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International Council for the
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REPORT OF THE THIRD MEETING OF THE WORKING GROUP ON
POLLUTION-RELATED STUDIES IN THE SKAGERRAK AND KATTEGAT

Gothenburg, 30-31 January 1985

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Table of contents

	Page
1. Opening of the meeting.....	1
2. Approval of the Agenda.....	1
3. Assessment of the Environment of the Skagerrak - Kattegat area - Review of the Draft document	1
4. Priorities in this area taking into account national and international resources	1
5. Proposals for future research on a cooperative basis..	1
6. Next meeting or follow up.....	2
7. Any other business.....	3
ANNEX 1: Agenda	4
ANNEX 2: List of participants.....	5
ANNEX 3: Review of chapters in the Draft Assessment Document.....	6

1. Opening of the meeting

1.1. The chairman P.T. Hognestad, opened the meeting at 10 o' clock on 30 Jan. 1985 and welcomed the participants

2. Approval of the Agenda (Annex 1)

2.1. The Agenda was adopted as proposed. The list of participants is contained in Annex 2. A. Svansson served as Rapporteur.

3. Assessment of the Environment of the Skagerrak-Kattegat area.

The Chairman distributed the latest version of the Assessment document. The meeting discussed the time table and assumed it to be very advantageous if the document could be discussed at the ACMP meeting to be held on 29 May - 4 June 1985. Dybern, member of ACMP, promised to present it to the Committee. Discussing figure size, etc it was assumed that our work will result in a Cooperative Research Report and that the format therefore will be A 4. Small figures should be inserted into text pages. The draft document so far contained no Introduction or Summary, but these chapters would be written by the Chairman. Deadlines for delivery of amended versions to the Chairman is 1 st March (Dybern 15 March).

Right in the beginning of the document a map should be inserted. The draft contains two "versions". It was agreed that both of them should be included, one containing fisheries statistics squares and the other measurement positions and names mentioned in the text. The Chairman would make the necessary amendments of both maps.

The document was reviewed in detail, see Annex 3.

4. Priorities in studies in this and

5. Proposals for future research on a cooperative basis

The group was of the opinion that these items should be regarded as self evident consequences of the Assessment and that they therefore could be attached to that document. The future organisation of the study of the Skagerrak-Kattegat area was discussed. ICES could continue to be the leading organisation but another alternative might be a return back to the Nordic Council of Ministers which in 1982 had asked ICES to establish our group. Gray mentioned in this connection Nordnos, part of this council, from which it seemed realistic to apply for study grants.

Whoever takes over the responsibility for the future studies of the Skagerrak-Kattegat area, there is a need of cooperation between the 3 countries concerning data acquisition, data banking, symposia, new techniques etc. In order to stress these in the light of the pollution oriented studies the following "recommendations" were made.

A. There should be created a permanent Skagerrak-Kattegat group with members from Denmark, Norway and Sweden to coordinate studies in the area with both monitoring and scientific aspects. The group should be affiliated to ICES, or the Nordic Council of Ministers or some other organisation.

B. The overall goal of this group should be pollution orientated but as changes in the environment are both man-made and part of the natural cycles the scope should be broadened to more general marine aspects.

C. The area being highly influenced from the Baltic (via the Belt Sea) as well as the North Sea, close contacts should be held with groups, scientists etc. working with these seas.

D. The assessment showing that there are difficulties to judge if there has been an increase in N and P in the area, studies of new data as well as old data should be intensified.

E. Taking into account the difficulties to get hold of data collected by other countries than ones own, one country should take the task of being a regional Data Centre for the Skagerrak - Kattegat area. That centre should have the capacity of storing and distributing data both on magnetic tape and other media (e.g. hand written forms).

F. The present Kattegat monitoring programme probably being well coordinated between Denmark and Sweden, it is recommended that effort should be made to a) increase the measuring frequency in the programmes and b) enlarge the scientific approach (see below).

G. The 3 countries should investigate their monitoring programmes in the Skagerrak to judge if an enlargement and coordination is necessary.

H. Special international programmes are now and then organised to increase the knowledge of an area and/or a specific problem. Examples are, The International Baltic Year (1969-70) and JONSDAP 76 (3 months of 1976 in the North Sea). The latest international Skagerrak investigation was carried through in 1966 (mainly hydrographic). The new group should consider whether it would be advantageous to organise e.g. a JOSKSDAP within five years time. The exercise could cover both the Kattegat and the Skagerrak. As however special programmes for the Kattegat were made by Denmark 1974 -78 (the Belt Project) and Sweden 1974 - 77 (The Baltic Entrance Project, especially the Göteborg - Frederikshavn section), investigation in the Skagerrak should be given higher priority. Special attention should be given on one hand to the relation between the water currents and on the other hand to such phenomena as production of dinoflagellates, sedimentation (in deeps e.g. fjords) of particles originating from e.g. the North Sea, etc.

I. There should be cooperation in applying new techniques e.g. automatically according buoy stations, remote sensing etc. The conditions in the area are probably convenient for remote sensing especially the contrast between the Baltic current and the Jutland current.

J. Finding the Skagerrak-Kattegat symposia in Göteborg 1976 and Lusebu 1980 (and the Swedish symposium in 1983) very stimulating, it is recommended that a new symposium be organised in 1986.

6. Next meeting or following up.

The group decided to await the reactions of ICES before a possible new date be established.

7. As there was no other business, the Chairmar. thanked the members for fruitful contributions, and closed the meeting at 1600 hrs on 1 February 1985.

ANNEX 1WORKING GROUP ON
POLLUTION -RELATED STUDIES IN THE SKAGERRAK AND KATTEGAT

Gothenburg, 30 January-1 February 1985

A G E N D A

1. Opening of the meeting
2. Approval of the agenda
- Review and finalize the draft assessment of the
3. Review and finalize the draft assessment of the environment of the Skagerrak-Kattegat area
4. Consider priorities in studies in this area, taking into account national and international resources
5. Discuss proposals for future research in a cooperative basis
6. Next meeting or following up
7. Any other business

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ANNEX 2WORKING GROUP ON
POLLUTION-RELATED STUDIES IN THE SKAGERRAK AND KATTEGAT

Gothenburg, 30 January-1 February 1985

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ANNEX 3WORKING GROUP ONPOLLUTION-RELATED STUDIES IN THE SKAGERRAK AND KATTEGAT

Gothenburg, 30 January - 1 February 1985

REVIEW OF CHAPTERS IN THE DRAFT ASSESSMENT DOCUMENTCh. 2.1

The group reviewing this chapter received from Söderström a complimentary part "The coastal frontal zone along the Swedish coast". It was decided that Svansson adds this part somewhere or changes the text accordingly. In both cases it should meet with Söderström's approval. - It was decided to include two salinity sections, one from Kattegat, e.g. Göteborg - Frederikshavn and one from Skagerrak, e.g. Arendal - Hirtshals. The figure showing currents on page 8 should have no dashed arrows (surface currents). If there is uncertainty figure 8 should be considered the correct one and figure 8 changed accordingly.

Ch.2.2

In subchapter "Changed river water flow" four sentences starting "Mikulski ----- and ending ----regulations" were deleted. In subchapter "Changed temperature conditions" the first sentence starting "Discharge" was deleted. Svansson promised to search a number for the influence radius of the heated water from Pinghals. In subchapter "Changed artificial conditions" a reference should be made to Söderström's article in "Vatten".

Ch.3.1.1.

The group then continued with subchapter 3.1.1. Kattegat (part of 3.1. General marine chemistry etc) with attached figures 1 - 8 and Tables 1 and 2. There was a general feeling that many of the conclusions had a high probability only for the Belts and Öresund but hardly for the Kattegat. As inclusion of Swedish data from 1964 and onwards probably will improve the conclusions, it was decided that Svansson sends such data obtained at a position in the middle of the Kattegat to John Gray. JG will then change some figures as well as the text. There was a further wish that Table 2 should be checked (and reference noted) as some of the numbers were questioned. The amended version of 3.1.1. will be sent to Arne Nielsen and Vagn Hansen before it is inserted into the final version of the Assessment Document.

Ch.3.1.2

The subchapter 3.1.2. "Skagerrak" had not been changed since last (informal) meeting. Föyn would quickly rewrite the subchapter taking more Norwegian and Swedish data into consideration.

Ch. 3.2.

This chapter, "Modifications to chemical fluxes and extent of contamination" starts with 3.2.1. organic substances. In the last paragraph the sentence "It has been estimated that the phosphorous load as an average has increased by a factor of 3 - 7 ---- between 1930 and 1980" should be checked and reference given. Fig. 2 (page 29) showing areas with low oxygen concentrations and fish deaths in 1981 should be split up into 2 figures, one with deep oxygen conditions in the Loholm Bight 1981 - 1984 as presented by Rydberg in a recent synopsis and a second one with surface oxygen conditions and fish deaths at the Danish Coast.

3.2.2 - 3.2.5.

Subchapters 3.2.2. - 3.2.5. were accepted without amendments.

Ch. 4.1

At present Ch. 4.1. "General biology and fisheries of the area" is a little too long, but as some facts are already mentioned in previous chapters it will be fairly easy to shorten the text. Dybern will rewrite 4.1. accordingly. He was further asked to mention comparison between Petersen's investigations 1900 - 1910 and recent ones. The species "list" on page 33 should be substituted by a Table. Dybern would rewrite the figures 1 - 7. See below about the last paragraphs.

Ch. 4.2.

In Ch 4.2 "Biological trends and/or disturbance due to anthropogenic activity (including exploitation of fisheries resources)" the first sentence about climatic change was deleted (ambiguous). Instead some parts of the last paragraph(s) of Ch. 4.1. would suit here. Paragraph two about *Gyrodinium aureolum* should be shortened and amended a little. Much of the contents in "Anthropogenic activities" (p 43) has been written in earlier chapters; the "Table" shall be moved to an earlier page. "Consequences ----- on page 44 should probably be included in "Summary".

