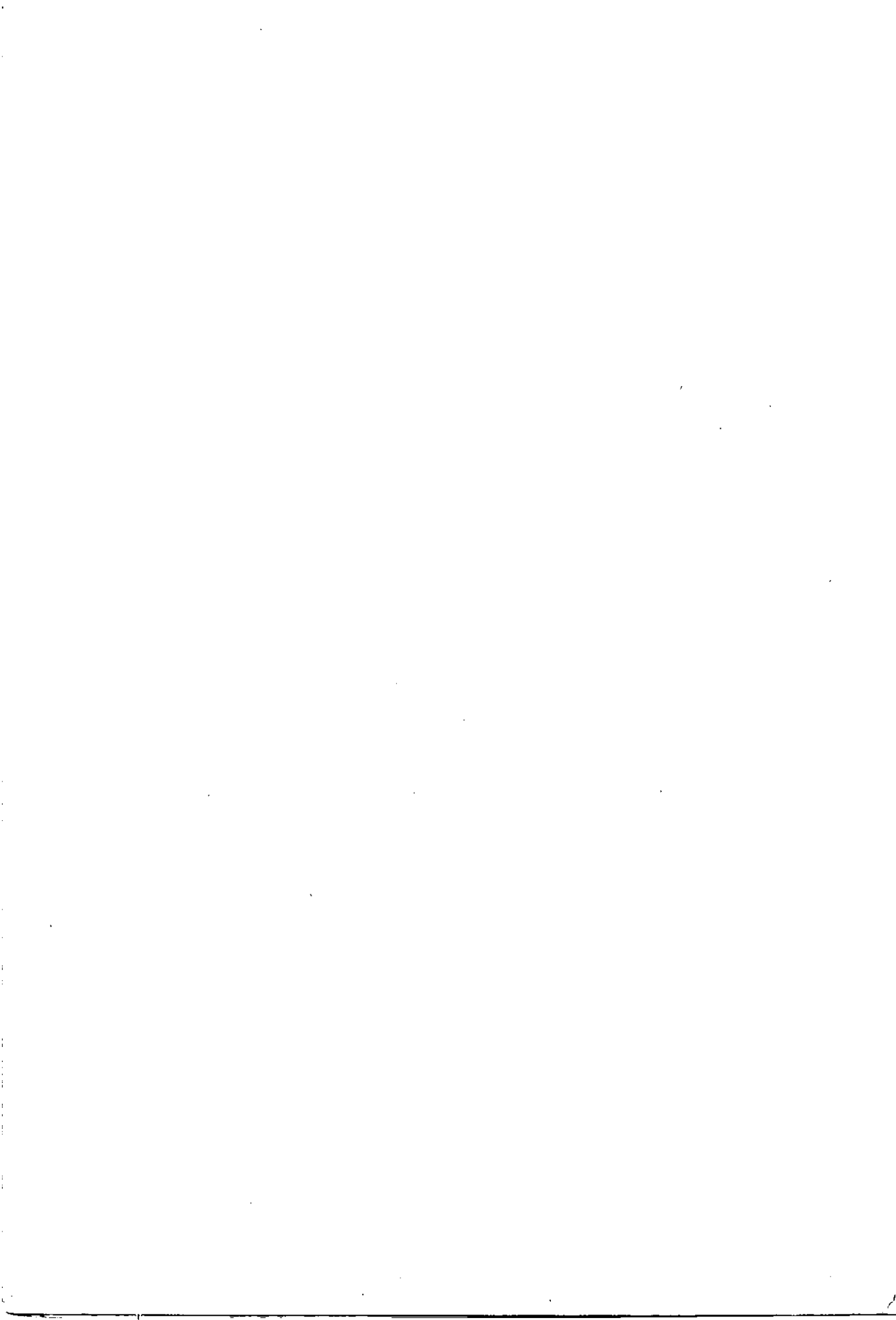


Northwest Atlantic Fisheries Organization (NAFO)



Annual Report 1993

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Preface

This Annual Report for the year 1993 is submitted to the Contracting Parties of NAFO in accordance with the provisions of Article V.4 of the Convention on Future Multilateral Cooperation in the Northwest Atlantic Fisheries. The Report consists of four Parts that reflect the annual activities of NAFO's constituent bodies -the General Council, the Fisheries Commission, the Scientific Council, and the Secretariat as the summary proceedings and decisions through 1993. Full reports of all of the General Council and Fisheries Commission meetings during the year are published in a separate edition - "Meeting Proceedings of the General Council and Fisheries Commission for 1993", and the proceedings of the Scientific Council are published in the Scientific Council Reports, 1993. The Annual Report includes a summary of meetings, scientific, statistical, financial and other appropriate information pertaining to the activities of the Organization and fisheries in the Regulatory Area.

L. I. Chepel
Executive Secretary

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Introduction

The Northwest Atlantic Fisheries Organization (NAFO)* operates under provisions of the Convention on Future Multilateral Cooperation in the Northwest Atlantic Fisheries signed in Ottawa, Canada, on 24 October 1978 and entered into force on 1 January 1979. The instruments of accessions to the Convention are deposited with the Government of Canada.

The principal object of NAFO set forth by the Convention is to contribute through consultation and cooperation to the optimum utilization, rational management and conservation of the fishery resources of the Convention Area. To carry out its objectives NAFO was structured into the following four constituent bodies: the General Council, the Scientific Council, the Fisheries Commission, and the Secretariat. The first three constituent bodies meet at least once annually, while business of NAFO between meetings is performed through the Secretariat.

During 1993 NAFO held five (5) meetings as follows in chronological order: Standing Committee for non-Contracting Parties Activities (STACFAC) in April, NAFO Headquarters, Canada; Regular Scientific Council Meeting in June, NAFO Headquarters; 15th Annual Meeting of the Organization including meetings of all constituent bodies, Holiday Inn, Dartmouth, Nova Scotia, Canada on 6-10 September 1993; Scientific Council Symposium on Gear Selectivity/Technical Interactions in Mixed Species Fisheries in September, Holiday Inn; Scientific Council Meeting, 19-23 November, NAFO Headquarters, Dartmouth, Canada.

Through the year the Scientific Council considered scientific data and provided the scientific assessment and recommendations to the Contracting Parties on the management of the nineteen (19) fish stocks in the Convention Area. The scientific findings were reported to the Fisheries Commission for the purpose of the management and conservation of fishery resources within the Regulatory Area. Important observations were made at the Scientific Council Meeting in June regarding new non-traditional fisheries of shrimp and Greenland halibut in the Regulatory Area, which shall be closely monitored obtaining all necessary fishery and biological data.

The Scientific Council decided to collect more biological information through the Pilot Observer Program (by the Fisheries Commission) and recommended that observers should collect data on set location, depths fished, time net on bottom, species, by-catches, catches and effort, length sampling.

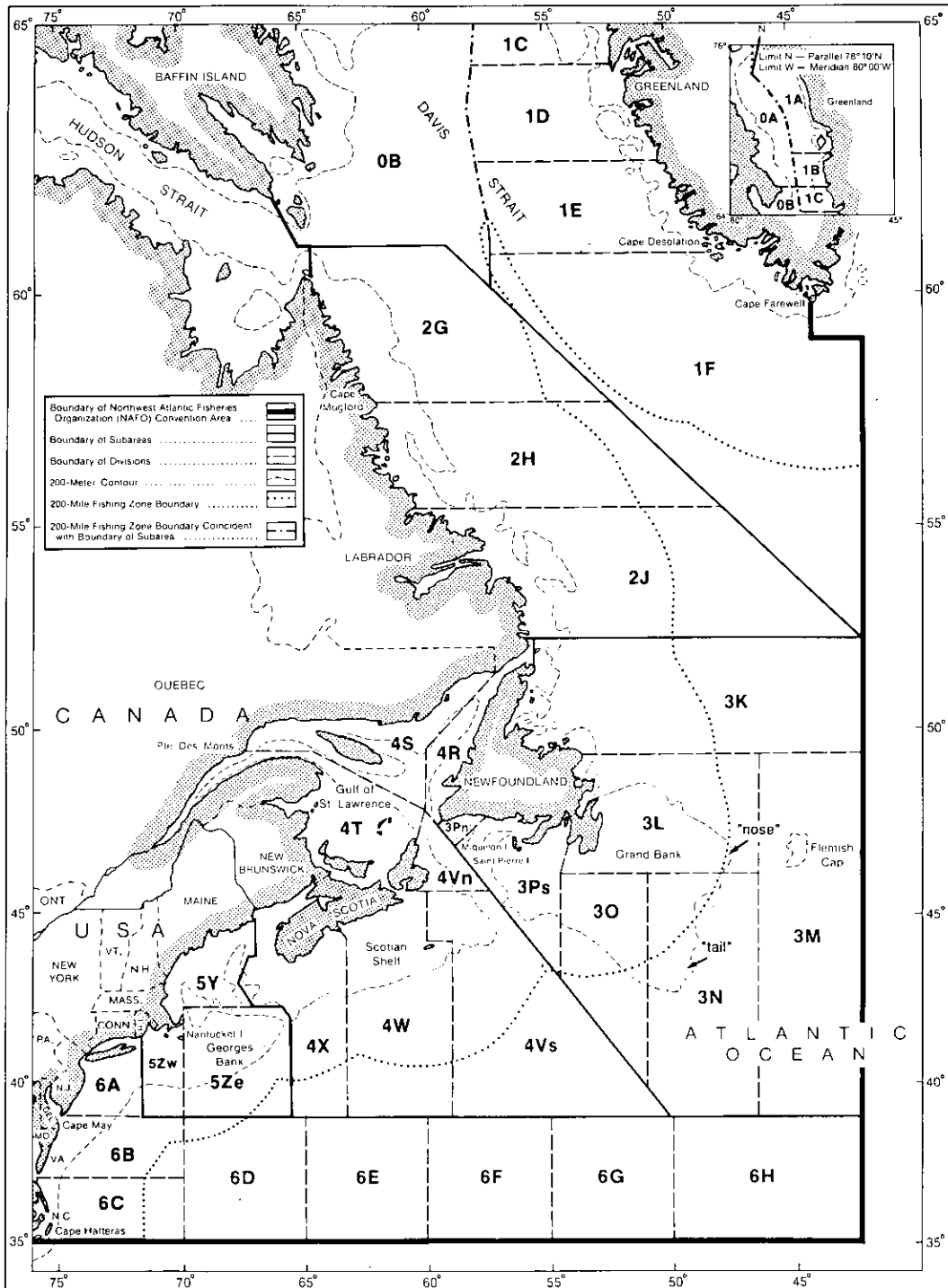
At the Annual Meeting in September the Fisheries Commission adopted the Total Allowable Catches and new measures for improvements to inspection and control in the NAFO Regulatory Area based on the scientific studies and technical recommendations by STACTIC. The following proposals became binding in November 1993 and were incorporated in the NAFO Conservation and Enforcement Measures: modified Pilot Project for a NAFO Observer Scheme; regulation for fishery of cod in Div. 3NO in 1994 (50% observer coverage, 100% inspection and dock side control); regulation for fishery of shrimp in Div. 3M and 3LNO (mesh size 40 mm, sorting grids, and no directed fishery in 3LNO); enhanced inspection procedure; prohibition of directed fishery for cod in Div. 3L of the Regulatory Area in 1994.

*Note: The previous sister Organization for the Region was ICNAF through the years 1950-1978 based on the International Convention for the Northwest Atlantic Fisheries.

The General Council and its Standing Committee - STACFAC considered the problem of continuous fishing activities of non-Contracting Parties in the NAFO Regulatory Area, which remained very high due predominantly to Panamanian flagged vessels activities. The positive sign was that the Republic of Korea had withdrawn its vessels from the Regulatory Area and noted its intention to join NAFO*. The General Council decided to pursue further diplomatic demarches against the non-Contracting Parties fishing in the Regulatory Area and adopted a Resolution to collect statistics of catches by vessels of non-Contracting Parties for implementation of a Landing Declaration.

*Note: The documents of accession to the NAFO Convention were deposited by the Republic of Korea on 21 December 1993.

The Convention Area to which the Convention on Future Multilateral Cooperation in the Northwest Atlantic applies



**Structure of the Northwest Atlantic Fisheries Organization (NAFO) in 1993
(as at 15th Annual Meeting, September 1993)**

Contracting Parties

Bulgaria, Canada, Cuba, Denmark (for Faroe Islands and Greenland), Estonia, European Economic Community (EEC), Iceland, Japan, Latvia, Lithuania, Norway, Poland, Romania, and Russia.

President

K. Yonezawa (Japan)

Constituent Bodies

General Council	Bulgaria, Canada, Cuba, Denmark (for Faroe Islands and Greenland), Estonia, EEC, Iceland, Japan, Latvia, Lithuania, Norway, Poland, Romania, and Russia.	<i>Chairman</i> - K. Yonezawa (Japan) <i>Vice-Chairman</i> - P. Gullestad (Norway)
Scientific Council	Bulgaria, Canada, Cuba, Denmark (for Faroe Islands and Greenland), Estonia, EEC, Iceland, Japan, Latvia, Lithuania, Norway, Poland, Romania, and Russia.	<i>Chairman</i> - V. P. Serebryakov (Russia) <i>Vice-Chairman</i> - H. Lassen (EEC)
Fisheries Commission	Bulgaria, Canada, Cuba, Denmark (for Faroe Islands and Greenland), Estonia, EEC, Japan, Latvia, Lithuania, Norway, Poland, and Russia.	<i>Chairman</i> - E. Wiseman (Canada) <i>Vice-Chairman</i> - P. Hillenkamp (EEC)

Standing Committees

General Council	Standing Committee on Finance and Administration (STACFAD) Standing Committee on Fishing Activities of non-Contracting Parties in the Regulatory Area (STACFAC)	<i>Chairperson</i> - D. Gill (Canada) <i>Vice-Chairman</i> - H. Koster (EEC) <i>Chairman</i> - C. C. Southgate (EEC) <i>Vice-Chairman</i> - B. Garcia Moreno (Cuba)
-----------------	--	--

Scientific Council	Standing Committee on Fishery Science (STACFIS)	<i>Chairman</i> - H. P. Cornus (EEC)
	Standing Committee on Research Coordination (STACREC)	<i>Chairman</i> - A. Avila deMilo (EEC)
	Standing Committee on Publications (STACPUB)	<i>Chairman</i> - H. Lassen (EEC)
	Executive Committee	<i>Chairman</i> - V. P. Serebryakov (Russia)
Fisheries Commission	Standing Committee on International Control (STACTIC)	<i>Chairman</i> - E. Lemche (Denmark)

Secretariat

Executive Secretary	L. I. Chepel
Assistant Executive Secretary	T. Amaratunga
Administrative Assistant	W. H. Champion
Senior Secretary	B. J. Cruikshank
Accounting Officer	F. D. Keating
Desktop Publishing/Documents Clerk	F. E. Perry
Statistical Officer	G. M. Moulton
Graphic Arts/Printing Technician	R. A. Myers
Graphic Arts/Printing Technician	B. T. Crawford
Clerk-Typist	D. C. A. Auby
Statistical Clerk	B. L. Marshall
Statistical Clerk	C. L. Kerr

Headquarters Location

192 Wyse Road, Dartmouth, Nova Scotia, Canada

PART I

(pages 13-44)

Activities of the General Council in 1993

List of Meetings

The following meetings were held under the authority of the General Council in 1993:

- Standing Committee on Fishing Activities of Non-Contracting Parties in the Regulatory Area (STACFAC); 28-30 April, NAFO Headquarters, Dartmouth, Nova Scotia, Canada.
- The General Council and its subsidiary bodies (STACFAD and STACFAC) at the 15th Annual Meeting; 6-10 September, Holiday Inn, Dartmouth, Nova Scotia, Canada.

Major Documents of the General Council in 1993

Serial No.	GC Doc. No.	Title
N2233	93/1	Report of the Meeting of the Standing Committee on Fishing Activities of Non-Contracting Parties in the Regulatory Area (STACFAC), Dartmouth, Nova Scotia, Canada, 28-30 April 1993
N2234	93/2	Data on Non-Contracting Parties Activities in the NAFO Regulatory Area
N2284	93/3	Correspondence Between NAFO Secretariat and Non-Contracting Parties
N2286	93/4	Administrative Report and Financial Statements for the fiscal year ending 31 December 1993 (as of 31 July 1993)
N2332	93/5	General Council Resolution 93/1 re Non-Contracting Parties Fishing Activities in the NAFO Regulatory Area
N2333	93/6	Aide Memoire (for joint diplomatic demarche)
N2337	93/7	Data on Non-Contracting Parties Activities in the NAFO Regulatory Area
N2339	93/8	Report of the General Council and its Subsidiary Bodies (STACFAD and STACFAC), 15th Annual Meeting, 6-10 September 1993



Meeting of the Standing Committee on Fishing Activities of Non-Contracting Parties in the Regulatory Area (STACFAC)

The meeting of STACFAC was held at NAFO Headquarters in Dartmouth, Nova Scotia, Canada on 28-30 April 1993 under the chairmanship of C. C. Southgate (EEC). Full proceedings of this Meeting are presented in GC Doc. 93/1 and in a separate edition of Meeting Proceedings of the General Council and Fisheries Commission for 1993.

The following Contracting Parties were present: Canada, Denmark (in respect of the Faroe Islands and Greenland), European Economic Community (EEC) Japan and Russia (Annex 1).

S. Duff (Canada) was appointed Rapporteur. The Agenda was adopted as circulated (Annex 2).

Review of 1992 Information and Available 1993 Information on Activities of Non-Contracting Parties Vessels in the Regulatory Area

The representatives of Canada and European Community submitted their detailed reports indicating that non-Contracting Parties activities in 1992 were very high and similar to those in 1991 (average 32-34 vessels) and viewing that such activities will decrease in 1993 due to positive measures by NAFO. The meeting noticed a substantial reduction in the number of Korean-crewed vessels (since 1990) and intention of the Republic of Korea to withdraw from this activity by 30 April 1993. The NAFO Secretariat has received all updated statistics of the Korean fishery in the Area as required.

Review of 1992 Information and Available 1993 Information on Landings and Transhipments of Fish Caught in the Regulatory Area by Non-Contracting Party Vessels

The Japanese representative informed that the Japanese Government contacted potential companies urging them to refrain from engaging in the transhipment of NAFO regulated species from non-Contracting Party vessels. The Canadian representative advised that there were no landings of NAFO origin groundfish in Canadian ports by non-Contracting Parties as a result of special port access policy. The representative of EEC informed that EEC has no statistical volume to record harvest origin for transhipped product and no statistics would be retained on the product as it does not enter the Community market. The meeting concluded the lack of information on this issue.

Review of Information on Imports by Contracting Parties of Groundfish Species Regulated by NAFO from Non-Contracting Parties Whose Vessels Have Fished in the Regulatory Area

The Meeting considered reports provided by Japan and EEC. The representatives argued that much of the product covered by statistics could not be clearly distinguished as catches from the Regulatory Area or elsewhere. The Meeting agreed that there should be some kind of a harmonized system to cover and distinguish all products. The representatives informed that it is not always possible for custom officials to clearly identify the area of harvest for import species, especially where there has been some degree of processing.

Note by Executive Secretary: All data and reports presented by the Contracting Parties on non-Contracting Party fishing activity and import were incorporated in one document - GC Doc. 93/2.

**Reports by Contracting Parties on Diplomatic Contacts with
Non-Contracting Party Governments Concerning Fishing
by Their Vessels in the Regulatory Area**

The representative of Canada reported on bilateral contacts with Vanuatu regarding one vessel (Marsopla) resulting in a positive response from the Government of Vanuatu and presented a paper on Canadian diplomatic exchange with Panama, Honduras, Morocco, Venezuela, Sierra Leone and Korea. These contacts resulted that Panama has deregistered three vessels fishing in the Area and fined others; Sierra Leone deregistered one vessel; Venezuela has not renewed the fishing licenses for two vessels; the Republic of Korea committed to withdraw its vessels from the NAFO Regulatory Area by 30 April 1993.

With respect of joining NAFO, the representatives expressed their view that there should not be any incentives or guarantees of quota allocation for this purpose.

The Meeting recommended to the General Council to dispatch a NAFO joint diplomatic demarche to Belize regarding this country's flagged vessels sighted in the NAFO Area.

**Consideration of Statistical Measures to Document Catches,
Transshipments and Landings of Groundfish Caught in the
Regulatory Area by Non-Contracting Party Vessels**

The Representatives discussed all aspects of the idea and rationale of all aspects of Landing Declaration based on the Canadian proposal. The final consensus was reached on the Landing Declaration as follows:

- The Landing Declaration would require the following information:

name of vessel and master;
nature and quantity of product;
area of harvest - days fished in NAFO divisions.

- Product coverage should be as comprehensive as possible, including fresh, frozen and salted product to the level of processing capacity on non-Contracting Party vessel capacity before landing.

- It would be best to require a report of the product weight, as required in an ordinary customs declaration, which would then be converted to roundweight.

- Participation in the scheme by non-Contracting Parties would be voluntary. Non-Contracting Parties which do participate would take measures to ensure compliance by their vessels. Contracting Parties will implement the scheme through domestic law, as appropriate.

- Only those vessels from non-Contracting Parties which do not report catches to NAFO, and have accepted to participate in the scheme would be required to complete a Landing Declaration.
- Forms should be widely available, and non-Contracting Party authorities should also be responsible for distributing these forms to their flag vessels.
- Failure to submit a Landing Declaration would not result in denial of entry, or an administrative penalty, but would be reported to the appropriate non-Contracting Party authorities, with the information in the regular customs declaration relating to the nature and quantity of catch. This would provide a basis for follow up by non-Contracting Party authorities, and for Contracting Parties in subsequent contacts with these countries.
- Contracting Party officials would not be responsible for verification of the Landing Declaration. They would collect completed Landing Declaration forms and forward this information to the non-Contracting Parties in which the vessels are flagged. The information would also be provided to NAFO. Contracting Party officials would also notify non-Contracting Parties of failure to complete the Landing Declaration, and would provide information on the nature and quantity of the catch as provided in the customs declaration.
- The NAFO Secretariat would receive the information in the Landing Declaration and would summarize the information. The NAFO Secretariat would circulate the information to Contracting Parties for comparison with vessel sighting reports and catch estimates.

**Consideration of Steps to Deter Re-Flagging of Contracting
Party Vessels for the Purpose of Fishing Contrary to
NAFO Conservation and Management Decisions**

The Meeting concurred that this issue would also be addressed at the upcoming UN Conference and discussion of this in STACFAC should be postponed, pending the outcome of the UN and FAO deliberations.

Report to the General Council

It was agreed to present this report as a whole for approval by the Council and follow-up further deliberations at the upcoming Annual Meeting in September 1993.

Annex 1. List of Participants

Standing Committee on Fishing Activities of Non-Contracting Parties in the Regulatory Area (STACFAC)

Dartmouth, Nova Scotia, Canada
28-30 April 1993

CANADA

Head of Delegation: E. Mundell, International Fisheries Directorate, Dept of Fisheries and Oceans, 200 Kent Street, 14th Floor, Ottawa, Ontario K1A 0E6

S. Duff, Office of Ambassador for Fisheries Conservation, External Affairs, 125 Sussex Drive, Ottawa, Ontario K1A 0G2
W. Sanford, Deputy Coordinator, Office of Ambassador for Fisheries Conservation, External Affairs, 125 Sussex Drive, Ottawa, Ontario K1A 0G2

L. Strowbridge, Dept of Fisheries and Oceans, P. O. Box 5667, St. John's, Newfoundland A1C 5X1

DENMARK (in respect of the Faroe Islands and Greenland)

Head of Delegation: O. Loewe, Danish Embassy, 85 Range Rd., Apt. 702, Ottawa, Ontario K1N 8J6

EUROPEAN ECONOMIC COMMUNITY (EEC)

Head of Delegation: H. Koster, Commission of the European Communities, 200 Rue de la Loi, B-1049 Brussels

T. Abadia, Commission of the European Communities, Directorate General of External Relations, Rue Belliard 28, 5/22, 1049 Brussels

G. Stodtmeister, Council of the European Communities, 170 Rue de la Loi, B-1048 Brussels

G. F. Kingston, Delegation of the Commission of the European Communities, 350 Sparks St., Suite 1110, Ottawa, Ontario, Canada K1R 7S8

J. M. O. VanMullem, Embassy of Belgium, 3330 Garfield St. NW, Washington, D.C. 20007 USA

B. Buch, Danish Permanent Representation to the EEC, Rue d'Arlon 73, 1040 Brussels

D. Silvestre, Ministere de l'Agriculture et de la Pêche, 3 Place de Fontenoy, 75007 Paris, France

A. Jakobs de Padua, Bundesministerium für Ernährung, Landwirtschaft und Forsten, Rochusstr. 1, 5300 Bonn 1, Germany

M. H. Figueiredo, Direcção-Geral das Pescas, Av. Brasília, 1400 Lisboa, Portugal

C. R. Gomes, Direcção-Geral das Comunidades Europeias, 76 Av. Visconde Valmor 4º DTO, Lisboa, Portugal

C. Asencio, Secretaria General de Pesca Marítima, c/Ortega y Gasset 57, 28006 Madrid, Spain

M. I. Aragon, Secretaria General de Pesca Marítima, c/Ortega y Gasset 57, Madrid, 28006 Spain

C. C. Southgate, Ministry of Agriculture, Fisheries and Food, Nobel House, Rm 428, 17 Smith Square, London, United Kingdom

JAPAN

Head of Delegation: K. Hanafusa, Deputy Director, International Affairs Div., Fisheries Agency, Government of Japan, 1-2-1 Kasumigaseki, Chiyoda-ku, Tokyo

K. Yamakawa, Trade and Marketing Division, Fisheries Agency, Government of Japan, 1-2-1 Kasumigaseki, Chiyoda-ku, Tokyo

H. Inoue, Japan Fisheries Association, Suite 1408, Duke Tower, 5251 Duke Street, Halifax, Nova Scotia, Canada B3J 1P6

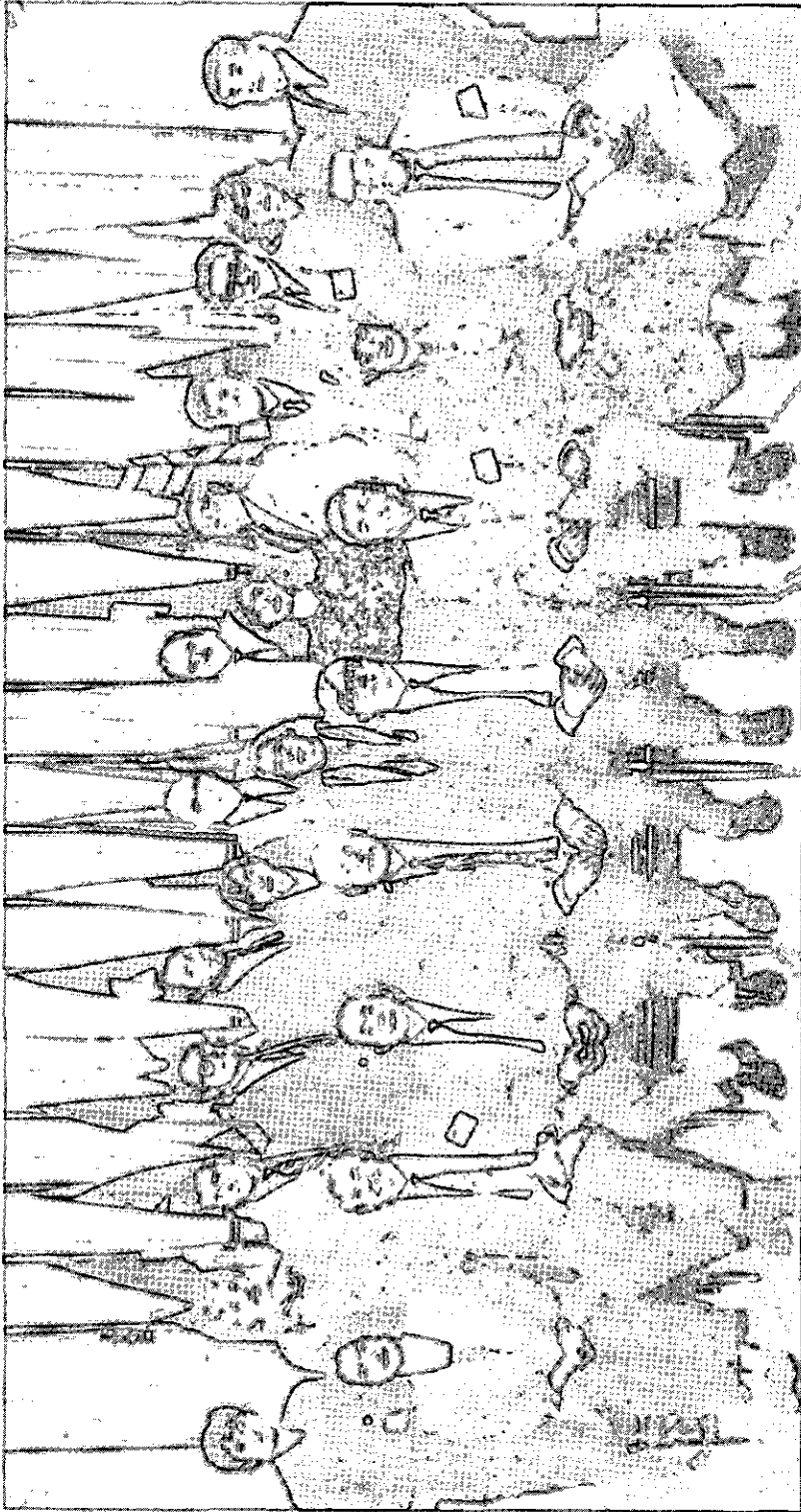
M. Yoshida, Japan Deep Sea Trawlers Association, 601 Yasuda Bldg., 3-6 Kanda, Ogawa-cho, Chiyoda-ku, Tokyo

RUSSIA

Head of Delegation: A. Mikhailov, Representative of the Russian Federation on Fisheries in Canada, 2074 Robie Street,
Ste. 2202, Halifax, Nova Scotia, Canada B3K 5L3

NAFO SECRETARIAT

L. I. Chepel, Executive Secretary
T. Amaratunga, Assistant Executive Secretary
B. Cruikshank, Senior Secretary



(Left to Right)

Front Row: S. Duff, A. Mikhailov, H. Hanafusa, H. Koster, C. Southgate, L. Chepel, E. Mundell, O. Loewe
Second Row: C. R. Gomes, G. Stodtmeister, F. Kingston, B. Buch, D. Silvestre, M. Figueiredo, J. VanMullem, M. Aragon, L. Strowbridge, C. Asencio,
T. Abadia, K. Yamakawa, H. Inoue, A. Jokobs de Padua, M. Yoshida

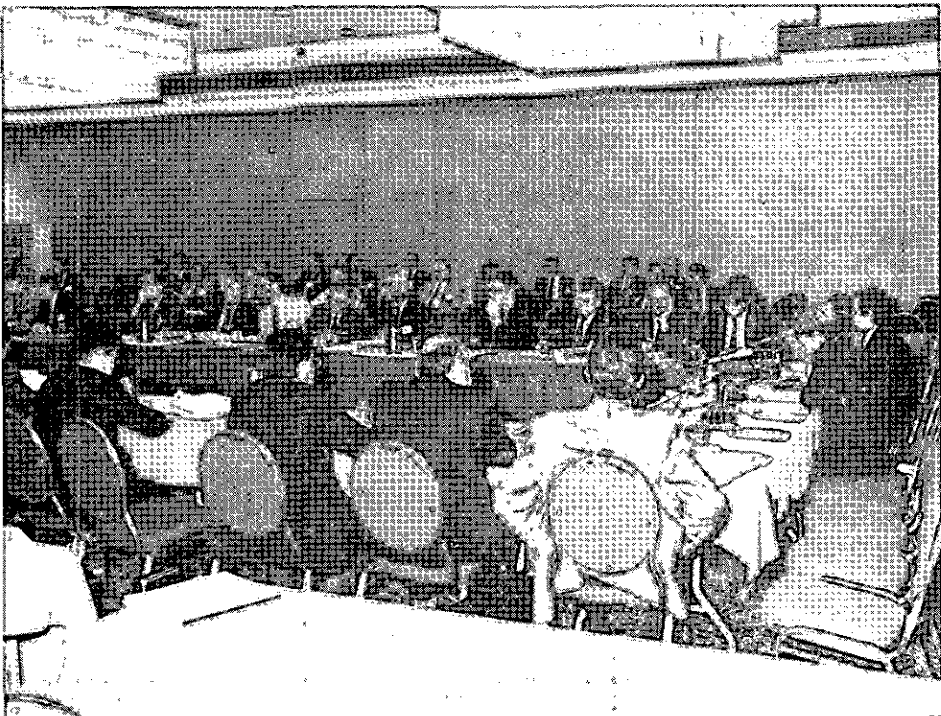
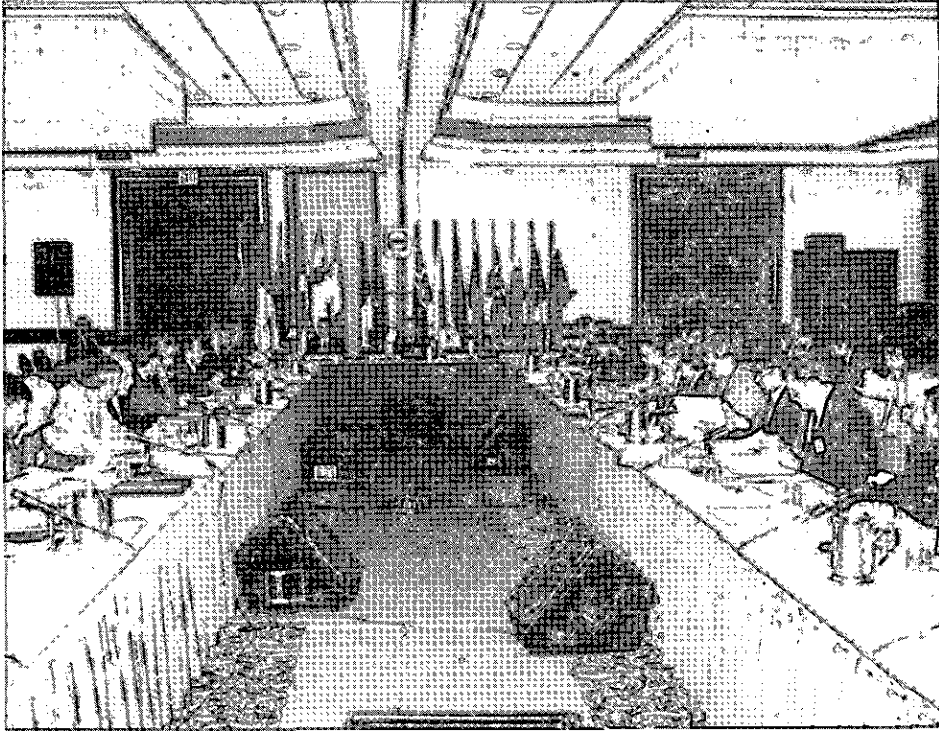
Annex 2. Agenda

Standing Committee on Fishing Activities of Non-Contracting Parties in the Regulatory Area (STACFAC)

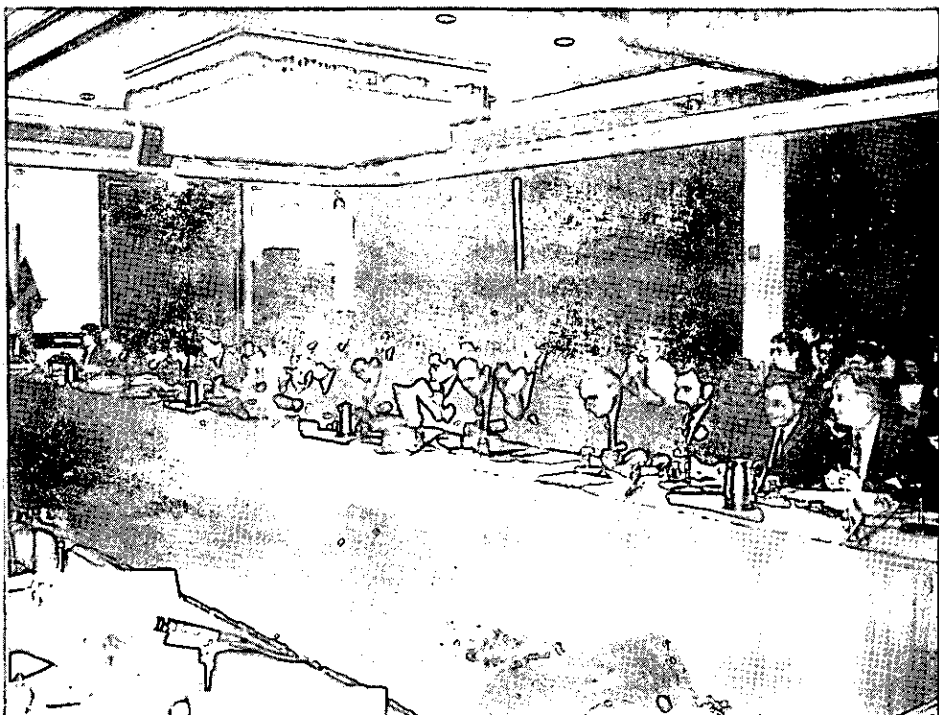
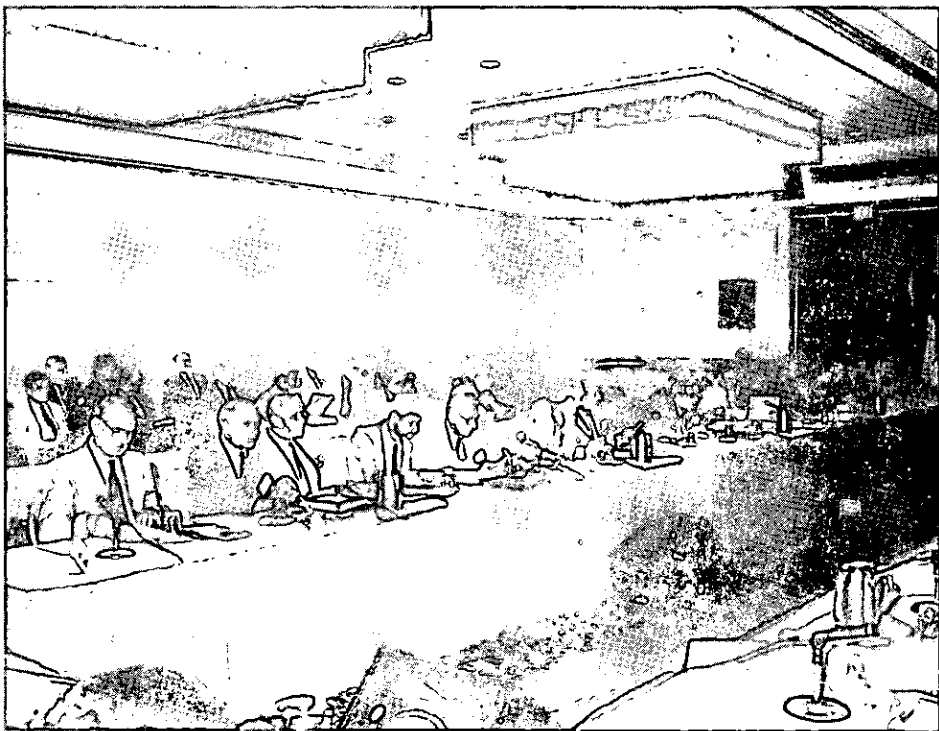
Dartmouth, Nova Scotia, Canada
28-30 April 1993

1. Opening by the Chairman, C. C. Southgate (EEC)
2. Appointment of Rapporteur
3. Adoption of Agenda
4. Review of 1992 Information and Available 1993 Information on Activities of Non-Contracting Party Vessels in the Regulatory Area
5. Review of 1992 Information and Available 1993 Information on Landings and Transshipment of Fish Caught in the Regulatory Area by Non-Contracting Party Vessels
6. Review of Information on Imports by Contracting Parties of Groundfish Species Regulated by NAFO from Non-Contracting Parties Whose Vessels Have Fished in the Regulatory Area
7. Reports by Contracting Parties on Diplomatic Contacts with Non-Contracting Party Governments Concerning Fishing by Their Vessels in the Regulatory Area
8. Consideration of Statistical Measures to Document Catches, Transshipments and Landings of Groundfish Caught in the Regulatory Area by Non-Contracting Party Vessels
9. Consideration of Steps to Deter Re-Flagging of Contracting Parties Vessels for the Purpose of Fishing Contrary to NAFO Conservation and Management Decisions
10. Report and Recommendations to the General Council
11. Other Matters
12. Adjournment

15th Annual NAFO Meeting 6-10 September 1993



15th Annual NAFO Meeting
6-10 September 1993



General Council Meeting

The General Council Meeting including meetings of its subsidiary bodies - Standing Committee on Finance and Administration (STACFAD) and Standing Committee on Fishing Activities of non-Contracting Parties in the Regulatory Area (STACFAC) - was held during the 15th Annual NAFO Meeting on 6-10 September 1993 at the Holiday Inn, Dartmouth, Nova Scotia, Canada. Complete proceedings of this Meeting are presented in GC Doc. 93/8 and in a separate edition of Meeting Proceedings of the General Council and Fisheries Commission for 1993.

The sessions of the subsidiary bodies were held through 6-10 September, and the General Council itself had two sessions on 7 and 10 September.

Opening of the Meeting (Agenda items 1 to 5)

The meeting was opened by the Chairman of the General Council, K. Yonezawa (Japan) on 7 September 1993 at the Holiday Inn, Dartmouth, Nova Scotia, Canada. Representatives of the following Contracting Parties were present: Canada, Cuba, Denmark (in respect of the Faroe Islands and Greenland), Estonia, European Economic Community (EEC), Iceland, Japan, Latvia, Lithuania, Norway, Poland, and Russia (Annex 1). Two Contracting Parties were absent: Bulgaria and Romania. The observers from the Republic of Korea, the United States of America and the North Atlantic Marine Mammal Commission (NAMMCO) were admitted to the Meeting.

The Chairman welcomed all delegations emphasizing on important issues which NAFO is facing now and progress in NAFO's efforts towards solution of a number of issues.

The Executive Secretary was designated Rapporteur of the Meeting.

The Provisional Agenda was adopted without amendments (Annex 2).

The General Council considered an application from Greenpeace International for observer status at NAFO and decided not to grant the requested status. The authorities of Greenpeace International were informed of this decision by the Executive Secretary.

Supervision and Coordination of the Organizational, Administrative and Other Internal Affairs (Agenda items 6 to 10)

The General Council adopted the Proceedings of the 14th Annual Meeting (GC Doc. 92/3) and agreed that in future General Council reports shall be adopted by mail correspondence between the Executive Secretary and Contracting Parties following deliberations on the draft reports.

Under Agenda item 7, "Review of Membership", the membership of the General Council was noted unchanged and the membership of the Fisheries Commission was determined as increased to 13 Contracting Parties by entrance of Iceland.

For Agenda item 8, "References from the Scientific Council" (fisheries statistics), the Meeting noted that all Contracting Parties should do their best to meet deadlines for presentation of statistics to the NAFO Secretariat.

Under Agenda item 10, "Election of Officers", the Meeting elected E. Lemche (Denmark in respect of the Faroe Islands and Greenland) as Chairman and A. Rodin as Vice-Chairman of the General Council to serve for two years - 1994-95.

Coordination of External Relations (Agenda items 11-12)

The Meeting noted that the appropriate letter was dispatched to the UN Headquarters, by the Executive Secretary on behalf of NAFO and instructed that if and when same request was received from the UN, the Executive Secretary should respond in the same manner as in the past with inquiry on the definition of "Large Scale Pelagic Drift Nets".

NAFO Observership at other International Bodies was acknowledged for the North Atlantic Marine Mammal Commission (NAMMCO) attended by the Delegate of Norway, and the UN Conference on Straddling Stocks, which was covered by the Delegation of Denmark.

Fishing Activities in the Regulatory Area Adverse to the Objectives of the NAFO Convention (Article XIX of the Convention) (Agenda items 13-14)

The provisions of Article XIX of the Convention provide: "The Contracting Parties agree to invite the attention of any State not a Party to this Convention to any matter relating to the fishing activities in the Regulatory Area of the nationals of vessels of that State which appear to affect adversely the attainment of the objectives of this Convention. The Contracting Parties further agree to confer when appropriate upon the steps to be taken towards obviating such adverse effects."

The report of the meeting of STACFAC in April 1993 (GC Doc. 93/1) was adopted by the General Council.

The Chairman of STACFAC, C. C. Southgate (EEC), presented the Committee's report and recommendations to the General Council emphasizing that non-Contracting Parties activities in the Regulatory Area were/are continuing threat to the conservation and rational management of the stocks, and a positive trend was developing resulting in the withdrawal of the Republic of Korea's vessels from the Regulatory Area; however, the major activities by Panama were continued regardless of the acknowledgement by this country to cooperate.

On the recommendation by STACFAC, the General Council adopted in principle a Resolution for implementation of a landing declaration scheme (Annex 3) and approved a basic text of Aide-Memoire to non-Contracting Parties not withdrawing their vessels from the NAFO Area. A separate Aide-Memoire to Panama was signed by the Chairman of the Council and forwarded to the country through the office of the EEC Representative.

Finance (Agenda items 9, 15-19)

The financial matters of NAFO and Administrative Report (item 9) were considered by STACFAD and then presented by the Chairperson of STACFAD, D. Gill (Canada), to the General Council, which adopted the Report and, in particular, took the following decisions: the budget of the Organization for 1994 adopted in the amount of \$968 000 Cdn; an Accumulated Surplus Account be maintained at \$75 000 and the balance be used to reduce contributions for

1994; to write off Romania's debt for 1994; to consider the basis of establishment of contribution dues from Contracting Parties subject of concrete proposal (from Denmark) for the next annual meeting; to resolve discrepancies of the Contracting Parties nominal catches for calculation of the billing before the end of 1993.

A new Chairperson was elected for STACFAD - J. Quintal-McGrath (Canada), and E. Penas (EEC) was elected Vice-Chairman for the term of two years - 1994-1995.

Closing the Meeting (Agenda items 20-23)

The dates for the 16th Annual Meeting will be through 14-23 September 1994 for the Scientific Council and 19-23 September 1994 for the General Council and the Fisheries Commission. The place of the Meeting will be in the Halifax-Dartmouth Area unless any invitation is extended by a Contracting Party and accepted by the Organization.

The Press Release reflecting major undertakings and decisions by NAFO was circulated and approved by the Contracting Parties (Annex 4).

The Chairman closed the 15th Annual Meeting of the General Council at 1100 hours, 10 September 1993.

The list of decisions and actions by the General Council at the 15th Annual Meeting is presented in Annex 5.

Annex 1. List of Participants

General Council, 15th Annual Meeting

Dartmouth, Nova Scotia, Canada

6-10 September 1993

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Annex 2. Agenda

General Council, 15th Annual Meeting

Dartmouth, Nova Scotia, Canada
6-10 September 1993

Opening Procedures

1. Opening by Chairman, K. Yonezawa (Japan)
2. Appointment of Rapporteur
3. Adoption of Agenda
4. Admission of Observers
5. Publicity

Supervision and Coordination of the Organizational, Administrative and Other Internal Affairs

6. Approval of the Report of the 14th Annual Meeting, September 1992 (NAFO GC Doc. 92/3)
7. Review of Membership
 - a) General Council
 - b) Fisheries Commission
8. References from the Scientific Council
9. Administrative Report
10. Election of Officers - Chairman and Vice-Chairman

Coordination of the External Relations

11. Request from the United Nations for information on the large-scale pelagic driftnet fishing
12. NAFO Observership at Other International Bodies
 - a) Report of the NAFO Observer at the Second and Third NAMMCO Meetings (delegate of Norway)
 - b) Report of the NAFO Observer at the UN Conference on straddling fish stocks and highly migratory fish stocks (delegate of Denmark)

Fishing Activities in the Regulatory Area Adverse to the Objectives of the NAFO Convention

13. Approval of the Report of the STACFAC Meeting (28-30 April 1993, GC Doc. 93/1)
14. Report of STACFAC at the Annual Meeting

Finance

15. Auditors Report
16. Meeting of the Pension Society
17. Review of Meeting Dates and Dates of Annual Meeting
18. Discussion of the basis of establishment of contributions due from each Contracting Party under the annual budget
19. Report of STACFAD and Adoption of Budget for 1993

Closing Procedure

20. Time and Place of Next Annual Meeting
21. Other Business
22. Press Statement
23. Adjournment

Annex 3. General Council Resolution 93/1

15th Annual NAFO Meeting
6-10 September 1993

Resolution adopted by the General Council (on the report of the Standing Committee on Fishing Activities of Non-Contracting Parties in the Regulatory Area, STACFAC)

93/1. Non-Contracting Parties Fishing Activities in the NAFO Regulatory Area

The General Council,

- Recalling the Resolution on Non-NAFO Fishing activities adopted by the General Council at the 12th Annual Meeting of the Northwest Atlantic Fisheries Organization, resolving i.a. that
 - in full respect of the international obligations of Contracting Parties, further measures should be developed for consideration by the General Council at its 1991 annual meeting;
- Recalling the Terms of Reference for the Standing Committee, established by the General Council, resolving i.a. that the Committee will
 - obtain and compile all available information on the fishing activities of non-Contracting Parties in the Regulatory Area, including details on the type, flag and name of vessels and reported or estimated catches by species and area;
 - obtain and compile all available information on landings, and transshipments of fish caught in the Regulatory Area by non-Contracting Parties, including details on the name and flag of the vessels; the quantities by species landed, transshipped; and the countries and ports through which the product was shipped;
 - examine and assess all such options open to NAFO Contracting Parties including measures to monitor landings of fish caught by non-Contracting Party vessels in the Regulatory Area;
- Recalling that with respect to the relevant provision of the United Nations Convention on the Law of the Sea, available catch and fishing effort statistics, and other data relevant to the conservation of fish stocks shall be contributed by flag states and exchanged on a regular basis through competent international organizations, whether subregional, regional or global, where appropriate and with participation of all States concerned;
- Considering that the Northwest Atlantic Fisheries Organization is the competent regional fisheries organization for the conservation and rational management of fish resources in the NAFO Regulatory Area,

- Considering the need for all states exploiting these living marine resources to cooperate fully in conservation and management,
- Recalling that in conformity with Article XIX of the Convention States party to the NAFO Convention have drawn the attention of states not party to the NAFO Convention of their fishing activities undermining the effectiveness of NAFO conservation and management measures and that some of these states have withdrawn their vessels from the NAFO Regulatory Area, while vessels from other such States remain,
- Bearing in mind the statistical reports on catches of fish stocks in the NAFO Regulatory Area which are currently provided to NAFO by the Contracting Parties,
- Considering that certain states not party to the NAFO Convention have not provided statistical reports on catches by their vessels in the Regulatory Area,
- Having regard also to the adverse implications of high levels of unreported catches by non-Contracting Parties for the assessment of management advice and the critical state of many of the NAFO-regulated stocks, especially bearing in mind the substantial proportion of the total catches taken by vessels of states not party to the NAFO Convention,
- Considering the desirability of providing administrative arrangements to facilitate in an interim period the gathering of statistical information on landings by vessels flying the flag of these states and therefore Contracting Parties undertake to collect landing declarations,
- Recalling the GATT principles of non-discrimination, transparency and proportionality,

herewith, therefore, the General Council adopts, in principle, the proposed landing declaration scheme and notes the proposed means of implementation (Addendum) which will also take into account specific national legislation of the Contracting Parties to NAFO and the precise assistance required by the non-Contracting Parties.

The General Council requests that STACFAC review and monitor the implementation of this programme and if appropriate consider further means to achieve the withdrawal of all Non-Contracting Party vessels from the NAFO Regulatory Area at the earliest possible date.

The General Council decided to make further diplomatic demarches to Non-Contracting Parties urging them to withdraw their vessels from the NAFO Regulatory Area and to this end the General Council authorizes Canada, the EEC, Japan and Russia to represent NAFO in a coordinated delegation, which where possible should include senior fisheries officials, to visit the capitals of the non-Contracting Parties concerned. This joint demarche should take place as soon as possible in order to effect the withdrawal of these vessels before the beginning of the 1994 fishing season.

Closing Plenary Session
10 September 1993

Addendum
(Resolution 93/1 of the General Council)

Implementation of the Landing Declaration Scheme

1. The Landing Declaration is an interim measure pending withdrawal of non-Contracting Party vessels, designed to help non-Contracting Parties collect statistics of catches by their vessels in the NAFO Regulatory Area.
2. The Landing Declaration records catches of NAFO-regulated groundfish in the NAFO Regulatory Area and, when a non-Contracting Party vessel lands such species into a Contracting Party port, records whether and what quantity was caught in the NAFO Regulatory Area. The Landing Declarations are collected by the Contracting Party authorities on behalf of the non-Contracting Party in accordance with international obligations on the collection of statistics. In the event of non-delivery of a Landing Declaration, the non-Contracting Party is informed of such non-delivery and of the quantities of groundfish products landed by the vessel.
3. The Landing Declaration records the weight of each product landed as in the example attached. One copy is forwarded to the non-Contracting Party and one to the NAFO Secretariat. The main additional information provided by the Declaration is the area of harvest (NAFO Regulatory Area or not).
4. The non-Contracting Party is periodically informed of the results of NAFO surveillance of its vessels. If it appears that a vessel has been fishing in the Regulatory Area but has recorded its landings into a Contracting Party as not having originated in the Regulatory Area, the non-Contracting Party is informed of the apparent discrepancy with a view to investigation by the non-Contracting Party.
5. Landing Declaration forms are in principle made available to vessels by the non-Contracting Party but are freely available at Contracting Party ports.

Landing Declaration/Declaration de Debarquement(1)

1. Exporter (Name, full address, country) Exportateur (Nom, adresse complète, pays)	2. Number 000 Numéro			
3. Consignee (Name, full address, country) Destinataire (Nom, adresse complète, pays)	<p style="text-align: center;">DECLARATION IN REGARD TO</p> Atlantic Cod (Gadus Morhua) Atlantic Redfish (Sebastes spp) American Plaice (Hippoglossoides platessoides) Yellowtail Flounder (Limanda Ferruginea) Witch Flounder (Glyptocephalus cynoglossus) (2) Issued with a view to obtaining statistical information on harvest origin (1) <p style="text-align: center;">DECLARATION CONCERNANT</p> Morue (Atlantique) (Gadus Morhua) Sébaste (Atlantique Nord) (Sebastes spp) Plie canadienne (Hippoglossoides platessoides) Limande à queue jaune (Limanda ferruginea) Plie grise (Glyptocephalus cynoglossus) (2) Délivrée en vue de l'obtention d'information statistique concernant l'origine de pêche (1)			
	4. Country of origin Pays d'origine	5. Country of destination Pays de destination		
6. Place and date of catch/shipment/transshipment/ - name and flag of catch-/transport vessel(s) lieu et date de pêche/d'embarquement/-de transbordement/ - nom et pavillon du (des) navire(s) de pêche/de transport				
7. Marks and numbers-Number and kind of packages-DETAILED DESCRIPTION OF GOODS (3) Marques et numéros-nombre et nature des colis-DESIGNATION DETAILIEE DES MARCHANDISES (3)	8. Quantity in tonnes Quantité en tonnes <table border="1" style="width: 100%;"> <tr> <td style="width: 50%;">Total</td> <td style="width: 50%;">From NAFO Reg. Area</td> </tr> </table>		Total	From NAFO Reg. Area
Total	From NAFO Reg. Area			
9. DECLARATION BY THE CAPTAIN I the undersigned, declare that in accordance with the entries in the logbook the consignment described above contains Atlantic Cod (Gadus Morhua), Atlantic Redfish (Sebastes spp), American Plaice (Hippoglossoides Platessoides), Yellowtail Flounder (Limanda Ferruginea), Witch Flounder (Glyptocephalus cynoglossus) from the stocks of the Northwest Atlantic Ocean fished in the Regulatory Area of the Northwest Atlantic Fisheries Organization - NAFO. (2) <p style="text-align: center;">DECLARATION DU CAPITAINE</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td style="padding: 5px;">Yes</td> <td style="padding: 5px;">No</td> </tr> </table> Je soussigné déclare qu'en accord avec les inscriptions dans le livre de bord l'envoi décrit ci-dessus contient de la Morue Fraiche (Atlantique) (Gadus Morhua), Sébaste (Atlantique Nord) (Sebastes spp), Plie canadienne (Hippoglossoides platessoides), Limande à queue jaune (Limanda ferruginea), Plie grise (Glyptocephalus cynoglossus) provenant des stocks de l'océan de l'Atlantique Nord-Ouest et capturée dans la Zone de Réglementation de l'Organisation de Pêche de l'Atlantique du nord-Ouest - OPANO. (3)			Yes	No
Yes	No			
10. CAPTAIN (Name, full address, country) CAPITAINE (Nom, adresse complète, pays)	At/A..... on le..... (Signature)			

- (1) This Landing Declaration for statistical purposes has to be presented to the competent authorities upon landing
 Cette Declaration Débarquement pour de statistique doit être présentée aux autorités compétentes lors du débarquement
- (2) Delete as appropriate
 Biffer la mention inutile
- (3) - Fresh/Frozen (Harmonized System 0302-0303) Frais/Congelé (Système harmonisé 0302-0303)
 - Fillets/Filets
 - Meat/chair
 - Salted/Salé

Annex 4. Press Release

1. The Fifteenth Annual Meeting of the Northwest Atlantic Fisheries Organization (NAFO) was held in Dartmouth, Nova Scotia, Canada through 6-10 September 1993, under the chairmanship of K. Yonezawa (Japan), President of NAFO. All sessions of the constituent bodies of NAFO - the General Council, Scientific Council, Fisheries Commission, and subsidiary bodies, Standing Committees, for finance (STACFAD), for non-Contracting Parties activities (STACFAC), for international control (STACTIC) convened at the Holiday Inn.
2. The Contracting Parties were represented at the Meeting by delegations from: Canada, Cuba, Denmark (in respect of the Faroe Islands and Greenland), Estonia, European Economic Community (EEC), Iceland, Japan, Latvia, Lithuania, Norway, Poland, and Russia. Observers were admitted from the United States of America and the Republic of Korea.
3. The Annual Meeting was preceded by the meeting of the Standing Committee on Fishing Activities of non-Contracting Parties in the Regulatory Area (NAFO Headquarters, April, 1993) and the Regular Meeting of the Scientific Council (NAFO Headquarters, June 1993).
4. The Scientific Council, under the chairmanship of H. Lassen (EEC), considered the state of stocks and scientific basis for the management and conservation of fishery resources in the NAFO Convention Area. The scientific advice was reported to the Fisheries Commission indicating the decrease of stock sizes for all groundfish stocks in the Regulatory Area and continuing decline for all cod stocks and flounders.
5. The Fisheries Commission, under the chairmanship of E. Wiseman (Canada), undertook serious discussions on particular substantial issues pertaining to the management and conservation of the fisheries resources in the Regulatory Area and agreed on a number of important new measures pursuing the prime objective of rebuilding depleted fish stocks.

Against this background, Total Allowable Catches and allocations to Contracting Parties in 1994 for all groundfish stocks which are either entirely in the Regulatory Area or associated with the stocks within the 200-mile fishing zones were decreased (attached in the Quota Table).

The following new proposals for international measures of control and enforcement within the Regulatory Area were introduced: no directed fishery for the stocks of American plaice in Divisions 3LNO and 3M, Witch flounder in Divisions 3LNO, and for Yellowtail flounder in Divisions 3LNO as those stocks should be utilized only as by-catch; special measures to prevent the taking of undersize fish in the fishing for Cod in Divisions 3NO were agreed such as a ban on shrimp trawling in this area. Furthermore, the Parties concerned agreed on 50% observer coverage and 100% inspection monitoring. As regards shrimp trawling in Division 3M, a minimum net mesh size of 40mm, sorting grids for fish escapement and deployment of observers on board of fishing vessels were agreed. These conservation measures are directed at drastic reduction of the mortality of juvenile fish and, as the result, a gradual revival of fish stocks.

6. The Fisheries Commission unanimously agreed with a Canadian proposal that taking into account the available scientific advice, directed fisheries for Cod in Division 3L in the Regulatory Area shall not be permitted in 1994, which is consistent with the current moratorium that is being applied by Canada to the fishery of this stock.
7. Following the presentation of the Standing Committee on Finance and Administration (STACFAD), the General Council adopted the Organization's budget and accounts for 1994.
8. The General Council adopted the report of the Standing Committee on Fishing Activities of Non-Contracting Parties in the Regulatory Area (STACFAC), presented by the Chairman C. C. Southgate (EEC), and endorsed the recommendations directed to curtail unregulated fishing activities by non-Contracting Parties vessels in the NAFO Regulatory Area. The General Council strongly emphasized that such activity would be very harmful for depleted resources and against the provisions of the NAFO Convention and the Law of the Sea. In view of the real threat to the major stocks of fish in this area, the General Council adopted Resolution to collect statistics of catches by vessels of non-Contracting Parties for implementation of a Landing Declaration. The Council decided to make further diplomatic demarches to non-Contracting Parties urging them to withdraw their vessels before the beginning of the 1994 fishing season.
9. The General Council considering the UN Resolution 47/443 of 22 December 1992 on large-scale pelagic driftnet fishing confirmed that such fishing is not presently practised by NAFO Contracting Parties in the Convention Area.
10. The following elections took place for the constituent and subsidiary bodies of NAFO:

Chairman of the General Council, President of the Organization	- E. Lemche (Denmark in respect of the Faroe Islands and Greenland)
Vice-Chairman of the General Council	- A. Rodin (Russian Federation)
Chairman of the Fisheries Commission	- H. Koster (EEC)
Vice-Chairman of the Fisheries Commission	- P. Gullestad (Norway)
Chairman of the Scientific Council	- H. Lassen (EEC)
Vice-Chairman of the Scientific Council	- W. R. Bowering (Canada)
Chairperson of the Standing Committee on Finance and Administration (STACFAD)	- J. Quintal-McGrath (Canada)
Vice-Chairman of the Standing Committee on Finance and Administration (STACFAD)	- E. Penas (EEC)
Chairman of the Standing Committee on International Control (STACTIC)	- D. N. Brock (Canada)

QUOTA TABLE. Total allowable catches (TACs) and quotas (metric tons) for 1994 of particular stocks in Subareas 3 and 4 of the NAFO Convention Area. The values listed include quantities to be taken both inside and outside the 200-mile fishing zone, where applicable.

Contracting Party	Cod		Redfish		American plaice		Yellowtail		Witch		Capelin		Squid (<i>Illex</i>) ^{2,3}	
	Div. 3M	Div. 3NO*	Div. 3M	Div. 3LN	Div. 3M*	Div. 3LNO*	Div. 3LNO*	Div. 3LNO*	Div. 3NO*	Div. 3NO	Div. 3NO	Subareas 3+4		
1. Bulgaria	-	-	390	-	-	-	-	-	-	-	-	500		
2. Canada	85	2 861	650	5 964	75	4 730	6 825	1 800	-	0	0	N.S. ⁴		
3. Cuba	407	-	2 275	1 372	-	-	-	-	-	0	0	2 250		
4. Denmark (Faroe Islands and Greenland)	2461	-	-	-	-	-	-	-	-	-	-	-		
5. European Economic Community	5485	2 213	4 030	476	175	61	140	-	-	0	0	N.S. ⁴		
6. Japan	-	-	520	-	-	-	-	-	-	0	0	2 250		
7. Norway	1018	-	-	-	-	-	-	-	-	0	0	-		
8. Poland	424	-	-	-	-	-	-	-	-	0	0	1 000		
9. Estonia	-	-	-	-	-	-	-	-	-	-	-	-		
10. Latvia	1078 ¹	716 ¹	18 005 ¹	6 104 ¹	500 ¹	-	-	-	1 170 ¹	0	0	5 000 ¹		
11. Lithuania	-	-	-	-	-	-	-	-	-	-	-	-		
12. Russia	-	-	-	-	-	-	-	-	-	-	-	-		
13. Others	42	210	130	84	250	9	35	30	-	-	-	5 000		
Total Allowable Catch	11,000	6 000	26 000	14 000	1 000*	4 800*	7 000*	3 000*	no fishing	150 000 ⁵				

¹ Quotas to be fished by vessels from Estonia, Latvia, Lithuania and the Russian Federation. The provisions of Part I, Section A.3 of the NAFO Conservation and Enforcement Measures shall apply.

² The opening date for the Squid (*Illex*) fishery is 1 July.

³ Any quota listed for squid may be increased by a transfer from any "coastal state" as defined in Article 1, paragraph 3 of the NAFO Convention, provided that the TAC for squid is not exceeded. Transfers made to Contracting Parties conducting fisheries for squid in the Regulatory Area shall be reported to the Executive Secretary, and the report shall be made as promptly as possible.

⁴ Not specified because the allocation to these Contracting Parties are as yet undetermined, although their sum shall not exceed the difference between the total of allocations to other Contracting Parties and the TAC.

⁵ The TAC would remain at 150 000 tonnes subject to adjustment where warranted by scientific advice.

*Considering the advice contained in the Report of the Scientific Council and having regard to the poor state of the stock of Cod in Divisions 3NO; American plaice in Divisions 3LNO and 3M; Witch flounder in Division 3NO and Yellowtail flounder in 3LNO, no directed fishery shall be carried out under the TACs agreed for each of these stocks in 1994, which are suspended. The provisions of Part I, Section A.4(b) of NAFO Conservation and Enforcement Measures shall apply.

**Annex 5. List of Decisions and Actions by the General Council
(15th Annual Meeting; 6-10 September 1993)**

Substantive issue (propositions/motions)	Decision/Action (GC Doc. 93/8; item)
1. Report of the 14th Annual Meeting, GC Doc. 92/3	adopted (item 2.1)
2. New procedure for adoption of General Council Reports	agreed (item 2.2)
3. A new member of the Fisheries Commission - Iceland	determined (item 2.3)
4. Report of STACFAC Meeting held 28-30 April, 1993 (GC Doc. 93/1)	adopted
5. Report of STACFAC at the 15th Annual Meeting	adopted (item 4)
- basic text of Aide-Memoire to non- Contracting Parties	adopted
- Aide-Memoire to Panama	adopted/signed
- Resolution for implementation of a landing declaration scheme	adopted in principle
- interim STACFAC meeting in 1994	agreed in principle
6. Report of STACFAD at the 15th Annual Meeting	adopted (item 5)
- Auditors Report	adopted
- Accumulated Surplus Account	\$75 000
- Romania's uncollectible debt for 1994	\$17 473 to write-off
7. Budget for 1994	\$968 000 Cdn.-adopted
8. Meeting dates in 1994-1996	adopted (item 5.2c)

PART II

(pages 45-66)

Activities of the Fisheries Commission in 1993

List of Meetings

The following meetings were held under the authority of the Fisheries Commission:

- Fisheries Commission and STACTIC Meetings at the 15th Annual Meeting; 6-10 September, Holiday Inn, Dartmouth, N.S., Canada.



Major Documents of the Fisheries Commission in 1993

Serial No.	FC Doc. No.	Title
N2281	93/1	Summary of Status of Proposals and Resolutions of NAFO (as of June 1993)
N2278	93/2	1992 Canadian Report on Surveillance Activities and Inspections in the Regulatory Area
N2279	93/3	Operation of the NAFO Hail System (Canadian Delegation)
N2280	93/4	Operation of the NAFO Observer Scheme Pilot Project-Preliminary Assessment (Canadian Delegation)
N2303	93/5	Operation of the NAFO Pilot Observer Scheme (European Community Delegation)
N2323	93/6	Operation of the Hail System-Part III.E
N2324	93/7	Part VI-Pilot Project for a NAFO Observer Scheme
N2325	93/8	Proposal on Cod 3L
N2326	93/9	Management Measures for 3NO Cod
N2327	93/10	Management Measures for 3M and 3LNO Shrimp
N2328	93/11	Inspection Procedures
N2329	93/12	Management Measures - Minimum Fish Size
N2330	93/13	Fisheries Commission's Request for Scientific Advice on Management in 1995 of Certain Stocks in Subareas 3 and 4
N2331	93/14	Information on inspections, catch record discrepancies and/or apparent infringements, 1992

N2334	93/15	Annual return of surveillance information in compliance with the hail system for 1992
N2335	93/16	Notification of fishing vessels/hail reports/sightings (January-October 1993)
N2336	93/17	Fisheries Commission's Request for Scientific Advice on Management of Certain Stocks to be Provided at the Special Scientific Council Meeting in November 1993
N2338	93/18	Report of the Fisheries Commission and its Subsidiary Body (STACTIC), 15th Annual Meeting, 6-10 September 1993

Fisheries Commission Meeting

The Fisheries Commission Meeting including meetings of its subsidiary body - Standing Committee on International Control (STACTIC)- was held during the 15th Annual Meeting on 6-10 September 1993 at the Holiday Inn, Dartmouth, Nova Scotia, Canada. Full proceedings of the meeting are presented in FC Doc. 93/18. This Annual Report presents a brief summary of the most substantial decisions at the Fisheries Commission and STACTIC.

Opening of the Meeting (Agenda items 1 to 5)

The meeting was called to order by the Chairman, E. Wiseman (Canada) on 7 September 1993 at 1025 hours. Representatives from the following Contracting Parties were present: Canada, Cuba, Denmark (in respect of the Faroe Islands and Greenland), Estonia, the European Economic Community (EEC), Iceland, Japan, Latvia, Lithuania, Norway, Poland, and Russia (Annex 1).

Representatives of the Republic of Korea, the United States of America and the North Atlantic Marine Mammal Commission were admitted to the meeting as observers.

L. Teixeira da Costa (EEC) was appointed Rapporteur.

The provisional Agenda was adopted as amended (Annex 2).

The representative of Canada, B. Rawson, made an opening statement emphasizing that key groundfish stocks in the Northwest Atlantic, especially cod and flounder, are in collapse. He further addressed one special item - the request from Canada to impose moratorium on four straddling stocks in the Regulatory Area - 3NO cod and witch flounder, and 3LNO American plaice and Yellowtail flounder.

Administrative (Agenda items 6 to 8)

The report of the 14th Annual Meeting, September 1992 (FC Doc. 92/19) was adopted.

Iceland was welcomed as a new member of the Fisheries Commission pursuant to the decision of the General Council under provisions of Article XIII of the NAFO Convention.

H. Koster (EEC) was elected Chairman of the Commission and P. Gullestad (Norway), Vice-Chairman for a term of two years - 1994-1995.

Conservation and Enforcement Measures (Agenda items 9 to 18)

Agenda items 9 and 10, "Incorporation of a Catch Reporting System into the Hail System" and "Effort Plans for the Vessels of Contracting Parties Operating in the Regulatory Area", were referred without discussion to the 16th Annual Meeting.

On item 11, "Operation of the Hail System", the Meeting adopted the amendment which provides (Part III.E.1 of the Conservation and Enforcement Measures) that hail reports could be dispatched to the NAFO Secretariat (previously it was only to the competent authorities of the vessels) and endorsed the project by Working Group for the NAFO Secretariat computer system to manage hail reports.

Under item 12, "Operation of the NAFO Observer Scheme Pilot Project", the Meeting adopted an amendment to the Project on presentation by STACTIC. This amendment includes recommendations by the Scientific Council to collect biological data by observers.

On item 13, "Financing of NAFO's Scientific Work in the Regulatory Area", the Commission accepted the Scientific Council advice without definite financial commitment from NAFO.

Item 14, "Nominal Catches by Contracting Parties Exceeding 1992 Quotas" was considered at STACTIC and a modified table was agreed by the Commission.

Item 15, "Review of NAFO Rules Regarding Incidental Catches" was referred to the 16th Annual Meeting.

Item 16, "Annual Return of Infringements, Surveillance and Inspection", was discussed at STACTIC and adopted by the Commission.

Under item 17, "Fishing Vessel Registration", a new form of presentation was discussed at STACTIC and this form which includes vessels "notified, hailed, sighted" was approved by the Commission.

Under agenda item 18, the Commission adopted the STACTIC Report of the current meeting on presentation by its Chairman, E. Lemche (Denmark) and, in particular, the following decisions were agreed upon:

- to consider the Russian project for experimental Redfish fishery (derogation from official mesh size 130mm) at the Special Scientific Council Meeting in November 1993 and then, at the Special Meeting of the Fisheries Commission in 1994;
- to publish an inspection manual by the NAFO Secretariat;
- to consider an amendment to Part I.D. "Minimum Fish Size" (proposed by Canada) for witch, redfish and G. halibut at the Special Meeting of the Scientific Council in November 1993 and then, at the Special Meeting of the Fisheries Commission in 1994;
- to amend Part IV.5.ii of the Conservation and Enforcement Measures for inspection procedure (to not retrieve vessel nets for a period of 30 minutes after receiving the signal for inspectors boarding); and,
- to ban directed fishery of shrimp in Divisions 3LNO in 1994.

Conservation of Fish Stocks in the Regulatory Area (Agenda items 19 to 23)

Agenda item 13, "Transfer of Quotas Between Contracting Parties", was deferred to the 16th Annual Meeting in September 1994.

Under item 20, "Summary of Scientific Advice by the Scientific Council", the Acting Chairman of the Scientific Council, H. Lassen (EEC), reported the following management advice for 1994 and TAC(s) for the regulated species:

Cod 3M	no directed fishery
Redfish 3M	20 000 tons
American plaice 3M	not exceeding 1 000 tons
Cod 3NO	not exceeding 6 000 tons
Redfish 3LN	not exceeding 14 000 tons
American plaice 3LNO	not exceeding 4 800 tons
Yellowtail flounder 3LNO	7 000 tons
Witch flounder 3NO	not exceeding 3 000 tons
Capelin 3NO	no directed fishery

This presentation was followed by a detailed stock-by-stock discussion.

In the summary sheets of the Scientific Council, the following responses to the questions by the Fisheries Commission were presented:

- Cod in Division 2J, 3K and 3L: the proportion of total stock biomass occurring in the Regulatory Area was less than 10% in winter, less than 5% on average in spring and autumn, and there were no annual trends (surveys on depths to 700-930m).
- Research activities, costs and needs for 1994 (1992/1993): the concern was expressed that the level of sampling declined and this will have a negative impact on the ability of the Scientific Council to assess the various stocks; the estimated costs for "optimal" sampling and research could be in the amount of 4.1 million ECU (1 ECU = \$1.8 Cdn)
- Proposals for scientific tasks of observers in the pilot observer program: the observers should collect data on set location, depth fished, time net on bottom, directed species, by-catches, effort and length sampling.

For item 21 "Management and Technical Measures for Fish Stocks in the Regulatory Area", the following measures were adopted:

3M Cod

Proposal: TAC of 11 000 tons (by EEC) was adopted with 6 abstentions (Canada, Cuba, Iceland, Japan, Norway, Russian Federation).

3M Redfish

Proposals: 1) TAC of 20 000 tons (by Canada)
2) TAC of 26 000 tons (by Russia)

TAC of 26 000 tons was adopted with 3 abstentions (Canada, Iceland, Japan).

3M American plaice

Proposal: TAC of 1 000 tons for by-catch only (by Canada) was adopted by consensus.

3M Shrimp

Proposal: Regulations - Minimum mesh size of nets-40 mm, mandatory sorting grids/grates with maximum spacing between the bars of 28 mm, maximum by-catch of 10% by weight in any one haul, minimum of 10% observer coverage (by the Working Group) were adopted as from 1 January 1994.

For item 22, "Management and Technical Measures for Fish Stocks Straddling National Fishing Limits", the following measures were adopted:

3NO Cod

Proposals: 1) Moratorium on fishing (by Canada).
2) TAC of 6 000 tons with 50% observer coverage, 100% inspection presence, and 100% dockside control (by EEC).

TAC of 6 000 tons with the above-noted extra measures was adopted by consensus.

3LN Redfish

Proposal: TAC of 14 000 tons (by Russia) was adopted by consensus.

3LNO American plaice

Proposals: 1) Moratorium on fishing (by Canada).
2) TAC of 4 800 tons (by EEC).

Compromise proposal for TAC of 4 800 tons with no directed fishery in 1994 was adopted by consensus.

3LNO Yellowtail flounder

Proposals: 1) Moratorium on fishing (by Canada).
2) TAC of 7 000 tons (by EEC).

Compromise proposal for TAC of 7 000 tons with no directed fishery in 1994 was adopted by consensus.

3NO Witch flounder

Proposal: 1) Moratorium on fishing (by Canada).
2) TAC of 3 000 tons (by EEC).

Compromise proposal for TAC of 6 000 tons with no directed fishery in 1994 was adopted by consensus.

3NO Capelin

Proposal: TAC of "zero" (by Norway) was adopted by consensus.

3+4 Squid

Proposal: TAC of 150 000 tons (by Japan) was adopted by consensus.

3LNO Shrimp

Proposal: No directed fishery for shrimp in Divisions 3LNO in 1994 (advice by the Scientific Council) was adopted by consensus.

3L Cod (in the Regulatory Area)

Proposal: Directed fishery for this cod (the stock of 2J3KL) in division 3L in the Regulatory Area shall not be permitted in 1994" (by Canada, EEC, and others) as an amendment to the Conservation and Enforcement Measures to Part I, new item "E-Other Measures" was adopted by consensus.

Allocations to Contracting Parties

The Meeting agreed to apply the existing traditional distribution key based on "Quota Table" in Schedule I of the NAFO Conservation and Enforcement Measures for allocations to the Contracting Parties with exception of the four Parties - Estonia, Latvia, Lithuania, and Russia, for which a "block quota" was allocated on the same conditions as last year (this noted in footnote 1 to the Quota Table).

The Representative of the Russian Federation introduced a formal objection to the "block quota" allocation.

Under item 23, "Request to the Scientific Council for 1995", the Canadian draft of the Fisheries Commission's request for scientific advice on management in 1995 of certain stocks in Subareas 3 and 4 was adopted (Annex 3). Special emphasis was made by Canada on paragraph 6 regarding *G. halibut* which should be studied in a comprehensive way as soon as possible the next year.

Adjournment (Agenda items 24 to 26)

It was decided that the 16th Annual Meeting will be held on 19-23 September 1994 in the Halifax/Dartmouth area.

Under Other Business, the representative of Canada noted that a mechanism to settle disputes between Contracting Parties with NAFO should be found. To that end, he was inviting representatives to participate in a Working Group to consider all aspects of this issue.

The Annual Meeting of the Fisheries Commission was adjourned at 1400 hours, 10 September 1993.

The list of decisions and actions by the Fisheries Commission at the 15th Annual Meeting is presented in Annex 4.

Annex 1. List of Participants

Fisheries Commission, 15th Annual Meeting

Dartmouth, Nova Scotia, Canada

6-10 September 1993

CANADA

Head of Delegation: B. Rawson, Deputy Minister, Department of Fisheries and Oceans, 200 Kent Street, Ottawa, Ontario K1A 0E6

Alternate: V. Rabinovitch, Assistant Deputy Minister, International Relations, Dept. of Fisheries and Oceans, 200 Kent Street, Ottawa, Ontario K1A 0E6

Representative

B. Rawson (see address above)

Advisers

- C. J. Allen, Resource Allocation Br., Fisheries Operations, Dept. of Fisheries and Oceans, 200 Kent St., Ottawa, Ontario K1A 0E6
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- B. Bursey, Intergovernmental Affairs Secretariat, Government of Newfoundland and Labrador, Confederation Bldg., P. O. Box 8700, St. John's, Newfoundland A1B 4J6
- W. Carter, Minister of Fisheries, Government of Newfoundland, P. O. Box 8700, St. John's, Newfoundland A1B 4J6
- J. Casey, MLA, Digby-Annapolis, Digby, Nova Scotia
- B. Chapman, P. O. Box 8900, St. John's, Newfoundland, A1B 3R9
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- E. B. Dunne, Dept. of Fisheries and Oceans, P. O. Box 5667, St. John's, Newfoundland A1C 5X1
- S. J. Engeset, Harbour Grace Shrimp Co. Ltd., c/o Newfoundland Trading Ltd., 11 Morris Drive, Dartmouth, N.S.
- L. Forand, 177 Nepean Street, Suite 200, Ottawa, Ontario K2P 0B4
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- J. Gough, DFO Communications, P. O. Box 550, Halifax, Nova Scotia B3J 2S7
- J. E. Haché, Fisheries Operations, Dept. of Fisheries and Oceans, 200 Kent St., Ottawa, Ontario K1A 0E6
- R. G. Halliday, BIO, P. O. Box 1006, Dartmouth, N. S. B2Y 4A2
- D. R. Jennings, Dept. of Fisheries and Oceans, P. O. Box 550, Halifax, N.S. B3J 2S7
- N. P. Katsepontes, Office of the Ambassador for Fisheries Conservation (NEX), Department of External Affairs, 125 Sussex Dr., Ottawa, Ontario K1A 0G2
- A. A. Longard, Marine Resources, N. S. Dept. of Fisheries, P. O. Box 2223, Halifax, Nova Scotia B3J 3C4
- C. F. MacKinnon, Marine Advisor, Groundfish and Seaplants, Nova Scotia Dept. of Fisheries, P. O. Box 2223, Halifax, Nova Scotia B3J 3C4

- E. McCurdy, c/o FFAW/CAW, P. O. Box 10, 2 Steers Cove, St. John's, Newfoundland A1C 5H5
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Annex 2. Agenda

Opening Procedures

1. Opening by the Chairman, E. Wiseman (Canada)
2. Appointment of Rapporteur
3. Adoption of Agenda
4. Admission of Observers
5. Publicity

Administrative

6. Adoption of the Report of the 14th Annual Meeting, September 1992 (FC Doc. 92/19)
7. Review of Commission Membership
8. Election of Officers - Chairman and Vice-Chairman

Conservation and Enforcement Measures

9. Incorporation of a Catch Reporting System into the Hail System
10. Effort Plans for the Vessels of the Contracting Parties Operating in the Regulatory Area
11. Operation of the Hail System
12. Operation of the NAFO Observer Scheme Pilot Project
13. Financing of NAFO's Scientific Work in the Regulatory Area
14. Nominal Catches by Contracting Parties Exceeding 1992 Quotas
15. Review of NAFO Rules Regarding Incidental Catches
16. Annual Return of Infringements, Surveillance and Inspection Reports
17. Fishing Vessel Registrations
18. Report of STACTIC at the Annual Meeting

Conservation of Fish Stocks in the Regulatory Area

19. Transfer of Quotas Between Contracting Parties
20. Summary of Scientific Advice by the Scientific Council

21. Management and Technical Measures for Fish Stocks in the Regulatory Area
 - 21.1 Cod in Div. 3M
 - 21.2 Redfish in Div. 3M
 - 21.3 American plaice in Div. 3M
 - 21.4 Shrimp in Div. 3M
22. Management and Technical Measures for Fish Stocks Straddling National Fishing Limits
 - 22.1 Cod in Div. 3NO
 - 22.2 Redfish in Div. 3LN
 - 22.3 American plaice in Div. 3LNO
 - 22.4 Yellowtail flounder in Div. 3LNO
 - 22.5 Witch flounder in Div. 3NO
 - 22.6 Capelin in Div. 3NO
 - 22.7 Squid (*Illex*) in Subareas 3 and 4
 - 22.8 Management of Shrimp in the Regulatory Area in 1994
 - 22.9 Management and Technical Measures for the following stocks, if available in the Regulatory Area in 1994:
 - i) Cod in Div. 3L
23. Formulation of Request to the Scientific Council for Scientific Advice on the Management of Fish Stocks in 1995

Closing Procedure

24. Time and Place of the Next Meeting
25. Other Business
26. Adjournment

Annex 3. Fisheries Commission's Request for Scientific Advice on Management in 1995 of Certain Stocks in Subareas 3 and 4

1. The Fisheries Commission with the concurrence of the Coastal State as regards the stocks below which occur within its jurisdiction, requests that the Scientific Council, at a meeting in advance of the 1994 Annual Meeting, provide advice on the scientific basis for the management of the following fish and invertebrate stocks or groups of stocks in 1995:

Cod (Div. 3NO; Div. 3M)
 Redfish (Div. 3LN; Div. 3M)
 American plaice (Div. 3LNO; Div. 3M)
 Witch flounder (Div. 3NO)
 Yellowtail flounder (Div. 3LNO)
 Capelin (Div. 3NO)
 Squid (Subareas 3 and 4)
 Shrimp (Div. 3M)

2. The Commission and the Coastal State request the Scientific Council to consider the following options in assessing and projecting future stock levels for those stocks listed above:

- a) For those stocks subject to analytical dynamic-pool type assessments, the status of the stock should be reviewed and management options evaluated in terms of their implications for fishable stock size in both the short and long term. As general reference points the implications of fishing at $F_{0.1}$, F_{1993} and F_{max} in 1995 and subsequent years should be evaluated. The present stock size and spawning stock size should be described in relation to those observed historically and those expected in the longer term under this range of options.

Opinions of the Scientific council should be expressed in regard to stock size, spawning stock sizes, recruitment prospects, catch rates and TACs implied by these management strategies for 1995 and the long term. Values of F corresponding to the reference points should be given and their accuracy assessed.

- b) For those stocks subject to general production-type assessments, the time series of data should be updated, the status of the stock should be reviewed and management options evaluated in the way described above to the extent possible. In this case, the general reference points should be the level of fishing effort or fishing mortality (F) which is calculated to be required to take the MSY catch in the long term and two-thirds of that effort level.
- c) For those resources of which only general biological and/or catch data are available, no standard criteria on which to base advice can be established. The evidence of stock status should, however, be weighed against a strategy of optimum yield management and maintenance of stock biomass at levels of about two-thirds of the virgin stock.

- d) Spawning stock biomass levels that might be considered necessary for maintenance of sustained recruitment should be recommended for each stock. In those cases where present spawning stock size is a matter of scientific concern in relation to the continuing productive potential of the stock, management options should be offered that specifically respond to such concerns.
- e) Presentation of the result should include the following:
- i) for stocks for which analytical dynamic-pool type assessments are possible:
 - a graph of yield and fishing mortality for at least the past 10 years.
 - a graph of spawning stock biomass and recruitment levels for at least the past 10 years.
 - a graph of catch options for the year 1995 over a range of fishing mortality rates (F) at least from $F_{0.1}$ to F_{max} .
 - a graph showing spawning stock biomass at 1.1.1996 corresponding to each catch option.
 - graphs showing the yield-per-recruit and spawning stock per-recruit values for a range of fishing mortality.
 - ii) for stocks for which advice is based on general production models, the relevant graph of production on fishing mortality rate or fishing effort.

In all cases the three reference points, actual F, F_{max} and $F_{0.1}$ should be shown.

3. The Fisheries Commission with the concurrence of the Coastal State requests that the Scientific Council continue to provide information, if available, on the stock separation in Div. 2J+3KL and the proportion of the biomass of the cod stock in Div. 3L in the Regulatory Area and a projection if possible of the proportion likely to be available in the Regulatory Area in future years. Information is also requested on the age composition of that portion of the stock occurring in the Regulatory Area.
4. The Scientific Council is asked to review all data available on the implications of using 90 mm minimum mesh size in mid-water trawls when fishing for redfish in Div. 3LN, in comparison to 130 mm. This should include consideration of fish lost during haulbacks.
5. Noting that the Scientific Council has scheduled a Symposium on Seals in the Ecosystem for September 1995, the Fisheries Commission requests a report in 1994 on the nature and extent of analyses that are expected to be tabled at the Symposium with respect to the interrelation between seals and commercial fish stocks.

6. Noting the Scientific Council's recommendations for coordinated research on Greenland halibut, the Fisheries Commission and the two Coastal States emphasize the urgency of acquiring information on the distribution and stock status. The Scientific Council is requested to pursue its coordinated efforts and member countries are urged to commit the necessary resources to the research.

**Annex 4. List of Decisions and Actions by
the Fisheries Commission
(15th Annual Meeting; 6-10 September 1993)**

Substantive Issue (propositions/motions)	Decision/Action (FC Doc. 93/18; item)
1. Report of the 14th Annual Meeting, FC Doc. 92/19	adopted (item 2.1)
2. Incorporation of a Catch Reporting System into the Hail System	deferred to 16th Annual Meeting (item 3.1)
3. Effort Plans for the Vessels of Contracting Parties Operating in the Regulatory Area	deferred to 16th Annual Meeting (item 3.1)
4. Operation of the Hail System (FC Doc. 93/6)	amended (item 3.2)
5. Operation of the NAFO Observer Scheme Pilot Project (FC Doc. 93/7)	amended (item 3.3)
6. Financing of NAFO's Scientific Work in the Regulatory Area	Scientific advice accepted (item 3.4)
7. Nominal Catches by Contracting Parties Exceeding Quotas	accepted/referred to 16th Annual Meeting (item 3.5)
8. NAFO Rules re Incidental Catches	discussed; deferred to 16th Annual Meeting (item 3.6)
9. Annual Return of Infringements, Surveillance and Inspection Reports	reviewed; adopted (item 3.7)
10. Fishing Vessels Registrations	reviewed; modified (item 3.8)
11. Report of STACTIC at the 15th Annual Meeting (Part II, FC Doc. 93/18)	adopted (item 3.9)
12. Russian Project for Experimental Redfish Fishery	referred to the Scientific Council, November 1993 and Special Meeting of Fisheries Commission 1994 (item 3.9a)
13. NAFO Inspection Manual	agreed (item 3.9b)
14. Minimum Fish Size (Part I.D of the Measures)	referred to the Scientific Council (November, 1993) and Special Meeting of the Fisheries Commission (1994) (item 3.9c)
15. Minimum Fish Size Measure (Part I.D of the Measures); FC Doc. 93/12	agreed for Canada to follow its system (item 3.9d)

Substantive Issue (propositions/motions)	Decision/Action (FC Doc. 93/18; item)
16. Inspection Procedure (FC Doc. 93/11)	adopted (item 3.9e)
17. Ban on direct fishery of shrimp in 3LNO, 1994 (FC Doc. 93/10)	adopted (items 3.9f, 6.8)
18. Transfer of Quotas Between Contracting Parties	deferred to the 16th Annual Meeting (item 4.1)
19. Regulatory Measures for shrimp fishery in 3M (FC Doc. 93/10)	adopted (item 5.4)
20. Regulatory Measure for fishery of Cod 3NO (FC Doc. 93/9)	adopted (item 6.1)
21. Regulatory measures for fishery of A. plaice 3M and 3LNO, Yellowtail flounder 3LNO, Witch flounder 3NO - no directed fishery in 1994	adopted (items 5.3, 6.3, 6.4, 6.5)
22. No directed fishery for Cod in Div. 3L of the Regulatory Area in 1994 (FC Doc. 93/8)	adopted (item 6.9)
23. TAC(s) for major species for 1994 in the Regulatory Area:	adopted
Cod in Div. 3M	11 000 tons (item 5.1)
Redfish in Div. 3M	26 000 tons (item 5.2)
A. plaice in Div. 3M	1 000 tons (item 5.3)
Cod in Div. 3NO	6 000 tons (item 6.1)
Redfish in Div. 3LN	14 000 tons (item 6.2)
A. plaice in Div. 3LNO	4 800 tons (item 6.3)
Yellowtail flounder in Div. 3LNO	7 000 tons (item 6.4)
Witch flounder in Div. 3NO	3 000 tons (item 6.5)
Capelin in Div. 3NO	"Zero TAC" (item 6.6)
Squid in Subareas 3+4	150 000 tons (item 6.7)
24. Schedule I-Quota Table for 1994 for NAFO Conservation & Enforcement Measures (Part V)	adopted (item 6.10)
25. Distribution of quotas to the Contracting Parties and "block quota" allocation to Estonia, Latvia, Lithuania, Russia	discussed, adopted (item 6.10)
26. Request to the Scientific Council for scientific advice on management of fish stocks in 1995	adopted (item 7)

PART III

(pages 67-125)

Activities of the Scientific Council in 1993

List of Meetings

The following meetings were held under the authority of the Scientific Council in 1993:

- Scientific Council Meeting; 2-16 June, NAFO Headquarters, Dartmouth, Nova Scotia, Canada.
- Scientific Council Meeting; 7-10 September, Holiday Inn, Dartmouth, Nova Scotia, Canada.
- Symposium on Gear Selectivity/Technical Interactions in Mixed Species Fisheries; 13-15 September, Holiday Inn, Dartmouth, Nova Scotia, Canada.
- Scientific Council Special Meeting; 19-23 November, NAFO Headquarters, Dartmouth, Nova Scotia, Canada.



Scientific Council Meeting

The Scientific Council met at NAFO Headquarters, Dartmouth, Nova Scotia, Canada from 2 to 16 June 1993. Representatives attended from Canada, Denmark (in respect of the Faroe Islands and Greenland), European Economic Community (Denmark, France, Federal Republic of Germany, Portugal and Spain), Iceland, Japan, Norway, Russian Federation and an observer from United States of America. The NAFO Executive Secretary and Assistant Executive Secretary were in attendance (Annex 1).

The Executive Committee met briefly prior to the opening session of the Council, and the provisional agenda and work plan were discussed.

The Chairman of the Scientific Council was V. Serebryakov (Russia) and the Rapporteur, T. Amaratunga, Assistant Executive Secretary.

The Agenda was adopted as presented in Annex 2.

FISHERY SCIENCE

General Fishery Trends

From provisional statistics for 1991 and 1992 the nominal catch of all fish and invertebrate species in the Northwest Atlantic (Subareas 0 to 6) decreased (12%) from 2.82 million tons in 1991 to 2.48 million tons in 1992. Decreases were noted for all species groups including "groundfish" (24%) from 1.03 million tons in 1991 to 783 000 tons in 1992, "pelagics" (3%) from 631 000 tons in 1991 to 609 000 tons in 1992, "finfish" (31%) 137 000 tons in 1991 to 94 000 tons in 1992, "invertebrates" (4%) from 1.02 million tons in 1991 to 986 000 tons in 1992. With respect to nominal catches by Subarea, increases were noted for Subarea 0 (19 000 tons in 1991 to 20 000 tons in 1992) and decreases were noted for Subarea 2 (33 000 tons in 1991 to 20 000 tons in 1992), Subarea 3 (520 000 tons in 1991 to 348 000 tons in 1992), Subarea 4 (807 000 tons in 1991 to 693 000 tons in 1992), Subarea 5 (460 000 tons in 1991 to 456 000 tons in 1992) and Subarea 6 (897 000 tons in 1991 to 814 000 tons in 1992), and Subarea 1 remained unchanged at 104 000 tons.

Assessment of Finfish and Invertebrate Stocks

The Scientific Council agreed on the assessments of 18 stocks presented by the Standing Committee on Fisheries Science (STACFIS) based on the requests by the coastal states (Canada and Denmark in respect of the Faroe Islands and Greenland) and the Fisheries Commission. The Council endorsed the STACFIS recommendation to hold a workshop on stock assessment methodology every second or third year.

Extracts from the summary sheets of stock assessments are presented below.

Cod in Divisions 2J, 3K and 3L

Year	1986	1987	1988	1989	1990	1991	1992	1993
TAC	266	256	266	235	199	190	120 ²	
Catch	252	235	269	253	219 ¹	150 ¹	44 ¹	
Offshore catch	179	156	168	151	106 ¹	90 ^{1,4}	32 ^{1,3}	
Fixed gear catch	72	79	101	103	113 ¹	60 ¹	12 ¹	
Sp. stock biomass ADAPT	287	295	323	280	151	61	22	
Laurec/Shepherd (L/S)	287	294	323	279	150	59	15	
Recruitment (age 3) ADAPT	158	130	167	223	238	101	79	
L/S	158	129	160	185	117	64	68	
Mean F (ages 7-9) ADAPT	0.52	0.57	0.75	1.00	1.34	2.23	1.17	
L/S	0.53	0.57	0.75	1.00	1.36	2.51	2.86	

¹ Provisional.

Weights in '000 tons

² Moratorium in effect on Canadian fishing in July 1992.³ Fishery closed by EEC in June 1992.⁴ Canadian surveillance estimate 111.

Recruitment: The 1986 and 1987 year-classes are still dominating the stock although their relative abundance may be closer to the recent average for the stock rather than the previous above average estimate. The 1988 year-class continues to be estimated as below average and based on relationships between recruitment success and environmental variables it is likely that the 1990 and 1991 year-classes will be weak. 0-group survey results indicated that the 1991 and 1992 year-classes may both be much weaker than the 1981 year-class.

State of Stock: The abundance of cod has decreased substantially since 1990. The decline was more pronounced for fish age 6 and older. There is little doubt that the stock is currently at a low level with abundance and biomass at the lowest observed in the time series.

Forecast for 1994: With the low stock size, high mortality rates and the possibility of weak recruiting year-classes, stock recovery in the near future will be unlikely.

Environmental Factors:

Climatic and hydrographic conditions in 1991-92 off the Newfoundland shelf have been among the worst recorded for ice coverage, duration of ice, and extent of the cold intermediate layer (CIL) of water less than 0°C.

Multispecies Considerations:

Capelin abundance as estimated from acoustic surveys has been very low since 1990 in this area and the biomass of several other groundfish stocks, some very lightly exploited have also declined markedly in recent years. In the absence of a large commercial hunt for harp seals, the abundance has increased and was estimated to be about 3 million in 1990. It has not been possible to fully evaluate the interactions between cod and seals.

Long-term Prospects: At present there are no indications that this stock will begin to recover until a number of at least average year-classes recruit. Because all year-classes from 1988 to 1992 are considered likely to be poor, significant recovery is not anticipated prior to the late-1990s.

Option Basis	Predicted catch (1994)	Predicted SSB (1.1.1995)
F _{0.1} =		
F ₉₂ =	No information available	
F _{max} =		

Cod in Division 3M

Year	1986	1987	1988	1989	1990	1991	1992	1993
Recommended TAC	0	0	0	0	0	0	0	0
Agreed TAC	13	13	0	0	0	13	13	13
Reported catches	15	11	2	1	2 ¹	8 ¹	6 ¹	
Non-reported catches			2	39	30	3	5	
Total landings	15	11	2	40	32 ¹	11 ¹	11 ¹	

No information available for Sp. stock biomass, Recruitment, Mean F

¹ Provisional.

Weights in '000 tons

² No information available.

Recruitment: The 1990 year-class appears stronger than the other year-classes currently in the population.

Forecast for 1994: No information available for option basis: $F_{0.1}$, F_{92} , F_{max}

Recommendations: No directed fishery on cod be conducted in 1994, to allow stock recovery.

Cod in Divisions 3N and 3O

Year	1986	1987	1988	1989	1990	1991	1992	1993
Recommended TAC	Same as agreed.							
Agreed TAC	33	33	40	25	18.6	13.6	13.6	10.2
Reported catches	51	42	43	33	18 ¹	17 ¹	10.1	
Non-reported catches	-	-	-	-	11	12	2.5	
Total landings	51	42	43	33	29 ¹	29 ¹	12.6 ¹	
Sp. stock biomass	139	145	123	102	89	81	59	
Recruitment (age 3)	10	7	14	14	6	8	20 ²	
Mean F (ages 7-10)	0.21	0.25	0.28	0.23	0.24	0.42	0.47	

¹ Provisional.

Weights in '000 tons

² Geometric mean (millions).

Forecast for 1994:

Option Basis	Predicted catch (1994)		Predicted SSB (1.1.1995)	
	PR ₁	PR ₂	PR ₁	PR ₂
F _{0.1} =	6 000	8 000	22 500	20 900
F _{max} =	9 200	12 100	20 600	18 700
F ₍₉₂₎ =	Not appropriate			

Partial Recruitments, PR₁ = average for 1980-84 PR₂ = average for 1990-92

Recommendation: The 1994 catch should not exceed 6 000 tons.

Redfish in Subarea 1

Year	1986	1987	1988	1989	1990	1991	1992	1993
Recommended TAC			No TAC					
Agreed TAC	18	19	19	19	19	19	19	19
Reported catches	5	1	1	1	1 ¹	0.3 ¹	0.3 ¹	
Total landings	5	1	1	1	1 ¹	0.3 ¹	0.3 ¹	

No information available for Sp. stock biomass, Recruitment (age 2), Mean F

¹ Provisional.

Weights in '000 tons

State of Stock: Survey estimates indicate considerable decline of stock biomass and abundance in recent years.

Forecast for 1994: No information available for option basis $F_{0.1}$, F_{92} , F_{max} and no projections.

Recommendations: As long as catches of commercial-sized redfish remain limited to by-catches of fisheries directed to other species, no TAC is advised.

Redfish in Division 3M

Year	1986	1987	1988	1989	1990	1991	1992	1993
Recommended TAC	20	20	20	20	<50	43	35	<20
Agreed TAC	20	20	20	20	50	50	43	30
Reported catches	29	44	23	48	67 ¹	38 ¹	29 ¹	
Non-reported catches				10	16	17	4	
Total landings	29	44	23	58	83 ¹	55 ¹	33 ¹	

No information available for Sp. stock biomass, Recruitment (age 2), Mean F

¹ Provisional.

Weights in '000 tons

State of Stock: Catch rates declined from 1987 to 1991 and increased in 1992 (although based on limited data). Trawlable biomass estimates from EEC bottom-trawl surveys indicate an increase in 1992. Russian trawl-acoustic survey suggest a decline of bottom component and increase of pelagic component in 1992. The stock appears to be stabilized after declining in recent years.

Forecast for 1994: No information available for predicted catch (1994), SSB; option basis $F_{0.1} = 0.11$, F_{92} , $F_{max} = 0.20$

Recommendations: TAC for 1994 be set at 20 000 tons.

Special Comments: A new fishery for shrimp is developing in Div. 3M. Given that by-catches of juvenile redfish are common in similar fisheries in other areas, STACFIS expresses its concern on the likely negative impact of these shrimp fisheries on recent recruitment of Div. 3M redfish.

Redfish in Divisions 3L and 3N

Year	1986	1987	1988	1989	1990	1991	1992	1993
Recommended TAC	25	25	25	25	25	14	14	14
Agreed TAC	25	25	25	25	25	14	14	14
Reported catches	43	71	45	32	25 ¹	22 ¹	15 ¹	
Non-reported catches		7	8	2	4	4	9	
Total Landings	43	78	53	34	29 ¹	26 ¹	24 ¹	

No information available for Sp. stock biomass, Recruitment, Mean F

¹ Provisional.

Weights in '000 tons

State of Stock: All indices indicate a general decline since mid-1980s. Bottom trawl surveys by Russia in Div. 3LN and Canada in Div. 3L suggest declines since 1984. Available indices exhibit considerable between-year variability but generally indicate a stock at a low level, especially in Div. 3L.

Forecast for 1994: No information available for major parameters ($F_{0.1}$, F_{92} , F_{max} ; Catch 1994, SSB 1.1.95)

Recommendations: Catches be reduced and total catch for 1994 not to exceed 14 000 tons.

Special Comments: Catches for non-Contracting Parties in recent years have ranged from 7 000 tons in 1991 to 24 000 tons in 1987.

American plaice in Division 3M

Year	1986	1987	1988	1989	1990	1991	1992	1993
Recommended TAC	2	2	2	2	2	2	2	2
Agreed TAC	2	2	2	2	2	2	2	
Reported catches	3.8	5.6	2.8	3.5	0.8 ¹	1.6 ¹	0.8 ¹	
Non-reported catches	No information available							
Total landings								

No information available for Sp. stock biomass, Recruitment (age 2), Mean F

¹ Provisional.

Weights in '000 tons

State of Stock: EEC surveys show a steady decline in relative abundance and biomass since 1988. Spawning stock biomass follows a similar trend over the same period.

Forecast for 1994: No information available for major parameters ($F_{0.1}$, F_{92} , F_{max} ; Catch 1994, SSB 1.1.95)

Recommendations: Catch in 1994 should not exceed 1 000 tons (see Special Comments).

Special Comments: The recommended catch corresponds to the expected by-catches in non-directed fisheries.

American plaice in Divisions 3L, 3N and 3O

Year		1985	1986	1987	1988	1989	1990	1991	1992	1993
Recommended TAC		49	55	48	28	30.3	24.9	25.8	25.8	10.5
Agreed TAC		49	55	48	40 ¹	30.3	24.9	25.8	25.8	10.5
Reported catches		49.5	60.3	55.0	40.7	41.4	24.4 ²	26 ²	10.6 ²	
Non-reported catches		4.7	4.3	0	0.1	2.0	8.1	8	0.5	
Total catch		54.2	64.6	55.0	40.8	43.4	32.5 ²	34 ²	11.1 ²	
SSB ³	ADAPT	142	132	103	80	66	49	39	27	
	L/S	141	131	101	78	64	46	33	19	
Recruitment (age 5)	ADAPT	128	96	81	78	73	102	76	27	
	L/S	126	94	71	65	57	57	36	21	
Mean F (ages 11-15)	ADAPT	0.67	1.04	0.81	0.86	0.82	0.84	0.69	0.66	
	L/S	0.68	1.06	0.82	0.88	0.86	0.96	0.86	0.95	

¹ Effective TAC was 33 585 tons.

² Provisional.

³ Age 9+ knife edge.

Weights in '000 tons
Recruitment in millions

Forecast for 1994:

Option Basis	Predicted catch (1994) ('000 tons)	Predicted SSB (1.1.1995) ('000 tons)
ADAPT:		
F _{0.1} = 0.26	9.5	40.0
F _{max} = 0.50	17.0	34.1
F ₉₂ = 0.65	21.1	31.0
L/S:		
F _{0.1} = 0.26	4.8	13.5
F _{max} = 0.50	8.7	11.4
F ₉₂ = 0.95	14.9	8.3

Recommendations: Given the extremely low stock size in 1992, concerns about SSB, and expectations of very poor recruitment, STACFIS recommended that the catch in 1994 be kept at the lowest possible level, and should not exceed 4 800 tons.

Witch flounder in Divisions 3N and 3O

Year	1986	1987	1988	1989	1990	1991	1992	1993
Recommended TAC	5	5	5	5	5	5	5	5
Agreed TAC	5	5	5	5	5	5	5	5
Reported catches	9	8	7	4	2.7 ¹	3.3 ¹	4.8 ¹	
Non-reported catches ²					1.4	1.5	-	
Total landings					4.1 ¹	4.8 ¹	4.8 ¹	
No information available for Sp. stock biomass, Recruitment (Age 2), Mean F								
¹ Provisional.							Weights in '000 tons	

² Data inadequate to estimate misreported catches prior to 1990.

State of Stock: Survey biomass in Div. 3N is thought to be at an extremely low level. Biomass in Div. 3O declined slightly during the 1984-90 period with average catches of 2 600 tons but declined more sharply since that time.

Forecast for 1994: No information available for major parameters ($F_{0.1}$, F_{92} , F_{max} ; Catch 1994, SSB 1.1.1995)

Recommendation: Catch in 1994 not to exceed 3 000 tons.

Yellowtail flounder in Divisions 3L, 3N and 3O

Year	1985	1986	1987	1988	1989	1990	1991	1992	1993
Recommended TAC	15	15	15	15	5	5	7	7	7
Agreed TAC	15	15	15	15	5	5	7	7	7
Reported catches	24.0	24.5	16.3	16.2	9.1	8.9 ¹	11.0 ¹	10.7 ¹	
Non-reported catches	5.0	5.7	0	0.1	1.1	5.1	5.3	0.1	
Total landings	29.0	30.2	16.3	16.3	10.2	14.0 ¹	16.3 ¹	10.8 ¹	
No information available for Sp. stock biomass, Recruitment (age 2), Mean F									
¹ Provisional.							Weights in '000 tons		

State of Stock: The stock remains stable at a low level. Potential growth of the stock from the 1984-86 year-classes has not occurred, likely because of large catches of juveniles from these cohorts by fisheries in the Regulatory Area, and because the TAC has been exceeded each year since 1984.

Forecast for 1994: No information available for major parameters ($F_{0.1}$, F_{92} , F_{max} ; Catches 1994, SSB 1.1.1995)

Recommendations: TAC of 7 000 tons for 1994.

Greenland Halibut in Subareas 0 and 1

Year	1986	1987	1988	1989	1990	1991	1992	1993
Recommended TAC	25	25	25	25	25	25	25	25
Agreed TAC								
Reported catches	9	10	10	10	20 ¹	21 ¹	29 ^{1,2}	
No information available for Sp. stock biomass, Recruitment (age 2), Mean F								

¹ Provisional.

Weights in '000 tons

² Including 1 500 tons non-reported.

State of Stock: The survey biomass indices have declined since 1989. However, CPUE and catch length compositions have remained unchanged. The offshore component in Subarea 0B is now exploited slightly above the level experienced before 1980.

Forecast for 1994: No information available for major parameters ($F_{0.1}$, F_{92} , F_{max} ; Catch 1994, SSB 1.1.1995)

Recommendation: TAC for 1994 be maintained at 25 000 tons.

Special Comments: The offshore fisheries in both Div. 0B and Div. 1CD are concentrated in small areas. STACFIS considers that intensive fishing effort on localized areas of abundance is imprudent given the lack of scientific information on stock structure and stock size.

Greenland Halibut in Subarea 2 and Divisions 3K and 3L

Year	1986	1987	1988	1989	1990	1991	1992	1993
Recommended TAC	100	100	100	100	50	50	50	50
Agreed TAC	100	100	100	100	50	50	50	50
Reported catches	16	31	19	19	29 ¹	35 ¹	52 ¹	
Non-reported catches					18	20-40	11	
Total landings	16	31	19	19	47 ¹	55-75 ^{1,2}	63 ¹	
No information available for Sp. stock biomass, Recruitment (age 2), Mean F								

¹ Provisional.

Weights in '000 tons

² STACFIS could not reliably estimate total landings in 1991.

State of Stock: Until the 1991 survey, the year-classes of 1984-86 appeared to be relatively strong. The results in 1991 and 1992 suggest that they had declined rapidly to very low numbers in the survey area of Div. 2J+3KL.

Most of the indices of abundance for 1992 indicate a decline from 1991. The number of older fish in the survey areas continues to decline. The decline in some indices may be due, in part, to a redistribution of the stock from northerly areas to the Regulatory Area of Div. 3L, 3M and 3N.

Forecast for 1994: No information available for major parameters ($F_{0.1}$, F_{92} , F_{max} ; Catch 1994, SSB 1.1.1995).

Recommendations: STACFIS is unable to advise an appropriate catch level for 1994.

Special Comments: The effect on the stock of continued catches in the Regulatory Area at 1990-92 levels is unclear but catches in 1992 were comprised of smaller fish than in 1990 and 1991. Past advice for this stock has been to distribute fishing effort over a wide area if possible.

Roundnose Grenadier in Subareas 0 and 1

Year	1986	1987	1988	1989	1990	1991	1992	1993
Recommended TAC	8	8	8	8	8	8	8	8
Agreed TAC	8	8	8	8	8	8	8	
Reported catches	0.09	0.38	0.52	0.08	0.16 ¹	0.16 ¹	0.19 ¹	
No information available for Sp. stock biomass, Recruitment (age 2), Mean F								

¹ Provisional.

Weights in '000 tons

State of Stock: Not possible to evaluate. Research surveys by Japan and Greenland only fish areas with depths less than 1 500 m and roundnose grenadier occur in deeper waters. As the estimated trawlable biomass estimates for Div. 1CD in 1987, 1988, 1991 and 1992 were about 40 000 tons, the estimates from 1989 and 1990 of 5 900 tons and 20 300 tons, respectively, were not considered to be realistic. Surveys do not cover the entire stock area.

Forecast for 1994: No information available for major parameters ($F_{0.1}$, F_{92} , F_{max} ; Catch 1994, SSB 1.1.1995).

Recommendations: TAC for 1994 should remain at 8 000 tons.

Roundnose Grenadier in Subareas 2 and 3

Year	1986	1987	1988	1989	1990	1991	1992	1993
Recommended TAC	11	11	11	11	11	11	11	11
Agreed TAC	11	11	11	11	11	11	11	11
Reported catches	7	8	6	5	4 ¹	5 ^{1,2}	5 ¹	
Non-reported catches								
Total landings	7	8	6	5	4 ¹	9-14 ^{1,2}	5 ¹	
No information available for Sp. stock biomass, Recruitment, Mean F								

¹ Provisional.

Weights in '000 tons

² STACFIS could not reliably estimate total landings in 1991.

State of Stock: Not possible to evaluate precisely. Based on data collected by Canadian observers, catch rates in the "traditional" fishing areas have declined steadily since about 1987. Canadian research vessel estimates of biomass show similar declines although they only cover depths to 1 000 m. There are no data available (research or commercial) to enable evaluation of the resource in the Regulatory Area. This latter fishery is restricted to by-catches in the directed Greenland halibut fishery.

Forecast for 1994: No forecast possible.

Recommendations: Because of the steady declines in the indices of stock abundance in the "traditional" fishing areas, the TAC for 1994 be set at a new precautionary level of 3 000 tons. This would apply to the "traditional" fishing areas within the Canadian zone only. There is insufficient information to provide any advice on appropriate catch levels in the Regulatory Area.

Capelin in Divisions 3N and 3O

Year	1986	1987	1988	1989	1990	1991	1992	1993
Recommended TAC	0	10	10	28	30	30	30 ¹	0
Agreed TAC	0	10	15	28	30	30	30	0
Reported catches	0	1	7	9	25 ²	+ ²	0 ²	
Non-reported catches								
Total landings	0	1	7	9	25 ²	+ ²	0 ²	
Sp. stock biomass ³	527	273	560	28	-	-	-	-
Recruitment (age 2)	No information available							
Mean F								

¹ Scientific Council in March 1992 considered this may exceed 10% exploitation rate. Weights in '000 tons

² Provisional.

³ In some years, these are averages of USSR and Canadian acoustic surveys and in other years only Canadian estimates were available. These are estimates of mature biomass.

State of Stock: USSR acoustic survey during 1975-77 indicated mean biomass of 912 000 tons. Mean stock size in 1981-89 was about 303 000 tons. Based on parallel patterns of abundance with other spawning stocks, this stock has probably declined to a very low level in 1993.

Forecast for 1994: No projections.

Recommendations: No directed capelin fishery be allowed during 1994.

Squid in Subareas 3 and 4

Year	1986	1987	1988	1989	1990	1991	1992	1993
Recommended TAC	150	150	-	-	-	-	-	-
Agreed TAC	150	150	150	150	150	150	150	150
Non-reported catches								
Total landings	+	2	1	7	11 ¹	4 ¹	2 ¹	
No information available for Sp. stock biomass, Recruitment, Mean F								

¹ Provisional.

Weights in '000 tons

State of Stock: Dependent on one year-class only.

Forecast for 1994: No information available.

Recommendations: No advice possible.

Shrimp in Subareas 0 and 1

Year	1986	1987	1988	1989	1990 ¹	1991 ¹	1992 ¹	1993 ¹
<u>Offshore SA 0+1 (south of 71°N)</u>								
Recommended TAC	36	36	36	44	50	50	50	40
Agreed TAC ²	40.4	40.1	40.1	45.2	45.2	46.2	44.2	40.6 ³
Actual landings	44.6	46.2	43.6	49.9	52.8	57.3	63.0	
<u>Offshore SA 1 (north of 71°N)</u>								
Recommended TAC	-	-	-	-	-	2.5	-	-
Agreed TAC	-	11.6	11.5	8	6.8 ⁴	6.8 ⁴	6.4 ⁴	8.3 ⁵
Actual landings	11	10.7	6.7	2.5	2.1	1.1	2.6	
<u>SA 0+1 total (including inshore catches in SA 1)</u>								
Actual landings	63.1	63.8	60.5	68.1	69.6	76.3	87.1	

¹ Provisional landings.

² Not including catches of vessels <75 GRT.

Weights in '000 tons

³ SA 1 offshore, south of 68°N + Div. 0A.

⁴ Including the area from 69°30'N to 71°N, west of 58°W.

⁵ SA 1 offshore, north of 68°N.

State of Stock: Catch-rate indices showed stability in 1989-92. Research survey indices showed stability except that 1991 biomass estimate was low. Last year's concern over the size of spawning stock and future recruitment appears no longer valid.

Forecast for 1994: No information available.

Recommendations: TACs for 1993 and 1994 be set at 50 000 tons for Div. 0A and Subarea 1 offshore south of 71°N.

Shrimp in Denmark Strait

Year	1986	1987	1988	1989	1990	1991	1992	1993
Recommended TAC	-	-	-	10	10	10	8	5
Agreed TAC ¹	7.5 ²	7.7 ²	8.7 ²	9.0 ²	14.1	14.5	13.0	9.6
Reported catches	11.0	12.2	12.5	10.7	10.3 ³	8.7 ³	7.2 ³	

No information available for Sp. stock biomass, Recruitment (age 2), Mean F

¹ On Greenland side of midline only.

Weights in '000 tons

² Not including Greenland fishery north of 66°30' N.

³ Provisional.

State of Stock: The abundance in the recent years has been reduced to a low level, primarily due to a decrease in the abundance of females.

Forecast for 1994: No information available.

Recommendations: Based on the continued depressed condition of the stock, STACFIS advises that the TAC for 1994 should be 5 000 tons.

Special Comments: STACFIS anticipates that this TAC level of 5 000 tons will have to be maintained for several years in an attempt to provide protection for the spawning biomass and rebuild the stock.

Responses to Questions by the Fisheries Commission

a) Cod in Divisions 2J, 3K and 3L (SCR Doc. 93/47)

Estimates of the proportion of the cod biomass in Div. 3L in the Regulatory Area were updated to include the 1992 research vessel survey data. The results for autumn surveys were similar to those presented previously. The spring survey series continue to show an increasing trend in the percentage of biomass in the Regulatory Area, with consecutive time series highs of 10.1 and 16.1 % in 1991 and 1992 respectively. The results from the survey series used were as follows:

Season RV survey conducted	Years RV survey conducted	Range of proportions of Div. 3L biomass occurring in the Regulatory Area (1992 value in brackets)	Average proportion percent
Winter	1985-86	23.8-26.8	25.3
Spring	1977-92	0.4-10.8 (16.1)	4.4
Autumn	1981-92	0.5-7.7 (1.2)	2.8

Results of the autumn surveys conducted in all three Divisions (2J, 3K, and 3L) by Canada since 1981, continued to show that the proportion of the cod in the Regulatory Area at that time of year was less than 1%, on average, of the total Div. 2J+3KL biomass. The average breakdown of biomass by Division is as follows:

Division	Mean relative proportion of Div. 2J+3KL biomass (%)	1992 Fall %
2J	33	3
3K	34	15
3L	33	82

Survey data indicated that the proportion of total stock biomass occurring in the Regulatory Area was less than 10% in winter, less than 5% on average in spring and autumn, and there were no annual trends. Values presented from recent spring and autumn surveys may be underestimated as there is evidence that there may be a distributional shift of cod to deeper water. These surveys are conducted to depths of 400 fathoms (732 m). Cod have been observed during winter hydroacoustic surveys in depths to 930 m and sampling reported from Portuguese commercial fishery in 1992 show cod catches in Div. 3L to 911 m.

Age compositions derived from spring and autumn surveys in Div. 3L indicated that for most years there was a higher proportion of younger cod in the Regulatory Area. Estimates for winter surveys showed that age compositions were similar in both areas. Cod age compositions from autumn research vessel surveys combined for Divisions 2J+3KL were similar to those which occurred in Div. 3L inside the 200-mile fishing zone.

b) Research Activities, Costs, and Needs for 1993/94

It was noted that survey activities in the NAFO Area in 1992 had declined from previous years (e.g. no juvenile silver hake survey) indicating that a similar situation would probably exist in 1993.

There was a growing interest in the fisheries for Greenland halibut. Although there were a number of different research initiatives taking place in SA 0, 1, 2 and 3, there was little to no co-ordination of those activities. The Council saw the importance of such a coordinated survey and encouraged interested Contracting Parties to continue discussions toward this goal.

Regarding the September 1992 Fisheries Commission request to describe the optimum volume and funding of scientific research in the Regulatory Area, Contracting Parties were requested to provide information on current expenditures on research and commercial sampling in the Regulatory Area as well as information of costs for 'optimal' sampling and research. For this meeting, only data on current costs to the EEC were available. These indicated an annual expenditure of about 4.1 million ECU.

c) Scientific Tasks of Observers in the Pilot Observer Program

The Scientific Council recommended to the Fisheries Commission that observers in the Pilot Observer Program should collect data on set location (latitude and longitude), depth fished, time net on bottom (or fishing), directed species, by-catches, discards, catches and effort. Length sampling of the main species in each set should also be set out.

Environmental Research

The Council noted the success of the meeting of the Environmental Subcommittee of STACFIS held at the beginning of the Council meeting on 3 June 1993 with M. Stein (EEC-Germany) as Chairman. The Council saw the significant importance of reviewing environmental conditions before the stock assessments were undertaken by STACFIS and providing the opportunity to incorporate those considerations with the conditions of various stocks. The Council was also encouraged by the higher quality of papers presented to the Subcommittee, with many papers specifically relating environmental conditions to the state of certain stocks.

Ageing Techniques

The Council noted that the collaborative ageing work on silver hake between Canada and Russia was continuing and will result in a comprehensive manual prepared jointly by Canada and Russia.

Note was made of the progress on American plaice and Greenland halibut ageing since the workshop of December 1991, and that exchanges were ongoing.

Relationships Between Acoustic Biomass Estimates and Other Methods

The Council was concerned that no contributions were received in response to the March 1992 recommendation, and endorsed the reiteration of the recommendation by STACFIS for further investigations on the acoustic and other biomass estimation methods.

Review of Arrangements for Conducting Stock Assessments

The Council observed that conducting stock assessments by STACFIS represented a major workload within the scheduled time for the June meetings, and recognized that there was an imbalance of workload among the Standing Committees and the time demands for their work. The Council therefore agreed on the importance of considering a possible restructuring of the Scientific Council, at its meeting in September 1993. For this purpose it was agreed that Designated Experts for various stock assessments prepare working papers describing their specific problems in relation to the current proceedings, demands and schedules, and describing their requirements for a new structure, so that the Council could evaluate potential changes.

Joint ICES/NAFO Working Group on Harp and Hooded Seals

The Council noted the report of the Joint Working Group was reviewed by STACFIS which dominated current survey methodologies. The Council agreed with and supported the recommendations of the Working Group. The Council supported the view that NAFO publications should be offered as vehicles for scientific papers and extended its continuing interest in the activities of the Working Group.

RESEARCH COORDINATION

Fishery Statistics

The Council reiterated the concern about the ongoing delays in receipt of national STATLANT 21B reports of statistical information for 1990 and 1991. These delays continue to affect assessment work as well as publication of the Statistical Bulletins. The Council was pleased the Secretariat continues to send reminders to national representatives and hoped the situation would improve soon as a new Rule of Procedure (4.4) for the Scientific Council was incorporated for submission of STATLANT 21A and STATLANT 21B forms not later than on 30 May and 31 August, respectively.

The Council recognized that additional data useful for assessment work concerning catches in the Regulatory Area, particularly those of non-Contracting Parties, are contained in a number of Working Papers of other NAFO Standing Committees. However, it was unclear as to whether these documents of Working Paper status could be used by the Council. The Council agreed to investigate through consultation with the Executive Secretary whether the Scientific Council can use the information they contain.

The Council noted that ICES had decided to discontinue the use of STATLANT 27B forms, however, the Scientific Council has considerable use of the STATLANT 21B data and will continue to request and process them.

The Council was concerned of the increasing problem of double reporting of joint venture catches in recent years but was pleased that the Secretariat had taken action to remind Contracting Parties that separate STATLANT forms must be submitted for joint venture catches.

The Council recognizing the potential usefulness of logbook data agreed with the recommendation that the Scientific Council approach the Fisheries Commission about the possibility of requiring logbooks to include tow by tow fishing data.

Non-traditional Fisheries Resources in the NAFO Area

The Council noted there has been a new fishery for shrimp (*Pandalus borealis*) developing since spring, 1993, on Flemish Cap (Div. 3M), with a total of 27 trawlers from Canada, Denmark, Faroe Islands, Greenland, and Norway reported fishing in the area in early June, achieving catch rates between 8 and 17 tons per day.

By-catches (primarily redfish) were initially low (approximately 5%) but increased over time, to as high as 20% of the total catch.

While endorsing the STACREC recommendation that the activities of vessels engaged in this developing shrimp fishery on the Flemish Cap be closely monitored, the Council stressed the need to obtain proper records of fishery and biological data from all countries fishing the resource.

The Council also noted there has been a developing Greenland halibut fishery in the Regulatory Area since about 1990, and associated with this fishery were increased by-catches of roundnose and roughhead grenadier. There also appeared to be an increase in catches of skate in the Regulatory Area.

Biological Sampling and Research Priorities

The Council was pleased to note there was 100% observer coverage on Canadian vessels licensed to fish shrimp in Div. 3M, collecting data on the fishery, by-catches and length samples.

The Council noted there was good sampling of the Greenland halibut fishery in the Regulatory Area. However, a possible problem of misallocation of the by-catch was recognized in that the roundnose grenadier that are currently reported are probably roughhead. Also noting problems persist with the various flatfish species not being separated but are reported as catches of flounder (unspecified), the Council endorsed the recommendation that the matter of misallocation of roundnose and roughhead grenadier, and flatfish species, be brought to the attention of the Fisheries Commission, and request that care be taken to ensure proper identification of species being caught.

The Council noted a STACREC review will evaluate if the reported increases of skate catches are realistic or not.

PUBLICATIONS

The list of scientific publications is presented in Annex 3 of this report.

The Council noted that there were no significant departure from the previous year's production costs and revenues, however, it was noted that the revision of the free mailing list could represent a reasonable saving. The Secretariat was requested to continue to revise the list periodically.

The Council agreed that attempts to avoid double printing of documents at this Meeting was, in general, considered a success. The Council agreed similar attempts should be continued, and endorsed the STACPUB proposal to request authors to submit titles and abstracts of their papers 15 days in advance of the Meetings.

It was noted that a total of 411 papers had been nominated by STACPUB since 1980, and a total of 312 papers had been published, and of the 20 papers nominated at the 1992 meeting, 9 have been submitted in addition to the Workbook of the September 1992 Special Session which was published in Studies.

RULES OF PROCEDURE

New Rule on Deadline Dates for STATLANT 21A and 21B

A new Rule 4.4 as discussed by STACREC was received by the Council. It was noted that the proposed new Rule had revised dates of 15 May and 30 June for STATLANT 21A and 21B, respectively.

Ratification of Addition to Rule 3

The new Rule 3.7 (as given in Annex 4 of the Agenda) which had been proposed by the Council in 1984 was reviewed. The Council adopted the new Rule with a slight modification to the proposed wording to read as follows:

Rule 3.7 In the circumstance that both the Chairman and Vice-Chairman of the Scientific Council are absent at the time and place of a scheduled Scientific Council Meeting, a Scientific Council representative shall be appointed as temporary Chairman for that Meeting by consensus among the Scientific Council, representatives, or their alternates, who are present.

COLLABORATION WITH OTHER ORGANIZATIONS

The Council noted the Report of the Joint ICES/NAFO Working Group workshop on survey methodology of seals held during 5-12 October 1992 in Archangelsk, Russia and endorsed the recommendations, with full recognition that the Scientific Council continues to be interested in the activities of the Working Group.

The Chairman noted the 16th Session of the CWP was planned for Madrid, Spain, in July 1994 recommending that the Assistant Executive Secretary should attend the 16th Session of CWP.

The Chairman noted that NAFO routinely receives invitations to participate as observers in many meetings of international bodies such as ICES, and the view was expressed that a reciprocal invitation to the June and September Meetings from the Scientific Council to selected international bodies may be appropriate and beneficial for scientific exchange.

FUTURE SCIENTIFIC COUNCIL SESSIONS AND MEETINGS

- a) The following Sessions were scheduled to be held in 1993-94:
- Symposium on Gear Selectivity/Technical Interactions be held during 13-15 September 1993 at the Holiday Inn, Dartmouth;
 - Special Session in September 1994
 - Special Session in 1995

The separate Scientific Council Meetings (other than with Annual Meeting) will be held 8-22 June 1994 and 7-21 June 1995.

- b) The Council noted Denmark/Greenland had submitted a request that the Scientific Council consider in advance of the 1993 Annual Meeting its proposal regarding the reinstatement of a mid-term meeting for assessment of Northern shrimp stocks in Subareas 0 and 1 and Denmark Strait, the first should take place late-November 1993.

While recognizing Article IX.3 of the Convention, the Chairman requested the views of the Council. It was noted that survey data which constitute a substantial part of the assessment become available by then for a more up-to-date consideration, however, STACFIS had not adequately addressed the possible pros and cons of a mid-term assessment. Concern was expressed that such a mid-term meeting would represent additional costs to the Secretariat and the Contracting Party participants, and limited attendance might weaken the peer review process of the science. Representatives expressed views that this was a request from a Coastal State in accordance with Article VII.

In view of these uncertainties, the Council agreed a decision should be made during the September 1993 Meeting. In preparation for discussions, representatives were requested to present working papers detailing pros and cons, and also providing an overview of the history of the Scientific Council mid-term shrimp meetings held in the 1980s. The Council also requested the Executive Secretary to obtain clarification from Denmark/Greenland as to the nature of the request.

NOMINATION AND ELECTION OF OFFICERS

For the office of Chairman of Scientific Council, the current Vice-Chairman H. Lassen (EEC-Denmark) was elected by unanimous consent.

For the office of Vice-Chairman of Scientific Council and *ex officio* Chairman of STACPUB, W. R. Bowering (Canada) was elected by unanimous consent.

For the office of Chairman of STACREC, C. A. Bishop (Canada) was elected by unanimous consent.

OTHER MATTERS

Space Requirements for June Meetings; Structure of the Scientific Council

The Council noted the work of the Scientific Council was again seriously hampered by inadequate space at the Secretariat to conduct its business, with meetings of STACPUB and various working groups being held in staff offices and other make-shift areas. An additional serious short coming was the inadequate space for computer users.

The Council also noted there was a disproportionate workload burden on STACFIS, and saw the need to consider the structure and the workload of Scientific Council in general to improve its efficiency. The Council noted two Working Papers were prepared by representatives for consideration at the September 1993 Meeting. Accordingly, the Council agreed to defer discussions to the September 1993 Meeting with a particular note that Designated Experts should prepare notes on their experiences on where there are problems and identifying any requirements.

The Scientific Council was adjourned on 16 June 1993.

Annex 1. List of Participants

Scientific Council Meeting

Dartmouth, Nova Scotia, Canada

2-16 June 1993

CANADA

Atkinson, D.B.	Northwest Atlantic Fisheries Centre, Box 5667, St. John's, Newfoundland
Baird, J.W.	" " " " " "
Bishop, C.A.	" " " " " "
Bowering, W.R.	" " " " " "
Brodie, W.B.	" " " " " "
Campbell, J.S.	" " " " " "
Coady, L.W.	" " " " " "
Davis, B.	" " " " " "
Murphy, E.	" " " " " "
Myers, R.A.	" " " " " "
Nakashima, B.S.	" " " " " "
Narayanan, S.	" " " " " "
Parsons, D.	" " " " " "
Power, D.	" " " " " "
Stansbury, D.E.	" " " " " "
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Rivard, D.	" " " " " "
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Glenn, G.F.	Marine Environmental Data Service (MEDS), 200 Kent St., Ottawa, Ontario

DENMARK

GREENLAND

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Kannevorff, P.	" " " " " "
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Nygaard, K.H.	" " " " " "
Siegstad, H.	" " " " " "
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EUROPEAN ECONOMIC COMMUNITY (EEC)

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Avila de Melo, A.	Instituto Nacional de Investigação das Pescas, Av. de Brasília, Alges-Praia, 1400 Lisbon, Portugal
Godinho, M.L.	" " " " " "

- Battaglia, A. IFREMER, B. P. 4240, F-97500 St. Pierre, St. Pierre et Miquelon, France
 Cross, D. EUROSTAT, Commission of the EC, Jean Monnet Building, B. P. 1907 Luxembourg
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 Hamburg, Germany
- Stein, M. " " " " " "
- Rätz, H-J. Institute for Sea Fisheries, Hamburg, Branch Office Bremerhaven, Fischkai 35, 27572
 Bremerhaven, Germany
- de Cárdenas, E. Instituto Espanol de Oceanografia, Aptdo 240, Santander, Spain
- Motos, L. AZTI-SIO, Av. Satrustegi 8, 20008 - San Sebastian - Donostia, Spain
- Vazquez, A. Instituto de Investigaciones Marinas, Muelle de Bouzas, Vigo, Spain

ICELAND

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JAPAN

- Yokawa, K. Distant-Water Groundfish, National Research Institute of Far Sea Fisheries, 5-7-1 Orido,
 Shimizu 424

NORWAY

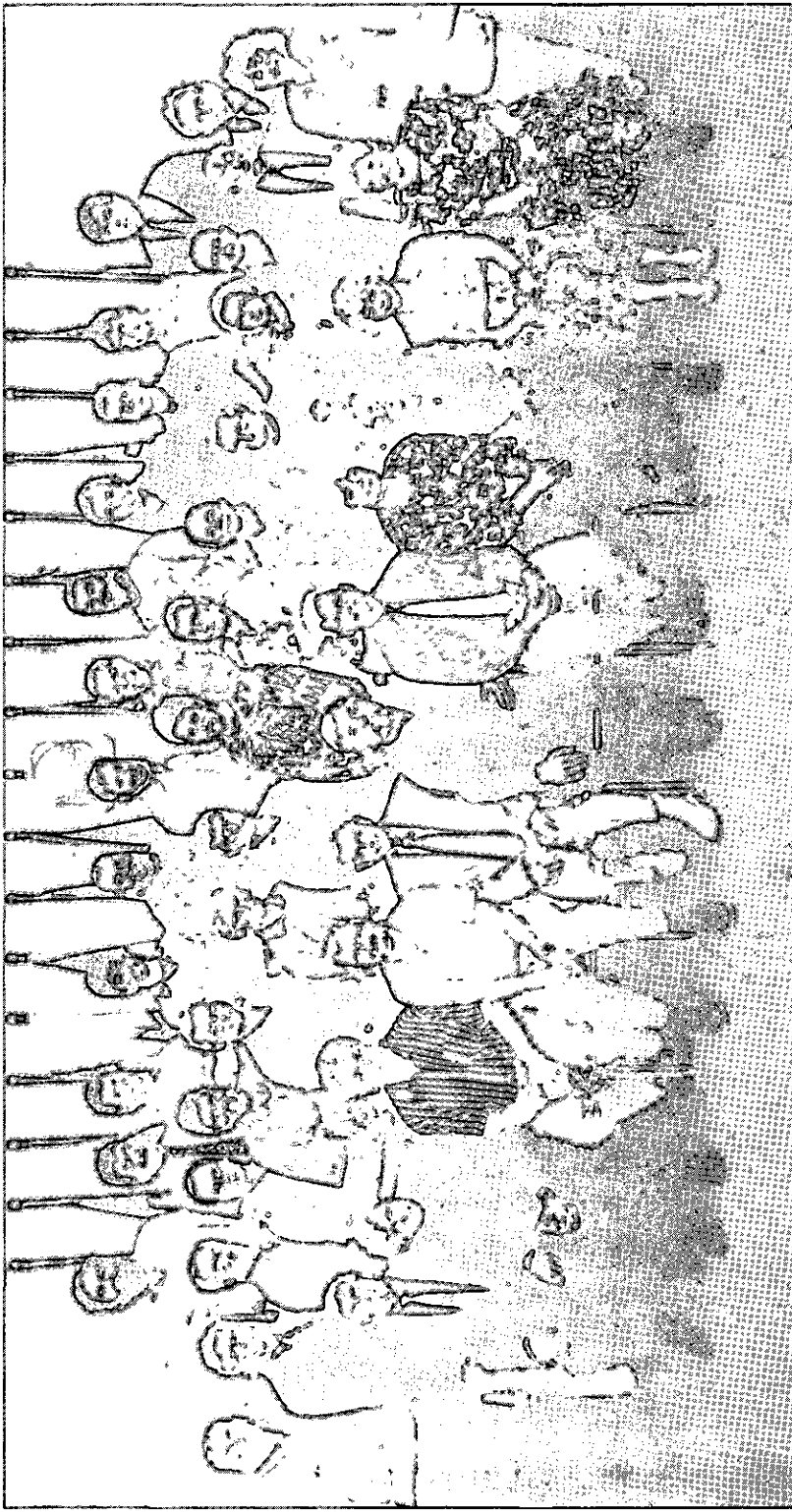
- Hareide, N.R. Møre and Romsdal Research Foundation, Section MRFH, Sjømannveien 27, 6000 Ålesund

RUSSIAN FEDERATION

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- Gorchinsky, K.V. PINRO, 6 Knipovich Street, Murmansk, 183763
- Kovalev, S. " " " " " "
- Serebryakov, V.P. Institute of Marine Research, P. O. Box 1870, N-5024, Bergen Nordnes, Norway

OBSERVERS

- Mayo, R.K. U.S. Dept. of Commerce/NOAA, Northeast Fisheries Center, National Marine Fisheries
 Service, Woods Hole, MA 02543, USA



(Left to Right)

Front Row:

L. Chepel, D. M. Carlsson, S. Kovalev, D. B. Atkinson, V. P. Serebryakov, C. A. Bishop, H. Siegstad, S. Narayanan, U. Skúladóttir, B. Cruikshank

Second Row:

H. Champion, M. Stein, A. Avila de Melo, W. R. Bowering, H. P. Cornus, K. V. Gorchinsky, V. A. Rikhter, A. Vazquez, H. J. Rätz, O. A. Jørgensen, M. A. Showell, A. Battaglia, M. L. Godinho, D. Power, T. Amaratunga, H. Lassen, D. Auby

Third Row:

E. Murphy, A. Astudillo, D. E. Stansbury, K. Yokawa, E. de Cárdenas, K. F. Drinkwater, P. Kannevorff, L. Moros, K. H. Nygaard, M. Anderson, P. Lyster, G. Glenn

Annex 2. Agenda

Scientific Council Meeting

Dartmouth, Nova Scotia, Canada

2-16 June 1993

I. Opening (Chairman: V. P. Serebryakov)

1. Appointment of rapporteur
2. Adoption of agenda
3. Attendance of observers
4. Plan of work
5. Report of proxy votes (by Executive Secretary)

II. Fishery Science (STACFIS Chairman: H. P. Cornus)

1. General review of catches and fishing activity in 1992
2. Review of recommendations from 1992 meetings
3. Environmental research (Subcommittee Chairman: M. Stein)
 - a) Chairman's report
 - b) Special Session September 1994
 - c) Marine Environmental Data Service (MEDS) Report for 1992
 - d) Review of environmental studies in 1992
 - e) Overview of environmental conditions in 1992
 - f) National representatives
 - g) Joint Russian/German data evaluation (ICNAF/NAFO data, status report)
 - h) Other matters
4. Stock assessments
 - a) Review of assessment methods to be used
 - b) Stocks within or partly within the Regulatory Area, as requested by the Fisheries Commission with the concurrence of the Coastal State (Attachment 1):
 - Cod (Div. 3NO; Div. 3M)
 - Redfish (Div. 3LN; Div. 3M)
 - American plaice (Div. 3LNO; Div. 3M)
 - Witch flounder (Div. 3NO)
 - Yellowtail flounder (Div. 3LNO)
 - Capelin (Div. 3NO)
 - Squid (Subareas 3 and 4)
 - [Note also Attachment 1, Item 3 concerning cod in Div. 2J+3KL]

- c) Stocks within the 200-mile fishery zone in Subareas 2, 3 and 4, as requested by Canada (Attachment 2):
 - Greenland halibut (Subarea 2 and Div. 3KL)
 - Roundnose grenadier (Subareas 2 and 3)
 - Silver hake (Div. 4VWX)
 - [Note also Attachment 2, Item 3 concerning cod in Div. 2]+3KL]
 - d) Stocks within the 200-mile fishery zone in Subarea 1 and at East Greenland as requested by Denmark on behalf of Greenland (Annex 3):
 - Redfish (Subarea 1) (if possible, by species)
 - Northern shrimp (in Denmark Strait and off East Greenland)
 - Other finfish and invertebrates (Subarea 1)
 - e) Stocks overlapping the fishery zones in Subareas 0 and 1, as requested by Canada and by Denmark on behalf of Greenland (Attachments 2 and 3):
 - Greenland halibut (Subareas 0 and 1)
 - Roundnose grenadier (Subareas 0 and 1)
 - Northern shrimp (Subareas 0 and 1)
5. Fisheries Commission requests
 6. Ageing techniques and validation studies
 - a) Report on methods of ageing silver hake otoliths
 - b) Reports on the otolith exchanges of American plaice and Greenland halibut
 - c) Other ageing and validation studies reported
 7. Gear and selectivity studies
 - a) Reports on gear and selectivity studies
 - b) Proposals for gear and selectivity studies
 8. Investigations on the relationship between acoustic biomass estimates and biomass estimates based on other methods
 9. Review of SCR and SCS documents not considered in items 1 to 8 above
 10. Other matters
 - a) Progress report on the 13-15 September 1993 Special Session; Symposium on "Gear Selectivity/Technical Interactions in Mixed Species Fisheries" (co-conveners: S. A. Murawski (USA) and P. A. M. Stewart (EEC-UK))
 - b) Progress report on the Special Session in 1994; Symposium on "Impact of Anomalous Oceanographic Conditions at the Beginning of the 1990s in the Northwest Atlantic on the Distribution and Behaviour of Marine Life" (co-conveners: E. Buch (Denmark), M. Sinclair (Canada) and M. Stein (EEC-Germany))

- c) Progress report on the Special Session in 1995: joint NAFO/ICES Symposium on "The Role of Marine Mammals in the Ecosystem" (co-conveners: J. Sigurjonsson (Iceland) and G. B. Stenson (Canada))
- d) Review of arrangements for conducting stock assessments and documentation of assessments
- e) Review of report by the Joint ICES/NAFO working group on harp and hooded seals
- f) Other business

III. Research Coordination (STACREC Chairman: A. Avila de Melo)

1. Fishery statistics

- a) Progress report on Secretariat activities in 1992/93
 - i) Acquisition of STATLANT 21A for 1992 and of STATLANT reports for recent years
 - ii) Acquisition of statistical information from other NAFO Standing Committees
 - iii) Publication of statistical information
- b) Deadlines for submission of STATLANT 21A and 21B data
- c) Preparation for the CWP 16th Session: review of the logbook and STATLANT 21B forms

2. Fundamental research programs for stock assessment

- a) Research activities and costs in 1992/93
 - i) Review of National Sampling Programs
 - ii) Review of survey activities
 - iii) Coordination of surveys
- b) Assessment data needs for 1994/95 and respective budgets
 - i) Compiling of commercial fisheries data by fleet
 - ii) Regular survey schemes by stock

3. Non-traditional fishery resources in the NAFO Area

- a) Current development of the fisheries
- b) Available data and research priorities

4. Proposals for scientific tasks of observers in the pilot observer program

5. Other matters
 - a) List of fishing vessels for 1992
 - b) Tagging activities reported for 1992
 - c) Updating of conversion factors used to get rounded fresh weights
 - d) Other business

IV. Publications (STACPUB Chairman: H. Lassen)

1. Review of STACPUB membership
2. Review of scientific publications since June 1992
3. Production costs and revenues for Scientific Council publications
 - a) Publication costs and revenues
 - b) Microfiche project
 - c) Limiting the number of pages printed at the Secretariat
4. Promotion and distribution of scientific publications
 - a) Publicity and response regarding the Journal
 - b) Invitational papers for the Journal
 - c) Proposed award scheme for exceptional papers
5. Editorial matters regarding scientific publications
 - a) Editorial activities
 - b) Progress review: Journal issue of 1989 Special Session
 - c) Review of general editorial process
 - d) Review of Editorial Board
6. Papers for possible publication
 - a) Review of proposals resulting from the 1992 meetings
 - b) Review of contributions to the 1993 meetings
7. Other matters

V. Rules of Procedure

- a) New Rule 4.3 on deadline dates for STATLANT 21A and 21B of 15 May and 30 June respectively
- b) Ratification of an outstanding addition to Rule 3 (see Attachment 4)

VI. Collaboration with other Organizations

1. Joint ICES/NAFO Working Group on harp and hooded seals
2. Sixteenth Session of CWP, 1994
3. Scientific Council invitation to other international bodies

VII. Arrangements for Special Sessions

VIII. Future Scientific Council Meetings, 1993 and 1994

IX. Nomination and election of Officers to the Scientific Council and its Standing Committees (except STACFIS)

X. Request for November Scientific Council Meeting on shrimp (Attachment 5)

XI. Other Matters

XII. Adoption of Reports

1. Committee reports from this meeting (STACFIS, STACREC, STACPUB)
2. Scientific Council Report, June 1993 (receipt and adoption)

XIII. Adjournment

**Attachment 1. Fisheries Commission's Request for Scientific Advice on
Management in 1994 of Certain Stocks in Subareas 3 and 4**

1. The Fisheries Commission with the concurrence of the Coastal State as regards the stocks below which occur within its jurisdiction, requests that the Scientific Council, at a meeting in advance of the 1993 Annual Meeting, provide advice on the scientific basis for the management of the following fish and invertebrate stocks or groups of stocks in 1994:
 - Cod (Div. 3NO; Div. 3M)
 - Redfish (Div. 3LN; Div. 3M)
 - American plaice (Div. 3LNO; Div. 3M)
 - Witch flounder (Div. 3NO)
 - Yellowtail flounder (Div. 3LNO)
 - Capelin (Div. 3NO)
 - Squid (Subareas 3 and 4)

2. The Commission and the Coastal State request the Scientific Council to consider the following options in assessing and projecting future stock levels for those stocks listed above:
 - a) For those stocks subject to analytical dynamic-pool type assessments, the status of the stock should be reviewed and management options evaluated in terms of their implications for fishable stock size in both the short and long term. In those cases where present spawning stock size is a matter of scientific concern in relation to the continuing productive potential of the stock, management options should be evaluated in relation to spawning stock size. As general reference points the implications of fishing at $F_{0.1}$, F_{1990} and F_{max} in 1994 and subsequent years should be evaluated. The present stock size and spawning stock size should be described in relation to those observed historically and those expected in the longer term under this range of options. Opinions of the Scientific council should be expressed in regard to stock size, spawning stock sizes, recruitment prospects, catch rates and TACs implied by these management strategies for 1994 and the long term. Values of F corresponding to the reference points should be given and their accuracy assessed.

 - b) For those stocks subject to general production-type assessments, the time series of data should be updated, the status of the stock should be reviewed and management options evaluated in the way described above to the extent possible. In this case, the general reference points should be the level of fishing effort or fishing mortality (F) which is calculated to be required to take the MSY catch in the long term and two-thirds of that effort level.

- c) For those resources of which only general biological and/or catch data are available, no standard criteria on which to base advice can be established. The evidence of stock status should, however, be weighed against a strategy of optimum yield management and maintenance of stock biomass at levels of about two-thirds of the virgin stock.
- d) Spawning stock biomass levels that might be considered necessary for maintenance of sustained recruitment should be recommended for each stock.
- e) Presentation of the result should include the following:
 - i) for stocks for which analytical dynamic-pool type assessments are possible:
 - a graph of yield and fishing mortality for at least the past 10 years.
 - a graph of spawning stock biomass and recruitment levels for at least the past 10 years.
 - a graph of catch options for the year 1994 over a range of fishing mortality rates (F) at least from $F_{0.1}$ to F_{max} .
 - a graph showing spawning stock biomass at 1.1.1995 corresponding to each catch option.
 - graphs showing the yield-per-recruit and spawning stock per-recruit values for a range of fishing mortality.
 - ii) for stocks for which advice is based on general production models, the relevant graph of production on fishing mortality rate or fishing effort.

In all cases the three reference points, actual F, F_{max} and $F_{0.1}$ should be shown.

- 3. The Fisheries Commission with the concurrence of the Coastal State requests that the Scientific Council continue to provide information, if available, on the stock separation in Div. 2J+3KL and the proportion of the biomass of the cod stock in Div. 3L in the Regulatory Area and a projection if possible of the proportion likely to be available in the Regulatory Area in future years. Information is also requested on the age composition of that portion of the stock occurring in the Regulatory Area.

**Attachment 2. Canadian Request for Scientific Advice on Management
in 1994 of Certain Stocks in Subareas 0 to 4**

1. Canada requests that the Scientific Council, at its meeting in advance of the 1993 Annual Meeting, provide advice on the scientific basis for the management of the following fish and invertebrate stocks in 1994:

Greenland halibut (Subarea 2 and Div. 3K and 3L)
Roundnose grenadier (Subareas 2 and 3)
Silver hake (Div. 4V, 4W and 4X)

It is also suggested that, subject to the concurrence of Denmark (Greenland), the Scientific Council, prior to the 1993 Annual Meeting of NAFO, provide advice on the scientific basis for management in 1994 of the following stocks:

Shrimp (Subareas 0 and 1)
Greenland halibut (Subareas 0 and 1)
Roundnose grenadier (Subareas 0 and 1)

The Scientific Council has noted previously there was no biological basis for making two separate assessments for the Greenland halibut throughout Subareas 0-3. The Council is therefore asked, subject to concurrence of Denmark (Greenland) as regards Subarea 1, to provide an overall assessment of the total stock and comment on its management, including any further information on the questions asked in June 1992.

- a) Should any overall TAC be sub-divided by NAFO Divisions (or combination of Divisions)?
- b) What would be the implications of changing the current geographic distribution of catches?
- c) What proportion of the stock occurs within the waters under the jurisdiction of the Coastal States?
2. Canada requests the Scientific Council to consider the following options in assessing and projecting future stock levels for those stocks listed above:
- a) For those stocks subject to analytical dynamic-pool type assessments, the status of the stock should be reviewed and implications of continuing to fish at $F_{0.1}$ in 1994 and subsequent years should be evaluated. The present stock size should be described in relation to those observed historically and those to be expected at the $F_{0.1}$ level in both the short and long term. In those cases where present spawning stock size is a matter of scientific concern in relation to the continuing productive potential of the stock, management options should be evaluated in relation to spawning stock size. All results should be expressed in terms of stock sizes, catch rates and TACs implied for 1994 and the long term.
- b) For those stocks subject to general production-type assessments, the status of the stock should be reviewed and management options evaluated in the way described above to the extent possible. In this case, the general reference point should be the level of fishing effort (F) which is two-thirds that calculated to be required to take the MSY catch in the long term.

- c) For those resources on which only general biological and/or catch data are available, no standard criteria on which to base advice can be established. The evidence on stock status should, however, be weighed against a strategy of optimum yield management and maintenance of stock biomass at levels of about two-thirds that of the virgin stocks.
3. The Scientific Council is requested to review the status of the cod stock in Divisions 2J+3KL and to provide estimates of the current size of the total biomass and spawning stock biomass, together with a description of recent trends. The Council is asked further to provide estimates of the immediate and long-term outlook for the abundance of this stock, including both total and spawning biomass.

B. Rawson
Deputy Minister
Department of Fisheries and Oceans
Ottawa, Canada

**Attachment 3. Denmark (Greenland) Request for Scientific Council on
Management of Certain Stocks in 1994**

1. Denmark, on behalf of Greenland, requests the Scientific Council of NAFO in advance of the 1993 Annual Meeting to consider the following stocks occurring in Subarea 1:
 - i) Redfish (by species, if possible)
 - ii) Any other stock of invertebrates and finfish of commercial interest, for which data allow a status report

It is also suggested, subject to the concurrence of Canada, that the following stocks overlapping Subareas 0 and 1 be included in the considerations of the Scientific Council:

- i) Greenland halibut
- ii) Roundnose grenadier
- iii) Northern shrimp (*Pandalus borealis*)

Further, in cooperation with ICES, the Scientific Council is requested to analyse the following stock in the Denmark Strait and off East Greenland:

- i) Northern shrimp (*Pandalus borealis*)

The Scientific Council is requested to provide advice on the status and on the biological basis for management in 1994 and as many years forward as the data allow for all stocks mentioned above.

2. In the analyses on which management advice will be based, the following should be included:

Considering uncertainties of stock delimitations for Greenland halibut, the Scientific Council in 1992 advised that TAC's be set by Subarea/Divisions and by inshore/offshore areas to ensure an evenly exploitation on various stock components.

Denmark (Greenland) therefore requests the Scientific Council to provide advice for Greenland halibut on the following:

- a) Analysis of existing information on stock delimitation in Subareas 0, 1, 2 and 3.
- b) Allocate TAC's to appropriate Subareas/Divisions and inshore/offshore areas to avoid excessive fishery pressure on single stock components.

For Northern shrimp in Subareas 0+1 the biological and practical implications of combining all areas of stock distribution (i.e. including Subarea 1 north of 71°N and Subarea 1 inshore) for stock assessment purposes should be considered.

For Northern shrimp in Subareas 0+1 and in the Denmark Strait

- a) analysis of the effects on the stocks of actual catches and the magnitude of shrimp discards should be continued if data so allow:

- b) the by-catch of small finfish (notably redfish and Greenland halibut) in the fisheries for shrimp should be evaluated, and the effect of the by-catch on these fish stocks should be analyzed if data so allow.
3. The Scientific Council should feel free to report on such other invertebrates and finfish stocks in Subarea 1 and on such other scientifically based management options for the above-mentioned Subarea 1 stocks, as it feels applicable.

E. Lemche
Grønlands Hjemmestyre, Danmarkskontoret
Copenhagen N, Denmark

Attachment 4. Proposals for Rules of Procedure

Given below are relevant minutes of the 1984 Annual Meeting of the Scientific Council. The Scientific Council proposed an addition to Rule 3 of the Rules of Procedure for ratification by Contracting Parties prior to January 1985.

Note: (by Executive Secretary)

This rule had not been submitted to the Contracting Parties for ratification as Article X.3 of the Convention reads:

"The Scientific Council shall adopt and amend, as occasion may require, rules for conduct of its meetings and for the exercise of its functions."

VI. OTHER MATTERS

1. Provision of Scientific Advice at Meetings in the Absence of the Chairman and Vice-Chairman

The problem which arose at the Special Meeting of the Scientific Council in January 1984, when neither the Chairman or the Vice-Chairman could be present, was discussed, with a view toward establishing a suitable guideline for similar situations in the future. After considering various options and in the absence of a quorum, the Scientific Council requested the Executive Secretary to submit the following proposed addition to Rule 3 of the Rules of Procedure of the Scientific Council for ratification by Contracting Parties prior to its meeting in January 1985: "In the circumstance that both the Chairman and Vice-Chairman of the Scientific Council are absent at the time and place of a scheduled Scientific Council Meeting, a Scientific Council representative shall be appointed as interim chairman by consensus among the Scientific Council representatives, or their alternates, who are present". The rule will be numbered 3.7.

**Attachment 5. Denmark (on behalf of Greenland) Request for Reinstatement
of a Mid-term Meeting of Northern Shrimp Stocks in Subarea 0+1**

Denmark, on behalf of Greenland, requests that the Scientific Council, at its meeting in advance of the 1993 Annual Meeting, consider the following proposal regarding the reinstatement of a mid-term meeting for assessment of Northern shrimp stocks in SA 0+1 and Denmark Strait.

From 1976 to 1978 the Standing Committee on Research and Statistics of ICNAF and from 1979 to 1987 the Scientific Council of NAFO organized mid-term meetings for the assessment of shrimp in SA 0+1 and (from 1980) in Denmark Strait. The rationale was based on experience from other shrimp stocks which showed that the species could experience sudden changes in abundance and distribution due to combinations of fishing effort and environmental changes. In order to detect such changes as soon as possible and to incorporate the findings in the provision of advice, a mid-term meeting was considered necessary. The alternative of conducting shrimp assessments at the June meeting would result in advising catch levels for the coming year based on data from the year before, thereby excluding the most recent information on stock status (i.e. current year data).

In 1987, the Scientific Council concluded that special meetings of the Council in January did not seem to allow more precise advice to be provided than would be possible in the previous June. This conclusion was reached based on the recognition that progress in determining reliable abundance and recruitment estimates was proving to be difficult and that the previously used indices (commercial catch rates and photographic survey results) were regarded as being less useful. Consequently, it was agreed to provide advice for 1988 at the September 1987 Meeting and for 1989 at the June 1988 Meeting. It was further agreed that, if it can be established that a significant improvement in the accuracy of advice can be obtained, a return to mid-term meetings would be appropriate.

At the June 1992 Meeting of the Scientific Council, it was concluded that the data on which advice for the SA 0+1 shrimp stock is based had improved considerably, especially since a time series of random-stratified trawl surveys and a better knowledge on size-at-age were available. At the same meeting, a reduction in TAC was advised not only for 1993, but also for the remainder of 1992, due to a significant decrease in stock biomass, concern for the level of spawning biomass, and indications of a lack of new recruitment. The 1992 survey data, obtained in July-August, have not yet been considered by NAFO, but a preliminary review of data indicated that the biomass in the summer of 1992 remained at a level similar to those observed prior to 1991 and that prospects for recruitment are more positive. If this information had been available for the Scientific Council at the 1992 meeting, the status of the resource would probably have been viewed differently.

It is therefore proposed that annual, mid-term meetings be reinstated to insure that assessments are based on the most recent data available. The first should take place in late-November 1993 with a review of the June 1993 assessment, using the 1993 research survey results and as much of the current fishery data as possible. By the same argument, the shrimp stock in Denmark Strait should be reviewed at this time. The assessment of this stock involves the same experts who conduct the assessment of the SA 0+1 shrimp stock.

Henrik Leth

Aalisarnermut Piniarnermut, Nunalerinermullu Pisortaqarfik
Direktoratet for Fangst, Fiskeri og Landbrug

Annex 3. Scientific Publications

Journal of Northwest Atlantic Fishery Science

This publication began after the ICNAF Research Bulletin which terminated with No. 14 in September 1979. Each annual volume consists of one or more numbers.

Vol. 1	-	One number, 10 papers, 112 pages (Published December 1980)
Vol. 2	-	One number, 10 papers, 76 pages (Published October 1981)
Vol. 3	-	Two numbers, 17 papers, 180 pages (Published May and December 1982)
Vol. 4	-	One number, special issue on early stages of marine fishes, 424 pages (Published July 1983)
Vol. 5	-	Two numbers, 26 papers, 224 pages (Published January and November 1984)
Vol. 6	-	Two numbers, 17 papers, 179 pages (Published June and December 1985)
Vol. 7	-	Two numbers, 18 papers, 177 pages (Published December 1986 and December 1987)
Vol. 8	-	One number, 7 papers, 88 pages (Published December 1988)
Vol. 9	-	Two numbers, 13 papers, 159 pages (Published September and December 1989)
Vol. 10	-	One number, special issue of an invited review paper, 57 pages (Published December 1990)
Vol. 11	-	One number, 7 papers, 80 pages (Published February 1991)
Vol. 12	-	One number, 7 papers, 84 pages (Published January 1992)
Vol. 13	-	One number, 7 papers, 114 pages (Published December 1992)
Vol. 14	-	One number, 14 papers, 160 pages (Published December 1992)

NAFO Scientific Council Studies

This publication replaced ICNAF Special Publication, which terminated with Number 11 (revised) in August 1980, and ICNAF Selected Papers, which terminated with Number 6 in January 1980. One or more numbers are published annually.

No. 1	-	Miscellaneous papers (11), 101 pages (Published March 1981)
No. 2	-	Manual on groundfish surveys, 56 pages (Published December 1981)
No. 3	-	Miscellaneous papers (8), 82 pages (Published April 1982)
No. 4	-	Papers on remote-sensing applications to fishery science (12), 98 pages (Published September 1982)
No. 5	-	Papers on environmental conditions in 1970-79 (12), 114 pages (Published December 1982)
No. 6	-	Miscellaneous papers (8), 104 pages (Published December 1983)
No. 7	-	Miscellaneous papers (9), 98 pages (Published August 1984)
No. 8	-	Miscellaneous papers (12), 96 pages (Published April 1985)
No. 9	-	Papers on squid (17), 180 pages (Published November 1985)
No. 10	-	Miscellaneous papers (9), 112 pages (Published August 1986)
No. 11	-	Miscellaneous papers (11), 127 pages (Published August 1986)
No. 12	-	Miscellaneous papers (8), 90 pages (Published March 1988)
No. 13	-	Miscellaneous papers (5), 82 pages (Published November 1989)
No. 14	-	Miscellaneous papers (6), 74 pages (Published May 1990)
No. 15	-	Miscellaneous papers (7), 68 pages (Published May 1991)
No. 16	-	Papers on Management Under Uncertainties (22), 190 pages (Published November 1991)

NAFO Scientific Council Reports

This publication (issued annually) replaced ICNAF Redbook which terminated with the issue in December 1979.

1980	-	Reports of seven meetings in 1979 and 1980, 190 pages (Published December 1980)
1981	-	Reports of four meetings in 1981, 148 pages (Published December 1981)
1982	-	Reports of two meetings in 1982, 110 pages (Published December 1982)
1983	-	Reports of three meetings in 1983, 152 pages (Published December 1983)
1984	-	Reports of three meetings in 1984, 126 pages (Published December 1984)
1985	-	Reports of three meetings in 1985, 146 pages (Published December 1985)
1986	-	Reports of three meetings in 1986, 156 pages (Published December 1986)
1987	-	Reports of three meetings in 1987, 138 pages (Published December 1987)
1988	-	Reports of two meetings in 1988, 150 pages (Published December 1988)
1989	-	Reports of two meetings in 1989, 180 pages (Published December 1989)

- 1990 - Reports of two meetings in 1990, 188 pages (Published December 1990)
 1991 - Reports of two meetings in 1991, 164 pages (Published December 1991)
 1992 - Reports of four meetings in 1992, 212 pages (Published December 1992)

NAFO Statistical Bulletin

This publication replaced ICNAF Statistical Bulletin which terminated with Vol. 28 (revised). The volume numbering continues the series.

- Vol. 29 - Fishery statistics for 1979, 290 pages (Originally published July 1981; revised edition published November 1984)
 Vol. 30 - Fishery statistics for 1980, 280 pages (Originally published August 1982; revised edition published October 1984)
 Vol. 31 - Fishery statistics for 1981, 276 pages (Originally published September 1983; revised edition published March 1985)
 Vol. 32 - Fishery statistics for 1982, 284 pages (Published December 1984)
 Vol. 33 - Fishery statistics for 1983, 280 pages (Published December 1985)
 Vol. 34 - Fishery statistics for 1984, 304 pages (Published December 1986)
 Vol. 35 - Fishery statistics for 1985, 322 pages (Published December 1987)
 Vol. 36 - Fishery statistics for 1986, 304 pages (Published October 1989)
 Vol. 37 - Fishery statistics for 1987, 295 pages (Published April 1990)
 Vol. 38 - Fishery statistics for 1988, 307 pages (Published February 1991)
 Vol. 39 - Fishery statistics for 1989, 300 pages (Published February 1993)

NAFO List of Fishing Vessels

This triennial publication replaced ICNAF List of Fishing Vessels which terminated with the 1977 list in April 1980.

- 1980 - List for 1980, 48 pages (Published March 1983)
 1983 - List for 1983, 43 pages (Published April 1985)
 1986 - List for 1986, 48 pages (Published July 1988)
 1989 - List for 1989, 44 pages (Published January 1992)

Inventory of Sampling Data

The first publication under the aegis of NAFO was published in April 1989. The "Inventory of Sampling Data 1979-84" (250 pages) was prepared in the same format as the previous ICNAF inventory.

- 1985-89 - 265 pages (Published March 1993).

NAFO Index of Meeting Documents

This publication contains lists of all documents along with a subject and author index of Scientific Council documents issued during a 5-year period.

- 1979-84 - 146 pages (Published March 1985)
 1985-89 - 116 pages (Published December 1990)

Scientific Council Meeting

The Scientific Council met at the Holiday Inn, Dartmouth, Nova Scotia, Canada, during 7-10 September 1993. Representatives attended from Canada, Denmark (in respect of the Faroe Islands and Greenland), European Economic Community (Denmark, France, Germany, Portugal, Spain and United Kingdom), Iceland, Japan and Russian Federation. In the absence of the Chairman V. P. Serebryakov (Russian Federation), the Vice-Chairman, H. Lassen (EEC-Denmark), chaired this meeting. The Assistant Executive Secretary, T. Amaratunga, was the Rapporteur. (Annex 1)

Full proceedings of this meeting are presented in *NAFO Scientific Council Reports, 1993*.

The agenda (Annex 2) was adopted with the understanding that the Fisheries Commission might have additional specific requests for the Council during this meeting. Special note was made to items - Shrimp in Div. 3M, Special Shrimp Meeting in November, Procedures for the June 1994 Scientific Council Meeting.

There were no formal requests from the Fisheries Commission received by the Council at this meeting. However, the Chairman attended several meetings of the Standing Committee on International Control (STACTIC) of the Fisheries Commission and responded directly to some of the questions posed. The Council noted these would be reflected in the report of the Fisheries Commission.

The concluding session was called to order at 1200 hr on 10 September 1993, and the Council considered and adopted the reports of the Standing Committees and the Scientific Council Report of this meeting.

Brief summary of the Standing Committees' Reports and other matters considered by the Scientific Council are given below.

FISHERY SCIENCE

Stock Assessments

Silver Hake in Divisions 4V, 4W and 4X

The Council noted that the assessment of silver hake stock in Div. 4VWX which was deferred from the 2-16 June 1993 Meeting was completed, and endorsed the assessment as presented in the STACFIS report. The Summary Sheet as prepared for the assessment is given below.

Silver Hake in Divisions 4V, 4W and 4X

Year	1986	1987	1988	1989	1990	1991	1992	1993
Recommended TAC	100	100	161	235	-	100	105	75
Agreed TAC	100	100	120	135	135	100	105	86
Reported catches*	83	62	74	91	69 ¹	68 ¹	32 ¹	29 ¹

Sp. stock biomass								
Recruitment (age 1) ³	1 880	840	822	1 274	1 045	642	400 ²	1 200 ²
Mean F (ages 3-5)	0.99	0.72	0.75	1.44	0.87	1.05	0.32	

¹ Provisional.² Estimated.³ Numbers in '000 000.

* Maximum in 1973 - 300 000 tons.

Weights in '000 tons

Fishing Mortality: Fully recruited F for ages 3-5 was 0.32 in 1992, approximately 33% of that estimated for 1991.

Recruitment: The 1991 year-class is thought to be below average, while the 1992 year-class is estimated to be above average.

State of Stock: ADAPT analysis shows age 1+ and 2+ biomass for this stock to be the lowest in the time series 1977-93.

Commercial standardized catch rates have dropped since 1989, but remained stable over 1992-93 at approximately 40% of the 1989 level. Results of July research vessel surveys showed declining numbers and biomass from 1986-92. The 1993 survey showed a moderate increase in numbers and biomass.

Forecast for 1994:

Option Basis	Predicted catch (1994)	Predicted SSB (1.1.1995)
$F_{0.1} = 0.72$	51 000	
$F_{92} =$		
$F_{max} =$		

Recommendations: The retrospective analysis using ADAPT methodology indicated a consistent tendency for F estimates to increase by 40 to 60% for a particular year when additional years of data were added. There is no reason to expect that the current estimate of F in 1992 will not, in future, also appear to be an underestimate. It is likely, therefore, that the projected catch at $F_{0.1}$ in 1994 of 51 000 tons is also overestimated to some extent. Unfortunately, the extent of this is difficult to determine.

Special Comments: The year-classes which may be overestimated by ADAPT are those of 1990 and older which will account for about 45% of the projected catch in 1994.

Shrimp in Division 3M

The Meeting considered information pertaining to the status of the shrimp (*Pandalus borealis*) resource on Flemish Cap (Div. 3M). Although the presence of shrimp on Flemish Cap has been known for many years, no significant shrimp commercial effort was reported from the area before spring 1993. Since then, a multi-national fishery has developed with removals of shrimp in the order of 20 000 tons up to late-August.

Fishery information from Canada, Greenland, Norway, Faroe Islands and Iceland indicated that effort was distributed around the Cap along the 400 m contour. Catch rates generally declined from May to early-July 1993 and stabilized somewhat thereafter. Size composition data from all countries were similar, showing three size groups of males and one of females. Overall sizes ranged between 14 and 30 mm (oblique carapace length) and included at least 5 ages. Females were not ovigerous from May to July indicating that the egg bearing period lasts from about August to March. By-catch consisted primarily of small redfish (14 cm) and Canadian observer data indicated levels between 10-15% of the total catch in April-June, increased to higher levels in July. By-catch of other commercial species was low during that period.

It was noted the general ocean circulation in the Flemish Cap area is characterized by an anticyclonic gyre, which could play an important role in the retention of shrimp larvae. Also, hydrographic data showed a cooling trend since 1988, which could favour the survival of shrimp. EEC groundfish surveys from 1988 to 1993 showed that the abundance from 1991 to 1993 was substantially higher than the 1988-90 period. The increase appeared to be due to the recruitment of at least one strong year-class produced in the late-1980s.

At present, it is not possible to conclude that a fishery at or near the 1993 catch level is sustainable in the Flemish Cap area and STACFIS has not sufficient data to provide a basis for the calculation of an initial TAC. However, based on the uncertainties mentioned above, concern was expressed for the level of removals in 1993 and a cautious approach to exploitation should be considered.

The by-catch of small redfish was considered as a potential for significantly impacting the redfish resource in this area. STACFIS recommends that, effective immediately, sorting grates be mandatory in shrimp fishing operations on Flemish Cap as a means of minimizing the by-catch of redfish and other fish species.

Workshop on Assessment Methods

The Council agreed with the STACFIS view that a special workshop on assessment methods should be considered as and when the need arises.

Data Availability for Assessment of Northern Shrimp in November 1993

With respect to the proposal from Denmark/Greenland to have a mid-term meeting for assessment of Northern Shrimp in Subareas 0 and 1, and Denmark Strait, the Council noted that STACFIS had reviewed the data available, and decided to set a meeting. The Council accordingly endorsed the recommendation to call a meeting of the Scientific Council in November 1993 at NAFO Headquarters.

Arrangements for conducting stock assessments and documentation

STACFIS had noted that an important aspect of stream-lining the assessment work at the June meetings would be to have all the necessary data in advance of the meeting. Recognizing the importance of making every effort to improve the data transference process between the laboratories and NAFO Headquarters, the Council endorsed the STACFIS recommendation that the Secretariat acquire a computerized e-mail system.

The Council agreed that the Scientific Council mid-term meeting on Northern Shrimp be scheduled for 19-23 November 1993. With respect to holding these mid-term meetings annually, the Council agreed to review the results of the proposed meeting of November 1993 at its meeting in June 1994 before a decision was made.

The Council took note of the STACFIS discussion of rearranging the assessment work, and considered the proposals made would be preliminary steps toward improving the efficiency in the work of the Council.

RESEARCH COORDINATION

Acquisition of STATLANT 21 Data and Publication of Statistical Information

The Council agreed with STACREC that the publication of *NAFO Statistical Bulletin* Vol. 40 with the 1990 data should now be completed, in the absence of data for EEC-France (M) and France (SP). It was noted that the Volume 39 with the 1989 data was also published without data for EEC-France (M).

The Council agreed that the publication of *NAFO Statistical Bulletin* Vol. 41 also should proceed when the 1991 data as stated in the STACREC report become available.

Acquisition of Statistical Information from Other Standing Committees

The Council was pleased some progress was made in understanding the status of working papers in other Standing Committees. The Council believed that this communication process will assist in obtaining the relevant information for the work of the Scientific Council.

Note by Executive Secretary: The status of working papers is that those data could be used by other Committees if the working papers were incorporated/converted into official documents.

Assessment Data Needs for 1994/95 and Respective Budget

The Council noted that since the June 1993 Meeting, new information on conducting research surveys was available from the Greenland Fisheries Institute, which indicated an annual expenditure of about CAN \$5.3 million. The cost of Japanese research was also summarized from the joint Greenland/Japan survey at CAN \$1 million. The Council noted that relevant data had been presented by the Russian Federation to the Fisheries Commission. At present, taking into account that only two Contracting Parties had provided comprehensive documentation on this issue, the Council was unable to provide a response to the Fisheries Commission request.

Non-Traditional Fishery Resources in the NAFO Area

The Council noted STACREC had reviewed the recent skate catch data. The Council recognized the importance of considering these and other non-traditional fishery data.

Proposals for Scientific Tasks of Observers in the Pilot Observer Program

The Council was pleased that the recommendation from the June 1993 Meeting was adopted by the Fisheries Commission, with the modifications as presented in the STACREC report.

Updating of Conversion Factors Used to get Round Fresh Weight

The Council was informed by STACREC that FAO was currently conducting a survey to revise the previously published conversion factors used by national fleets. This information was thought to be of some use to the Council and these data should be obtained before any further work on compilation of conversion factors is attempted.

Trawl Survey for Greenland Halibut

At its June 1993 Meeting, the Scientific Council recommended that consideration be given to the implementation of a joint multinational trawl survey for Greenland halibut from Davis Strait to the Eastern Grand Bank and Flemish Cap. The Council noted STACREC considered the data provided at this meeting by Canada and Japan/Greenland on current survey activity with additional estimates of the number of required days to complete the proposed survey. It was estimated that about 250 vessel-days would be needed to cover all Divisions from Div. 0A in the north to Div. 3N in the south. The Council noted that it was indicated that funding would not be provided in the foreseeable future to complete this proposed survey. The Council agreed that until such a survey is conducted, an adequate assessment of stock size and its relative distribution is unlikely.

RULES OF PROCEDURE

There were no Rules of Procedure considered at this meeting.

COLLABORATION WITH OTHER ORGANIZATIONS

Scientific Council Representatives to CWP 16th Session in July 1994

The Council considered and endorsed the recommendation of STACREC regarding the 16th Session of CWP scheduled for July 1994 in Madrid, Spain.

The Council noted the Assistant Executive Secretary was invited by FAO to review the NAFO/FAO database discrepancies.

Scientific Council Invitations to Other International Bodies

It was noted that the status of the Scientific Council and the busy program of work it carries out was often quite different and not relevant to other international bodies. It was therefore agreed that Council invitations to other bodies will be made when necessary, and the Council will continue the current practice of reviewing each request for observer status on an individual basis.

Accommodations for June Meetings

The Council considered the possibility of holding its June meetings at an alternative venue to NAFO headquarters and was informed by the Standing Committee on Finance and Administration (STACFAD) of the General Council, that a sum of money would be made available to facilitate this. A proposal to meet at one of two hotels was discussed. However, it was suggested that a better alternative may be to rent office space for the duration of the meeting, and the Council requested that the Secretariat investigate this alternative.

The meeting was adjourned on 10 September at 1415 hours.

Annex 1. List of Participants

Scientific Council Meeting, 15th Annual Meeting

Dartmouth, Nova Scotia, Canada

7-10 September 1993

CANADA

Beckett, J.S.	Fisheries Research Branch, DFO, 200 Kent St., Ottawa, Ontario
Atkinson, D.B.	Northwest Atlantic Fisheries Centre, Box 5667, St. John's, Newfoundland A1C 5X1
Bishop, C.A.	" " " " " "
Bowering, W.R.	" " " " " "
Brodie, W.B.	" " " " " "
Parsons, D.	" " " " " "
Branton, R.	Marine Fish Division, BIO, P. O. Box 1006, Dartmouth, Nova Scotia B2Y 4A2
Halliday, R.G.	" " " " " "
Showell, M.A.	" " " " " "
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DENMARK

GREENLAND

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FAROE ISLANDS

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EUROPEAN ECONOMIC COMMUNITY (EEC)

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Vazquez, A.	Instituto de Investigaciones Marinas, Muelle de Bouzas, Vigo, Spain
Casey, J.	Ministry of Agriculture, Fisheries and Food, Directorate of Fisheries Research, Fisheries Laboratory, Pakefield Road, Lowestoft, Suffolk, United Kingdom

ICELAND

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Annex 2. Agenda

Scientific Council Meeting, 15th Annual Meeting

Dartmouth, Nova Scotia, Canada
7-10 September 1993

- I. Opening (Chairman: V. P. Serebryakov)
 1. Appointment of rapporteur
 2. Adoption of agenda
 3. Plan of work

- II. Fishery Science (STACFIS Chairman: H. P. Cornus)
 1. Review of 1993 recommendations
 2. Stock assessments
 - a) Silver hake¹
 - b) Shrimp in Division 3M
 - c) Workshop on assessment methods
 - d) Data availability for assessment of northern shrimp in November 1993
 3. Review of research documents
 4. Review of current arrangements for conducting stock assessments and documentation
 - a) Updating list of Designated Experts
 - b) Review of Working Papers to be prepared by Designated Expert on their workload
 - c) Guidelines for documentation of assessments
 - d) Status of scientific documents (Working Papers vs Research Documents)
 - e) Proposal for annual shrimp meeting in November
 - f) Adoption of work procedures for the June 1994 Scientific Council Meeting
 5. Future special sessions
 - a) Progress report on 13-15 September 1993 Special Session on "Gear Selectivity/Technical Interactions in Mixed Species Fisheries", co-conveners S. A. Murawski (USA) and P. A. M. Stewart (EEC-UK)
 - b) Progress report on September 1994 Special Session

¹ Assessment was deferred from the 2-16 June 1993 Meeting of the Scientific Council.

- c) Progress report on September 1995 Special Session
- d) Theme for September 1996 Special Session

6. Other matters

III. Research Coordination (STACREC Chairman: A. Avila de Melo)

- 1. Acquisition of STATLANT 21 Data
- 2. Acquisition of statistical information from other standing committees
- 3. Publication of statistical information
- 4. Assessment data needs for 1994/95 and respective budget
- 5. Non-traditional fishery resources in the NAFO Area
- 6. Proposals for scientific tasks of observers in the Pilot Observer Program
- 7. Updating of conversion factors used to get round fresh weight
- 8. Research coordination for Greenland halibut
- 9. Other matters

IV. Publications (STACPUB Chairman: H. Lassen)

- 1. Review of scientific publications
- 2. Promotion and distribution of scientific publications
 - a) Invitational papers
 - b) Promotion of the Journal
- 3. Editorial matters
- 4. Review of papers for possible publication
- 5. Guidelines for authors of research documents
- 6. Other matters

V. Rules of Procedure

VI. Collaboration with Other Organizations

- 1. Scientific Council representatives to CWP 16th Session in July 1994
- 2. Scientific Council invitations to other international bodies

VII. Review of Future Meeting Arrangements

- 1. Proposed November 1993 Meeting on northern shrimp
- 2. Special Session of 13-15 September 1993 (see Attachment 2)
- 3. June 1994 Meeting of Scientific Council
- 4. Special Session and Annual Meeting, September 1994
- 5. June 1995 Meeting of Scientific Council

- VIII. Space Requirements for June Meetings and Structure of Scientific Council
- IX. Other Business
- X. Adoption of Reports
 - 1. Committee Reports of present meeting (STACFIS, STACREC, STACPUB)
 - 2. Report of Scientific Council, September 1993
- XI. Adjournment

Symposium on Gear Selectivity/Technical Interactions in Mixed Species Fisheries

The Symposium hosted by NAFO with S.A. Murawski (USA) and P.A.M. Stewart (EEC-United Kingdom) as co-conveners was held at the Holiday Inn, Dartmouth, Canada during 13-15 September 1993. A total of 70 participants registered for the Symposium, representing 15 countries - Brazil, Canada, Chile, Denmark (Greenland), Denmark, Finland, France, Germany, Japan, Norway, Portugal, Spain, Russia, United Kingdom and United States of America. (Annex 1).

The revolutionary concept of this Symposium was to bring together experts in various scientific disciplines-gear technology, stock assessment experts, economists and social scientists to view the nature of problems associated with mixed fishery harvesting.

The following six theoretic paper sessions were organized: components of mixed fishery systems, influencing the selection pattern of fishing gears, interactions among competing gears, mixed species/multifishery effects, fleet dynamics in technical interactions, and gill net selection studies.

Summary of Findings

The management of fishery resources, world-wide, is complicated by a general trend in increased fishing pressure, combined with the rapid pace of technological innovation in fishing gear, and competition for fishery resources among gears, fleets and nations. Managers are increasingly asking scientists of various disciplines questions such as: What is the 'best' age or size at which to exploit species x?; What is the 'best' gear to exploit a particular fishery?; What is the relationship between fishing effort and yield?; What are the economic and social consequences of particular management actions that we are contemplating? More often than not, managers have addressed these and similar questions to the technical disciplines individually rather than collectively. Not surprisingly, the answers to the questions have been ambiguous and in some cases conflicting.

It is clear that a multi-disciplinary approach to the provision of management advice is necessary when complex fishery interactions occur. Tentative results presented at the Symposium emphasize the difficulty of management actions based solely on benefits to be derived from gear-based solutions. The actual benefits of improving selectivity of particular target species may be substantially reduced by a variety of operational factors, including mixed catches of non-target animals. Survivorship of sorted animals, either in the sea or on deck, may significantly alter our perceptions of the benefits expected from a proposed technological solution. Likewise, gear changes may have substantial economic and social consequences for mixed fleets. Choice of the 'best' way to harvest a particular species or species group is a complex decision involving the impacts on yields and spawning potentials of the resource, and the economic efficiency of the gears and fleets. Optimization of total yields or revenues for multi-fleet or multi-national fisheries may result in substantial social consequences which must be considered.

Participation in the Symposium by representatives of the Canadian fishing industry and domestic management bodies provided a focal point for deliberations, and a message to the scientists. The serious management problems of the day require the choice between management options that, in some cases, will have important societal and ecological consequences. These choices need to be made based on forecasts that incorporate the complexity inherent in the real world.

Symposium participants generally felt that they had new insights into the questions, approaches and findings provided by the various disciplines represented, and a better appreciation of how these various elements fit together into an integrated assessment of the biological and fishery consequences of management alternatives.

The consensus of Symposium participants was to publish appropriate papers from the meeting in the *Journal of Northwest Atlantic Fishery Science*. This publication will be finalized and available in May 1994.

Annex 1. List of Participants

Symposium on Gear Selectivity/Technical Interactions in Mixed Species Fisheries

Dartmouth, Nova Scotia, Canada

13-15 September 1993

BRAZIL

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Scientific Council Meeting

The Scientific Council met at NAFO Headquarters, Dartmouth, Nova Scotia, Canada, during 19-23 November 1993. Representatives attended from Canada, Denmark (in respect of the Faroe Islands and Greenland), European Economic Community (Denmark, Germany), Iceland, Japan and the Russian Federation. (Annex 1)

Full proceedings of the meeting are published in NAFO Scientific Council Reports, 1993.

The Chairman was H. Lassen (EEC) and the Rapporteur, T. Amaratunga, Assistant Executive Secretary.

The Agenda was adopted as presented in Annex 2.

FISHERY SCIENCE

1. Stock Assessments

a) Shrimp in Subareas 0 and 1

Year	1986	1987	1988	1989	1990 ¹	1991 ¹	1992 ¹	1993 ¹
<u>Offshore SA 0+1 (south of 71°N)</u>								
Recommended TAC	36	36	36	44	50	50	50	50
Agreed TAC ²	40.4	40.1	40.1	45.2	45.2	46.2	44.2	40.6 ³
Actual landings	44.6	46.2	43.6	49.9	52.6	57.1	63.4	⁶
<u>Offshore SA 1 (north of 71°N)</u>								
Recommended TAC	-	-	-	-	-	2.5	-	-
Agreed TAC	-	11.6	11.5	8	6.8 ⁴	6.8 ⁴	6.4 ⁴	8.3 ⁵
Actual landings	11	10.7	6.7	2.5	2.1	1.1	2.6	⁶
<u>SA 0+1 total (including inshore catches in SA 1)</u>								
Actual landings	63.1	63.8	60.5	65.7	70.1	76.1	87.2	⁶

¹ Provisional landings.

² Not including catches of vessels <75 GRT.

³ SA 1 offshore, south of 68°N + Div. 0A.

⁴ Including the area from 69°30'N to 71°N, west of 58°W.

⁵ SA 1 offshore, north of 68°N.

⁶ Not yet available.

Weights in '000 tons

Recruitment: Good recruitment of 1988 and 1989 year-class.

State of Stock: Catch-rate and research survey indices indicated that the stock is stable since 1989.

Recommendations: TAC for 1994 be set at 50 000 tons for Div. 0A and Subarea 1 offshore south of 71°N.

b) **Shrimp in Denmark Strait**

New data were available on catch effort and CPUE for 1992 and 1993. It was agreed that these data confirmed Scientific Council opinion from the June 1993 Meeting that the shrimp stock in Denmark Strait is still at a low level of abundance and that the advice provided at the June 1993 Meeting (TAC of 5 000 tons in 1994) remains valid.

2. **Mesh Size in the Redfish Fishery in the Regulatory Area**

The Council received a request from the Fisheries Commission to consider the proposal by the Russian Federation to conduct a scientific/commercial project in 1994 in respect to minimum mesh size for certain redfish fisheries in the Regulatory Area. The Fisheries Commission requested the Council to consider this matter at this special meeting. The Council reviewed the STACFIS discussions on this subject and endorsed the following:

STACFIS reviewed the proposal by the Russian delegation to conduct a scientific/commercial project in the Regulatory Area of Div. 3NO in order to evaluate optimum utilization of redfish stocks using pelagic trawls with a mesh size of 90 mm. The Committee welcomed the proposal in principle as there have been very few studies conducted historically that evaluated the selectivity properties of different mesh sizes in the codend of pelagic trawls. During discussion of the details of the proposal, STACFIS considered that data collected utilizing only 90 mm mesh codends would be of limited value as it would not provide a comparison to the regulated minimum codend mesh size of 130 mm and the current exemptions from that. In consideration of this situation, STACFIS supports a selectivity study be conducted by Russia under the following provisions:

- a) Main Objective: Evaluation of pelagic trawl codend mesh sizes for the redfish fishery in the Regulatory Area of Div. 3NO to assess the effect on the exploitation pattern by reducing codend mesh size to 90 mm.
- b) Scope of Work and Methods:
 - i) The project be conducted and evaluated as a selectivity experiment.
 - ii) The experiment be conducted with codend mesh sizes of 90 mm, 120 mm and 130 mm, utilizing an appropriate cover over the codend and employing pelagic trawls that are currently used in the commercial fishery by the Russian fleet.
 - iii) The investigations be conducted on the same vessel to provide a controlling measure or standardization.
 - iv) Biological sampling for size and age composition, and estimation of a maturity ogive be conducted using NAFO standards and techniques.

Referring to the advice given in June 1993 concerning the stock status in Div. 3LN, which is considered to be at a low level, and an uncertain status of the stock in Div. 3O, the catches obtained from this experiment should be counted as part of the total allowable catch (TAC).

3. **Minimum Fish Size for Witch, Redfish and Greenland Halibut**

The Council received a request from the Fisheries Commission to consider the possible alternatives to current measures in respect of minimum fish size for witch, redfish and Greenland halibut. The Council received no data for consideration at this meeting.

4. **Shrimp in Division 3M**

The assessments of shrimp in Div. 3M was discussed in relation to availability of data and timing of meetings. It was agreed, that although the item would likely appear on the Agenda for the June 1994 Meeting, sufficient data to complete the assessment would not be available until later in the year. Given this situation, it was further agreed that the assessment should be deferred to the Annual Meeting in September 1994.

5. **November Shrimp Meeting**

The Council agreed that the present mid-term meeting for the assessment of shrimp in Subareas 0 and 1, and Denmark Strait was productive and efficient. Especially useful were the survey results and current-year fishery data for Subareas 0 and 1. It was noted that a survey will be conducted in Denmark Strait in 1994, thus making November meetings more useful for that area.

Annex 1. List of Participants

Scientific Council Meeting

Dartmouth, Nova Scotia, Canada
19-23 November 1993

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Annex 2. Agenda

Scientific Council Meeting

Dartmouth, Nova Scotia, Canada
19-23 November 1993

- I. Opening (Chairman: H. Lassen)
 1. Appointment of rapporteur
 2. Adoption of agenda
 3. Plan of work

- II. Fishery Science (STACFIS Chairman: H. P. Cornus)
 1. Stock assessments
 - Northern shrimp (Subareas 0 and 1)
 - Northern shrimp (in Denmark Strait and off East Greenland)
 2. Mesh size in the redfish fishery in the Regulatory Area
 3. Minimum fish size for witch, redfish and G. halibut
 4. Other business

- III. Other Matters*

- IV. Adoption of Reports

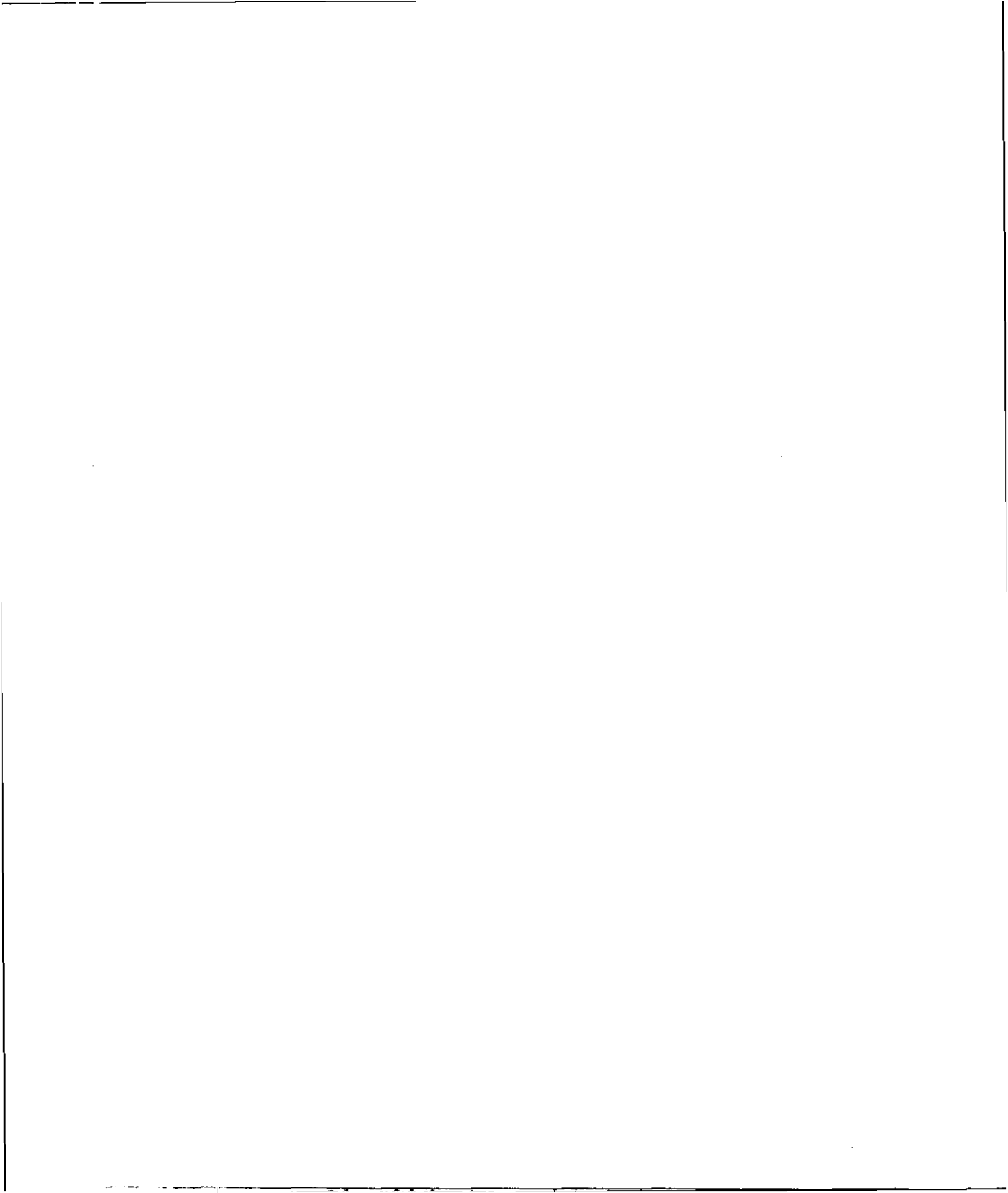
- V. Adjournment

* STACPUB Chairman, W. R. Bowering, will arrange a meeting if necessary to consider selection of Associate Editor for Vertebrate Fishery Science.

PART IV

(pages 127-141)

**Administrative and Financial Report
for the Year Ended 31 December 1993**



Administrative Report for the Year Ended 31 December 1993

Meetings and NAFO Secretariat Activities

1. The Standing Committee on Fishing Activities of Non-Contracting Parties in the Regulatory Area (STACFAC) met at NAFO headquarters from 28-30 April 1993.
2. The International Fisheries Commission Pension Society held in its Annual Meeting in Ottawa, Canada during 18-20 May 1993. The NAFO Secretariat was represented by Mr H. Champion and Mr F. Keating.
3. The Scientific Council and its Standing Committees met at NAFO headquarters from 2 to 16 June 1993.
4. The Executive Secretary, Dr L. I. Chepel travelled to Ottawa and discussed visa arrangements with Russian Embassy 7 June 1993.
5. The Annual Meeting of the Organization including all constituent bodies - the General Council, the Fisheries Commission, the Scientific Council - was held at the Holiday Inn in Dartmouth, Nova Scotia, Canada, during 6-10 September 1993.
6. A Symposium hosted by NAFO on "Gear Selectivity/Technical Interactions in Mixed Species Fisheries" was held at the Holiday Inn, Dartmouth, Nova Scotia, Canada, during 13-15 September 1993.
7. A Special Meeting of the Scientific Council was held at NAFO Headquarters during 19-23 November 1993.

The NAFO Secretariat made all necessary arrangements for the above-mentioned meetings and prepared all documents in accordance with the provisions of the NAFO Convention and Rules of Procedure.

Should be:

The NAFO Secretariat pursued all necessary arrangements for the above-mentioned events and dispatched all relevant documents in accordance with the provisions of the NAFO Convention & Rules of Procedure.

Publications

The publications listed below are prepared and printed in the NAFO Secretariat. It is estimated that 1.2 million pages of printed material will be distributed in publications and an additional 650,000 pages of printed material distributed in documents/circular letters before the end of 1993.

1. *NAFO Annual Report* for the year 1992 (181 pages) was distributed in March 1993.
2. *NAFO Meeting Proceedings* for the year 1992 (358 pages) was distributed in October 1993.
3. *Meetings and Decisions 1979-1992* (376 pages) was distributed in July 1993.
4. *NAFO Scientific Council Reports* for 1992 (211 pages) was distributed in January 1993.
5. *NAFO Journal of Northwest Atlantic Fishery Science* Volume 13 containing 7 papers (114 pages) was distributed in February 1993.
6. *NAFO Journal of Northwest Atlantic Fishery Science* Volume 14 containing 13 papers (160 pages) was distributed in March 1993.
7. *NAFO Scientific Council Studies* Number 17 (98 pages) was distributed in March 1993.
8. *NAFO Scientific Council Studies* Number 18 containing 19 papers (110 pages) was distributed in August 1993.
9. *NAFO Scientific Council Studies* Number 19 containing 8 papers (98 pages) was distributed in October 1993.
10. *NAFO Scientific Council Studies* Number 20 is being prepared for printing.
11. *NAFO Statistical Bulletin* Volume 39 (300 pages) was distributed in February 1993.
12. *NAFO Inventory of Sampling Data 1985-1989* (266 pages) was distributed in March 1993.
13. *NAFO Executive Summary* of the Report of the Scientific Council Meeting (36 pages) was distributed in September 1993.

Fishery Statistics

The statistical database at the Secretariat which is in an IBM compatible PC system, was updated back to 1960. Many Contracting Party requests for data were conveniently fulfilled and supplied in the form of diskettes.

1. STATLANT 21B Reports for 1989

Data were finally received from all countries or components (except France) and NAFO *Statistical Bulletin* Vol. 39 was published in February 1993 (without the French data).

2. STATLANT 21B Reports for 1990

Deadline for submission of STATLANT 21B reports for 1990 was 30 June 1991. As of December 1993, data were still outstanding from France (SP), France (M) and USA. The delay in the acquisition of final data has again had a significant impact on the timely publication of NAFO *Statistical Bulletin* Vol. 40.

3. STATLANT 21B Reports for 1991

Deadline for submission of STATLANT 21B reports for 1991 was 30 June 1992. As of December 1993, data from 5 countries were still outstanding and the publication of NAFO *Statistical Bulletin* Vol. 41 has been seriously delayed.

4. STATLANT 21A Reports for 1992

The deadline for the submission of provisional statistics in the STATLANT 21A reports for 1992 was 15 April 1993. This is in order to provide sufficient time for the Secretariat to tabulate the data for the June Meeting of the Scientific Council. Timely submission of these provisional data are necessary for stock assessments carried out by the Scientific Council at the June Meeting. As of December 1993, data were outstanding from 3 countries, and necessary data were not submitted for the June 1993 Meeting, nor for the September Meeting. The Summary Document (SCS Doc. 93/22, Serial No. N2350) was printed in December 1993 without the data of those 3 countries.

5. STATLANT 21B Reports for 1992

The deadline for the submission of provisional statistics in the STATLANT 21B reports for 1992 was 30 June 1993. To-date 16 countries have submitted data.

6. Monthly Reporting of Provisional Catch Statistics

In accordance with the provisions of the NAFO Conservation and Enforcement Measures (Part I.C.3), the Secretariat prepared and distributed the monthly reportings of the provisional catches of Contracting Parties by the NAFO Circular Letter series. The most recent report was issued in NAFO Circular Letter 94/20 for December 1993.

7. Historical catches for 1981-91

The Secretariat continued the practice of preparing a Summary Document (SCS Doc. 93/5, Serial No. N2171). The document contains an 11-year time series from 1981 to 1991 with a focus on updates for 1981-89 and provisional data for 1990 and 1991. More than 70 stocks are currently included in this list (others may be added upon request).

8. Biological Sampling Data

The *Inventory of Sampling Data for 1985-89* was published in March 1993. The Secretariat continued the practice of preparing a Summary Document on Biological Sampling Data: SCS Doc. 93/9, Serial No. N2175 containing data for 1991.

9. List of Fishing Vessels, 1992

This volume was due to be published in 1993 but data are still outstanding from 10 countries or components.

Financial Report for the Year Ended 31 December 1993

An audit of the NAFO accounts for the fiscal year 1993 was completed by the firm of Deloitte and Touche, Chartered Accountants.

The auditor's report is as follows:

To the Chairman and Members of the General Council of Northwest Atlantic Fisheries Organization

We have audited the balance sheet of the Northwest Atlantic Fisheries Organization as at December 31, 1993 and the statements of revenue and expenditures, accumulated surplus and changes in financial position for the year then ended. These financial statements are the responsibility of the Organization's management. Our responsibility is to express an opinion on these financial statements based on our audit.

We conducted our audit in accordance with generally accepted auditing standards. These standards require that we plan and perform an audit to obtain reasonable assurance whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation.

As outlined in Note 4 to the financial statements, the Organization has not recorded a liability for enhanced employee termination benefits, as approved as part of the Staff Rules by General Council at its annual meeting in September, 1991. At December 31, 1993, these enhanced benefits amounted to approximately \$143,000. Failure to record this amount as a liability in 1993 is not in accordance with the Organization's stated accounting principles. Had the liability been recorded, excess of revenue over expenditures for the year would have been reduced by \$22,667 and the balance of \$120,333 would have been reflected as a prior period adjustment. The accumulated surplus at the end of the year would have been reduced by \$143,000.

In our opinion, except for the effects of the Organization's failure to record the liability referred to in the preceding paragraph, these financial statements present fairly, in all material respects, the financial position of the Organization as at December 31, 1993 and the results of its operations and the changes in its financial position for the year then ended in accordance with the accounting principles disclosed in the notes to the financial statements.

We further report as required by Rule 7.1 of the Financial Regulations of the Organization, that in our opinion, the financial statements are in accordance with the books and records of the Organization; the financial transactions reflected in the statements have, in all significant respects, been in accordance with the Financial Regulations and the budgetary provisions of the Northwest Atlantic Fisheries Organization; and the monies on deposit and on hand have been verified by certificate received directly from the Organization's depositories or by actual count.

Statement of Revenue and Expenditures
(Year Ended 31 December 1993)

(Expressed in Canadian Dollars)

	Budget 1993	Actual 1993	Actual 1992
Revenue			
Contributions assessed Contracting			
Parties (Note 5)	\$ 815,411	\$ 815,411	\$ 738,495
Allocation from surplus for operations	127,589	127,589	164,505
Personal income taxes			
Federal	-	96,057	95,857
Provincial	-	87,394	42,942
Interest	-	16,962	17,244
Sales of publications	-	6,918	2,943
	<u>943,000</u>	<u>1,150,331</u>	<u>1,061,986</u>
Expenditures			
Salaries	596,000	584,344	570,017
Vacation pay increase (decrease)	8,000	(3,366)	8,814
Superannuation (Note 6)	74,000	73,419	70,536
Additional help	1,000	-	-
Group medical and insurance plan	32,000	32,408	28,624
Termination benefits (Note 4)	20,000	22,667	16,319
Travel	8,000	5,694	12,370
Transportation	1,000	772	790
Communications	51,000	55,121	47,258
Publications	22,000	20,165	19,069
Contractual services	45,000	41,591	40,871
Materials and supplies	30,000	26,693	30,231
Equipment	5,000	5,060	1,487
Meetings	30,000	27,200	57,484
Computer services	15,000	15,066	11,824
External expertise	5,000	2,679	-
	<u>943,000</u>	<u>909,513</u>	<u>915,694</u>
Excess of revenue over expenditures before provision for uncollectible accounts	-	240,818	146,292
Provision for uncollectible accounts and write-off of contributions	<u>17,473</u>	<u>17,473</u>	<u>18,702</u>
Excess of revenue over expenditures	<u>\$(17,473)</u>	<u>\$ 223,345</u>	<u>\$ 127,590</u>

Statement of Accumulated Surplus
(Year Ended 31 December 1993)

(Expressed in Canadian Dollars)

	1993	1992
Balance, beginning of year	\$ 202,590	\$ 239,505
Allocations		
To operations	<u>127,589</u>	<u>164,505</u>
	75,001	75,000
Excess of revenue over expenditures	<u>223,345</u>	<u>127,590</u>
Balance, end of year	<u>\$ 298,346</u>	<u>\$ 202,590</u>

Balance Sheet as at 31 December 1993 .

(Expressed in Canadian Dollars)

	1993	1992
ASSETS		
Current		
Cash and short-term deposits	\$ 438,783	\$ 294,392
Contributions receivable (Note 3)	47,061	96,473
Accounts receivable	3,132	5,176
Accrued interest receivable	1,944	1,866
Prepaid expenses	<u>32,813</u>	<u>8,515</u>
	<u>\$ 523,733</u>	<u>\$ 406,422</u>
LIABILITIES		
Current		
Accounts payable and accrued liabilities	\$ 6,396	\$ 4,541
Accrued vacation pay payable	19,558	22,923
Overpayment of contributions by Contracting Parties	<u>10,468</u>	<u>10,070</u>
	36,422	37,534
Provision for employee termination benefits (Note 4)	<u>188,965</u>	<u>166,298</u>
	<u>225,387</u>	<u>203,832</u>
EQUITY		
Accumulated Surplus	<u>298,346</u>	<u>202,590</u>
	<u>\$ 523,733</u>	<u>\$ 406,422</u>

Statement of Changes in Financial Position
(Year Ended 31 December 1993)

(Expressed in Canadian Dollars)

	1993	1992
Net inflow (outflow) of cash related to the following activities:		
Operating		
Excess of revenue over expenditures	\$ 223,345	\$ 127,590
Item not affecting cash		
Allocation from surplus	<u>(127,589)</u>	<u>(164,505)</u>
	95,756	(36,915)
Changes in non-cash operating working capital items (Note 9)	<u>25,968</u>	<u>43,011</u>
	121,724	6,096
Financing		
Increase in provision for employee termination benefits	<u>22,667</u>	<u>16,319</u>
Net cash inflow	144,391	22,415
Cash position, beginning of year	<u>294,392</u>	<u>271,977</u>
Cash position, end of year	<u>\$ 438,783</u>	<u>\$ 294,392</u>

Notes to the Financial Statements

(Year Ended 31 December 1993)

(Expressed in Canadian Dollars)

1. Authority and Objective

The Northwest Atlantic Fisheries Organization was established by the Convention on Future Cooperation in the Northwest Atlantic Fisheries which came into force on January 1, 1979.

The objective of the Organization is to contribute through cooperation and consultation to the conservation, rational management and efficient utilization of the fishery resources in the Convention. For that purpose, it compiles statistics, maintains research programs, establishes management goals, and promotes and co-ordinates international surveillance.

2. Accounting Policies

These financial statements have been prepared in accordance with Canadian generally accepted accounting principles and reflect the following significant accounting policies:

a) **Contributions Assessed Contracting Parties**

Contributions are assessed annually and are recorded as revenue in the year for which billings apply.

b) **Allowance for Uncollectible Accounts**

As approved by the General Council, an allowance for uncollectible accounts is recorded for contributions that are one payment in arrears.

c) **Accumulated Surplus**

The Chairman of the General Council, after consultations with representatives of all members of the General Council, may authorize expenditures from accumulated surplus for unforeseen and extraordinary expenses necessary to the good conduct of the business of the Organization. Such funds may not be in excess of 20% of the annual budget for the current financial year.

d) **Publications**

Costs of publications are charged to expense as incurred.

e) **Office Furniture and Equipment**

Costs of office furniture and equipment are charged to expense when purchased. Leases for equipment, which transfer substantially all of the benefits and risks of ownership to the Organization, are not treated as asset purchases (capital leases). Lease payments are charged in the year paid to the contractual services expenditure categories.

f) **Personal Income Taxes***Federal*

According to an Order in Council (P.C. 1980-132) issued by the Government of Canada, the Organization comes under the jurisdiction of the Convention on the Privileges and Immunities of the United Nations. Article V, Section 18(b) of this Convention exempts officials of the United Nations organizations from taxation on the salaries and emoluments paid to them. However, the Order in Council (Section 3.(3)) does not exempt a Canadian citizen, residing or ordinarily resident in Canada, from liability for any taxes or duties imposed by any law in Canada.

Accordingly, as is customary for international organizations, the Organization credits revenue with an amount equal to the Canadian federal income taxes that would be otherwise assessed on its employees.

Provincial

The Organization deducts provincial income taxes from the salaries of Canadian employees and remits amounts deducted on a regular basis to the Province of Nova Scotia. At the end of each year, the Organization applies to the provincial government for an *ex gratia* grant equal to the amount of provincial personal income taxes paid. Such grants are accrued when ultimate receipt is assured.

g) **Pension Plan**

The Organization has a defined benefit pension plan and current contributions plus the payments for the unfunded portion of the plan are expensed annually.

3. Contributions Receivable

This account reflects assessments due (Canadian Dollars) from Contracting Parties as follows:

	1993	1992
Estonia	\$ -	\$ 5,275
Denmark (in respect of the Faroe Islands and Greenland)	921	-
Cuba	26,475	25,614
Romania	17,473	18,702
Japan	98	-
Russian Federation	-	60,309
Lithuania	-	5,275
Bulgaria	18,109	-
European Economic Community	<u>1,458</u>	<u>-</u>
	64,534	115,175
Less: Allowance for uncollectible assessments	<u>17,473</u>	<u>18,702</u>
	<u>\$ 47,061</u>	<u>\$ 96,473</u>

4. Provision for Employee Termination Benefits

The Organization provides its staff members with certain entitlements on termination of service based on the employee's position and years of service with the Organization.

At its annual meeting in September, 1991, the General Council approved in the Staff Rules an enhanced employee termination benefit package to be effective January 1, 1992. At December 31, 1993, the additional liability resulting from this enhancement amounted to approximately \$143,000, which amount has not been recorded in the accounts of the Organization.

5. Contributions Assessed Contracting Parties

(Expressed in Canadian Dollars)

	1993	1992
Bulgaria	\$ 18,109	\$ 18,702
Canada	436,530	380,890
Cuba	26,475	25,614
Denmark (in respect of the Faroe Islands and Greenland)	72,138	74,828
Estonia	17,473	5,275
European Economic Community	49,568	62,259
Iceland	17,473	18,702
Japan	21,338	21,272
Latvia	17,473	5,275
Lithuania	17,473	5,275
Norway	21,583	20,076
Poland	17,620	21,316
Romania	17,473	18,702
Russian Federation	<u>64,685</u>	<u>60,309</u>
	<u>\$ 815,411</u>	<u>\$ 738,495</u>

6. Superannuation

The Organization has a defined benefit pension plan which covers all employees. The last actuarial valuation was performed as at January 1, 1993. At that time, the accrued pension obligation was \$1,078,693 while the assets were valued at \$976,121, resulting in an unfunded pension liability of \$102,572. The estimated amount of unfunded pension liability at December 31, 1993 is \$86,171 and is being funded at the rate of \$28,783 per year.

7. Operating Lease Obligations

The Organization is committed to lease payments for certain equipment, as follows:

<u>1994</u>	<u>1995</u>	<u>1996</u>
\$17,395	\$17,395	\$10,658

8. Services Provided Without Charge

Accommodation for the Organization's secretariat in Dartmouth, Nova Scotia is provided without charge by the Canadian Department of Fisheries and Oceans. Accordingly, the related costs, which include, rent, grants-in-lieu of property taxes, heat, electricity and cleaning services, are not reflected in these financial statements.

9. Changes in Non-Cash Operating Working Capital Items

(Expressed in Canadian Dollars)

	1993	1992
Contributions receivable	\$ 49,412	\$ (12,217)
Accounts receivable	2,044	(1,013)
Accrued interest receivable	(78)	(203)
<i>Ex gratia</i> grant receivable	-	37,228
Prepaid expenses	(24,298)	405
Accounts payable and accrued liabilities	1,855	(72)
Accrued vacation	(3,365)	8,813
Overpayment of contributions by Contracting Parties	<u>398</u>	<u>10,070</u>
	<u>\$ 25,968</u>	<u>\$ 43,011</u>

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