

SCOR WORKING GROUP 42 (WITH ICES)
STUDY OF POLLUTION OF THE BALTIC
Report of Meeting, Charlottenlund, 16-17 May 1974

Participants

Dr G. Kullenberg (Denmark) (Chairman)

Mr S. Genders (Denmark)	Dr W. Słaćzka (Poland)
Mr O. Vagn Olsen (Denmark)	Dr L. Zmudzinski (Poland)
Mr E. Somer (Denmark)	Prof. B. Bolin (Sweden)
Prof. Dr K. Grasshoff (FRG)	Dr S.H. Fonselius (Sweden)
Prof. Dr G. Hempel* (FRG)	Dr J.-O. Strömberg (Sweden)
Mr A. Haverinen (Finland)	Prof. Dr A. Aitsam (USSR)
Dr A. Voipio (Finland)	Mr H. Tambs-Lyche (Denmark) ICES
Dr H.J. Brosin (DDR)	Mr J. Smed (Denmark) ICES

* Also Observer for Baltic Marine Biologists

Reports of national activities and plans were presented.

The Group noted that there are a number of bilateral or trilateral agreements between the countries bordering the Baltic, and observed that these had in general led to increased scientific activities and to coordination of national efforts. There had, however, also been instances where lack of sufficient communication had led to regrettable overlap in tasks, and it was felt that the coordinating capability of ICES could play an important role in avoiding this in the future.

Information on the 9th Conference of the Baltic Oceanographers

Mr Smed presented a written report, and supplementary information was given by Professor Grasshoff, who had chaired the Conference.

The Working Group noted with satisfaction that the Conference had supported its work by passing several resolutions directed to the scientific community in the Baltic countries, thereby stimulating actions initiated as parts of the comprehensive study of the pollution of the Baltic.

Reponse of ICES and SCOR to the Report of the Working Group's last Meeting: Information on the Continued Cooperation between ICES and SCOR in the Study of Pollution of the Baltic

The Group noted that its last Report had been accepted by both ICES and SCOR, and that both organizations had agreed that ANNEX 5 to the Report ("Research Programme for Investigation of the Baltic as a Natural Resource in View of Marine Pollution Problems") should be published as a Cooperative Research Report. The General Secretary of ICES

said that this was now under preparation, and that the Report will be published as No. 42 of that series.

Both ICES and SCOR had agreed to sponsor the Special Meeting on Models of Water Circulation in the Baltic (Charlottenlund 26-27 September 1974) and the Chairman informed about the progress in preparation for it.

It was very much regretted that it had been necessary to cancel the International Workshop on Analytical Methods for Potential Pollutants in Sea Water which had been planned for September 1974 in Kiel. The Group recognized that this Workshop would have been of great importance for the effective implementation of its own plans, and hoped therefore that it was a question of postponement rather than cancellation.

The Working Group was informed about a letter dated 5 March from the President of SCOR, and that SCOR considered withdrawing from the Group. SCOR had asked for the Group's views, and it was agreed that the cooperation had been most useful, and probably essential for the results that had so far been achieved. It was the view of the Group that the Baltic was well suited as a pilot area for scientific cooperation on pollution, and that the experiences would be more easily transferred to other areas through SCOR's active participation in the present study. On the other hand, scientific input from areas outside the Baltic and direct access to experience from similar studies elsewhere were of great importance for the Baltic studies, and such input was provided through SCOR's participation. It would be regretted therefore if SCOR withdrew from the Group now, when the further planning and implementation was felt to be at a critical stage. Also, the Group felt that the joint Group is in any case needed until such time as DDR has become a member of ICES.

Report on the Input Study

Dr Brosin said that he had received answers to the Questionnaire from all seven countries, but the last answers had been available so late that he had had very short time to draft his report. It should therefore be considered as a preliminary one, and it would be possible, with more time available, to provide a more complete survey of the total input. It would also be possible to supplement the data from the Questionnaires by data in the 1970 report, as well as by other available information. It was noted that while the qualitative information (kinds of pollutants) is reasonably good, the information on quantities is still not satisfactory. In some cases, no other figures are available apart from those reported in 1969/70; in other cases where new figures are reported, the comparison with the earlier ones is difficult and in some cases impossible. There are also important "gaps" in the information, and there are far too few analyses of the content of pollutants or nutrients in domestic sewage and waste water from industry. In some instances the participants believed that better information may be available in national laboratories and institutions, but they have for various reasons not been reported. In some cases this may be because the national investigations have started only recently and may still be in a pilot or exploratory stage.

In other cases, there is a lack of scientific investigations, such as on that amount of pollutants and nutrients discharged to rivers, fjords and estuaries which reach the Baltic area proper. Finally, during recent years one has been aware that air-borne pollutants may be considerably more important than previously assumed, and sufficient information on the input from the air is urgently needed. For all these reasons it is not yet possible to use the acquired knowledge for construction of a budget of the contaminating

substances - or even the nutrients - in the Baltic. The studies of the inputs must therefore be continued. It is premature to start compilation of input data on a regular, for instance, annual, basis but it was expected that the establishment of the Helsinki Commission will make it possible to improve greatly the quality of the data which are at present available.

The Group wishes to draw the attention of the Commission to the importance of this task, and expected that it will use its authority to request the Member Countries to make sufficiently detailed information on the input available according to standardized procedures, in order that the data from all national sources become inter-comparable. The Working Group would be pleased to cooperate with the Commission and make its experience and expertise available to it.

On the other hand, it was stressed that while reasonably complete information on the total input is an absolute necessity, this information alone does not solve any problem. In order to be of value it must be made available for an evaluation of budgets for each substance, and studies of their pathways and effects on the living resources of the Baltic. This is a scientific task, for which full cooperation between scientists from all Baltic countries, and from a series of different disciplines is needed.

Finally, the Group made a brief comparison with the corresponding study of the input to the North Sea, and concluded that with some additional information which is believed to be available, an evaluation of the information which has now been provided in a more quantitative way seemed possible. It was therefore agreed to establish a Sub-Group for this task consisting of:

Dr H. J. Brosin (Convenor)
Dr A. Voipio
Mr A. Haverinen
Dr W. Słaczka
Dr G. Weichart

The Sub-Group should report to the next Meeting of the Working Group.

Report on Analytical Methods

Reports on the "visiting surveys" and the Meeting of Analysts (Charlottenlund, 26-28 February 1974) were presented by Dr Słaczka and Professor Grasshoff. The Group complimented Dr Słaczka and Dr Kremling for their very good work and extensive and useful report, and wished to express its appreciation of the financial support rendered by the Research Council of the Federal Republic of Germany and SCOR for this work.

The Group noted the Report of the Analysts' Meeting, and decided to annex it to its own Report (page 140).

Report on Progress of the Base-Line Study

The Coordinator of the Base-Line Study, Professor Grasshoff, reported that it had been necessary to postpone the sampling by one year, but that the time gained had been used effectively for further preparations. He also said that some of the 25 laboratories which had last year indicated a willingness to take part in the study, may in the meantime have withdrawn from it, and that therefore new commitments were needed.

The Group agreed to follow in all essentials the procedure as outlined by the Action Planning Group at the Kiel Meeting.

The Coordinator will make available the necessary instructions by 1 July 1974, and these will then be circulated by the ICES Secretariat to the 25 laboratories, asking for their commitments. It should be made clear that those who take part in the Study must also participate in the joint intercalibration with the North Sea laboratories. Samples for the intercalibration will be distributed by Professor Grasshoff as soon as the laboratories have responded.

It was further agreed that it would be useful to include Kattegat in the Base-Line Study, in order to obtain an effective link with the North Sea Study.

The Basic Oceanographic Research Programme

The Chairman reported that the following persons had agreed to act as coordinators for, and head of task teams for, the following tasks:

- Task 2. The Open Sea Experiment: Professor Aitsam
- Task 3. The Baltic Circulation Study: Dr Svansson
- Task 5. The Open Sea, Multidisciplinary, Continuous Stations: Professor Hempel.

It would now be necessary to discuss these three tasks in more detail, and to set up task teams for the detailed planning, and later on, implementation. It would probably be necessary to allow about one year for the 'definition phase', and after that there should be a joint meeting of the teams for scientific discussions. This could take place in conjunction with the next meeting of the Working Group.

It would be necessary at present to look at the other tasks too, and, perhaps designate coordinators for them. During the discussions on this item on its Agenda, the Group benefitted from written comments by Dr Aitsam and Professor Welander on Task 2.

Before the tasks were discussed in detail, the Group considered priorities. It was noted with satisfaction that Task 1 (Exchange of water and matters with the North Sea), which has high priority, is developing satisfactorily in cooperation between some of the countries, and that no action by the Working Group is needed at this stage. Close contacts will, however, be kept with those concerned with it.

It was agreed that Task 2 and Task 5 must precede Task No. 3. It was also noted that Task 4 has to be implemented at national level, and that there is interest in it both in Sweden and Poland.

It therefore appeared reasonable to give priority at this stage to Task No. 2 as far as physical oceanography is concerned, and to Task No. 5 for the biological studies.

Professor Aitsam said that the following persons had been asked to take part in the Task Team for Task 2: Dr Brosin; Dr Magaard (possibly to be replaced by Professor Krauss); Dr Mätkki; Dr Walin; Professor Welander; Dr Kowalik and Dr Kullenberg. The Task Team will, if necessary, supplement itself in order to include all the scientists who are active on the implementation of this task. It was also agreed that the Task Team would meet in Copenhagen on 29 September, immediately after the Special Meeting on Modelling. One would at that time hope to have at least tentative commitments of vessels and equipment, for late 1976 or early 1977, and the further time-scale will then be considered in the light of the outcome from the Meeting on 28 September.

The Group then turned to discussion of Task 5, and Professor Hempel said that he had contacts with the following persons concerning this task:

In the German Democratic Republic: Dr K. Voigt
In Poland: Dr L. Zmudzinski
In USSR: Professor Aitsam
In Finland: Dr A. Voipio
In Sweden: Professor B. -O. Jansson and Dr S. H. Fonselius
In Denmark: Dr G. Kullenberg

It is the intention that this circle of correspondents will develop into a Task Team.

It seems possible that an FRG ship will be available for this task in 1977 for working one of the stations three times, and it is hoped that another ship may join. The Convenor of the Task Team will circulate a first draft of a plan for the task shortly, and representatives from the laboratories which are intended to participate should meet early in 1975 for discussion of details. At that time one hopes that commitments will be made of vessels, equipment and experts. It was noted that there is interest in Denmark for participation with optical measurements in this task; and that there are several scientists in Sweden who are interested in participation, although commitment of ship time is not yet possible. On the other hand, there is a possibility that Finland may provide ship time, even if there is a shortage of available experts. The German Democratic Republic intends to participate in either Task 2 or Task 5, and will decide when more detailed plans are available.

It was recognized that the Task Team will have to consider very carefully the original concept of three stations worked three times; if that should not be possible, some reduction must take place, or alternatively, a combination with Task 2 as suggested in last year's report, may be of help. The Working Group discussed criteria for a possible reduction, but agreed to wait for advice by the Task Team. It was also agreed that planning of Tasks 2 and 5 should go on separately in the first instance, and that a possible combination might better be discussed later, when both tasks are defined in more detail.

Finally, it was agreed to use the opportunity provided by the next ICES Meeting to look at the time-table for the planning of this and other tasks during the next year.

The Group thereafter returned to a discussion of Task 4 (The coastal water dynamics experiment), and Professor Hempel reported on discussions he had had with Professor B. -O. Jansson. This task will be undertaken primarily in the nearshore areas, and has therefore to be carried out as a combination of national projects. The Askö Laboratory is interested to make the studies at a rocky shore, but it is not yet clear what resources will be available, or when. It is very important, however, that corresponding studies are made at sandy shores in some other part of the Baltic, preferably in Poland; the two parts of the task must be closely correlated, and there should be an international coordination for the whole task. Professor Jansson would be willing to undertake that task. The Polish participants said that there was interest among Polish scientists for this task, but asked that a formal approach should be made by ICES to the Polish authorities. There is a need for detailed coordinated planning between Swedish and Polish scientists, and they should try to meet during late 1974 or early 1975.

The Working Group recognized the importance of this task, and encouraged further preparations. It asked to be kept informed about their progress so it may help if needed,

and assist in coordinating international participation or in facilitating exchange of scientists and data.

The Group briefly discussed Task 6 (Year-round biological observations) and recalled that the participants from the Lysekil Laboratory had at the Kiel Meeting offered to prepare a list of current national activities. The General Secretary was asked to approach the Lysekil Laboratory (Dr Ackefors) and ask for information. Further joint planning can only be made on the basis of such a compilation.

Concerning Task 7 (Toxic substances through the food chain), it was agreed that one has to wait for the results of the Base-Line Study.

Additional Activities

a) Continuous collection and updating of information on inputs

The Working Group recognized that this part of its terms of reference had been formulated before the preparations for the Helsinki Commission were started, and that it can only be solved in cooperation with that Commission. The General Secretary of ICES gave some information on the corresponding cooperation between the Council and the Preparatory Committee for the Oslo Commission, and the Group agreed to revert to this item at its next session, or when pertinent information is available.

b) Monitoring scheme

The Working Group agreed that a monitoring scheme must be based on a joint base-line study in order to be meaningful, otherwise it will be a waste of money and scientific resources. In due course a joint monitoring scheme will need to be based on national activities, but the Working Group, or ICES, may have an important coordinating function, in cooperation with the Commission.

Collaboration with Other Bodies in the Baltic

The Working Group was pleased to note that its membership include persons with contacts with practically all other related activities connected with studies of the Baltic, such as the Conference of Baltic Oceanographers, Baltic Marine Biologists, and the IHD Study of Water Balance of the Baltic. This had been reflected throughout the discussions at the present Meeting, and no specific action is needed at this time.

Any Other Business

1. The Group referred to its discussions of the research programme which had resulted in different time-tables for different tasks which had previously been considered part of "The Baltic Pollution Study Year 1975" (later amended to 1976). It was agreed that it was unfortunate, and that it may cause difficulties, for the planning if the year mentioned was misleading. It had now also become clear that one (or even two) years would not be sufficient for the whole programme, and that some tasks would have to wait for the completion of others. It was therefore agreed to amend the designation to read:

The International Baltic Pollution Study

2. The Group proposed that it should meet again in about a year's time, when concrete plans for Task 2 and Task 5 are available, and when it can evaluate progress in the Base-Line Study, and also consider a full report on the Input Study.

REPORT OF THE MEETING OF ANALYTICAL EXPERTS
FROM BALTIC LABORATORIES
Charlottenlund, 26-28 February 1974

Participants

Mrs I. Beckman	(Sweden)	Miss I. Kraul	(Denmark)
Dr L. Brüggemann	(DDR)	Dr K. Kremling	(FRG)
Mr S. Carlberg	(Sweden)	Mr O. Lindgren	(Sweden)
Mr Lars-Göran Danielsson	(Sweden)	Mrs K. Noren	(Sweden)
Dr M. Ehrhardt	(FRG)	Mr O. Vagn Olsen	(Denmark)
Miss K. Erkomaa	(Finland)	Dr Olafsson	(Sweden)
Dr S.H. Fonselius	(Sweden)	Dr Ch. Osterohrt	(FRG)
Prof. Dr E. Føyn	(Norway)	Mr L. Rudling	(Sweden)
Prof. Dr K. Grasshoff	(FRG)	Dr D. Schmidt	(FRG)
Dr U. Harms	(FRG)	Mrs A. Salo	(Finland)
Miss Anne Helleberg	(Denmark)	Dr W. Słaczka	(Poland)
Dr (Mrs) E. Huschenbeth	(FRG)	Dr P. Solyom	(Sweden)
Dr B. Josefsson	(Sweden)	Dr E. Somer	(Denmark)
Mr O. Karlog	(Denmark)	Dr D. Stadler	(FRG)
Dr F. Koroleff	(Finland)	Mr R. Vaz	(Sweden)

1. As agreed by the ICES/SCOR Working Group at its Meeting in 1973, and confirmed by ICES Resolution 1973/3:2, working analysts from Institutes concerned with studies of the Baltic Pollution were invited to meet at the ICES Headquarters from 26-28 February 1974.
2. Professor K. Grasshoff was elected Chairman of the Meeting and Dr K. Kremling (trace metals) and Dr W. Słaczka (chlorinated and petroleum hydrocarbons) Chairman of the two Sub-Groups.
3. The basis for the discussions was a compilation of methods which at present are applied in Baltic laboratories and which had been prepared by Dr Kremling and Dr Słaczka. As agreed by the ICES/SCOR Working Group on the Study of Pollution of the Baltic these two scientists had visited the Institutes concerned in order to collect relevant information on the methods used in different laboratories. It was the intention to give a true report on the practised methods without any evaluation. The draft Report was distributed to the scientists involved three weeks before the Copenhagen Meeting. The costs for these activities were carried by the German Research Council and by SCOR.
4. The discussions during the three-day Meeting were mainly devoted to sampling and pretreatment of the samples and to some special steps in the analysis. It was also the intention of the Meeting to elaborate some firm guidelines for the planned Workshop on Analytical Methods for the Analysis of Potential Pollutants, Kiel, September 1974. [Subsequently this meeting was cancelled.] The following Recommendations from the Meeting are intended to provide for a more uniform pretreatment of the samples.

5. Sub-Group I: Trace Metals

Trace Metal Analysis for Sea Water

Recommendation: 1) For sea water analysis the samples should not be filtered unless special questions are subject of the investigation and unless the particle load does not exceed 5 mg/l. This figure may be changed, if more information about phytoplankton concentration factors are available.

If filtration must be applied, "Nuclepore" filters with a pore size of 0.4 μm are recommended.

2) Quartz or polythylene bottles should be used for storage of samples. The bottles should be cleaned with pure nitric acid (50%) and then treated with a 1% solution of APDC followed subsequently by a MIBK treatment and finally rinsed with distilled water. Before sampling, the bottles should be carefully rinsed with sample water.

3) The samples should be stored in a deep-frozen condition until analysis. The freezing should be done as rapidly as possible after sampling, preferably with a quick-freezing device.

If the sample is too large to allow deep-freezing within 2 hours after sampling, or if deep-freezing is not possible, acidification with supra pure nitric acid or hydrochloric acid should be done to adjust the pH of the sample to at least 1.5.

In the case of mercury analysis the sample must be acidified with 30 ml concentrated nitric acid per litre sample and stored in carefully prepared glass bottles. Pretreatment should be done by rinsing with concentrated nitric acid, the cleaning with distilled water and finally with the sample water just before sampling. The bottles should be stoppered with glass stoppers. The nitric acid must be checked to be free or very low in mercury.

(Remark: mercury contamination in nitric acid may vary from batch to batch.)

Information:

For pre-concentration steps the co-precipitation method with magnesium hydroxide should be proved as a practicable procedure. For this purpose, supra pure sodium hydroxide is added to the sea water sample until a precipitate occurs. After settling of the precipitate, the supernatant water is decanted or siphoned away. The precipitate is dissolved in acid and quantitatively transferred to smaller bottles for storage or direct analysis.

Analysis of Sediments

Recommendation: 1) It is recommended that a standard procedure for the digestion of sediments should be strictly applied by all labora-

tories carrying out sediment analysis for trace metals. The standard digestion should be made according to the procedure adopted by the Nordforsk (Nordic Research Council)(Dr P. Solyom) expert group on sediment analysis. The method will be circulated after the evaluation of the recent intercalibration exercise, probably in May 1974. (A nitric acid digestion is applied.)

- 2) Because of the strata of different elements in the sediments and the different ways of interaction between water, pore water and sediment it is recommended that sediment sampling devices should allow collection of completely undisturbed cores down to the desired depth. All results should be reported together with the depth and thickness of the analysed layer. Precise description of the sampling and sub-sampling techniques should be presented.

Analysis of Fish (sampling, storage, filleting procedures) will be outlined by Dr P. Solyom and circulated in May/June 1974.

6. Sub-Group II: Chlorinated Hydrocarbons and Petroleum Hydrocarbons

The following compounds should be determined:

- a) Organochlorine pesticides, mainly DDT, DDE, DDD and dieldrine;
- b) Polychlorinated biphenyls (PCB's).

The residues of PVC production were omitted due to lack of experience in their estimation by the visited Institutions.

Recommendation: 1) Material for Analysis

- a) Sea water - surface layer (0 - 1m) and deeper layers;
- b) Sediments - surface layer (0 - 1cm);
- c) Biological material - according to the sampling program which will be circulated before July 1974.

Recommendation: 2) Sampling

- 2.1 Sea water - by pumping directly from the sea;
 - sampling with stainless steel samplers;
 - sampling with glass bottles.

Caution - In the case of collection of samples from the ship it is necessary to take them from some distance to avoid possible pollution by PCB's from the ship paint.

- 2.2 Sediments - The samples should preferably be collected with the "Kasten" corer to provide undisturbed surface samples.

2.3 Biological

Material - The samples should preferably be collected by research vessels. Otherwise material should be obtained from commercial fishing boats.

3) Preservation of Samples

Biological material and sediments should be wrapped in aluminium foil and immediately frozen and stored in a deep freezer. The sea water samples should be extracted immediately after sampling to avoid wall effects. As a rule the organic extract should be separated. If this is impossible, the unseparated organic extract (together with the water layer) may be delivered to the laboratories.

4) Extraction

4.1 Sea water - liquid-liquid extraction (Josefsson method*);
- column extraction (Osterroht method*);
- shaking with organic solvent.

4.2 Sediments - extraction in Soxhlet apparatus.

4.3 Biological

Material - extraction according to the Jensen method;
- homogenization in normal way;
- powdering with anhydrous sodium sulphate and sea sand followed by extraction in a small column.

Caution - Fat recoveries during extraction process should be recorded.

Recommendation: 5) Clean up and Separation

(For all materials under investigation)

Four methods for clean up and separation should be used:

5.1 Method with fuming H_2SO_4 and KOH:

- a) according to the method of Jensen*;
- b) according to the micromethod of Södergren*.

5.2 Thin layer chromatography according to the method of Zestöb *.

* The names refer to the compilation of methods by Kremling and Słaczka.

- 5.3 Column chromatography according to the method used in Institut für Küsten-und Binnenfischerei in Hamburg (Holden and Moveden method).

Caution - In all cases the extract which contains PCB's and DDE should be oxidized with chromic acid to destroy DDE.

6) The Stationary Phases for Gas Chromatography

Five kinds of stationary phases should be used:

- a) 2.5% QF-1 + 2.5% DC-11 (1:1) on Chromosorb W HP, 100/120 mesh;
- b) 8% QF-1 + 4% SF-96 (67:33) on Chromosorb AW DMCS, 100/120 mesh;
- c) 5% DCFS-1265 + 4% DC-200 on Chromosorb AW DMCS, 100/120 mesh;
- d) 3% OV-1 on Chromosorb AW DMCS, 100/120 mesh;
- e) 10% DC-200 on Chromosorb AW DCMS, 100/120 mesh.

7) Standard Solutions

- a) For organochlorine pesticides in a mixture of DDT, DDE, DDD and dieldrine in n-hexane should be used.
- b) For polychlorinated biphenyls: clophen A-50 in n-hexane should be used.

8) Quantitative Evaluation

Only the peak heights of the estimated compounds should be measured, and then compared with the same peaks of the standard solutions.

DDT - In the case of H_2SO_4 treatment followed by a KOH clean-up process, the difference of the DDE peak height, before and after the treatment with KOH, should be estimated and multiplied by 1.11.

DDT - In the case of thin layer chromatography or column chromatography separations, the height of the DDT peak should be measured directly from the chromatogram.

DDE - In all cases the difference of the DDE peak heights, after the H_2SO_4 treatment and after the oxidation, should be measured.

DDD - In the case of H_2SO_4 treatment followed by a KOH clean-up process, the difference of the peak

heights, before and after treatment with KOH, should be estimated.

- In the case of thin layer chromatography or column chromatography separation, the height of the peak should be measured directly from the chromatogram.

Dieldrine - For its determination only thin layer or column chromatography separation should be used. The height of the peak should be estimated directly from the chromatogram.

PCB's - The total amount of PCB's should be estimated. The total heights of all their peaks, after treatment with KOH, and those related to DDE after oxidation with chromic acid, should be estimated.

Caution - In cases when the individual isomers of PCB's are obtainable, the measurement of each peak height separately should be recommended.

9) Results

The results should be expressed in mg/kg, μ g/kg etc. and not in ppm, ppb etc. In the case of biological material the results should be related to lipid weight and to the wet weight, and in the case of sediments to the dry and wet weight.

7. In a joint session of the two Sub-Groups the Recommendations were discussed and also the philosophy of the planned Workshop. The Chairman informed the Meeting about the unexpected small number of preliminary applications to the Workshop, and the reasons for this were discussed.

The Meeting agreed unanimously that the Workshop should be organized if this would be feasible; and in order to make it more easy for persons interested to participate, it was decided to shorten the duration of the Workshop from three to two weeks.

The Meeting was informed that the organizer must have firm applications before 1 April 1974*.

* After having received the first applications by 1 April it became obvious that the number of applicants with sufficient expertise in the different fields of the analysis of potential pollutants was not large enough to provide for a sufficient representation of especially the Baltic, and the North Sea laboratories, so that one of the main purposes of the Workshop could not be secured, namely intercalibration of the methods, especially for those samples and substances, where the exchange of samples is impossible for several reasons. In agreement with the organizer and the Steering Committee, the Workshop was therefore cancelled.

The Meeting was also informed about the parallel activities of the Swedish Environmental Protection Board in the frame of the bilateral Swedish-USSR cooperation.

It is intended to issue a revised compilation of the methods from Baltic Laboratories before late summer 1974 and give it a somewhat wider distribution after having received the concession of doing so from all contributing laboratories.