3. Subgroup reports**

### **3.1 Subgroup on fisheries**

#### **3.1.1 First round**

In the first round the following topics were discussed. They all concern the *EcoQOs on commercial fish stocks*.

ICES has recommended aggregating all separate EcoQOs for fish stocks into the percentage of stocks above the precautionary level. In the group it was suggested that a proportion was better because it reflects how many stocks there are. A single aggregated EcoQO gives the picture of the total situation and is easier to understand. However, an aggregation will hide which stocks are considered in a good shape or not. Therefore it was suggested to list the stocks that are below the precautionary limits. Some stocks are more economically valuable than others and some more ecologically valuable. It should be kept in mind that management takes place at the stock level; hence we should not lose the information on the status of the stocks. The OSPAR draft report was commented on since it does not follow ICES that suggests the objective to be 100% of the fish stocks above the precautionary limits. It was unclear why the advice was not followed and this needs to be sorted out and discussed in BDC.

It is not possible to manage an aggregated EcoQO, the single stocks are managed.

The group discussed whether this EcoQO should be a target or a limit. The precautionary levels are limits while maximum sustainable yield (MSY) would be a target. The ICES fisheries advice is changing towards targets. As OSPAR cannot set the targets or limits, it needs to follow the fisheries management and the developments in this field. It was noted that the Bergen declaration called for targets.

The benefit with targets like MSY is that they aim at lower fishing mortality rates and hence lower risks of stock depletion. It may also prevent fluctuating management of a stock.

MSY has been used as a management strategy earlier and has shown not always to have the intended success. What happens with species interactions when MSYs are decided for all stocks? Fishermen think *catches* (which are mixed) and not *stocks*. The short-term effect of changing to targets may well be that fishing effort has to be reduced. The income of the fishermen will thus be reduced. It was recommended to thoroughly investigate the socio-economic implications before measures are taken.

It was also expressed that the terminology of OSPAR is too difficult for fishermen. OSPAR workshops are perceived as too scientific. However, how much fishermen understand should not be underestimated.

The chairman of ACE made a plea to aim at adopting this EcoQO in the medium term, as it is one of the best EcoQOs according to ICES.

Various remarks:

- Non-commercial species that suffer from fishery mortality (bycatch) seem to be lacking in the present list of EcoQO's (but we have the harbour porpoises and several species on the list of threatened and declining species, red.).
- Don't throw away existing indicators, e.g. for benthic communities, while developing the EcoQO framework.

### **3.1.2 Second round**

In the second round it was added that although ICES' form of advice should be followed by OSPAR, OSPAR should demand that ICES communicates more clearly. OSPAR invites managers on different areas to cooperate, but the terminology of ICES is understood only by fisheries managers and scientists. Fishing mortality rate is an example of a parameter that is difficult to understand. Should a percentage be presented instead? ACFM is presently changing focus to fishing mortality, a harvest-oriented approach with the aim of maximising harvest, i.e. target rather than limit objectives.

Next, the EcoQO on seal population trends was discussed. The recommended target is that neither the populations of seals nor the pup production should decrease with more than 10% over a period of 10 years. It was pointed out that management authorities in certain Contracting Parties, plan to reduce a seal population at certain times. The reasons for this are that the seals' consumption on fish may be considerable (competing with the share of fishermen), dense seal populations have shown to increase parasites in commercial fish stocks and starvation has occurred when seal populations have grown large. The group discussed several solutions to this problem. One possibility would be that Contracting Parties with such management approaches does not accept this particular EcoQO or deliberately violates it. An alternative option, however, would be to rephrase the EcoQO by adding '...unless as part of a comprehensive and scientifically based management plan.'

It was pointed out that the origin of this EcoQO is a concern for top predators in polluted and sometimes densely populated areas. In most countries around the North Sea it would presently be politically unacceptable to change the EcoQO in such a way that hunting is allowed.

The message of the group to OSPAR is that it should consider such regional differences, i.e. different conditions demand different EcoQOs.

As a more general point the question was raised why there are only a few EcoQOs relating to contaminants. For example, why weren't safety levels for human consumption addressed? It was explained that the EcoQO framework was developed in addition to the existing monitoring and assessment schemes for the chemical quality of the marine environment, within OSPAR, the EU and on the national level. As the EcoQO framework is presented, it covers primarily human impacts other than pollution. The contaminant related EcoQOs should have an added value to the chemical monitoring, e.g. imposex. The message from the group is that we should make sure that managers regard the EcoQO system as complementary to the existing chemical monitoring and assessment schemes.



### **3.1.3 Subgroup participants:**

Kjellrun Hiis Hauge (rapporteur)

Lisette Enserink (chair)

First round: Fenneke Brocken, Brit Fisknes, Simon Jennings, Hubert Rees, Alan Simcock, Hein Rune Skjoldal, Thorvald Stoltenberg

Second round: Brit Fisknes, Reidar Toresen, Inger Winsnes.

### 3.2 Subgroup on oil and substances

**The group should primarily discuss the EcoQ elements and the EcoQOs related to substances and oil. Of the EcoQ elements related to substances focus was set at the most developed EcoQ elements, which are those of the North Sea pilot project.**

The group started off with a question on how the EcoQOs will have an impact on the oil and gas industry and whether there will be developed EcoQOs for oil spills and oil discharges. Without concluding on these questions this led to a discussion if the oil and gas industry can affect also an EcoQ element as "Spawning stock biomass of commercial fish species". There was some exchange on words about this but the group did not go into detailed discussion on this issue.

The group agreed that EcoQOs in principle help us define a functioning ecosystem and that an indicator organism should be found across the whole OSPAR region.

On the other hand the EcoQ element on "proportion of oiled Common Guillemots among those found dead or dying on beaches" was detailed discuss in the group.

It was pinpointed that the reason for oiled guillemots (and other bird species) found on beaches must have been floating oil, which cannot origin from oil in produced water, but that the origin most probably is from spillage from shipping. Floating oil may also originate from oil spillage from offshore installations and land based oil tanks. Oiled guillemots are therefore not an indicator of oil in general, but of oil floating on sea surface.

The public often relate oiled birds to the oil industry even if the reason often can be other sectors. If the EcoQO on oiled Common Guillemots is not met, it might be difficult to know which sector has to take measures.

On the other hand it was agreed that the EcoQO on oiled guillemots is a good EcoQO because it gives an immediate impact and is an eye-catcher. For some areas like the coast of Scotland and Norway it would be difficult to count dead guillemots because of the topography of the coastline and scarce human population.

It is also worthwhile to notice that Common guillemots are not widespread all over OSPAR maritime area, (there are, a very few couples of common guillemots (*Uria aalge*) in the Berlengas islands (a bit North from Lisbon)) and there will be a need for another bird species in the southern part of the maritime area. It would be an advantage to have indicator organisms that is widespread all over the maritime area.

In round 2 of the subgroup discussions it was argued that cost-effective monitoring of this EcoQO is not to monitor oiled spills birds on beaches but to monitor oil spills at sea because this is an ongoing monitoring.

It was concluded that the EcoQO on oiled guillemots is a good EcoQO but that it is more complex than to reflect oil discharges or spillages from the oil and gas industry.

The EcoQO on imposex in female dog whelk is the only developed EcoQO that is directly related to one particular substance (TBT) and one particular effect. The main source is shipping. It is relatively easy to identify the source for TBT inputs to sea even if there are others sources than ships. In this way it is a good EcoQO and it is easy to monitor the effects (imposex). A challenge when developing this EcoQO further is that dog whelk does not occur naturally in the whole OSPAR maritime area or has become extinct. Portugal, as the lead country for this EcoQO, widens this EcoQO to be valid for imposex in other gastropods species presenting equivalent VDSI/ISI values, allowing the adoption of a consistent approach over the whole OSPAR maritime area. Dog whelks are particularly sensitive to TBT and should be the first choice species wherever possible. Monitoring of this EcoQO should be calibrated when EcoQO for imposex in dog whelks is fully developed.

This EcoQO is also the only one that uses a biomarker (namely imposex) for monitoring. Biomarkers for the other substances with less developed EcoQOs must be developed and verified by science before they can be used for monitoring for EcoQOs. A biomarker can be very specific for one particular substance, while other biomarkers are more general for a group of substances

In principle the same issue should be monitored and checked for the whole maritime area, but species can be different for different parts of the maritime area.

Stakeholders raised the question what is the management perspective for EcoQOs. What will happen if the EcoQOs are not met? Can we make the connection between cleaner discharges and meet the EcoQOs? Stakeholders pinpointed that EcoQOs might increase the complexity on e.g. how to perform monitoring.

The EcoQOs for eutrophication were not that much debated in the subgroup as the EcoQOs for oiled guillemots and imposex in dog whelk because the participants in the group did not work much with eutrophication.

It was emphasized that oxygen and phytoplankton indicator species are not particularly good EcoQOs. For both these EcoQOs it was said that it is difficult to check anthropogenic from natural effects. During the discussion in plenum it was raised a question how to calibrate for monitoring of phytoplankton indicator species.

During the discussion in plenary at day 2 of the workshop the EcoQ element on changes/kills in zoobenthos was discussed. The developed EcoQO says there should be no *kills* in zoobenthos. It was emphasized that kills is not a precautionary EcoQO because then the damaged has already occurred. An EcoQO for changes in zoobenthos, as measured by suitable zoobenthos (groups) of indicator species are more precautionary. It was also argued that the changes should be checked on a community level. But again it will be difficult to check changes in benthic communities related to eutrophication from benthic changes related to e.g. habitat changes. In this respect sampling design and monitoring in conjunction with the other relevant EcoQOs for eutrophication is important.

In part 2 of the subgroup it was discussed the challenge how to communicate EcoQOs and how stakeholders could have an ownership to the EcoQOs.

In communication with the public an eye-catcher was needed. Oil guillemots are one such eye-catcher. Oxygen deficiency and changes/kills in zoobenthos is difficult to communicate because the public cannot see below the sea surface. Pictures and video can be important to bring the message to the public.

It is also different how to communicate with public, politicians, stakeholders and other regulators. In this respect a link could be made with the EMS proposal: to have both: EcoQOs (general) and the more operational EcoQOs (in relation to manageable human activities).

Statements produced by the subgroup

- OSPAR EcoQOs are good as signals of ecosystem health linked to human activities. Those related to fisheries and shipping should be managed by the competent authorities. It is a challenge to develop mechanisms to convince competent authorities to implement the decisions.
- Each subregion (geographical related) should use its own region specific indicator species (e.g. TBT-gastropods, phytoplankton indicator species for eutrophication). Monitoring should be calibrated and in conjunction to the respective impact.
- Monitoring should be cost-effective and efforts should also be put on biological effect monitoring (including biomarkers).
- To be effective an EcoQO should have an immediate impact and be an eye-catcher.
- Ownership to an EcoQO and appropriate communication of the EcoQOs is a challenge.

### **3.2.1 Subgroup participants:**

Wanda Zevenboom (chair)

Jon Fuglestad (rapporteur)

Hermann Backer, Frank Brentsrup, Bente Jarandsen, Graca Noronha, Kevin O'Carrol and Jan Stenløkk

### **3.3 Subgroup on Governance**

This summary reflects the discussion according to subjects and the concluding statements.

**Prioritising**-do we need to cover all details when we are making the EcoQOs or is it better with a few objectives easy to understand and communicate?

The discussion reflected different ways to set and present goals. The OSPAR EcoQO system presents several goals at one level. Reference was made to the work being done at other places where a few aggregated objectives are supported by several elements or indicators.

It is useful with objectives at different levels; practical indicators (elements) that can be aggregated for presentations for presentation for e.g. politicians.

OSPAR should prioritise EcoQOs; this could be done by identifying added values and the main pressure and make sure we have good indicators for those.

*There was an agreement that it is necessary to prioritise and that focus should be at EcoQOs that give clear results are pressure driven, have added value over existing programmes and are pressure driven and easily understandable.*

It was argued that pressure driven is not easily understood. Does this mean something is “on the limit” or something clearly related to human activities? It was also stated that the “limit EcoQOs” are easier to understand (limit objectives where we are supposed to keep within limits as opposed to the target objectives where we are reaching for a goal).

The pilot objectives that are considered suitable in the evaluation of the pilot project (the survivors of the 10 pilot objectives) should be implemented. When prioritising further work it is important not to forget to cover the missing parts of the ecosystem with particular focus on the biodiversity objectives. We should also have in mind that we don't have background information and existing programmes for biodiversity related EcoQOs.

**Implementation**-what do we need to know to get agreement and implement the EcoQO system?

We need to know the costs of implementing EcoQOs.

As long as we don't know the costs of implementing the water framework directive or what the European marine strategy will give it may be difficult to get anyone to sign on to obligations with the EcoQO system. This means that we also need to know the synergy between these different processes.

*To get political commitments we need to know, as far as possible, the added value, costs and links with EU and international legislation.*

*There can be a synergy between the EcoQOs and regional implementation of EU legislation and strategies*

**Communication** – We should look to the conclusions on communication from the Schiphol workshop and not make a new list of potential ways to communicate here. It is difficult to communicate this as long as we don't have a finished package and can say what this means to stakeholders in practice.

*We need a good communication strategy to get stakeholders involved*

It is necessary to describe what the EcoQOs will mean for the stakeholders.

*The spatial and sectoral implication of EcoQOs need to be described*

Other subjects:

The group also touched upon the calibration across the area.

*Where more than one species is used for an EcoQO there should be intercalibration*

### **3.3.1 Subgroup participants:**

Peter Heslenfeld (chair)

Eva Degré (rapporteur)

first round: Hermien Busschbach, Sabine Christiansen, Kjell Grip, Juha-Markku Leppänen, Erlend Moksnes, Kari Nygaard, Inger Winsnes, Richard Moxon

second round: Fenneke Brocken, Hermann Backer, Kevin O'Carrol, Mark Tasker, Alan Simcock

## **3.4 Subgroup on Science**

### **Statements**

Science behind state/impact EcoQOs limits EcoQOs to areas where time series exist. Therefore:

1. Developing new EcoQOs in some topics/areas will take some time
2. Some current EcoQOs are not based on good science

Ask ICES (“science”) how to make the EcoQ issues complete (use trophic levels, human activities, and DPSIR framework)

In understanding the North Sea and its use/state, social and economic science may have a contribution that has not yet been used.

We should use these sciences in the EcoQ/EcoQO process.

Translation of science into the “language(s)” of the users is sexy and needed, e.g. trend/percentages may be easier than SBM, or F, Blim etcetera

## Discussion topics

The role of science in developing the EcoQOs was briefly discussed.

It was noted that the EcoQ issues were selected during a stakeholder workshop (Scheveningen, 1999) and that science was not used as the principal basis for developing a framework, neither for formulating the general issues and elements. Furthermore, the setting of objectives has been performed by the public/politicians.

The list of issues is not clear, e.g. oiled Guillemots is not about guillemots. This is a basis for confusion. A review of the framework would be useful. Issues could be organised in relation to human activities, in relation to a food web approach, or in relation to the DPSIR methodology.

The role of science is to provide information, as precise and unbiased as possible, on the state of the environment and advices on what is possible to do. Within the framework of EcoQOs, science can come up with the EcoQ metrics, not with the objectives.

To derive EcoQOs of good scientific quality, information about variability is necessary; time-series are necessary, and should be available for many locations. Where this information is lacking, the setting of objectives cannot be based on 'good' science.

Related to collecting and interpreting information, it is important to indicate trends. In addition, better organisation of monitoring effort is needed.

Geographic uniformity does not exist in the North Sea; an EcoQO is therefore only applicable in a limited area in most cases.

## Second round remarks

The statements produced during the first round were discussed with a different group of people.

In case a clearer framework will be applied to the EcoQOs, the current EcoQOs could be re-evaluated and tested in the light of this framework.

In contrast to the proposed (re)structuring of EcoQOs in a framework it was suggested that the 10 advanced EcoQOs we have now, or the best ones we have, should be implemented, provided that linkages to human activities have been established. It was also proposed to extend the pilot study to other areas with region specific organisms; specify local conditions/parameters.

It may be needed to prioritise which EcoQOs need to be implemented. Prioritisation could be based on the performance of the EcoQO in relation to communication, and to the property of being pressure driven.

Other criteria that were suggested to select or prioritise include: Does the particular EcoQO say something in addition to what we know from other indicators? Or does it offer a better alternative, or is it better for communication? Does the EcoQO 'change' management (force a different decision)?

In relation to the relationship of EcoQOs with human activities it was noted that some EcoQOs only register a 'level' of a pressure in the environment, while they do not clearly relate to impacts on organisms/the ecosystem.

The issue of scale was highlighted, and exemplified for the zoobenthos. While some EcoQOs could be set on a North Sea wide scale, others only apply on local or regional scale.

On the issue of communication, it was noted that in the US, coastal reports have been produced by the US-EPA. Their communicative value has been differently appreciated.

EcoQOs may not always be the "best" indicator, but may be better for communication than other, traditional indicators of environmental stress. But, some of these traditional parameters have been monitored for many years and may therefore more 'scientific' power than newly developed EcoQOs, e.g. contaminant levels in the environmental compartments.

### 3.4.1 Subgroup participants:

Robbert Jak (chair)

Jan Haelters (rapporteur)

Anne Langaas, Eli Rinde, Mark Tasker and Reidar Toresen

## Annex 1

### Chairman's introduction

Chair: Thorvald Stoltenberg

Welcome

The Ministers at the 5<sup>th</sup> North Sea Conference in 2002 agreed to implement an ecosystem approach to the management of the North Sea. They stressed the importance of developing a coherent and integrated set of ecological quality objectives for delivering an ecosystem approach. They furthermore agreed to a list of 21 ecological quality elements with objectives set for 10 of them, to be applied in a pilot project for the North Sea, as detailed in Annex 3 to the Bergen Declaration.

The Ministers at the 5<sup>th</sup> North Sea Conference invited OSPAR together with ICES to review progress by 2005, with the aim of adopting a comprehensive and consistent scheme of EcoQOs and to report on this to the North Sea Ministers. This review is now underway and will be finalised by the OSPAR Commission meeting in June 2005.

The purpose of this Stakeholder workshop is to provide an opportunity for stakeholders to provide input to the evaluation of the EcoQO pilot project. We aim to discuss the opportunities and difficulties connected with the implementation of the pilot project and with the future adoption of a comprehensive set of ecological quality objectives for the North Sea.

What are ecological quality objectives or EcoQOs? The simple answer is that they are specific objectives that help us translate the general aim of a healthy and sustainable ecosystem into quantitative and operational terms. Taken together the comprehensive set of EcoQOs can help us define the "envelope" within which the overall objective of a healthy and sustainable North Sea ecosystem can be expected to lie.

The Ministers and EU Commissioners responsible for the North Sea environment and fisheries met in Bergen in 1997 at the Intermediate Ministerial Meeting on the Integration of Fisheries and Environmental Issues. In their Statement of Conclusions, the Ministers agreed as a main management objective to ensure sustainable, sound and healthy ecosystems in the North Sea, thereby restoring and/or maintaining their characteristic structure and functioning, productivity and biological diversity.

There are some disturbing signals coming from the North Sea. The North Sea cod stock has for a number of years been in poor condition and may now be in a critical situation. Overfishing is the main reason but climate change may be aggravating the situation. There are shifts in species distributions and southern species are moving into the North Sea. Sandeels, which are key species in the North Sea ecosystem as links between lower and higher levels of the food web, may now also be in a critical situation. Dead seabirds are reported found in the North Sea area.

The signals from the North Sea suggest that we may be way off the main objective of heaving a sustainable, sound and healthy North Sea ecosystem, and the situation may be worsening. It is therefore high time to implement a set of ecological quality objectives that can help managers achieve the overall objective set by the North Sea Ministers. This workshop is one step in that direction.

The programme for this workshop is that we now in plenary will have three Introductions, the first by Alan Simcock, who is the Executive Secretary of OSPAR, followed by two presentations by Simon Jennings, who is the current chair of the ICES Advisory Committee on Ecosystems. The European Commission was unfortunately not able to be present to report on the on-going work on the European Marine Strategy. However, Simon Jennings who participated in the core group and working group set up to develop the ecosystem approach, will cover some aspects of the European Marine Strategy in relation to EcoQOs. We will also hear a short statement by Sabine Christiansen from the World Wildlife Fund. If other stakeholders want to make short introductory statements at this point, they are most welcome to do so.

After this plenary session and a break for coffee or tea, we will continue the workshop with discussions in subgroups. The workshop organisers from the Netherlands and Norway have suggested having discussions in two rounds, starting with four thematic groups. These groups will identify key points and prepare short statements on these points. We will then rearrange the groups and continue discussions of the different statements in new groups. This will have the format of a "carousel" where participants may want to drift around and participate in the discussions in different groups. We will come back briefly to the working groups before we break for coffee.

I want to make one final observation before we proceed with our programme. The Ministers who met with EU Commissioners at the 1997 Intermediate Ministerial Meeting, agreed as a guiding principle that there should be further integration of fisheries and environmental protection, conservation and management measures,

drawing upon the development and application of an ecosystem approach. Now we have an agreed framework for an ecosystem approach, as described in the Bergen Declaration, and we are discussing ecological quality objectives as part of such an ecosystem approach.

Many of the ecological quality objectives relate to fisheries and fisheries management. This is good because in that way the set of EcoQOs may contribute to the integration of fisheries and environmental measures, as requested by the Ministers. It poses an organisational challenge, however, in that it requires some mechanisms for the necessary collaboration between fisheries and environmental managers. I note in that respect that it appears from the list of participants that there are few representatives from fisheries management present at this workshop. It appears therefore that we have some way to go to find those mechanisms.

With this I end my introductory remarks. I have now the pleasure to introduce the first speaker, Alan Simcock, the Executive Secretary of OSPAR. He will give an introduction to the history and status of the work on EcoQOs in OSPAR.

## Annex 2

### List of participants

name	Institution	Address	zip code/city	Country
Brit R. Ø. Fisknes	Ministry of fisheries and coastal affairs	Postboks 8118 Dep	0032 OSLO	Norway
Bente Jarandsen	The Norwegian Oil Industry Association	Postboks 8065	4068 STAVANGER	Norway
Fenneke Brocken	EUROPECH	PO Box 72	2280 AB RIJSWIJK	The Netherlands
Dr. H. L. Rees	CEFAS Burnham Laboratory	Remembrance Avenue Burnham-on-Crouch	ESSEX CM0 8HA	United Kingdom
Hermien Busschbach	Ministry of Transport, Public Works and Water Management, Directorate General Water	P.O. Box 20906	2500 EX The Hague	The Netherlands
Hermann Backer	HELCOM (Helsinki Commission, Baltic Marine Environment Protection Commission)	Katajanokanlaituri 6 B	FI-00160 Helsinki	Finland
Juha-Markku Leppänen	HELCOM (Helsinki Commission, Baltic Marine Environment Protection Commission)	Katajanokanlaituri 6 B	FI-00160 Helsinki	Finland
Eli Rinde	NIVA	P.O. Box 173,	N-0411 Oslo	Norway
Alan Simcock	OSPAR secretariat			
Inger Winsnes	Ministry of the Environment	P. box 8013 Dep.,	0030 Oslo	Norway
Anne Langaas	Directorate for Nature management	Tungasletta 2	7485 Tr.heim	Norway
Simon Jennings	Centre for Environment, Fisheries and Aquaculture Science	Lowestoft Laboratory NR33 0HT		United Kingdom
Sabine Christiansen	WWF	Am Güthpol 11	D- 28757 Bremen	Germany
Dr. Philip Chown	CONCAWE	Boulevard du Souverain 165	1160 Brussels	Belgium
Kevin O'Carroll	Department of Trade and Industry (DTI)	86-88 Guild Street	Aberdeen AB11 6AR	UK
Mark Tasker	JNCC	Dunnet House, 7 Thistle place	AB10 1UZ Aberdeen	Scotland UK
Hein Rune Skjoldal	Institute for marine research	pb 1870 Nordnes	5817 Bergen	Norway
Thorvald Stoltenberg				



name	Institution	Address	zip code/city	Country
Mr Peter Heslenfeld	Ministry of Transport, Public Works and Water management North Sea Directorate	PO Box 5807	2280 HV Rijswijk	The Netherlands
Ms Wanda Zevenboom	Ministry of Transport, Public Works and Water management North Sea	PO Box 5807	2280 HV Rijswijk	The Netherlands
Ms Lisette Enserink	Ministry of Transport, Public Works and Water Management National Institute for Coastal and Marine Management/RIKZ	PO Box 20907	2500EX Den Haag	The Netherlands
Mr Robbert Jak	TNO - Environment, Energy and Process Innovation	Ambachtsweg 8a	1785 AJ Den Helder	The Netherlands
Jan Stenløkk	Oljedirektoratet	Professor Olav Hanssens vei 10, Postboks 600,	4003 Stavanger	Norway
Eva Degré	Directorate for nature management		7485 Trondheim	Norway
Kari Nygaard	NIVA	PB 173 Kjelsås	0411 Oslo	Norway
Jon Fuglestad	Norwegian Pollution control Authority			Norway
Ms Graça Noronha	Institute for the Environment Environmental Reference Lab	Rua da Murgueira 9/9A Zambugal Ap. 7585	P-2611-865 Amadora	Portugal
Reidar Toresen	Institute for marine research	Postboks 1870 Nordnes	5817 Bergen	Norway
Kjellrun Hiis Hauge	Institute for marine research	Postboks 1870 Nordnes	5817 Bergen	Norway
Jan Haelters	Management Unit of the North Sea Mathematical Models, Royal Belgian Institute of Natural Sciences (RBINS)	3e en 23e Linierregimentsplein	B-8400 Oostende	Belgium
Kjell Grip	Swedish Environmental Protection Agency		106 46 Stockholm	Sweden
Erlend Moksness	Institute for marine research			Norway
Richard Moxon	Department for Environment, Food and Rural Affairs (DEFRA)	Zone 3/D8 Ashdown House 123 Victoria Street	UK-London SW1E 6DE	UK

## **Programme**

### **Monday 13 DECEMBER – inventory of stakeholder viewpoints**

12.0 Registration

12.30 Welcome, Inger Winsnes (Norwegian Ministry of environment)

Introduction and background

- aim and programme of the workshop, Thorvald Stoltenberg
- history and status of OSPAR's EcoQOs, by Alan Simcock, Executive Secretary, OSPAR
- ICES advice, Simon Jennings, CEFAS, UK; Chair of ICES ACE
- EcoQOs in relation to the European Marine Strategy, Simon Jennings
- introduction of working groups and possibility for statements from the workshop participants as a basis for discussions

14.30 Coffee/tea break

15.00 Discussion in subgroups

19.00 Reception

### **TUESDAY 14 DECEMBER – further analysis of viewpoints**

9.00 Plenary presentation of subgroup results: main issues, main differences and similarities of viewpoints

11.00 Coffee/tea

11.30 Wrap up of the discussion, identification of elements for recommendations to BDC and OSPAR

13.00 Closing of the workshop