



NTNU
Norwegian University of Science and Technology
Faculty of Humanities
Department of Historical Studies

Maurits Ovren

The North-East Atlantic:

A study of the process behind the adoption of the ecosystem approach in OSPAR

Master's thesis in European Studies
Trondheim, November 2016

Maurits Ovren

The North-East Atlantic:

A study of the process behind the adoption of the ecosystem approach in OSPAR

Master's thesis in European Studies
Trondheim, November 2016

Norwegian University of Science and Technology
Faculty of Humanities
Department of Historical Studies



Norwegian University of
Science and Technology

Acknowledgments

After more than five years in Trondheim as a student, I am very pleased to be able to submit this master's thesis for review. During these five years I have learnt a great many things, and I have matured academically as well as personally from the many opportunities that life as a student has to offer. For that I would like to thank my co-students and friends. I would also like to thank Jan-Henrik Meyer who have been a very valuable supervisor by providing guidance and encouragement, in addition to challenge me on my ideas. I would also like to express my gratitude to the informants in this thesis for taking the time to talk with me.

I alone am responsible for the content of this thesis and any error or faults that may exist.

*Maurits Ovren
November 2016, Trondheim*

Table of contents

List of abbreviations	iii
Tables and figures	iv
1. Introduction: Management in face of uncertainty.....	1
1.1 Research question and hypothesis	3
2. Research on international environmental cooperation	5
2.1 Previous literature	5
2.2 Conceptual framework.....	8
3. Research design.....	11
3.1 Methodological reflections	14
4. The ecosystem approach and OSPAR	16
4.1 The external source of the ecosystem approach.....	16
4.2 The human impact on the marine environment.....	19
4.3 The regime of the OSPAR Convention	22
4.4 An emerging epistemic community in IMPACT?.....	24
4.5 Moving beyond the working groups of OSPARCOM.....	34
5. Conclusion	41
Literature.....	43
Appendix 1.....	50
Appendix 2.....	52
Appendix 3.....	54
Appendix 4.....	55

List of abbreviations

ASMO	Environmental Assessment and Monitoring Committee
BAT	Best available technology
BEP	Best environmental practice
CBD	Convention on Biological Diversity
EcoQO	Ecological quality objective
EcoQ	Ecological quality
EU	European Union
FAO	Food and Agriculture Organization of the United Nations
ICES	International Council for the Exploration of the Sea
IEA	International environmental agreement
IUCN	International Union for Conservation of Nature and Natural Resources
IMM	Intermediate ministerial meeting
IMPACT	Impact on the Marine Environment
JAMP	Joint Assessment and Monitoring Program
LME	Large marine ecosystems
NSTF	North Sea Task Force
OSPARCOM	OSPAR Commission
QSR	Quality status report
UK	The United Kingdom of Great Britain and Northern Ireland
UN	United Nations

Tables and figures

Figure 1.1.....	4
Table 3.....	13
Table 4.4.1.....	26
Table 4.4.2.....	27

1. Introduction: Management in face of uncertainty

In 1990, the Third International Conference on the Protection of the North Sea (North Sea Conference) was held in The Hague. At the North Sea Conference, the participating states adopted actions to enhance the protection of coastal and marine wildlife, and agreed to base future work on an integrated ecosystem approach (North Sea Conference, 1990). Although the declaration did not offer a definition of the approach, it explicitly drew inspiration from the World Commission on Environment and Development (the so-called Brundtland Commission (Borowy, 2014)), who published the report *Our Common Future*. The report emphasized that species and ecosystems should be managed together, and that maximum sustainable yields must take “into account system-wide effects of exploitation.” (World Commission on Environment and Development, 1987). Such an approach would mean a drastic change to the management regime of the marine environment in the North Sea which at the time was governed by the Convention for the Prevention of Marine Pollution by Dumping from Ships and Aircraft (1972) and the Convention for the Prevention of Marine Pollution from Land-Based Sources (1974). As the name of the conventions indicate, the so-called Oslo and Paris Conventions dealt with specific sources of pollution. The North Sea Conference framework was initiated by Germany in 1984 to speed up the process of protecting the marine environment in the North Sea, and the agreements from the North Sea Conference were often eventually adopted by the Oslo and Paris Conventions. In 2003, the Commission of the Convention on the protection of the marine environment of the North-East Atlantic (henceforth OSPARCOM and the OSPAR Convention (n.d.)), the successor of the Oslo and Paris Conventions, adopted a “vision of an ecosystem approach to managing human activities impacting on the marine environment” (OSPARCOM, 2003). Focusing on the role of the scientific community, this thesis will study the process of adopting the ecosystem approach in OSPARCOM.

Prior to the North Sea Conference declaration in 1990 and the subsequent decision to develop management measures consistent with an ecosystem approach by the year 2010, the Oslo and Paris Conventions dealt with pollution in a less holistic way. Awareness of the human impact on the marine environment in the North Sea was raised in the 1960s due to an environmental catastrophe. In 1967, the Liberian oil tanker *Torrey Canyon* ran aground on the coast of the United Kingdom (UK), resulting in a massive oil spill (Jensen, 2012). The catastrophe was followed by an incident in 1971 when *Stella Maris*, a cargo ship sailing from Rotterdam, sought to dump 650 metric tons of toxic waste in the North Sea. *Stella Maris* eventually had to halt

operations due to protests first from the Norwegian and later the Irish and Icelandic governments, but it became clear that there was no international law that prohibited the cargo ship from completing its assignment (Skjærseth, 2012).

As a result of these two incidents in the context of the emerging environmental debate, and of new environmental policies, the Convention for the Prevention of Marine Pollution by Dumping from Ships and Aircraft was signed in Oslo in 1972, with signatories from the eight states bordering the North Sea: Belgium, Denmark, Germany, the Netherlands, Norway, Sweden and the UK, four countries bordering the Atlantic: Iceland, Ireland, Portugal and Spain, in addition to the European Union (EU) and Finland. Two years later the same states, with the exception of Finland signed the Convention for the Prevention of Marine Pollution from Land-Based Sources in Paris. Executive bodies, the Oslo and Paris Commissions, were put in place, and a permanent secretariat for the conventions was set up in London (Skjærseth, 2012).

Although the conventions were signed and ratified, the pollution from some sources was increasing (Skjærseth, 1992), and even by the mid-1980s, there was almost no knowledge about which substances were being released, their quantities, or how dangerous they were for the environment (Skjærseth, 2012). As even monitoring of inputs into the marine environment was lacking and a comprehensive understanding of how pollutants might affect the marine environment was even further away, some states wanted to speed up the process of protecting the marine environment.

That was why, in 1984, the German government arranged the First North Sea Conference. Prior to the conference, the German government had published an extensive study in 1980 where environmental issues in the North Sea were clearly outlined (Tromp & Wieriks, 1994). At the conference, the German government promoted the precautionary principle, which had been a core principle in German environmental policies since the early 1970s (European Environment Agency, 2001) and suggested that even a strong suspicion of harmful effects of pollutants was sufficient to call for action (Skjærseth, 2012). The principle was adopted at the Second North Sea Conference held in London in 1987 and included in the 1992 OSPAR Convention which came into force in 1998 with Switzerland and Luxembourg joining the convention (Ibid; de la Fayette, 1999).

1.1 Research question and hypothesis

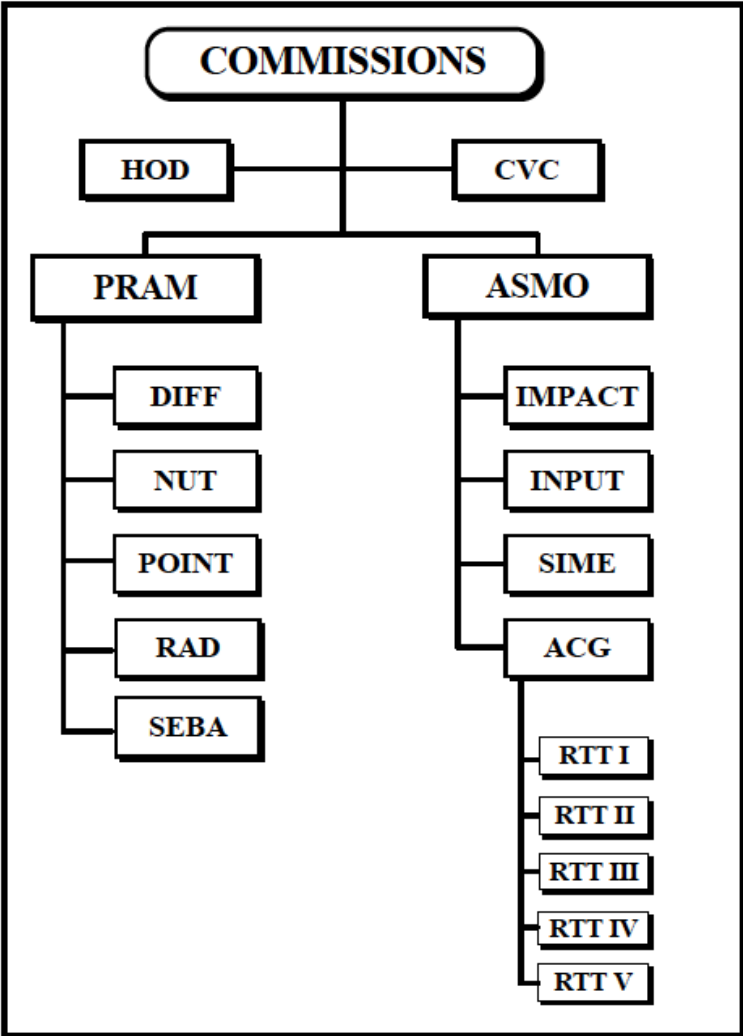
As mentioned, this thesis will study the process behind the adoption of a vision for the ecosystem approach in OSPARCOM in 2003, and the previous chapter has briefly presented the development of the management of the marine environment of the North-East Atlantic, as well as the relationship between the North Sea Conferences and the OSPAR Convention. The opening paragraph of this thesis shows that the introduction of the ecosystem approach to the management of the marine environment in the North-East Atlantic is interesting because it forces states to take into account system-wide effects of exploitation and pollution. One result of the holistic view on the protection of the marine environment can be found in the conclusions from an intermediate ministerial meeting (IMM) of the North Sea Conference in 1997. At the meeting, the participating states agreed to base future management of fisheries on an ecosystem approach, which raises the question of whether the states were willing to give environmental concerns precedence over socio-economic concerns (Intermediate Ministerial Meeting, 1997). The research question of this thesis is therefore: why did OSPARCOM adopt a vision for the implementation of an ecosystem approach in 2003?

Because of the strong relationship between the North Sea Conferences and the OSPAR Convention, the working groups of OSPARCOM presented themselves as interesting starting points in the search for an answer to the research question. The annual reports on the activities of the Commission revealed valuable information in that regard, and presented the structure of the OSPARCOM which can be seen in figure one (OSPARCOM, 1996). As most of the meeting records are made available on the OSPAR web site, it was possible to go through several years of meetings of the working groups, and in the meeting records of the working group on the Impact on the Marine Environment (IMPACT) which reported to the Environmental Assessment and Monitoring Committee (ASMO), a pattern appeared.

The IMPACT working group dealt with issues such as fisheries, aquaculture in marine environments, and habitats and ecosystem health. The participants were national delegations with representatives from government agencies and ministries and research institutes, in addition, there were observers from, among other, the Copenhagen-based International Council for the Exploration of the Seas (ICES). The pattern that appeared was that over the years, the participants in IMPACT remained mostly the same, and they mostly hailed from environmental agencies, ministries, or research institutes focusing on marine science. Against this backdrop, this thesis will enquire whether and to what extent there may have been a group of scientists

and government officials who might have pushed an agenda to adopt the ecosystem approach in the OSPAR framework.

Figure 1.1 Organization of OSPARCOM



To answer the research question and explore the possibility of a tightknit scientific community, the next chapter will explore existing literature on international environmental cooperation, which in turn will aid in the development of a suitable conceptual framework for the tentative hypothesis. After an appropriate conceptual framework is established, a research design will be developed in order to conduct a thorough analysis.

2. Research on international environmental cooperation

This chapter will explore previous research on international environmental cooperation and develop a suitable conceptual framework for this thesis. It will do so by first introducing the questions that previous research has tried to answer, and present aspects that are generally covered in research on international environmental cooperation. Subsequently, this chapter will present examples of such research and draw lessons from the presented research to develop a suitable conceptual framework.

2.1 Previous literature

The Stockholm Conference on the Human Environment in 1972 is generally considered to be the beginning of an international approach to the environment, and led to the establishment of an environment program under the United Nations (UN) (Kaiser & Meyer, in press). Hence most research on international environmental cooperation have focused on the period after this event, beginning with the questions of why and how they came into existence and later addressing the effectiveness of cooperation and what made them successful (Andresen, Boasson & Hønneland 2012). As the research question in this thesis address a development within the OSPAR Commission and Convention, this section will be devoted to research on the formation of international environmental agreements (IEA) and regimes. The reason to make a distinction between an IEA and regimes, is that an IEA might only refer to the judicial part of an agreement, while a regime also often refer to the institutional framework around the agreement. However, for the purpose of this thesis, the term IEA will be applied broadly in this thesis.

The research on how and why IEAs came into existence covers a variety of treaties, agreements which differ in their institutional arrangements, but some general aspects of the formation of IEAs can be highlighted. Firstly, there is a recognition that an IEAs are the outcome of conflicts between political, economic, and environmental interests. Secondly environmental problems have different character, and how they are dealt with may be dependent upon the nature of the problem, for example if it is unidirectional, or if there are different perceptions of what the problem really is (Mitchell, 2000). Lastly, the wider context of the issue such as the visibility of the problem, an environmental crisis or a scientific breakthrough may also affect the formation of an IEA (Mitchell, 2003).

These aspects can be recognized in several works on specific IEAs, and the most obvious point of departure is to look at the state, as states are the primary subjects of IEAs. In this thesis, the states bordering the North-East Atlantic, and countries in which waterways lead to that maritime area, were subject to the 1992 OSPAR Convention. The decision of the contracting parties to enter the convention as well as committing to decisions taken by OSPARCOM must then have been taken in a conflict of political, economic and environmental interests both within the states and between the states. Both of these aspects have been covered in the book *International Environmental Agreements and Domestic Policies: The Case of Acid Rain* by Arlid Underdal and Kenneth Hanf (2000). The authors explore the formation of national positions and preferences, as well as the implementation of IEAs by applying a framework seemingly inspired by the two-level game introduced by Robert Putnam (1988).

It is evident that the framework of a two-level game could provide information on why individual states would adhere to the convention, but not as easily why a specific management practice was chosen. What is special about the formation of IEAs, is that scientific knowledge seem to be of importance when it comes to the formation of IEAs, and it certainly would be of importance when deciding how to deal with a problem that states had agreed to solve. Underdal, along with Steinar Andresen, Tora Skodvin and Jørgen Wettestad have also explored this issue in the edited book *Science and Politics in International Environmental Regimes* (2000). In the book, Underdal focuses on organizational arrangements of the science-politics dialogue to assess how it influences the adoption of scientific knowledge. An important lesson is that scientific knowledge can not resolve conflicts over interests and values, and is exposed to political conflict which might delegitimize its value (Skodvin & Underdal, 2000)

However, knowledge is not one abstract thing. Radoslav Dimitrov (2003) criticizes earlier works for treating knowledge as a single entity and demonstrates how knowledge may influence the formation of IEAs dependent on whether the knowledge say something about cause, extent or the consequences of an environmental problem. In his examples from the regime formation on ozone depletion and the failed attempt at the creation of a deforestation regime, he showed that knowledge of the consequences, and specifically negative cross-border effects were crucial, but the knowledge of the extent was not (Ibid). This distinction might be helpful, and a reminder that the type of knowledge that existed on the environmental problems in the North-East Atlantic must be accounted for.

Some authors have tried to create comprehensive approaches which take into account several of these aspects. One example of how these aspects may be operationalized is found in Oran Young and Gail Osherenko's edited book on the formation of international regimes in the Arctic where the hypotheses are based on power, interest, knowledge, and contextual factors (1993). This way the authors account for the aspects by assessing different configurations of power on the international scene, the conditions under which bargaining can lead to a mutually acceptable outcome, and whether there was scientific consensus on the cause-and-effect, and the strength by which this is advocated by for example epistemic communities.

The role of epistemic communities is also explored by Peter Haas in *Saving the Mediterranean* (1990a). In the book, he addresses the Mediterranean Action Plan against marine pollution and seeks to answer how countries recognize, understand and respond to environmental problems. He develops hypothesis based on neorealist and historical materialist assumptions, and the influence of epistemic communities. As mentioned in the previous paragraph, epistemic communities are networks that can advocate for a knowledge solution based on scientific knowledge due to their recognized expertise and competence in a particular domain (Haas, 1992). With the tentative hypothesis in mind, an approach that includes epistemic communities seem to be relevant, and the inclusion of analytical framework that accounts for epistemic communities might reveal whether there was a tightknit scientific community that influences the adoption of a vision for an ecosystem approach.

The abovementioned works focus on the formation of IEAs in their specific context, but there are also books written to capture the more overall development of IEAs and their context such as *Learning to Manage Global Environmental Risks: A Comparative History of Social Responses to Climate Change, Ozone Depletion, and Acid Rain* by Social Learning Group (2001). The study analyzes how ideas, actors and institutions have impacted the management process of environmental problems, and seeks to develop a long-term overview of how ideas and action have influenced contemporary environmental management (Clark, Jäger & Eijndhoven, 2001). The choice to adopt the ecosystem approach was not made in a vacuum, and the focus on ideas, and how these travels in time with institutions and actors is an important reminder which needs to be considered in the analysis of this thesis. With all of these considerations in mind, this thesis is can develop a conceptual framework.

2.2 Conceptual framework

As shown in the previous chapter, there are several ways to explain the formation of IEAs and the different approaches shed light on relevant factors. Many of the approaches are based on concepts derived from international relations theories, however, the role of scientific knowledge is also explored as an explanatory factor. In the Ministerial Declaration from the North Sea Conference in The Hague, the ecosystem approach was not defined, and it took 13 years for OSPAR to adopt a vision an ecosystem approach to management. In this period the definition and criteria of an ecosystem approach may have changed, hence it seems like the approach was developed in the scientific community during the same period. This thesis is thus in need of a conceptual framework that can trace the ecosystem approach as an idea, identify the actors that developed it in the OSPAR context, and analyze their impact on the final outcome to answer the research question.

Ideas are interesting because they intervene between the material interests and interdependence of states (Risse, 1994). The definition of an idea is often blurred in empirical work, but it might intervene because it influences an actor's perception of causal mechanisms, what is acceptable behavior, or the framing of an issue (Campbell, 2002; Goldstein & Keohane, 1993). Although how an idea materializes is often blurred in empirical work, it is possible to identify how the ecosystem approach was understood in the declaration of the Third North Sea Conference. The declaration drew inspiration from the Brundtland Commission, who sought to set principles for sustainable exploitation of the world's resources. In the bigger picture, the ecosystem approach can therefore be seen as a way to respond to the idea of sustainable development. But as the ecosystem approach can be treated as an idea of its own, which was in need to be developed and agreed upon to be applied.

The conceptual framework of this thesis can therefore be based on transnational diffusion processes, and diffusion can be understood as "the socially mediated spread of some practice within a population." (Strang & Meyer, 1993, p.487). Research focusing on transnational diffusion processes are often concerned with the adoption, or the timing of the adoption of a certain policy. This way states are most often the units of analysis, and the explanatory factors include internal features of the state, and the social communication that link the state to a broader community (True & Mintrom, 2001). Hence, transnational diffusion processes have been used to analyze the diffusion of ideas, norms and institutions (Acharya, 2004; Schmidt, 2008).

The causal mechanisms of diffusion are based on social action by a promoting or emulating agent. The mechanisms are therefore either direct or indirect, and rest on an instrumental, normative or communicative rationality with the promoter or emulator. These rationalities are however ideal types, and will rarely occur exclusively, thus an analysis should be sensitive to the fact that these rationalities may act upon agents simultaneously or sequentially (Börzel & Risse, 2012). Furthermore, the mentioned rationalities have different ways of manifesting themselves in social action: promoting agents may utilize the mentioned rationalities by way of coercion, manipulating utility calculations, socialization or persuasion to diffuse ideas, and emulating agents may draw upon these rationalities by way of mimicry, lesson drawing or competition (Ibid).

In the case that this thesis is exploring it is possible that among the contracting parties, there are both promoting and emulating agents, however with the tentative hypothesis presented in the introduction, this thesis will explore whether an epistemic community influenced the decision to adopt a vision for an ecosystem approach in OSPARCOM. To that end, it is necessary to explore in the discussion whether the assumed epistemic community was a promoting or emulating agent, and if that was the case. Knowledge and the people who produce knowledge are not unexplored territory in research on IEAs, and in studies on diffusion processes, epistemic communities are often mentioned as an enabler of diffusion (Börzel and Risse, 2012; Haas, 1990b).

Epistemic communities have been mentioned above in the chapter on previous literature as a source of influence on IEAs, but not explained in detail. As defined by Peter Haas (1992, p.3), an epistemic community is a “network of professionals with recognized expertise and competence in a particular domain”. The members of an epistemic community have shared normative and causal beliefs which provide a platform for social action and the identification of problems and solutions. In addition, they have a shared notion of validity and a common policy enterprise. These communities might gain influence under uncertainty, because states need to formulate their interests and find policy solutions to specific problems. This approach has been applied as mentioned by Peter Haas (1990a), but also more widely applied in the issue *Knowledge, Power and International Policy Coordination* in the journal *International Organization* (1992).

Whether the scientists working in OSPARCOM working groups may be considered an epistemic community is left for the analysis to decide. In any case, a quick glance at the sources make it seem as though the theory of epistemic communities fits the situation in OSPARCOM in the 1990s. The contracting parties had decided to protect the marine environment as a whole, and were developing an annex to the Convention to that end. The choice of management tools and how to achieve their goal were being discussed, and as I will show later, the scientists who participated in the working group met several times, and worked on the same issues over many years.

It does seem possible that the participating scientists constituted an epistemic community, and under policy uncertainty gained influence. As a promoting agent, they were able to use this influence and introduce the ecosystem approach as a solution to the Contracting parties, who later adopted this management tool. It will be the task of the analysis to explore if this was the case, and in the next chapter I will develop a methodology to allows this question and the research question to be answered.

3. Research design

Frequently, the choice to study a single case comes from the desire to test a theory. In these cases, it is crucial to choose the case with care. However, the research question in this paper was developed in an inductive manner after some preliminary empirical research into how the ecosystem approach was introduced to the OSPAR Convention. The choice of research design was therefore made to answer the research question in the best way possible

Within OSPARCOM, many working groups were established to deal with different sectors of the cooperation. In the 1990s, they were mainly concerned with assessment, monitoring, and developing programs. The records of these meetings are all available on the OSPAR web site, containing information on their participants, documents that were presented, drafts of working plans, and summary records. The documents from the working group IMPACT was the starting point for the search of primary sources in this thesis.

The working group IMPACT reported to ASMO, which therefore also seemed like a relevant place to retrieve information. Through these working groups, it is possible to reconstruct the discussions, the countries' positions on certain topics, and the participating actors in a period of several years. To trace the work within the OSPAR working groups in this way resembles a process tracing design. Process tracing is defined by (Bennett & Checkel, 2014, p.7) as:

the analysis of evidence on processes, sequences, and conjunctures of events within a case for the purpose of either developing or testing hypotheses about causal mechanisms that might causally explain the case.

The approach in this thesis resembles an inductive approach to process tracing, and with evidence from within the case, a tentative hypothesis about epistemic communities has been developed but which might be refuted by other evidence from within the case. From the literature on process tracing of ideas, it is possible to identify several obstacles to this method. First there is a challenge to establish the decision-makers' sincere belief in the ecosystem approach, and separate it from their material interests. Second, the external sources of the ecosystem idea need to be established, and third, finding evidence that the ecosystem approach

was indeed applied. In addition, one should look for independent variations in the presented causes (Jacobs, 2014).

There are ways to confront some of these obstacles with the material from the OSPARCOM archives, and there are many additional sources that could supplement them. However, even though it would be interesting to visit the national archives of some or all of the contracting parties, that would entail an amount of work that is far too great for the scope of this thesis. Nevertheless, the OSPARCOM archive makes it possible, to a certain extent, to point to national preferences, but also to identify possible carriers of ideas, and the information the decisions were based upon. The preferences held by individuals are however less accessible, and the evaluation of the application and implementation of the ecosystem approach is outside the scope of the research question.

Although there are certain limitations to identify national and individual preferences, the limitations can be overcome by interviewing members of the national delegations to OSPAR as well as observers in the working group meetings. To conduct interviews had therefore two goals: the first, to provide knowledge about the working members' perception of the process toward adopting the ecosystem approach, and second, to explore whether the members could be understood as an epistemic community. A semi-structured interview would allow the informants to share their experiences and perception of the process (Tjora, 2012), and therefore provide details and depth to the analysis (Leech, 2002).

The background of the working group participants ranged from government ministries and the European Commission to national agencies and observers, and they often participated in specific working groups over several years. The participants who were involved over several years are interesting as they could have valuable information about the process. The sample of informants was thus chosen based on the informants' level of involvement in the working groups, and whether they represented countries participating in the framework of the North Sea Conferences.

Choosing informants in this way follows the methodological framework for conducting elite interviews. Elite interviews are a way to choose a sample that includes the most important actors in the case being studied (Tansey, 2007). This form of non-probability sampling of informants is usefully applied in process tracing when the goal is to obtain the informants' testimony, rather

than making generalizations about them (Ibid). The final list of interviewed informants can be found in table 3 below, and the interview guide used in the first interviews can be found in Appendix 1.

Table 3 List of interviewed informants with employer listed in IMPACT

Norway
Hein Rune Skjoldal – Institute of Marine Research, Bergen
Sweden
Sverker Evans – Swedish Environmental Protection Agency
Stig Carlberg – Swedish Meteorological and Hydrological Institute
The Netherlands
Jakob Asjes - Ministry of transport, public works and water management
Observers
Janet Pawlak – ICES
Hanne Grete Nilsen – The 5 th North Sea Conference Secretariat/The Norwegian Ministry of Environment

Some of the informants were however not chosen this way. Hanne-Grete Nilsen was included because it was impossible to reach Morten Svelle, who also was a member of the Fifth North Sea Conference Secretariat and who had participated in many meetings in IMPACT earlier. Neither was Hein Rune Skjoldal originally contacted for an interview, although he was on the list of possible informants. During the interview with Janet Pawlak, she described him as a driving force behind the ecosystem approach to management, and it was decided to contact him. Thus elements of the snowball method were applied to determine the informants of this thesis, which in the case of elite interviewing makes sense as the goal is to gather the most relevant informants.

Altogether ten informants from the IMPACT and ASMO working groups in Norway, Denmark, Germany, Sweden, the Netherlands, and ICES were contacted by e-mail or by telephone. A significant challenge was to find their contact information as many of them were by now retired, and the lack of correct contact information was possibly the reason why some of the informants did not answer. Out of the ten informants that were contacted, six responded and were willing

to talk. Participants from the German and Danish delegations were not among them, so personal views and beliefs were only available for a handful of the participants. The interviews took place from late February to mid-March 2016, and were conducted on the telephone or via skype. Beforehand, interviewees were forwarded a statement on ethical guidelines, as well as summaries of the meetings they attended in OSPAR because many raised concerns about their memory of the time. An example of the information that was forwarded can be found in Appendix 2, and the statement on ethical guidelines in Appendix 3.

3.1 Methodological reflections

A concern in advance of the interviews was whether the informants would be able to talk freely about their experiences in the working group. Most of the informants participated in the working groups on behalf of a government, and one could imagine that they would feel some constraint talking negatively about former or current coworkers and employers. This proved also to be the case when a couple of informants asked not to be quoted. In addition, there was a concern that the informants would have a hard time remembering events that took place 20 years ago.

That is why they were sent summaries of their participation, and the questions in the interview guide were specific to try to evoke memories about different events. The interview guide was followed rather closely in the first couple of interviews, and although many questions were very specific, it was possible for the informants to talk quite freely. However, it quickly became clear that in many cases the informants could not recall specific topics being discussed. As Stig Carlberg put it (translated from Swedish by me, M.O.):

As I said the first time you phoned, this lies way back in time, oh my God, 1996, that's 20 years ago! No, it's hard to remember if it wasn't directly related to your work.

It thus became necessary to ask more open-ended questions about their experiences, and rather focus on their general involvement in the relevant forums. This approach was more fruitful as the informants could talk more freely, and other topics and aspects than those included in the interview guide were brought up by the informants.

This change was done after the interview with Carlberg and Jakob Asjes, but already during the interview with the latter, the style moved in a direction of more open ended and general

questions. As shown, the informants could be quite explicit in the way they expressed concern over the state of their memory, and at times it felt invading to keep asking questions about a topic the informant remembered little from. A balance had to be found between pushing the informants and not making them feel inadequate or unhelpful, which sometimes was difficult to navigate.

To conduct these interviews was also a learning experience. When working with the transcription it became clear that some opportunities were missed when it came to follow-up questions. This also concerned aspects that could have helped discover defining features of an epistemic community. However, probing into the past may be strenuous for the informants, and sometimes there had to be found a balance between searching the answers and respecting the informants. Lastly it is worth noting that several of the informants had prepared themselves by finding old reports and documents from the period. This was not asked for nor expected, but showed how some may have felt an obligation to be as helpful as possible. The informant Hanne-Grete Nilsen even offered to go through the ministry's archives to look through the meeting reports from the Committee of North Sea Senior Officials that were not publically available. She later deemed them to be of little interest based on the topics I had provided for her.

4. The ecosystem approach and OSPAR

This chapter is dedicated to the discussion of the research question in this thesis. To answer the question of why OSPARCOM adopted a vision for the ecosystem approach, the discussion will draw on lessons from the conceptual framework developed above, as well as take into consideration the obstacles that the chapter on research design has presented. To confront these obstacles, this chapter will begin by establishing the external source of the ecosystem approach, before moving on to the discussion of why OSPARCOM adopted said approach. The discussion will then explore the relationship between the North Sea Conferences and OSPARCOM, before it will turn to the working groups of OSPARCOM to explore the possible existence of an epistemic community that influenced OSPARCOM in their decision to adopt a vision for an ecosystem approach.

4.1 The external source of the ecosystem approach

As mentioned in the introduction of this thesis, the participating states at the Third North Sea Conference in The Hague, agreed to apply an ecosystem approach to the management of the marine environment, but other than a reference to the Brundtland Commission, they offered no clear definition of what that meant. Neither did the Brundtland Commission give a clear answer to how to manage species and ecosystems together, or take system-wide effects of exploitation into consideration. As the previous chapter on research design argued, identifying the external source of an idea is a necessary step, and will aid in the understanding of how it was perceived when it was taken into the framework of the North Sea Conferences.

Although the Brundtland Commission did not offer a definition of what an ecosystem approach would look like, the report made a reference to a book where examples of workable solutions were presented. The book was the result of the Proceeding of the World Congress on National Parks held in Bali in 1982 which were held to present approaches to, and discuss the role of, protected areas in the process of social and economic development. The proceedings were led by the International Union for Conservation of Nature and Natural Resources (IUCN), and the reason to discuss the role of protected areas, was that the IUCN saw an increasing pressure on the environment from population growth, economic uncertainty and social instability. To protect the environment, society thus needed a full range of categories of protected areas from strictly protected nature reserves to areas where conservation was primarily oriented to the support of economic activities (McNeely, 1984).

During the proceedings, lessons from approaches applied both on land and at sea were presented, but the presentations also made it clear that there was not a scientific consensus on how to best manage protected areas. One presentation that is relevant to this thesis presented the difficulties of how to properly demarcate the boundaries of an ecosystem at sea (Ray & Hayden, 1984). This was mainly because of a third dimension to take into consideration, that of depth, but also other aspects which did not directly translate from protected areas on land. The Bali Action Plan also showed that there was a need for greater knowledge in the field. Objective three of the action plan was to improve the quality of management and ecosystems of existing protected areas, and contained different proposed activities which could reach this target, among other to promote and develop concepts and methods which could lead to scientific principles for management (Miller, 1984).

The references that can be traced from the declaration of the Third North Sea Conference are however not the only sources that point to the external source of the ecosystem approach. A report from the ICES Advisory Committee on the Marine Environment from the year 2000 states that “The earliest discussions by ICES on the need for a more formal ecosystem approach to marine fisheries issues were held during the 1975 Symposium on the Long Term Changes in Fish and Fisheries of the North Sea.” (ICES, 2000, p.151). The Symposium was held because of the change in composition in the catches from the North Sea. From the early 1960s, the catches had increased from around 1 million metric tons to above 3 million metric tons in 1968 and in 1975. In the early years, the catches from pelagic and demersal species were about the same, but leading up to 1975 demersal species started to dominate the catches (Hempel, 1978).

Kenneth Sherman described the symposium as a milestone in fishery science, as the symposium called for future research to “take into consideration fish stocks, their competitors, predators and prey, and interactions of the fish stocks with their environments, the fisheries, and pollution from an ecosystem perspective.” (Sherman, 1991, p.349). Research on a more holistic ecological model had however already been introduced in the 1960s with the energy flow approach (Steele, 1965), but the approach was unable to take into consideration temporal and spatial variability in the ocean (Sherman, 1991). During the 1980s, however, progress was made in that regard.

Calls for a total ecosystem management of living marine resources were already being made in the early 1980s (Belsky, 1986), and The Dahlem Conference on Exploitation of Marine

Communities held in 1984 addressed the questions of change and persistence in marine communities, and reviewed the need for multispecies and ecosystem perspectives in fisheries management (May, 1984). In a group report on ways to integrate fisheries management and theory of ecological systems, the single-species approach to fisheries management was described as a success, but its short-comings were also apparent. For example was the possible heterogeneous cropping of populations or of age distribution within a group of dynamically related species seen as a problem because it could result in faulty stock-production, forecasts and thus catastrophic declines in stock abundance. Declines in stock production could also be the result due to perturbations to the marine environment, such as loss of habitat (Sugihara et al., 1984). However, although an ecosystem perspective to fisheries management was considered beneficial, there were major concerns that the management would be too complex to model.

Another development that seemed to push the agenda for an ecosystem approach to the management of marine resources, was the concept of large marine ecosystems (LME). The LMEs are areas of ocean which cover more than 200 000km², and they are characterized by hydrographic regimes, submarine topography, productivity and populations of species dependent on each other. Several LMEs such as the North Sea had been explored and discussed at a symposium which led to the book *Variability and management of large marine ecosystems* (Sherman & Alexander, 1986), but unlike previous approaches, LMEs take into account the spatial and temporal variability in the ocean (Sherman, 1991). LMEs are therefore presented as a suitable unit for marine resource assessment, monitoring, and management (Sherman, 2008). This solved the question of how to properly demarcate ecosystems at sea, raised by the World Congress on National Parks in 1982, and possibly the questions on how to explain variability in the different fish stocks.

There were surely other scientific advances on the subject prior to the 1987 North Sea Conference, but these examples illustrate the topics that were on the agenda at the time. By exploring the reference in the Third North Sea Conference Declaration, and other related sources, it has been possible to establish that the idea of basing the protection of the marine environment on an ecosystem approach was the result of processes both globally and locally. Globally, the increasing focus on sustainable development due to pressure from societal development resulted in the call for sustainable development and to introduce a wide range of categories to protect the environment. Locally, changes in species distribution in the North Sea

caused concern over possible future economic activities in the ocean, and the merging of fisheries management and theories on ecological systems became more important. These were the contextual factors which drove the protection of the marine environment high up on the agenda and laid the foundation for political action. That is basis upon which the development of an ecosystem approach in OSPAR is to be explored.

4.2 The human impact on the marine environment

The last chapter examined the references that the Third North Sea Conference Declaration made to establish the external source of the ecosystem approach, which made it easier to understand the problems that the North Sea states were facing, and some of the possible solutions that were on the table. To move further on with the discussion, this section will analyze the relationship between OSPARCOM and the North Sea Conferences, to further explore why OSPARCOM adopted a vision for an ecosystem approach in 2003.

One of the major steps that were taken in the pursuit to protect the marine environment in the North Sea, was the adoption of the precautionary principle at the 1987 Second North Sea Conference in London. As pointed out earlier, this was an important step in protecting the marine environment as the states were to take action to reduce polluting emissions when there was reason to assume that such emissions could have harmful effects on living resources, even though there was no scientific evidence to prove the causality of such assumptions (North Sea Conference, 1987).

However, the North Sea states wanted more knowledge on the state of the environment in the North Sea. Before the First North Sea Conference, the German government had produced a quality status report (QSR) of the North Sea, and in the preparation for the Second North Sea Conference, the UK government prepared a new QSR. The second report was much more detailed than the one prepared by the German government, and the ICES Advisory Committee on Marine Pollution was asked to review the report (Janet Pawlak). The Advisory Committee found that the report lacked the detailed scientific assessment and precision that ICES could provide, and in their comments on the QSR, ICES gave their views on how they could contribute further, which included the possibility of compiling a wholly scientific assessment of the entire North Sea (Ibid).

During the Second North Sea Conference, it was decided to request the Oslo and Paris Commissions together with ICES to form a task force to that end. The North Sea Task Force (NSTF) was asked to make “a dependable and comprehensive statement of circulation pattern, inputs and dispersion of contaminants, ecological conditions and effects of human activities in the North Sea.” (North Sea Conference, 1987, p.11). Most of the participants in the NSTF came from the North Sea states, and its secretariat was placed in London together with the Oslo and Paris Commissions (North Sea Task Force, 1993). So although the North Sea states chose to go further in the protection of the marine environment outside of the OSPARCOM framework, OSPARCOM was involved, and the other contracting parties to the OSPAR Convention paid close attention with observers present in the NSTF (Ibid).

The scope of the 1993 QSR was expanded in 1990 at the Third North Sea Conference in The Hague which invited the NSTF to address, among other issues, the impact of fisheries on the North Sea ecosystem (North Sea Conference, 1990). And, in addition to expanding the scope of the 1993 QSR, the North Sea states also addressed new issues such the protection of species and habitats. States that had not yet signed the 1979 Convention on the Conservation of Migratory Species of Wild Animals, were invited to do so, and the Memorandum of Understanding on Small Cetaceans in the North Sea was welcomed (Ibid).

The 1993 QSR pointed to several issues of concern in the marine environment of the North Sea, such as the concentration of organic contaminants and the transport of contaminants in a counter-clockwise direction depositing them in Germany, Denmark and Norway. That includes deposition in the biologically important Wadden Sea off the coast of the Netherlands, Germany of Denmark, and adversely affects habitats which also were threatened by offshore and industrial activities, as well as agriculture and recreational use (North Sea Task Force, 1993). But at the same time it highlighted the difficulty of establishing links between cause and effect, which underlines the degree of uncertainty that must be expected to be present when managing the marine environment.

However, even before the 1993 QSR was presented, the Oslo and Paris Commissions had taken on new obligations with the signing of the OSPAR Convention. The main reason for the establishment of the North Sea Conference framework was to speed up the protection of the marine environment, as contracting parties to the Oslo and Paris Conventions such as Portugal and Spain showed little interest in moving forward on the basis of the conventions (Skjærseth,

2012). With the new convention, the other contracting parties started to follow the lead of the North Sea states by including Annex IV on assessment of the quality of the marine environment, and in 1992 an action plan was adopted that sought to provide a QSR for the entire North-East Atlantic by the year 2000 (de la Fayette, 1999).

The purpose of signing the OSPAR Convention was to create a comprehensive regime in a single legal instrument to protect the marine environment in the North-East Atlantic from pollution (de la Fayette, 1999). But in addition to incorporate the sources of pollution dealt with by the Oslo and Paris Conventions, as well as decisions and recommendations adopted thereunder, it obliged the contracting parties to protect the marine environment from adverse effects of human activities (Ibid; OSPAR Convention, n.d.). At the signing of the Convention, the ministers also welcomed

the possibility of addressing matters relating to the protection of the marine environment other than those relating to the prevention and elimination of pollution, and the possibility of taking any necessary measures on these matters by the adoption of new annexes in the future.

(de la Fayette, 1999, p.252). The statement is reflected in Article 7 of the OSPAR Convention (n. d.) which however also states that new annexes on the protection of the marine environment may only be adopted if they are not subjected to effective measures agreed upon by other international organizations or conventions.

The same year as the signing of the OSPAR Convention, another important piece of legislation was passed in the European Union. It was the Council directive on conservation of natural habitats and of wild fauna and flora, also known as the Habitats Directive. The Habitats Directive together with the 1979 Council directive on the protection of wild birds form an important part of action taken at a European level to protect the species and habitats. One of the measures in the Birds Directive was the creation of special protection areas to protect the habitats of birds, and the Habitats Directive expanded the list of areas to all species of fauna and flora which were of special community interest (Johnson & Corcelle, 1995, p.298-329). Some of the obligations in the Habitats Directive were similar to the ones in the 1979 Berne Convention on the Conservation of the Wildlife of Europe's Natural Environment, and were

taken with a view to develop a coherent European ecological network of sites of community significance (Ibid).

However, both the introduction of the OSPAR Convention and the Habitats Directive came at the time when biological diversity also was high on the international agenda. In 1988, the work began on the Convention on Biological Diversity (CBD) which was signed in Rio at the 1992 UN Conference on the Environment and Development (Convention on Biological Diversity, n.d.a). The convention is process-oriented with a normative character and addressed the rapid decline of biological diversity with three main purposes: to ensure the conservation and sustainable use of biological diversity, and the equitable sharing of benefits from genetic resources (Rosendal & Schei, 2012). It also offered concepts globally agreed upon, and relevant for this thesis. Biological diversity is defined in Article 2 as “diversity within species, between species, and of ecosystems” and ecosystems are defined as the dynamic complex of plant, animal and micro-organism communities and their non-living environment interacting as a functional unit” (Convention on Biological Diversity, 1992)

Based on the information provided in this chapter, it is possible to draw some conclusions on the relationship between the North Sea Conferences and OSPARCOM. At the end of the 1980s, the understanding of how to best protect the environment had begun to change with the Brundtland Commission who highlighted the need for sustainable development. This is also evident in the signing of the CBD, and the introduction of the Habitats Directive in the EU. Most of these developments did not translate directly into the OSPAR Convention as there were no provisions in the conventions which opened for measures to be taken in other fields than that of pollution. However, the convention text did refer to all adverse effects of human activities, and at the signing of the convention additional annexes were welcomed. Nevertheless, the most concrete evidence of influence on the Convention from the North Sea states is the inclusion of Annex IV on assessment of the quality of the marine environment, inspired by the work of the NSTF.

4.3 The regime of the OSPAR Convention

Although the new provisions in the convention did not directly relate to measures to be taken to protect the marine environment, Article 2(1)(a) states that the contracting parties shall take all necessary measures to protect the maritime area and restore marine areas which have been

adversely affected (OSPAR Convention, n.d.). As the convention at the same time is clear on its objectives and the responsibilities of its signatories but unclear on how to achieve them, the regime becomes an important source of information to how the convention will function.

In addition to signing a new convention, a new regime was also established in the OSPAR Convention. In the Oslo and Paris Conventions, hazardous pollutants were divided into a black and a grey list, where they were subjected to elimination or control (de la Fayette, 1999). Under the new regime, all sources of pollution were to be controlled and eliminated through the use of best available techniques (BAT), best environmental practice (BEP), and where appropriate, clean technology according to Article 2 (OSPAR Convention, n.d.). Appendix 1 to the convention contains the definition of BAT and BEP, and Appendix 2 contains criteria for setting priorities of which measures and programs are to be taken for the elimination of substances. It also includes a list of substances to be eliminated, most of which were already on the black and grey list by the Oslo and Paris Conventions (de la Fayette, 1999).

The precautionary principle was also included in the convention, and the new regime reflects the interest of the contracting parties to apply it. The formulation of the principle in Article 2(2)(a) is active, which requires the states to take necessary action, unlike other definitions of the precautionary principle which states that scientific uncertainty should not delay preventive measures (de la Fayette, 1999). However, in Appendix 1, what constitutes BAT is to be determined by among other aspects the economic feasibility of such techniques. So although the states are obliged to apply BEPs, budget concerns might hinder the deployment of needed technology, and thus undermine the obligations of the convention as balancing budgets are always a difficult task. Furthermore, the ecosystem approach is not mentioned in the original convention, but as other adverse effects of human activities are not specified, holistic approaches to the protection of the marine environment may not have been considered to be needed.

The appendixes mentioned in the former paragraph, including annexes, are an integral part of the OSPAR Convention as the convention itself is a framework, consisting of definitions, general obligations, and provisions on scientific research and compliance. That is why the status of the decisions and recommendations made by OSPARCOM are important as most of the legally binding provisions are not to be found in the convention itself. The status of decisions and recommendations are treated in Article 13 of the OSPAR Convention (n.d.), and states that

they are to be adopted by unanimous vote, and decisions are binding, but recommendations have no binding force.

With the signing of the OSPAR Convention, the structure of the Oslo and Paris Commission changed to reflect the new provisions of the convention. Although the convention did not enter into force until 1998, a new joint working structure was adopted in 1994 with provisions for OSPARCOM renewed annually in a joint action plan. The joint working structure is presented in figure 1.1 in the introduction, and the working group IMPACT began its work in this joint structure.

4.4 An emerging epistemic community in IMPACT?

As mentioned in the introduction, a pattern appeared while studying the working groups of OSPARCOM which led to a tentative hypothesis on the existence of an epistemic community in the IMPACT working group. The theory presented above showed that under certain conditions, an epistemic community could shape policy and explain how the ecosystem approach became the favorable solution to the new goals of the convention. As the first part of the discussion has been devoted to establish the possible external source of the ecosystem approach and the relationship between OSPARCOM and the North Sea Conferences after 1987, this chapter is dedicated to establish whether the researchers in the OSPAR working groups indeed constituted an epistemic community.

To establish the presence of an epistemic community, it is necessary to recall the definitions presented earlier and assess whether the conditions are fulfilled. Some of the conditions may be hard to identify among the informants, and as only a handful of them were interviewed it is impossible to say something about all the participants. Furthermore, the goal with the interviews was not to make generalizations, but rather gain knowledge of the informants' perceptions, and it is therefore important to be careful not to draw conclusions on behalf of all the participants.

First and foremost, an epistemic community is “a network of professionals, with recognized expertise and competence in a particular domain” (Haas, 1992, p.3). As a first step to establish whether the participants constituted an epistemic community, it is possible to show that the informants, as well as other participants, were a part of a network that worked with these questions over several years. This is presented in table 4.4.1, where, in addition to the working

groups ASMO and IMPACT, the 1993 QSR, a report from the ICES Advisory Committee on the Marine Environment from 1998 (ACME, 1998), and a workshop held in Oslo 1998 on the ecosystem approach are included.

The compilation of meetings and reports is based on work carried out in, or in relation to OSPARCOM. In addition to the informants, the table includes some of the participants who met in IMPACT or ASMO, and who also represented countries involved in the NSC framework. One member of the Common Wadden Sea Secretariat is also included. There were participants who could have been included in this list, but table 4.4.1 is meant to be illustrative. It reflects the response from Janet Pawlak on the question of whether she met the same people over and over when working in OSPAR:

Yes, of course! And many of them were also in ICES working groups too you know. There was a fairly large overlap, it could be as high as 50%. ICES had 25-30 working groups working on different aspects of the environment. So there was quite a big overlap.

Of course, table 4.4.1 does not say anything substantial about the type of network that the informants were a part of. However, it does show that the informants selected for this thesis did work together and participated in the same working groups over the course of several years, and validates the further investigation of the possible existence of an epistemic community.

The definition of an epistemic community is very broad, and allows the members to have a background from different disciplines. This was also the case informants interviewed for this thesis, which can be seen in table 2.2. To start with the question of whether the informants had a recognized expertise, it is clear from table 2.2 that they had a formal education relevant to the topics being discussed in the OSPAR working groups. The reason for their involvement in OSPAR was explained by Asjes, Carlberg, Evans and Skjoldal of the informants as a consequence of their employment and the position's responsibilities. Their workplaces are listed in table 3, and although the specific level of education is missing for some informants, these tables paint a picture of participants who were considered experts in their field.

Table 4.4.1 The attendance of a selection of participants in various frameworks

Meetings and reports	Norway		Sweden		The Netherlands		Belgium	Germany	ICES	CWSS
	Hein Rune Skjoldal	Hanne-Grete Nilsen	Sverker Evans	Stig Carlberg	Jakob Asjes	Frank van der Valk				
QSR 1993	x		x	x		x		x	x	x
IMPACT 1995			x		x	x	x	x	x	
ASMO 1996	x		x	x		x		x	x	x
IMPACT 1996	x		x		x		x	x	x	
ASMO 1997	x		x	x		x			x	x
IMPACT 1997	x				x		x			
ACME report 1998	x			x					x	
Workshop on the ecosystem approach 1998	x	x								x

Another interesting aspect of the informants' response is that it indicates that they were not hand-picked by the politicians, as their participation was a function of their positions. Their normative and causal beliefs were thus not accounted for, and the national ministries could to a lesser extent choose the participants based on who shared the same goals as them.

Table 4.4.2 List of informants and educational background

Hein Rune Skjoldal – Marine biology

Sverker Evans – PHD in marine ecology

Stig Carlberg - Oceanography and chemistry

Jakob Asjes – Biology with a specialization in salt marsh ecology

Janet Pawlak – Master's degree in biochemistry and a law degree

Hanne-Grete Nilsen – Master's degree in biology

As the existence of a network is made probable, and its expertise has been established, it is necessary to explore whether the network applied their causal knowledge to a policy enterprise subject to their normative objectives (Haas, 1992). The first meeting held by IMPACT was held in Stockholm in October in 1995 (IMPACT, 1995a). Ronny Ferm from the Swedish Environmental Protection Agency was the one to open the meeting. He pointed out that the issues of fisheries, marine litter, and ecosystem health were recent to OSPARCOM, and that they required a new working approach and emphasized the need for OSPARCOM to define its role in those matters (Idid).

The discussions in IMPACT was based on a Joint Assessment and Monitoring Program (JAMP), which divided the topic of the working group into different issues, and provided concrete problems to be solved. On the issue of fisheries, IMPACT was to find ways to find out how and to what extent fisheries, including industrial fisheries, affected stocks of target and non-target species and benthic communities (IMPACT, 1995b). And relating to ecosystem health and issued of protection of species and habitats, IMACT were to consider how ecosystem health could be assessed in order to determine the extent of human impact, and do so by developing ecological quality objectives and identify suitable indicator species. In addition, there were several JAMP issues on habitats concerning the impact of human activities, the role of different habitats, and the relation between different types of habitats (IMPACT, 1995c).

Although the meeting had an agenda and terms of references agreed upon by the contracting parties to the OSPAR Convention, the statement of Ferm opened up for more progressive countries and participants to promote their own agendas. However, as the work in IMPACT was not based on provisions in the OSPAR Convention, it would be easy for other countries to stop initiatives that they felt were in conflict with their national interests. Jakob Asjes from the Dutch Ministry of transport, public works and water management described the working group as a bit odd because the OSPAR Convention at the time did not cover the issues that IMPACT were going to discuss. As the terms of references for the meetings in IMPACT were not based on the provisions in the OSPAR Convention, it would be easier for the contracting parties to object to the terms of the meeting. This also happened at the first meeting, as Spain, often described as one of the laggard states in OSPARCOM, declared that the issues relating to protection measures in the topics of fisheries and habitats and ecosystem health were not to be applied to any other areas until the 1996 meeting of the contracting parties (IMPACT, 1995a).

These issues had been included following agreements made at the Fourth North Sea Conference held earlier that year in Esbjerg, Denmark. In fact, there had been held two meetings in the North Sea Conference framework leading up to the first meeting of the IMPACT working group. The first was an IMM held in Copenhagen in 1993 which was held to discuss the 1993 QSR. In the Statement of Conclusions, the IMM identified channels where the 1993 QSR recommendations could be addressed appropriately, and OSPARCOM and ICES were identified as appropriate channels for measures to be taken under the issue of species and habitats relating to the definition of biological diversity in terms of the marine environment (Intermediate Ministerial Meeting, 1993). In addition, they were deemed appropriate channels in the work monitoring habitats and research on the marine ecosystem (Ibid). Moreover, the European Commission was identified as a channel in the work of habitat protection, which can be seen in relation to the Habitats Directive from 1992.

The framework that was in place for addressing human activities that adversely affected the marine environment was not very efficient as OSPARCOM in preparation for the Fourth North Sea Conference in Esbjerg submitted a report in which they stated that the evaluation of the impact of human activities on the marine environment would include species and habitats, but underlined that programs and measures in that field were not within their remit (OSPARCOM, 1995). At the North Sea Conference, the participating states agreed that future work needed to be taken on two levels. The first level was the within territorial waters where the implementation

of the Birds and Habitats Directive would be the prime goals, and the second in new forms of cooperation. They thus invited OSPARCOM to coordinate the work of protecting species and habitats outside the territorial waters, and develop criteria to identify important species and to define ecological objectives for the protection of species and habitats (North Sea Conference, 1995). The participating states also agreed in the Esbjerg Declaration to request the competent management authorities for fisheries to identify possible locations for undisturbed areas, as well as areas to be closed in appropriate periods to protect juvenile fish and spawning grounds, as well as adapt the capacity and effort of the fishing fleet to a sustainable level of exploitation (Ibid).

The reluctance of Spain to introduce the topics of fisheries and habitats and ecosystem health into other areas did however not affect the discussions in IMPACT, and the issues were discussed at their first meeting. And despite the reluctance of Spain to discuss these issues, the Netherlands proposed that in addition to assess the impact of fisheries on the marine ecosystem, the working group should also include an evaluation of the effectiveness of management measures. However, the Norwegian delegation pointed out that there were no provisions for IMPACT to make recommendations on fisheries management policies, and this view was supported by the Danish delegation, but not by the other delegations present (IMPACT, 1995a).

Thus far, the North Sea states had been progressive in their commitments to the protection of the marine environment, but the Norwegian disagreement with the Netherlands shows that there were different national considerations as far as how those commitments were to be executed. As there were no provisions in the OSPAR Convention to take legally binding decisions or make recommendations, the Norwegian delegation would not have to fear that the inclusion of recommendations on measures in fisheries policies would lead to binding international commitments. However, recommendations from IMPACT on fisheries policies could hold normative power, and would be based upon environmental considerations. In the negotiations with the EU on fisheries and the management of it, there would probably be less focus on environmental concerns, and so it would be easier for the Norwegian delegation to base fisheries policies on other societal concerns such as employment.

On the issue of fisheries, the disagreements on a national level are easy to establish, but it is more difficult to establish whether the informants shared normative and causal beliefs and had a common perception of validity on the issue of fishery. When it comes to the question of

whether the participants of the working group shared causal beliefs, an important issue is the great level of uncertainty that exists on the links between cause and effect in the marine environment. Many factors contribute to the deterioration of the ecosystem health, and although the 1993 QSR had established many areas of the marine environment that were adversely affected by human activities, not all factors could be accounted for, or separated from natural variability.

However, the precautionary principle recognized in the OSPAR Convention provided guidance in how to deal with uncertainty, and led to a recognition that causal links were not necessary to take action. In addition, the OSPAR Convention was dedicated to work on all aspects of human activities that had an adverse effect on the marine environment, which can be interpreted as a consensus on the regulation of all human activities. That makes for the argument that there was generally no need for the informants to share causal beliefs on the causes in the deterioration of the ecosystem health as the basis for action was already agreed upon in the OSPAR Convention. Nevertheless, even if the informants shared the view that fisheries was an important factor in the deterioration of the ecosystem health, it was impossible to force the issue, since there were countries that had strong national interests against the suggestion. The Summary Record of the 1996 IMPACT meeting also included a confirmation on the fact that questions relating to the managing of fisheries were appropriately regulated elsewhere (IMPACT, 1996), and was a clear signal that the issue should not be discussed.

Exploring the shared normative beliefs of the informants in this thesis had the goal of discovering whether they were of the opinion that applying the ecosystem approach was the right thing to do. Based on the interviews, it is difficult to establish the informants' personal beliefs, and most of them referred to the position of their delegations. It is possible that the informants shared the normative view with their delegation, but an observation made by Janet Pawlak indicates that at least not all did. She found it interesting that a person could be working with what they wanted and said what they wanted in ICES one week, and a couple of weeks later, take on a different position as a representative of a national delegation. This could indicate that there was little room to promote personal opinions that went against the official position of the delegation, and would have made it difficult for an epistemic community to promote their agenda. The statement also makes it more likely that any persuasion, socialization or manipulating of utility calculations would have taken place within the ministry.

If such a form of social action took place, a statement of Asjes strengthens the suspicion that it would happen within the ministry. He pointed out a friction within the Dutch government where the Ministry of fisheries was reluctant to involve the Ministry of transport, public works and water management in the management of fisheries. It was underlined that those questions were dealt with by national and EU policies, but a compromise was found in that the Dutch delegation could seek to conduct studies and indicate problems in the framework of OSPARCOM, but they were not to take measures.

The statement by Asjes makes a case for an exploration of the formation of national preferences, as even within the Dutch ministry, who was in favor for making recommendations on fisheries policies, there was a conflict on how comprehensive the mandate of OSPARCOM should be. These disagreements on the references for fisheries led to that the proposed working strategy which invited ICES to provide information on several topics related to fisheries, did not address the effectiveness of management policies (IMPACT, 1995b). And in the summary records of the IMPACT meeting the following year, a paragraph underlined that the competences of taking measures in fisheries were with the EU and Norway (IMPACT, 1996).

In addition to fisheries being discussed, the protection of habitats was also being discussed in relation to ecosystem health and species. In order to establish a work strategy on ecosystem health, Norway had hosted a workshop on EcoQOs (IMPACT, 1995). Two previous workshops had been held on the subject in the framework of the NSTF, and the goal was to develop criteria for ecological quality (EcoQ), and policy targets in the EcoQOs (IMPACT, 1995c), but the Norwegian delegation had not been able to present the final report to the meeting in time, so the discussion of the management measures needed to enable the EcoQOs as an assessment tool, would be addressed the following year.

At the same time, the Swedish and German delegations presented suggestions for criteria for selecting marine protected areas, and it was agreed that the requests made by the Fourth North Sea Conference in Esbjerg in the field could be included in the work program. It was however noted that the work on a classification scheme for the selection of species and habitats still needed considerable work. One can note that an ecosystem approach was not mentioned in the Summary Record of the 1995 IMPACT meeting, even though the working group was working on setting EcoQOs which by way of using indicators can be seen as a way to make sure that the. However, the discussion of the criteria for EcoQ does imply that there was not enough

knowledge about how to define a good ecological condition, so that such a discussion might have been premature.

As Asjes pointed out, the IMPACT working group was an odd group. However, in November of 1995, the heads of the delegations met to prepare for a ministerial meeting in OSPARCOM, and at the meeting, it was decided that work should begin on an annex to the OSPAR Convention concerning the protection of species and habitats. Furthermore, the same year the Second Conference of the Parties to the CBD was held. The conference agreed that the ecosystem approach should be the primary framework for action under the convention (Convention on Biological Diversity, n.d.b). With the decision by the CBD and the North Sea Conferences promoting the idea of adapting an ecosystem approach, the OSPAR Convention would have to include the ecosystem approach in the new annex if the states were to fulfil their international obligations. Nevertheless, the lack of provisions on taking measures in fisheries would still be a hindrance for a completely holistic approach to the protection of the marine environment.

In 1996, the question of EcoQ and EcoQOs was being discussed again in IMPACT (1996). A draft overview report on the EcoQOs had been up for discussion, but unanimity had not been reached. The German delegation was of the view that the EcoQOs methodology was not yet available, and that depending on the political determination of the EcoQOs, their values might be interpreted as being contradictory to the application of a precautionary approach. Earlier that year in the ASMO committee, the German delegation had been even more vocal in their concerns, and stated that they would not be able to accept EcoQOs resulting from modelling approaches that were based on economic considerations instead of environmental necessities (ASMO, 1996). The Norwegian delegation on the other hand, saw the EcoQOs as linked with the ongoing process of developing more specific assessment tools, and deemed the methodology to be useful. This constitutes the second clear disagreement between delegations in IMPACT, and the disagreements continued along the same lines at the meeting in 1997 (Ibid).

The disagreement on the EcoQOs can not be seen as a disagreement that is based on divergent normative beliefs, but rather a disagreement on validity. The German delegation was not convinced that the EcoQOs would be applied in a way that satisfactory ensured the protection of the marine environment. And the choice of EcoQOs was deemed to be a political question,

which makes the influence of a possible epistemic community smaller, since other considerations than the purely scientific would be the basis of the decision. Despite of the German concerns about the methodology, the EcoQOs would be continued to be developed, and in the 1997 meeting of IMPACT, the Norwegian presented a paper based on a cooperation with the Netherlands where the EcoQOs were seen as a framework for further development, adaptation and harmonization of monitoring and assessment within the area covered by the OSPAR Convention (IMPACT, 1997).

Again, the differences on a personal level of the informants on their shared view of validity was difficult to establish. Stig Carlberg from the Swedish Meteorological and Hydrological Institute mentioned in the interview that there were disagreements on how to do measurements, but that the disagreement was based on the fact that different laboratories often used different methods, which would not give comparable results. However, Asjes mentioned how the Dutch delegation was concerned with the EcoQOs, much in the same way as the German delegation. The Dutch delegation saw the benefits of the methodology, but did think that it was limited in reach, as it would not cover everything that needed protection. Also Sverker Evans from the Swedish Environmental Protection Agency mentioned that the funding was an issue. These answers do however not cover their personal views on the validity of the method, and as the setting of EcoQOs were considered to be a political choice, it is difficult to assess whether the differences among the delegations were motivated by scientific arguments or political convictions.

Disagreements also occurred in the work on developing criteria for the selection of species and habitats to protect. Within the EU, the work had begun on classification of marine habitats Asjes mentioned how the German had a list of about 500 species and habitats they wanted to protect, but the Dutch delegation was interested in a more limited list, which could complement the EcoQOs. The differences presented here in the work of establishing EcoQOs and criteria for the protection of species and habitats show that there was not a consensus on the validity of the suggested methodology. To some extent it was driven by financial concerns, but also concerns about the limits of the EcoQOs were brought up. Despite the differences in opinion, the work on the EcoQOs were continued, and Sverker Evans said that after the EcoQOs were developed for all the regions covered by the OSPAR Convention, everyone was quite happy.

Although the interviews have not been able to provide much information valuable to the goal of this chapter, one aspect that the interviews revealed was the reluctance from the UK to move forward within OSPARCOM. Asjes mentioned this, and how the Dutch were in opposition to the UK on a lot of matters. In his view, the orientation of the government was important, and mentioned that at the time, Germany and the Netherlands agreed on a lot of measures, and both had “a rather left wing government”. Asjes also mentioned how he heard from colleagues that when Tony Blair took over as prime minister in 1997, the tension decreased, which strengthens the view that an analysis of the formation of national preferences could contribute to the understanding of why the ecosystem approach was being developed in OSPARCOM.

This discussion on the possible existence of an epistemic community in IMPACT has given little evidence to confirm the tentative hypothesis. On the issue of fisheries and how to best assess the impacts of fisheries on the marine environment one could spot a normative disagreement on a national level as the Norwegian delegation was against IMPACT making policy recommendations. Also, in the disagreement on the validity of the EcoQO methodology, it was not possible to identify differences in opinion on the personal level of the informants, and as a result there is not enough evidence to indicate that there was an epistemic community in IMPACT.

It is however not possible to dismiss the hypothesis on epistemic communities completely. As the chapter on methodological reflections show, there were several obstacles to obtain relevant information from the informants. The long time that had passed seemed to make it difficult for the informants to remember details, and as the interview guide was less used as a consequence, it became more difficult to ask appropriate follow-up questions. A second round of interviews with the inclusion of more informants could therefore have provided more information to base the analysis on.

4.5 Moving beyond the working groups of OSPARCOM

After the initial disagreements between the delegations to IMPACT, there seemed to be an agreement on how to move forward with the protection of the marine environment. EU projects on classification of marine habitats, and work within OSPARCOM to develop criteria for the selection of species and habitats to protect, as well as the development of EcoQOs lead to a more holistic approach to the protection of the marine environment. From the last chapter it is

however difficult to establish that the informants were a part of an epistemic community that promoted an ecosystem approach, and the North Sea Conferences continued to promote the idea of an ecosystem approach.

At the IMM of the North Sea Conference in 1997, the North Sea states were resolved in their commitment to integrate further fisheries and environmental policies (Intermediate Ministerial Meeting, 1997a). In preparations for the IMM, an assessment report was made on fisheries and fisheries related species and habitats issues (Intermediate Ministerial Meeting, 1997b). The North Sea states had already in the 1995 Esbjerg Declaration recommended that the precautionary principle should be applied in the management of fisheries, and that measures should be taken to rebuild depleted stocks (North Sea Conference, 1999). This principle was also recognized internationally with the 1995 Code of Conduct for Responsible Fisheries adopted by the Food and Agriculture Organization (FAO) of the UN at the Twenty-seventh session of the FAO Conference (FAO). The need to protect the marine environment was also further promoted by the 1995 UN Fish Stock Agreement under the UN Convention on the Law of the Sea which noted the importance of preserving biological diversity and maintaining the integrity of marine ecosystems (Bianchi, 2008).

The knowledge that the assessment report provided for the 1997 IMM both described the causes and consequences of the deterioration of the marine environment. The report thus contained information on enough aspects to lead to action following the argument of Dimitrov on what type of knowledge is important for the formation of IEAs. The assessment report described how herring, North Sea mackerel and cod stocks were depleted and in danger of collapse, and how the proportion of larger fish had decreased. In addition, fisheries using demersal gears was believed to have caused damage to benthic communities, leading to local decreases in populations and average sizes of certain species, as well as a shift from long-lived benthic species to short-lived species (Intermediate Ministerial Meeting, 1997b). But some of these consequences of human activities was already identified in the 1970s, when demersal species became dominant in the catches after the almost depletion of some heavily exploited species, and the 1993 QSR had also focused on the impacts of fisheries on the marine ecosystem.

This means that in the case of fisheries, it was not enough that there was knowledge on the consequences of human activities, although some fish stocks cross borders and the depletion of such stocks might have negative cross-border effects. The situation could then well be described

as a tragedy of the commons, where states, or individual fishers act according to their own self-interest. As the 1997 assessment report also identified a lack of data on important aspects, the situation could be further taken advantage of as scientific advice often is challenged on the its evidence, and could strengthen the argument against implementing necessary management measures. The lack of knowledge and uncertainty has been a consistent problem for giving sound advice on the management of the, and as shown previously, there were also disagreements on the validity of the EcoQOs which were presented as a possible assessment method.

The lack of understanding of how to properly assess the status of the marine environment upon which they could base management measures was reflected in the Statement of Conclusions from the 1997 IMM. The ecosystem approach which was to be a guiding principle for the management of the marine resources and environment, was understood as taking into account the interaction among the different components in the food-webs of the ecosystem, and provide a chemical, physical and biological environment that protects ecosystem processes (Intermediate Ministerial Meeting, 1997a). The description is rather general and the Statement of Conclusions does not refer to an overall methodology to implement, but several actions on the rebuilding of stocks and protection of juvenile fish were presented. Nevertheless, the consistent pressure of the North Sea Conference framework to enhance the quality of the environmental aspects of managing show the flexibility that such a framework offers, as opposed to the cooperation in OSPARCOM which had to be based on provisions in the OSPAR Convention. Although progress was slow, it allowed a dynamic response to the problems that arose, and initiated coordinated scientific programs which enhanced the knowledge of the marine environment, and contributed to funding which Sverker Evans noted was a problem.

In addition to provide flexibility in the choice of pace for the contracting parties, the framework also contributed to an approach that provided a well-structured science-politics dialogue. The assessment report presented at the meeting of IMPACT later in 1997. Hanne-Grete Nilsen from the Norwegian Ministry of Environment and an informant in this thesis, made the presentation as an observer from the Fifth North Sea Conference Secretariat, and in the discussions that followed, the Netherlands considered that IMPACT could contribute to the work on the ecosystem approach and a precautionary approach within its mandate to develop assessment tools (IMPACT, 1997). The Norwegian delegation, which had lead the work on EcoQOs pointed out the ecosystem approach would be relevant for the management of all human

activities, and that the EcoQOs should be seen as a contribution to the development of an ecosystem approach (Ibid). It was also suggested in the discussion of habitats and ecosystem health that the North Sea could be a test case for establishing EcoQOs in the light of the call for an ecosystem approach in the Esbjerg Declaration.

As described earlier, the development of the EcoQOs had begun in the North Sea Conference initiated project of the 1993 QSR, but the work had also been followed closely and promoted by IMPACT as a way to improve ecosystem health. In addition, ICES had also followed up on requests by OSPARCOM and the North Sea Conferences, and to further the progress in the development of assessment methods and the ecosystem approach, several workshops were also initiated by the North Sea Conferences. These workshops provided a link between the scientific work that was being done, the involvement on a high political level by the North Sea states, and the working groups in OSPARCOM which worked in a wider context.

One of the relevant workshops that was held was a workshop on the ecosystem approach to the management and protection of the North Sea held in Oslo in June of 1998. The development of the ecosystem approach was also taking form internationally, with the Netherlands and Malawi hosting a workshop on the subject earlier in 1998 that came up with 12 guiding principles for its application, which can be found in Appendix 4. However, those were quite general, and as Jesper Simonsen, a state secretary to the Norwegian Minister of Environment put it, the workshop would have to elaborate on the findings from Malawi and apply it to the marine context (Nordic Council of Ministers, 1998).

To do so, the workshop consisted of presentations on a wide range of issues, including ones concerning the definition of an ecosystem. Skjoldal pointed out in the interview that some scientists did not see the point of managing ecosystems, as it was not possible to properly define one, and that argument is also presented in a presentation by Salvatore Aricò from the Secretariat to the CBD. The consensus that existed on ecosystems was that they comprised of both living organisms and the abiotic environment, that it has boundaries, and that different species are functionally related among themselves as well as with the physical environment (Nordic Council of Ministers, 1998).

Less or no consensus existed however on the matters that ecosystems can be recognized by the human observer, or what there is that spatially defines an ecosystem or whether or not humans

should be considered to be a part of ecosystems. The disagreement in IMPACT had showed that there were different views on the validity of the EcoQOs for the assessment of the marine environment, but the differences presented above show fundamental differences on the subject of assessment itself. As there also was a lack of data on several aspects of the state of the marine environment, the lack of a scientific consensus on an ecosystem approach to management could lead to the dismissal of the approach by management authorities who also sought to please socio-economic concerns. However, as Brian Marchant, a representative of the EU underlined, the precautionary principle was the agreed basis for action, and the lack of knowledge should not be a hindrance for the taking of measures (Nordic Council of Ministers, 1998).

In addition to the fundamental problem of how to understand an ecosystem, there was a problem with choosing the aspects to include in the approach. In the discussions in IMPACT, the German delegation had underlined how they could not support the application of EcoQOs if they were based on considerations other than those relating to the health of the ecosystem, but at the workshop, there were arguments for the inclusion of socio-economic considerations. Aricò made the argument that for an ecosystem approach to be sustained in the long run, the mode of exploitation must be socially and culturally acceptable, as well as economically profitable (Nordic Council of Ministers, 1998). Monica Hammer from the Department of Systems Ecology at the Stockholm University presented more or less the same argument. She argued that since ecosystems are complex and perturbations cause outcomes that differ from predictive models, management needs to be adaptive. It needs to be responsive and pick up feed-back signals so that the management approach can deal with unpredictable interactions between people and ecosystem and build sustainable and resilient socio-ecological systems (Ibid).

Scientific knowledge can not resolve conflicts over values and interests, but in this case it was the goal of the North Sea states to develop knowledge that would solve problems they were interested in solving. Nevertheless, the governments could be met with opposition in their respective countries if there was a tradeoff which severely affected socio-economic considerations. But the workshop on the ecosystem approach finished off by casting doubt on whether it was at all possible to manage the North Sea towards a desired ecosystem state. A more reasonable goal would be to manage human activities “in an integrated manner to achieve sustainable use and protection of the North Sea” (Nordic Council of Ministers, 1998, p.11). The workshop thus took into account human interactions with the ecosystem and sought to provide

an adaptive management which included stakeholder participation. This shows a sensitivity towards the managers' needs, and Janet Pawlak also expressed that one lesson ICES was taught by the involvement in the NSTF was that it was particularly important that scientific advice actually was used, and that it needed to be formulated in a way which made it possible to use.

As an ecosystem approach at the time seemed to be adaptive and inclusive, it might have made it less important to include economic factors into the development of EcoQOs which were discussed at a workshop in the Netherlands in 1999. The workshop defined the EcoQ as an "overall expression of the structure and function of the aquatic systems", and the EcoQOs would be the desired level of the EcoQOs relative to a reference level" (Nordic Council of Ministers, 1999, p.13). In the end, a proposed set of issues for the EcoQOs were agreed upon, including different groups of fish, seabirds, as well as habitats, the nutrient budget and production, and oxygen consumption (Ibid). Hanne-Grete Nilsen also made a comment on the work concerning the science-politics dialogue, which strengthens the argument that it was well-structured. As a member of the North Sea Secretariat, she helped prepare the Fifth North Sea Conference in Bergen in 2002, and noted an enthusiasm about the project of implementing an ecosystem approach and the EcoQOs which also led the Ministry of Environment to work closely with several directorates as well as with the Ministry of Fishery. If this also was the case of the other North Sea states, it would put in place the conditions for scientific knowledge to be applied with legitimacy.

The development of an ecosystem approach to the marine environment was followed closely by the scientific committee of the CBD, and Hanne-Grete Nilsen states that they were in a dialogue, and that they forwarded documents resulting from their meetings. At the time there seemed to have been a genuine global discussion on the ecosystem approach. In the meantime, the new Annex of the OSPAR Convention was readied, and the Convention entered into force in 1998. The new annex contained provisions for the protection and conservation of ecosystems and biological diversity of the maritime area. The annex obligated the contracting parties, according to Article 2(a), to take necessary measures to protect and conserve the ecosystems and the biological diversity of the maritime area, and restore marine areas which have been adversely affected. And Article 3(b)(iv) defines the duties of OSPARCOM to among other things, draw up programs and measures for the control of human activities, and to aim for the application of an integrated ecosystem approach (OSPAR Convention, n.d.).

The OSPAR Convention was finally given the provisions it needed for OSPARCOM to take measures on habitats, species and ecosystem health, but were not to adopt programs or measures in questions of fishery management. However, the ecosystem approach would soon also gain interest in other international fora. In the early 2000s, the ecosystem approach was further segmented as a desired approach by several international organizations. The Malawi principles developed in cooperation with the Netherlands was included in the CBD (Convention on Biological Diversity, n.d.c). But maybe an even bigger step was the pledge by 45 countries to include ecosystem considerations in fisheries management in the declaration of the Reykjavik Conference on Sustainable Fisheries in the Marine Ecosystem (Bianchi, 2008). And subsequently the reaffirmation of this pledge at the World Summit on Sustainable Development in Johannesburg in 2002 (Ibid).

The Fifth North Sea Conference held in Bergen in 2002, was the last conference that was held in the framework before the adoption of a vision for an ecosystem approach in OSPARCOM. At the meeting, the ministers agreed to implement an ecosystem approach, based on an adaptive framework, and stressed the importance of developing a coherent and integrated set of EcoQOs. The EcoQOs would then be applied as a pilot project, and by 2004, all of the remaining elements of the assessment methodology would be developed and applied in the framework of OSPARCOM (North Sea Conference, 2002).

5. Conclusion

In 2003 a vision for an ecosystem approach to the managing of human activities was adopted in OSPARCOM, and the decision was one of many made in different frameworks that in a short span of time drastically led to a more holistic vision for the protection and management of the marine environment in the North-East Atlantic. The ecosystem was understood in OSPARCOM in the same way as in the CBD, and it was argued that an approach based on the ecosystem should be adaptive and take in to account socio-economic concerns.

The research question of this thesis sought to answer why OSPARCOM adopted a vision for an ecosystem approach, and the thesis is a contribution to a part of the research on the formation of IEAs, and have explored new territory empirically, and have taken seriously the role of scientific knowledge. It has shown how the global diffusion of ideas and the preferences and interests of some states have driven the development of an ecosystem approach in the marine area, and that these states' search to apply it in the North Sea led to the adoption in OSPARCOM. Due to the close relationship between the North Sea Conferences and OSPARCOM, the questions raised in the former framework were also addressed in the latter, so there was an exchange of ideas and knowledge which contributed to the OSPARCOM decision in 2003.

In the preparations of this thesis, documents available from the OSPARCOM archives, led to a tentative hypothesis that there was a tightknit scientific community that promoted the idea of an ecosystem approach. The exploration of previous literature on the formation of IEAs, lead to a conceptual framework which would allow the discussion to establish whether or not there was an epistemic community in the OSPARCOM working groups, and at the same time be open for alternative hypotheses to answer the research question.

Due mainly to the quality of the interviews, there was little evidence to support the tentative hypothesis, and neither could the other sources indicate the existence of an epistemic community that shared causal and normative beliefs, as well as had a shared view of validity. However, it is evident that the informants and other researchers were a part of a network that often worked together, and it is not possible to completely dismiss the possibility of an epistemic community.

Finally, this thesis has shown that the idea to manage the maritime area by ecological models was not a new idea when the North Sea Conference decided to base future work on an ecosystem approach. However, the idea only became relevant when there was a major shift in the fisheries in the 1970s, and got a push from the Brundtland Commission who put sustainable resource management on the top of the international agenda. Science can not resolve conflict over values and interests, but better understanding of scientific progress can be reached with a scientific community that communicates clearly and cross-sectoral cooperation within public administrations.

Literature

- Acharya, A. (2004). How Ideas Spread: Whose Norms Matter? Norm Localization and Institutional Change in Asian Regionalism. *International Organization*, 58(2), 239-275. Available at: <http://dx.doi.org/10.1017/S0020818304582024>
- Andresen, S., Boasson, E. L., & Hønneland, G. (2012). An International Environmental Policy Takes Shape. In S. Andresen, E. L. Boasson & G. Hønneland (eds.), *International Environmental Agreements: An Introduction* (p. 3-19). Abingdon Oxon: Routledge. Available at: <http://search.ebscohost.com/login.aspx?direct=true&db=nlebk&AN=443885&site=eds-live>
- Andresen, S., Skodvin, T., Underdal, A. & Wettestad, J. (Eds.) (2000). *Science and Politics in international environmental regimes*. Manchester: Manchester University Press.
- ASMO. (1996). *Summary Record*. Meeting of the committee ASMO in March 1996
- Belsky, M. H. (1986). Legal Constraints and Options for Total Ecosystem Management of Large Marine Ecosystems. In K. Sherman and L. M. Alexander (Eds.), *Variability and Management of Large Marine Ecosystems* (241-262). AAAS selected symposium 99. Westview Press, Inc., Boulder.
- Bennett, A., & Checkel, J. T. (2014). Process Tracing: From Philosophical Roots to Best Practices. In A. Bennett & J. T. Checkel (Eds.), *Process Tracing: From Metaphor to Analytical Tool* (3-38). Cambridge: Cambridge University Press. Available at: <http://dx.doi.org/10.1017/CBO9781139858472.003>
- Bianchi, G. (2008). The Concept of the Ecosystem Approach to Fisheries in FAO. In G. Bianchi & H. R. Skjoldal (Eds.), *Ecosystem approach to fisheries* (20-38). Cab International. Available at: <http://site.ebrary.com/lib/ntnu/detail.action?docID=10269248>
- Borowy, I. (2014). *Defining Sustainable Development for Our Common Future*. Abingdon, Oxon: Routledge. Available at: <http://www.tandfebooks.com/doi/view/10.4324/9780203383797>
- Börzel, T. A. & Risse, T. (2012). From Europeanisation to Diffusion: Introduction. *West European Politics*, 35(1), 1-19. Available at: <http://dx.doi.org/10.1080/01402382.2012.631310>
- Campbell, J. L. (2002). Ideas, Politics and Public Policy. *Annual Review of Sociology*, 28, (21-38). Doi: 10.1146/annurev.soc.28.110601.141111
- Clark, W. C., Jäger, J. & Eijndhoven, J. van (2001). Managing Global Environmental Change: An Introduction to the Volume. In Social Learning Group (Eds.), *Learning to Manage Global Environmental Risks: Social Responses to Climate Change, Ozone Depletion, and Acid Rain* (1-20). Cambridge, Massachusetts: The MIT Press. Available at: <http://search.ebscohost.com/login.aspx?direct=true&db=nlebk&AN=63036&site=eds-live>
- Convention on Biological Diversity. (1992). Available at: <https://www.cbd.int/decision/cop/default.shtml?id=7148>

Convention on Biological Diversity. (n.d.c). COP 5 Decision V/6. Available at:
<https://www.cbd.int/doc/legal/cbd-en.pdf>

Convention on Biological Diversity. (n.d.a). History of the convention. Available at:
<https://www.cbd.int/history/>

Convention on Biological Diversity. (n.d.b). COP 2 Decision II/8. Available at:
<https://www.cbd.int/decision/cop/default.shtml?id=7081>

Convention for the Prevention of Marine Pollution by Dumping from Ships and Aircraft, Feb. 15, 1972. UNTS volume no. 932. Available at:
<https://treaties.un.org/Pages/showDetails.aspx?objid=0800000280107b5a>

Convention for the Prevention of Marine Pollution from Land-Based Sources, June 4, 1974. UNTS volume no. 1546. Available at:
<https://treaties.un.org/Pages/showDetails.aspx?objid=08000002800c34d0>

de la Fayette, J. (1999). The OSPAR Convention Comes into Force: Continuity and Progress. *International Journal of Marine and Coastal Law*, 14(2), 247-297. Doi:
10.1163/15718089920492393

Dimitrov, S. R. (2003). Knowledge, Power and Interests in Environmental Regime Formation. *International Studies Quarterly*, 47(1), 123-150. Available at:
<http://www.jstor.org/stable/3096079>

European Environment Agency. (2001). *Late Lessons from Early Warnings: The Precautionary Principle 1896-2000*. Environmental Issue Report (22). Available at:
http://www.eea.europa.eu/publications/environmental_issue_report_2001_22

FAO (n.d.). Code of Conduct for Responsible Fisheries. Available at:
<http://www.fao.org/docrep/005/v9878e/v9878e00.HTM>

Goldstein, J. & Keohane, R. O. (1993). Ideas and Foreign Policy: An Analytical Framework. In J. Goldstein and R. O. Keohane (Eds.), *Ideas and foreign policy* (reprinted 1995) (3-30). Ithaca: Cornell University Press.

Haas, E. B. (1990b). *When Knowledge is Power: Three Models of Change in International Organizations*. Berkeley: University of California Press. Available at:
<http://ark.cdlib.org/ark:/13030/ft6489p0mp/>

Haas, P. M. (1990a). *Saving the Mediterranean*. New York: Columbia University Press.

Haas, P., M. (1992). Introduction: Epistemic Communities and International Policy Coordination. *International Organization*, 46(1), 1-35. Available at:
<http://dx.doi.org/10.1017/S0020818300001442>

Hempel, G. (1978) Synopsis of the Symposium on North Sea Fish Stocks - Recent Changes and Their Causes. In G. Hempel (Ed.) *North Sea Fish Stocks- Recent Changes and Their Causes*. Rapport et procès-verbaux des réunions du Conseil International pour l'Exploration de la Mer, 172, 445-449.

ICES. (2000). *Report of the Advisory Committee on the Marine Environment, 2000*. ICES Cooperative Research Report (241). Available at: [http://ices.dk/sites/pub/Publication%20Reports/Cooperative%20Research%20Report%20\(CRR\)/crr241/CRR241.pdf](http://ices.dk/sites/pub/Publication%20Reports/Cooperative%20Research%20Report%20(CRR)/crr241/CRR241.pdf)

IMPACT. (1995a). *Summary Record*. Meeting of the IMPACT working group October 1995.

IMPACT. (1995b). *Proposed Work Strategy Concerning Fisheries*. Annex 6 to the meeting of the IMPACT working group October 1995.

IMPACT. (1995c). *Proposed Work Strategy Concerning Habitats and Ecosystem Health*. Annex 8 to the meeting of the IMPACT working group October 1995.

IMPACT. (1996). *Summary Record*. Meeting of the IMPACT working group October 1996.

IMPACT. (1997). *Summary Record*. Meeting of the IMPACT working group October 1997

Intermediate Ministerial Meeting. (1993). *Statement of Conclusions from the Intermediate Ministerial Meeting 7-8 December 1993 in Copenhagen*. Available at: http://www.ospar.org/site/assets/files/1239/imm93_soc.pdf

Intermediate Ministerial Meeting. (1997b). *Assessment Report on fisheries and Fisheries related Species and Habitats Issues*. Oslo: Ministry of the Environment

Intermediate Ministerial Meeting. (1997a). *Statement of Conclusions. Intermediate Ministerial Meeting on the Integration of Fisheries and Environmental Issues 13 - 14 March 1997 Bergen, Norway*. Available at: http://www.ospar.org/site/assets/files/1239/imm97_soc_e.pdf

Jacobs, A. M. (2014). Process Tracing the Effects of Ideas. In A. Bennett & J. T. Checkel (eds.), *Process tracing from metaphor to analytical tool* (41-73). Cambridge: Cambridge University Press. Available at: <http://dx.doi.org/10.1017/CBO9781139858472.005>

Jensen, Ø. (2012) Law of the Sea. In G. Hønneland, E. L. Boasson & S. Andresen (Eds.), *International Environmental Agreements: An Introduction* (55-63). Abingdon, Oxon: Routledge. Available at: <http://search.ebscohost.com/login.aspx?direct=true&db=nlebk&AN=443885&site=eds-live>

Johnson, S. P. & Corcelle, G. (Eds.) (1995). *The Environmental Policy in the European Communities*. London: Kluwer Law International.

Kaiser, W. & Meyer, J-H. (In press). Introduction. International Organizations and Environmental Protection in the Global Twentieth Century. In W. Kaiser and J-H. Meyer (Eds.) *International Organizations and Environmental Protection. Conservation and Globalization in the Twentieth Century* (1-29). New York: Berghahn

Knowledge, Power and International Policy Coordination (1992). *International Organization*, 46(1), 1-390. Available at: <http://www.jstor.org/stable/i327218>

Leech, B. L. (2002). Asking Questions: Techniques for Semistructured Interviews. *Political Science and Politics*, 35(4), 665-668. Available at: <http://www.jstor.org/stable/1554805>

May, R. M. (Ed.). (1984). *Exploitation of marine communities*. Springer-Verlag, Berlin.

McNeely, J. A. (1984). Introduction: Protected Areas Are Adapting to New Realities. In J. A. McNeely and K. R. Miller National (Eds.), *National Parks, Conservation, and Development; The Role of Protected Areas in Sustaining Society; Proceedings of the World Congress on National Parks* (1-7). Washington, DC: Smithsonian Institution Press.

Miller, K. R. (1984). The Bali Action Plan: A Framework for the Future of Protected Areas. In J. A. McNeely and K. R. Miller (Eds.), *National Parks, Conservation, and Development; The Role of Protected Areas in Sustaining Society; Proceedings of the World Congress on National Parks* (756-764). Washington, DC: Smithsonian Institution Press.

Mitchell, R. B. (2003). International Environmental Agreements: A Survey of Their Features Formation and Effects. *Annual Review of Environment and Resources*, 28, 429-461. Doi: 10.1146/annurev.energy.28.050302.105603

Nordic Council of Ministers. (1988). *Workshop on the Ecosystem Approach to the Management and Protection of the North Sea*. In the series TemaNord, 1998:579. Copenhagen: Nordic Council of Ministers.

Nordic Council of Ministers. (1999). *Workshop on Ecological Quality Objectives (EcoQOs) for the North Sea*. In the series TemaNord, 1999: 591. Copenhagen: Nordic Council of Ministers.

North Sea Conference. (1987) Ministerial Declaration of the *Second International Conference on the Protection of the North Sea, London, 24-25 November 1987*. Available at: http://www.ospar.org/site/assets/files/1239/2nsc-1987_london_declaration.pdf

North Sea Conference. (1990). *Ministerial declaration of the Third International Conference on the Protection of the North Sea, The Hague 8 March, 1990*. Available at: http://www.ospar.org/site/assets/files/1239/3nsc-1990-hague_declaration.pdf

North Sea Conference. (1995) *Esbjerg Declaration*. Available at: http://www.ospar.org/site/assets/files/1239/4nsc-1995_esbjerg-declaration-1.pdf

North Sea Conference. (2002). *Bergen Declaration*. Available at: http://www.ospar.org/site/assets/files/1239/5nsc-2002_bergen_declaration_english.pdf

North Sea Task Force. (1993). *North Sea Status Quality Report 1993*. London: Oslo and Paris Commissions. Fredensborg, Denmark: Olsen & Olsen.

OSPARCOM. (1995). *Report of the Oslo and Paris Commissions to the Fourth International Conference on the Protection of the North Sea*.

OSPARCOM. (1996). *Activities of the Oslo and Paris Commissions July 1995-June 1996*.

OSPARCOM. (2003). *Statement on the Ecosystem Approach to the Management of Human Activities*. Annex 5 of the Joint Ministerial Meeting of the Helsinki and OSPAR Commissions.

OSPAR Convention (n. d.). Available at:
http://www.ospar.org/site/assets/files/1290/ospar_convention_e_updated_text_in_2007_no_revs.pdf

Putnam, R. D. (1988). Diplomacy and Domestic Politics: The Logic of Two-Level Games. *International Organization*, 42(2), 427-460. Available at:
<http://www.jstor.org/stable/2706785>

Ray, G. C., Hayden, B. P. & Dolan, R. (1984). Development of a Biophysical Coastal and Marine Classification System. In J. A. McNeely and K. R. Miller National (Eds.), *National Parks, Conservation, and Development; The Role of Protected Areas in Sustaining Society; Proceedings of the World Congress on National Parks* (39-46). Washington, DC: Smithsonian Institution Press.

Risse, T. (1994). Ideas Do Not Float Freely: Transnational Coalitions, Domestic Structures, and the End of the Cold War. *International Organization*, 48(2), 185-214. Available at:
<http://dx.doi.org/10.1017/S0020818300028162>

Rosendal, K. & Schei, P. J. (2012). Convention on Biological Diversity. In G. Hønneland, E. L. Boasson & S. Andresen (eds.), *International Environmental Agreements: An Introduction* (64-72). Abingdon, Oxon: Routledge. Available at:
<http://search.ebscohost.com/login.aspx?direct=true&db=nlebk&AN=443885&site=eds-live>

Schmidt, V. A. (2008). Discursive Institutionalism: The Explanatory Power of Ideas and Discourse. *Annual Review of Political Science*, 11, 303-326. Doi:
10.1146/annurev.polisci.11.060606.135342

Sherman, K. & Alexander, L. M. (Eds.) (1986). *Variability and Management of Large Marine Ecosystems*. AAAS selected symposium 99. Westview Press, Inc., Boulder.

Sherman, K. (1991). The Large Marine Ecosystem Concept: Research and Management Strategy for Living Marine Resources. *Ecological Applications*, 1(4), 350-360. Doi:
10.2307/1941896

Sherman, K. (2008) The Large Marine Ecosystem Approach to Marine Resources Assessment and Management. In (Eds.), G. Bianchi & H. R. Skjoldal *Ecosystem Approach to Fisheries* (47-75). Cab International. Available at:
<http://site.ebrary.com/lib/ntnu/detail.action?docID=10269248>

Skjærseth, J. B. (1992). Towards the End of Dumping in the North Sea. *Marine Policy*, 16(2), 130-140. Doi:10.1016/0308-597X(92)90038-Q

Skjærseth, J. B. (2012). North Sea Pollution Control. In G. Hønneland, E. L. Boasson & S. Andresen (Eds.), *International Environmental Agreements: An Introduction* (64-72). Abingdon, Oxon: Routledge. Available at:

<http://search.ebscohost.com/login.aspx?direct=true&db=nlebk&AN=443885&site=eds-live>

Skodvin, T. & Underdal, A. (2000). Exploring the Dynamics of the Science-Politics Interaction. In S. Andresen, T. Skodvin, A. Underdal & J. Wettestad (eds.), *Science and politics in international environmental regimes: between integrity and involvement* (22-34). Manchester: Manchester University Press.

Social Learning Group. (2001). *Learning to manage global environmental risks: social responses to climate change, ozone depletion, and acid rain*. Cambridge, Massachusetts: The MIT Press. Available at:

<http://search.ebscohost.com/login.aspx?direct=true&db=nlebk&AN=63036&site=eds-live>

Steele, J. H. (1965). *Some Problems in the Study of Marine Resources*. Special Publication of the International Commission for the Northwest Atlantic Fisheries, 6, 463-476. Available at: <https://www.nafo.int/ICNAF/frames/icnaf.html>

Strang, D. & Meyer, J. W. (1993). Institutional Conditions for Diffusion. *Theory and Society*, 22(4), 487-511. Available at: <http://www.jstor.org/stable/658008>

Sugihara, G., Garcia, S., Gulland, J. A., Lawton, J. A., Maske, H., Paine, R. T., Platt, T., Racher, E., Rothschild, B. J., Ursin, E. A. & Zeitzschel, B. F. K. (1984). Ecosystems Dynamics. In R. M. May (Ed.). *Exploitation of Marine Communities* (130-154). Springer-Verlag, Berlin.

Tansey, O. (2007). Process Tracing and Elite Interviewing: A Case for Non-Probability Sampling. *Political Science and Politics*, 40(4), 765-772. Available at: <http://dx.doi.org/10.1017/S1049096507071211>

Tjora, A. (2012). *Kvalitative Forskningsmetoder i Praksis* (2nd ed.). Oslo: Gyldendal Norsk Forlag.

Tromp, D. & Wieriks, K. (1994). The OSPAR Convention: 25 years of North Sea Protection. *Marine Pollution Bulletin* 29(6-12), 622-626. Available at: [http://dx.doi.org/10.1016/0025-326X\(94\)90698-X](http://dx.doi.org/10.1016/0025-326X(94)90698-X)

True, J. & Mintrom, M. (2001). Transnational Networks and Policy Diffusion: The Case of Gender Mainstreaming. *International Studies Quarterly*, 45(1), 27-57. Available at: <http://www.jstor.org/stable/3096100>

Underdal, A. & Hanf, K. (Eds.). (2000). *International Environmental Agreements and Domestic Policies: The Case of Acid Rain*. Great Britain: Ashgate Publishing Limited.

World Commission on Environment and Development. (1987). *Our Common Future*. Available at: <http://www.un-documents.net/ocf-06.htm> point 4 and at: <http://www.un-documents.net/ocf-02.htm> point 11

Young, O. R. & Osherenko, G. (Eds.) (1993). *Polar Politics Creating International Environmental Regimes*. Cornell University: Cornell University Press.

Appendix 1

Interview guide

Practical information:

- Repeat what says in the document I sent with regards confidentiality, the fact that I will be recording the conversation, and the right to stop the interview at any time.
- Purpose of the study, and provide a little context: First I would like to obtain some factual information concerning the procedure of the negotiations and positions, and second your impressions of what took place during the meetings.

1. Warming up

- What did you study – where?
- Can you tell me a bit about your career? (By whom were you employed at the time you were working in the OSPAR working groups? – Can you tell me a bit more about your tasks at the work place? Did you participate in any other international fora before or during this period?)
- When did you start working within the OSPAR framework?
- How did it come about that you first took part in the delegation?
- What was your role in the working groups? (head of delegation/representative?)

2. The ecosystem approach (Which problems were discussed –and which solutions were possible?)

(I have sent you a document containing the agenda, list of participants and documents presented at the meeting)

- What was the purpose of the working group on impacts on the marine environment? (Same question if he started earlier) What were the goals of your delegation?
- Can you tell me a bit what you remember the best from the meetings?
- How did you prepare for the first meeting you participated in, in Stockholm? (what did you discuss, what was your mandate?)
- How did you communicate with the Heads of Delegation to OSPAR?
- During the 4th North Sea Conference, the countries decided that... what do you remember being discussed about the outcome of the 4th NSC in the meeting?
 - o (requests to OSPAR relevant to IMPACT, Spanish delegation, not applying fish and habitat and ecosystem health)
 - o the implications of the NSC for OSPAR would be discussed by the Heads of delegation in London the same year, do you know the result of this?
- Can you tell me a bit about your cooperation with the 5NSC secretariat?
- How would the work on fisheries be followed up in the framework of the 5NSC?
- Can you tell me about the presentation from ICES at the meeting?
- The Dutch representation proposed that the principal task for IMAPCT regarding fisheries, was to assess the impact of fisheries on the marine ecosystem, and should include an evaluation of the effectiveness of management measures.
 - o Can you tell me if this was something you had discussed in advance? Did you work on the Ecosystem approach in the Dutch ministry?
 - o Can you tell me a bit more about the discussion following this statement? (The Norwegian/Danish response)
 - o Was this in any way related to the ecosystem approach?

- How did you understand the ecosystem approach at the time?
- What did it mean to you at the time?
- Who advocated it?
- During the 1997 meeting in Lisbon, the Dutch delegations suggested to categorize work items for fisheries, with the ecosystem approach being given a high priority – how did you imagine to work further with the ecosystem approach in IMPACT?
 - How was this received by the other delegations?
- During all these meetings, IMPACT also worked on the Ecological Quality, Can you tell me a bit about the work on Ecological quality Objectives?
- What were the discussions like around the use of the Ecological quality and their objectives?
- What was the background for the work on this? What was it inspired by?

3. Were they a part of an epistemic community?

- The first working group meeting took place in the Stockholm, how were the days like during the meeting? How did you spend your time between/after the meetings?
- Did you know, or know of, any of the other participants before you attended the meeting?
- How were the meetings organized? (Did you all sit in a room together? Were you divided in smaller working groups? How did you interact during meetings?)
- When discussing different matters – were there clear differences in interest between the delegations?
- When you spoke privately – did you get another impression?
- When the second meeting was held in Berlin, did you recognize anyone from the first meeting you attended?
- Between the two meetings, did you have any contact with the partners of the other countries?
- From the meeting in Sweden to the meeting in Berlin, the type of work that IMPACT focused on considering fisheries changed? How so?
 - Focus changed from managing to more specific gathering information – what
- When you were discussing the ecosystem approach were there any differences in opinion? (what sort?)
- Did you talk about work in the spare time with the other delegations? What were the conversations about? Did you agree on the direction of the work in the group (specifically the ecosystem approach?)

4. To finish the conversation:

- We have spoken about a specific period now, what have you done afterwards? (if continued to work in OSPAR: what did you continue to work on? What was major accomplishments?)
- Were you happy about your time in OSPAR? Did you learn anything from participating?
- Thank you very much for participating in the interview.

Appendix 2

Information sent to the informant Jakob Asjes in advance of the interview.

IMPACT 1995 Stockholm 10-13 October

- Background documents presented at the meeting:
 - o Joint Assessment and monitoring programme (JAMP) issues addressed to IMPACT
 - o Requests to OSPAR from ministers at the 4th North Sea Conference
 - o Comments by non-North Sea States regarding the outcome of the 4NSC
- Spain stated that the issues of fisheries and habitats and ecosystem health included in the provisional action plan should not be applied to any other areas until the 1996 meeting of the contracting parties
- Regarding fisheries, ICES presented a report on the Ecosystem Effects of Fishing Activities
- The Dutch delegation stated that the principal task for IMPACT considering fisheries would be to assess the impact of fisheries on the marine ecosystem which would include an evaluation of the effectiveness of management measures
- The Norwegian delegation pointed out that there were no provisions within the OSPAR Convention or the terms of references to make recommendations on fishing management policies – supported by Denmark, but opposed by other countries
- The 5NSC observer presented a proposal for follow-up work on fisheries within the framework of the North Sea Conferences

Impact 1996 Berlin 22-25 October

- The 5NSC observer gave a short report on the outcome of the meeting of the Committee of North Sea Senior Officials, and the work on the statement of conclusions from the Intermediate Ministerial Meeting due in 1997.
- Regarding fisheries – the purpose of the meeting was to assess how and to what extent fisheries affect stocks of target, non-target and benthic communities. The Norwegian Delegation stressed that it was not appropriate to address a description of management measures and their effectiveness. The German Delegation stated that JAMP4.1 should take into account the wider context such as conditions leading to ecological effects of fisheries.
- A list of discussion points was proposed where it was included among other things the outcome of the 1997 IMM and the ecosystem approach
- Discussions about EcoQO, and whether there was available methodology to put it to use.

Impact 1997 Lisbon 7-10 October

- The 5NSC observer presented the Assessment Report on Fisheries and Fisheries related Species and Habitat Issues- highlighting the need to implement a precautionary and ecosystem approach to fisheries management
- The Dutch delegation stressed the importance of these approaches, and considered that under the mandate of IMPACT it could develop scientific assessment tools
- The Norwegian delegation pointed out that the work with EcoQ and EcoQO could be seen as a contribution to the establishment of objectives within the ecosystem approach.
-

Participants from the Dutch delegation:

Impact 1995:

Rein J. van Dijk, Frank van der Valk, Lydia Harkink, Carla Bisseling

Impact 1996:

Folkert Post, Carien van Zwol, Chantal van Dam

Impact 1997:

Folkert Post, Carien van Zwol, Chantal van Dam

Appendix 3

Statement with regard to ethical guidelines in research

The intent of this document is to inform the interview subjects of my master thesis on the ecosystem approach and the OSPAR Commission of the ethical guidelines I will follow.

They are gathered from The Norwegian national research ethics committees found in English here: <https://www.etikkom.no/globalassets/documents/english-publications/guidelines-for-research-ethics-in-the-social-sciences-law-and-the-humanities-2006.pdf>

The research topic of my master thesis is the ecosystem approach, and how it was included in the work of the OSPAR Commission and in the framework of the International North Sea Conferences. My goal is to discover how the concept made its way into these frameworks, and how it was understood by the participants on OSPAR working groups and the contracting parties to the OSPAR Convention.

I will use the OSPAR archives in addition to interviews of OSPAR working group participants to get answers to these questions.

The interviews will be recorded, and the sole use of the material will be to answer my research questions. The recordings will be stored safely, only for my use, and deleted when the evaluation of the thesis is completed.

As interview subjects you may request that identifiable information is removed from the analysis, and you have the possibility to stop the interview at any time.

Appendix 4

The Malawi Principles as presented in the Workshop on the Ecosystem Approach to Management and Protection of the North Sea (Nordic Council of Ministers, 1988, p.27)

1. Management objectives are a matter of societal choice
2. Management should be decentralized to the lowest appropriate level
3. Ecosystem managers should consider the effects (actual or potential) of their activities on adjacent and other ecosystems
4. Recognizing potential gains from management there is a need to understand the ecosystem in an economic context. Any ecosystem management program should:
 - (a) reduce those market distortions that adversely affect biological diversity;
 - (b) align incentives to promote sustainable use; and
 - (c) internalize costs and benefits in the given ecosystem to the extent feasible.
5. A key feature of the ecosystem approach includes conservation of ecosystem structure and functioning
6. Ecosystems must be managed within the limits to their functioning.
7. The ecosystem approach should be undertaken at the appropriate scale.
8. Recognizing the varying temporal scales and lag effects which characterize ecosystem processes, objectives for ecosystem management should be set for the long term.
9. Management must recognize that change is inevitable.
10. The ecosystem approach should seek the appropriate balance between conservation and use of biological diversity.
11. The ecosystem approach should consider all forms of relevant information, including scientific and indigenous and local knowledge, innovations and practices.
12. The ecosystem approach should involve all relevant sectors of society and scientific disciplines.