

NORTHWEST ATLANTIC FISHERIES ORGANIZATION



ANNUAL REPORT

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for the year
1980

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Letter of Transmittal

The Chairman of the General Council of the Northwest Atlantic Fisheries Organization (NAFO) presents his compliments to the Parties concerned with the Convention on Future Multilateral Cooperation in the Northwest Atlantic Fisheries signed at Ottawa under date of 24 October 1978, and to the representatives of those Parties, and has the honour to transmit herewith a report of the activities of the Northwest Atlantic Fisheries Organization for the year 1980.

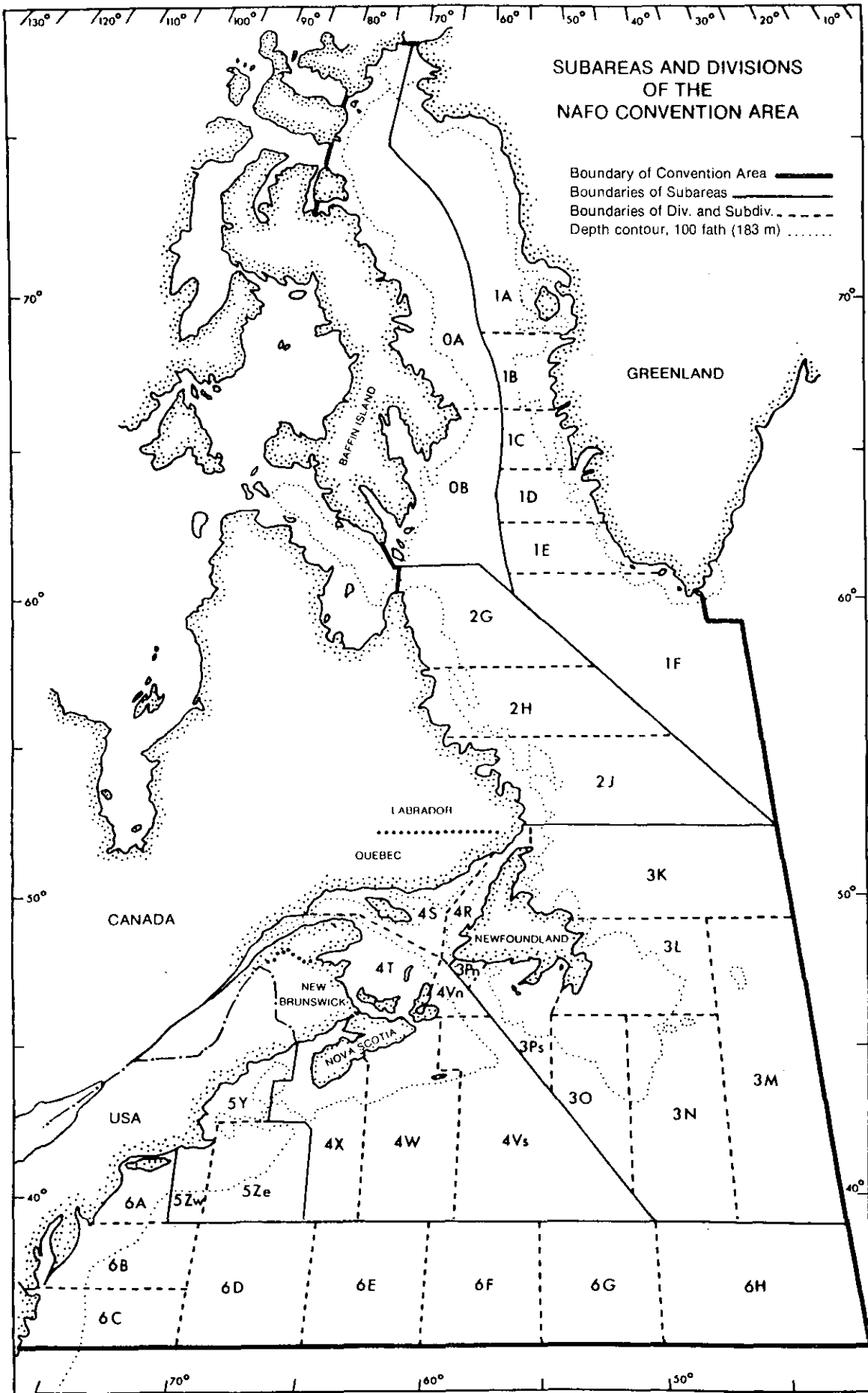
The Organization was established under Article II of the Convention on 1 January 1979. This report contains accounts of the activities and achievements of the General Council, Scientific Council and Fisheries Commission of NAFO at the Second Annual Meeting from 9 to 12 September 1980, and at a main assessments meeting of the Scientific Council from 3 to 13 June 1980, a special meeting of the Scientific Council from 18 to 22 November 1980 and special meetings of the General Council and Fisheries Commission from 4 to 7 March 1980.

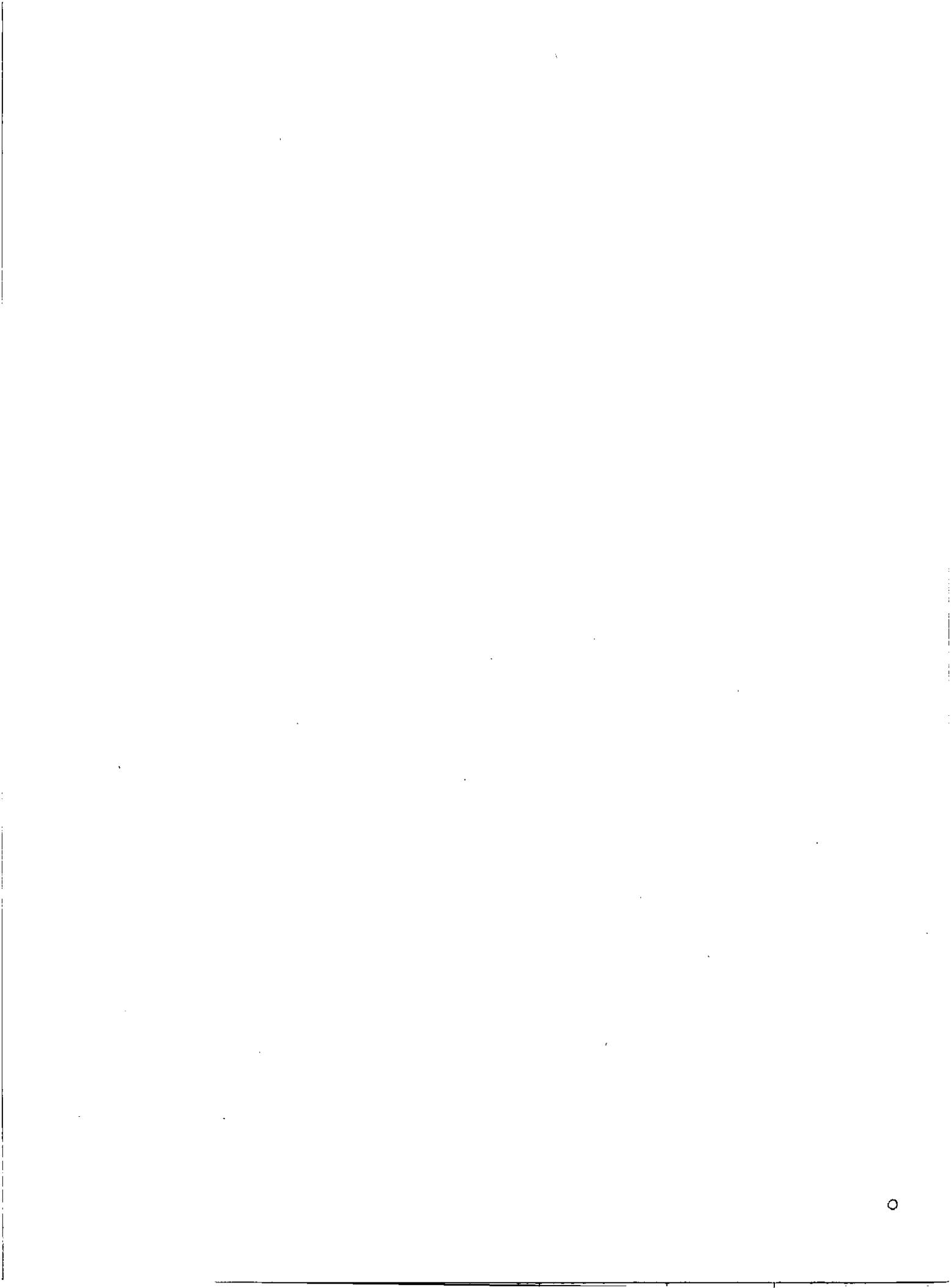
This report has been prepared and is transmitted pursuant to paragraph 4 of Article V of the Convention.



Dr A. W. May
Chairman,
General Council of the
Northwest Atlantic Fisheries Organization

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Northwest Atlantic Fisheries Organization (NAFO) 1980

Contracting Parties

Bulgaria, Canada, Cuba, European Economic Community, Denmark (in respect of Faroe Islands), German Democratic Republic, Iceland, Japan, Norway, Poland, Portugal, Romania, and the Union of Soviet Socialist Republics.

President

Dr A. W. May (Canada)

Constituent Bodies

General Council	Bulgaria, Canada, Cuba, Denmark (in respect of Faroe Islands), European Economic Community, German Democratic Republic, Iceland, Japan, Norway, Poland, Portugal, Romania, and the Union of Soviet Socialist Republics	Chairman — Dr A. W. May (Canada) Vice-Chairman — Dr V. K. Zilanov (USSR)
Scientific Council	Bulgaria, Canada, Cuba, Denmark (in respect of Faroe Islands), European Economic Community, German Democratic Republic, Iceland, Japan, Norway, Poland, Portugal, Romania, and the Union of Socialist Republics	Chairman — Mr R. H. Letaconnoux (EEC) Vice-Chairman — Dr R. G. Halliday (Canada)
Fisheries Commission	Bulgaria, Canada, Cuba, Denmark (in respect of Faroe Islands), European Economic Community, German Democratic Republic, Japan, Norway, Poland, Portugal, Romania, and the Union of Soviet Socialist Republics	Chairman — Capt. J. C. Esteves Cardoso (Portugal) (to 30 June 1980) — Mr J. B. P. Farnell (EEC) (to 30 June 1980) Vice-Chairman — Mr J.B.P. Farnell (EEC) (to 30 June 1980) — Mr H. Rasmussen (Norway) (from 12 September 1980)
Secretariat	Executive Secretary Executive Secretary Assistant Executive Secretary Administrative Assistant Senior Clerk-Secretary Finance and Publications Clerk-Steno Senior Statistical Clerk Clerk-Duplicator Operator Clerk-Duplicator Operator Statistical Clerk (Surveys and Sampling) Documents and Mailing Clerk Clerk-Typist Statistical Clerk (Fishery Statistics) Data Processing Clerk	Mr L. R. Day (to 30 June 1980) Capt J. C. Esteves Cardoso (from 30 June 1980) Mr V. M. Hodder Mr W. H. Champion Mrs V. C. Kerr Mr F. D. Keating Mr G. M. Moulton Mr R. A. Myers Mr B. T. Crawford Miss B. L. Perry Mrs F. E. Perry Mrs P. M. Wadman Miss V. M. Bullen Miss C. L. Martin

Standing Committees

General Council	Standing Committee on Finance and Administration	Chairperson — Miss D. E. Pethick (Canada)
Scientific Council	Standing Committee on Fisheries Science	Chairman — Dr G. H. Winters (Canada)
	Standing Committee on Research Coordination	Chairman — Dr V. A. Rikhter (USSR)
	Standing Committee on Publications	Chairman — Dr R. G. Halliday (Canada)
	Executive Committee	Chairman — Mr R. H. Letaconnoux (EEC)
Fisheries Commission	Standing Committee on International Control	Chairman — Capt. A. S. Gaspar (Portugal)

Headquarters Location

Second floor, Holland Building, Bedford Institute of Oceanography, Dartmouth, Nova Scotia, Canada

PART 1

Administrative and Financial Report for the Year Ended 31 December 1980

1. Introduction

During 1980 the Northwest Atlantic Fisheries Organization (NAFO) met five times.

A Special Meeting of the Scientific Council was held in Lisbon, Portugal from 5 to 13 February 1980 to provide advice on the scientific basis for the management of the cod stocks in Div. 3M and 3NO, the capelin stocks in Subareas 2 and 3 and squid stocks in Subareas 3 and 4.

Special Meetings of the General Council and the Fisheries Commission were held in Toronto, Canada from 4 to 7 March 1980. The General Council discussed membership in NAFO, the appointment of a new Executive Secretary and reviewed the administration and finances of the Organization. Conservation measures for fish stocks outside national fishing limits in Subarea 3, conservation measures for fish stocks partly inside and partly outside national fishing limits in Subareas 3 and 4, adaptation of ICNAF conservation and enforcement measures for NAFO, reporting of national catches separately by the European Economic Community (EEC) to NAFO and transferability of catch quota between Contracting Parties highlighted the meeting of the Fisheries Commission.

The Scientific Council met at NAFO Headquarters in Dartmouth, Canada from 3 to 13 June 1980 to consider a variety of fishery science matters including the assessment of 22 stocks in Subareas 0 to 4 and to provide scientific advice for management of 18 stocks in 1981.

The Second Annual Meeting of NAFO, was held from 3 to 12 September 1980 in St. John's, Canada. The meeting of the Scientific Council commenced on 3 September and was followed by meetings of the General Council and Fisheries Commission. During these meetings a decision was made to continue the Program of International Joint Enforcement of NAFO Regulations outside the 200 mile economic fishing zone and to continue the International Scientific Observer Program in 1981. On the basis of scientific advice agreement was reached on conservation and management measures in 1981 regarding total allowable catches (TACs) and allocations for certain fish stocks, three of which are entirely outside the Canadian 200-mile fishing zone in Div. 3M and five stocks overlapping the 200-mile fishing zone in Div. 3LNO.

A Special Meeting of the Scientific Council was held at NAFO Headquarters in Dartmouth, Canada from 18 to 22 November 1980 to provide advice on the conservation of harp and hooded seals in the Northwest Atlantic and the shrimp stocks in Subareas 0 and 2 as requested by Canada and the EEC. At the request of the International Council for the Exploration of the Sea (ICES) a review of the status of the shrimp stocks and fishery at East Greenland was discussed during this meeting.

Summaries of the above meetings are included in this volume, however, detailed proceedings are available (limited distribution) from the NAFO Secretariat.

2. NAFO Staff Activities

The Executive Secretary, Mr L. R. Day, Mr F. D. Keating, Mrs V. C. Kerr and Mrs P. M. Wadman serviced the Special Meeting of the General Council and the Fisheries Commission (Toronto, Canada, 4-7 March 1980). The Assistant Executive Secretary and Mr G. M. Moulton attended a meeting of the Canadian Atlantic Fisheries Scientific Advisory Committee's Statistics and Sampling Subcommittee (St. John's, Nfld., 9-10 March 1980). Mr L. R. Day attended the Larval Herring Task Force Meeting (Woods Hole, Massachusetts, USA, 28 April-2 May 1980).

The new Executive Secretary, Capt. J. C. Esteves Cardoso, presented himself for duty on 1 June 1980 at the NAFO Headquarters in the Holland Building of the Bedford Institute of Oceanography in Dartmouth. During the month of June, both the new and the retiring Executive Secretaries worked together carrying out the smooth transition of powers, as decided by the Organization.

The Executive Secretaries met with Canadian Government officials and the International Fisheries Commissions Pension Society regarding the Pension Scheme and Plan, and Privileges and Immunities for members of the NAFO Secretariat (Ottawa, Canada, 14-17 June 1980). The Assistant Executive Secretary attended the 10th Session of the CWP (Madrid, Spain, 22-29 July 1980). The Executive Secretary met with Canadian Government officials and the International Fisheries Commissions Pension Society regarding Privileges and Immunities and Early Retirement for members of the NAFO Secretariat (Ottawa, Canada, 1-4 August 1980).

3. Publications in 1980

All NAFO publications are offset-printed in the Secretariat's print shop. Approximately 2.6 million pages of print were distributed in 1980, including the following:

- a) *ICNAF Selected Papers* No. 6 (72 pages), containing nine scientific papers, was issued in February.
- b) *ICNAF List of Fishing Vessels* for the year 1977 (44 pages) was issued in April.
- c) *ICNAF Annual Report* Vol. 29 (78 pages), covering the period 1 July 1978 to 31 December 1979, was issued in July.
- d) *NAFO Annual Report* Vol. 1 for 1979 (86 pages) was issued in July.
- e) *ICNAF Special Publication* No. 11 — Revised (194 pages), containing subject and author indexes and lists of titles of the principal publications of ICNAF during 1951–80, was issued in September.
- f) *ICNAF Statistical Bulletin* Vol. 28 for 1978 (238 pages) was issued in October.
- g) *Journal of Northwest Atlantic Fishery Science* Vol. 1 (approximately 100 pages), containing 9 scientific papers, was issued in December.
- i) The ICNAF/NAFO contribution to the Second Symposium on the Early Life History of Fish, held at Woods Hole, USA, during 2–5 April 1979, involves the printing of 1,000 copies of the volume containing 137 scientific papers (about 500 pages) for the ICES Rapports et Proces-Verbaux series. The typesetting of 98 contributions has been completed to date, and the project is expected to be completed in 1981.

4. Research and Statistical Activities

a) Transition from ICNAF to NAFO

At its First Annual Meeting in June 1979, the Scientific Council agreed that there must be a smooth transition of its research and statistical program, particularly in regard to the activities of and the services provided by the Secretariat, which had managed to establish substantial computerized data bases of fisheries statistics and biological data. It was further agreed that as much continuity as possible should be maintained in the statistical publications and in the acquisition of fisheries statistics through the longstanding STATLANT program.

b) Acquisition of fishery statistics

The deterioration in the national reporting of fishery statistics, noted at the June 1979 Annual Meeting, had continued in 1979 and 1980, with the persistent lack of attention by some countries to the established requirements for submitting fishery statistics by the

designated deadlines. In fact, the delay in publication of *Statistical Bulletin* Vol. 27 for the year 1977 by nearly a year was due in part to the very late submission of STATLANT 21B catch and effort statistics by three countries. Similar delays were experienced in the acquisition of STATLANT 21A and 21B statistics for 1978 with a consequent delay of 8 months in the publication of *Statistical Bulletin* Vol. 28 for the year 1978. Despite the 15 April deadline for the submission of STATLANT 21A reports, the absence of data for several countries prevented the Secretariat from preparing even a preliminary summary of 1979 nominal catches for the June 1980 Meeting of the Scientific Council, the first time in several years that such a document could not be presented at the June annual meetings. Even in July 1980, when the advance release of Northwest Atlantic catches in 1979 (SCS Doc. 80/IX/27) was distributed, preliminary unofficial data for three countries had to be used to provide reasonably complete tabulations. The deadline for the submission of STATLANT 21B catch and effort data for 1979 was 30 June 1980, but no responses have as yet been received from six countries, four of which are Member States of the EEC (Ireland, Italy, Federal Republic of Germany, and United Kingdom), the other two countries being Faroe Islands and Mexico. The lack of attention to prompt statistical reporting affects not only the Secretariat's efforts to acquire complete statistics for publication but also the work of the Scientific Council in its efforts to provide the best possible advice on the scientific basis for management of the stocks.

During 1979/80, the Secretariat has continued its program of updating national fisheries statistics of previous years and preparing the data for rapid retrieval through its computer terminal which is linked to an IBM 370 1155 computer.

c) Acquisition of biological data

Annual lists of sampling data are issued each year as a summary document for checking by scientists prior to publication in *Sampling Yearbooks*. As noted above for fishery statistics, significant delays have also been experienced in the acquisition of sampling data. In fact, the 1977 data are only now complete enough for the preparation of *Sampling Yearbook* Vol. 22, which will be distributed later in 1980 more than a year behind schedule. Provisional lists of 1978 sampling data were presented to the June 1980 Meeting of the Council (SCS Doc. 80/VI/8) but there were many gaps indicating missing data. It is unlikely that the lists will be complete enough for publication before 1981.

At the June 1979 Annual Meeting, new and more detailed reporting forms were adopted for the submission of commercial sampling data. Some 1979 and 1980 data in the new format have been received, but very large quantities of sampling data collected by coastal

state observers on vessels licensed to operate within the 200-mile zones of coastal states remain to be submitted to the Secretariat, in order for its data base to be reasonably complete and form the basis for the establishment of a historical series.

The Secretariat has continued its program of computerizing the large volume of commercial sampling data in its files. All available data for 1972-78 have now been processed, and considerable progress has been made in processing earlier historical data. Computer printouts of length and age frequencies and age-length keys are available upon request to scientists and research institutes involved in the work of the Scientific Council.

d) List of fishing vessels for 1977

The *ICNAF List of Fishing Vessels* for 1977 was published in April 1980, two years behind schedule, due to the late submission of data from Romania and Spain. The Council has recommended that this triennial publication be continued with the acquisition and compilation of data for 1980.

e) CWP activities relevant to NAFO

The 10th Session of the CWP was held at Madrid, Spain, during 22-29 July 1980. Participants attending on behalf of NAFO were Mr V. M. Hodder (NAFO Secretariat), and Dr W. G. Doubleday and Mr D. Tilley (nominated by Canada). Certain matters relevant to the statistical activities of NAFO were discussed, resulting in proposals for consideration by the Scientific Council. Those include: (i) standardization of abbreviations for country names, (ii) allocation of catches by nationality, (iii) classification of fishing gear for statistical purposes, and (iv) the future of the CWP, including ratification of its new terms of reference.

f) Index and list of titles

A revised version of *ICNAF Special Publication No. 11*, containing subject and author indexes and list of all ICNAF publications issued during 1951-80, has been completed, and was distributed in September 1980. Indexes and lists of titles of ICNAF meeting documents issued during 1951-70 have been prepared in three volumes: No. 1 for 1951-64, No. 2 for 1965-74 and No. 3 for 1975-79.

g) Other activities

Other research and statistical activities during 1979/80 include the following:

- i) Editing of nine papers for publication in *ICNAF Selected Papers* No. 6;
- ii) Editing of nine refereed papers for publication in Vol. 1 of the *Journal of Northwest Atlantic Fishery Science*;

- iii) Editing of the reports of Scientific Council meetings in March 1979, May-June 1979, November 1979, February 1980, June 1980, and September 1980 for publication in *NAFO Scientific Council Reports* for 1979-80;
- iv) Compilation and documentation of various biostatistical materials required for Scientific Council meetings at Lisbon, Portugal, in February 1980, at NAFO Headquarters, Dartmouth, Canada, in November 1979 and June 1980, and at St. John's, Newfoundland, Canada, in September 1980, including seal statistics for 1979, tagging activities during 1979, updating of historical catches (1969-78) by country for selected stocks, sampling efficiency in 1978, revised outline of the NAFO sampling program and provisional nominal catch statistics for 1979.

**5. Approved Budget and Appropriations
Assessed Contracting Parties for the Period
1 January-31 December 1980**

At the First Annual Meeting, Halifax, Nova Scotia, June 1979 the General Council of the Northwest Atlantic Fisheries Organization in Plenary Session:

- A. Approved the Budget for 1 January- 31 December 1980 (see *NAFO Meet. Proc.* 1979, p. 78) as follows:

Expenditures to be covered by appropriations from Contracting Parties:

Personal Services:	
a) Salaries	\$ 265,000
b) Superannuation	18,000
c) Additional help	1,000
d) Group medical and insurance plans	4,000
e) Contingencies	20,000
Travel	4,000
Transportation of Things	1,000
Communications	25,000
Publications	12,000
Other Contractual Services	30,000
Materials and Supplies	15,000
Equipment	5,000
Annual and Mid-Year Meetings	25,000
Computer Services	40,000
Contingencies	10,000
Total	\$ 475,000

- B. Accepted the Financial Statements for the Year 1979 presented by the Executive Secretary (see *NAFO Meet. Proc.* 1979, p. 76).

- C. Approved that Contracting Parties be billed their respective payments for the period 1 January-31 December 1980 on 15 February 1980 (see *NAFO Meet. Proc.* 1979, p. 77).

According to Financial Regulations 4.7, effective 4 June 1979, for the General Council of NAFO (see *NAFO Meet. Proc.*, 1979, p. 64) the "annual contributions shall be due and payable in full within 30 days of receipt of the information from the Executive Secretary referred to in Rule 4.6 or the first day of the financial year, the unpaid balance shall be considered to be in arrears."

According to Article XVI(9) of the Convention "a

Contracting Party which has not paid its contributions for two consecutive years shall not enjoy any right of casting votes and presenting objections under this Convention until it has fulfilled its obligations, unless the General Council decides otherwise."

Accordingly, the following calculation of contributions is prepared in accordance with Article XVI(3) of the Convention:

Billing 1 January - 31 December 1980 (Canadian dollars)

Budget: Period 1 January -31 December 1980	\$475,000.00
Deduct: Amount from Accumulated Surplus Account*	<u>70,721.17</u>
Funds required to meet 1980 administrative budget	<u>\$404,278.83</u>

Contracting Parties	Nominal catches for 1977	% of total catch in Convention Area	10%	30%	60%	Total	Deduct advance contributions	Amount billed
Bulgaria	11,944	0.75	\$ —	\$ 9,329.51	\$ 1,819.25	\$ 11,148.76	\$ —	\$ 11,148.76
Canada	796,634	50.02	33,150.86	9,329.51	121,332.16	163,812.53	—	163,812.53
Cuba	17,969	1.13	—	9,329.51	2,741.01	12,070.52	—	12,070.52
European Economic Community	169,018	10.61	7,277.02	9,329.51	25,736.39	42,342.92	—	42,342.92
Faroe Islands	28,414	1.78	—	9,329.51	4,317.70	13,647.21	9,059.66	4,587.55
German Democratic Republic	18,293	1.15	—	9,329.51	2,789.52	12,119.03	1,472.86	10,646.17
Iceland	3,394	0.21	—	9,329.51	509.39	9,838.90	—	9,838.90
Japan	24,878	1.56	—	9,329.51	3,784.05	13,113.56	—	13,113.56
Norway	31,802	2.00	—	9,329.51	4,851.35	14,180.86	—	14,180.86
Poland	47,448	2.98	—	9,329.51	7,228.51	16,558.02	—	16,558.02
Portugal	30,878	1.94	—	9,329.51	4,705.81	14,035.32	—	14,035.32
Romania	5,383	0.34	—	9,329.51	824.73	10,154.24	—	10,154.24
Union of Soviet Socialist Republics	406,687	25.53	—	9,329.51	61,927.43	71,256.94	—	71,256.94
Total	1,592,742	100.00%	\$40,427.88	\$121,283.63	\$242,567.32	\$404,278.83	\$10,532.52	\$393,746.31

Add: Advance contributions — Faroe Islands, German Democratic Republic	10,532.52
Funds required to meet 1 January - 31 December 1980 administrative budget	<u>\$404,278.83</u>

* Balance remaining in Accumulated Surplus Account = \$ 50,000.00

6. Financial Statements for the Fiscal Year Ended 31 December 1980

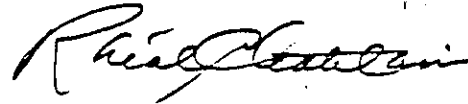
An audit of the NAFO accounts for the fiscal year 1980 was completed by the Auditor General of Canada. The complete report of the Auditor General, including a Statement of Assets and Liabilities assumed by NAFO on 1 January 1980, is as follows:

The Chairman and Members
Northwest Atlantic
Fisheries Organization

I have examined the balance sheet of the Northwest Atlantic Fisheries Organization as at 31 December 1980, and the statements of receipts and expenditures, budget appropriations, expenditures and balances of appropriations, accumulated surplus, and changes in financial position for the year then ended. My examination was made in accordance with generally accepted auditing standards, and accordingly included such tests and other procedures as I considered necessary in the circumstances.

In my opinion, these financial statements present fairly the financial position of the Organization as at 31 December 1980, and the results of its operations and changes in its financial position for the year then ended in accordance with the accounting policies described in Note 2 to the financial statements applied on a basis consistent with that of the preceding year.

In compliance with the requirements of Financial Regulation 7.1, I certify that, in my opinion, the financial statements are in accord with the books and records of the Organization; the financial transactions reflected in the statements have been in accordance with the rules and regulations, the budgetary provisions, and other applicable directives; and the monies on deposit and on hand have been verified by certificate received directly from the Organization's depositories or by actual count.



Senior Deputy Auditor General
for the Auditor General of Canada

Ottawa, Ontario
1 May 1981

Balance Sheet as at 31 December 1980
(Expressed in Canadian dollars)

Assets			Liabilities		
	1980	1979		1980	1979
Current			Current		
Cash and short-term deposits	\$ 160,890	\$ 9,518	Accounts payable and accrued liabilities ..	\$ 14,167	\$ 500
Contributions receivable from contracting parties (Note 2)	16,614	—	Contribution overpayments by contracting parties	2,130	9,060
Accounts receivable	1,579	—	Accrued vacation pay	16,600	—
Accrued interest receivable	3,130	191		32,897	9,560
Prepaid expenses	6,381	—	Long-term		
			Provision for employee termination benefits	36,300	—
			Total Liabilities	69,197	9,560
			Equity		
			Accumulated surplus (Note 2)	119,397	149
Total Assets	<u>\$ 188,594</u>	<u>\$ 9,709</u>	Total Liabilities and Equity	<u>\$ 188,594</u>	<u>\$ 9,709</u>

The accompanying notes are an integral part of the financial statements.

Approved: Executive Secretary
(Signed: J. C. E. Cardoso)

Statement of Receipts and Expenditures
for the year ended 31 December 1980
 (Expressed in Canadian dollars)

	1980	1979
Receipts		
Contributions from contracting parties (Notes 2 and 3)	\$ 404,279	\$ 77,491
Bank interest	17,767	649
Sales of publications	2,415	—
Personal income taxes (Note 2)		
Federal	36,280	—
Provincial	19,687	—
	480,428	78,140
Expenditures (Note 5)		
Per Statement of Budget Appropriations, Expenditures and Balances of Appropriations	483,395	—
Administrative fee	—	77,491
Contractual services	—	500
	483,395	77,991
Excess of Expenditures over Receipts (Receipts over Expenditures)	\$ 2,967	\$ (149)

The accompanying notes are an integral part of the financial statements.

Statement of Accumulated Surplus for the year ended 31 December 1980
 (Expressed in Canadian dollars)

	1980	1979
Accumulated surplus — beginning of the year (Note 2)	\$ 149	\$ —
Add: Transfer of net assets from ICNAF (Note 6)	120,571	
(Excess of expenditures over receipts) receipts over expenditures for the year	(2,967)	149
Unexpended balance of prior year's appropriations (Note 2)	1,644	—
Accumulated surplus — end of the year	\$ 119,397	\$ 149

The accompanying notes are an integral part of the financial statements.

Statement of Changes in Financial Position for the year ended 31 December 1980
(Expressed in Canadian dollars)

	1980	1979
Working Capital Provided		
Operations		
(Excess of expenditures over receipts), receipts over expenditures for the year	\$ (2,967)	\$ 149
Add: item not requiring an outlay of funds increase in employee termination benefits	5,000	—
	2,033	149
Balance of prior year's appropriations	1,644	—
Working capital of International Commission for the Northwest Atlantic Fisheries	160,971	—
	164,648	149
Working Capital Applied		
Transfer of accrued vacation pay to current liabilities (Note 6)	9,100	—
Increase in working capital	155,548	149
Working capital — beginning of the year	149	—
Working capital — end of the year	\$ 155,697	\$ 149

The accompanying notes are an integral part of the financial statement.

Notes to the Financial Statements 31 December 1980

1. Objectives and Operations of the Organization

The Northwest Atlantic Fisheries Organization (NAFO) was established by the NAFO Convention and came into force on 1 January 1979. The Organization is the successor to the International Commission for the Northwest Atlantic Fisheries which terminated operations 31 December 1979.

The objective of the Organization is to promote the conservation and optimum utilization of fishery resources in the Northwest Atlantic area within the context of the 200-mile coastal jurisdiction over fisheries, and accordingly to encourage international co-operation and consultation with respect to these resources.

2. Significant Accounting Policies

a) Assessment of contributions from contracting parties

Contributions from contracting parties are assessed annually and are recorded as revenue on the billing date.

b) Accumulated surplus account

In accordance with the Financial Regulations of the Organization, the accumulated surplus account is to be credited with:

- i) the excess of receipts over expenditures at the end of the financial year;
- ii) the amount of approved appropriations that are required to discharge specific obligations of a financial year but which remain unexpended 12 months after the end of that financial year;
- iii) refunds, from any source, of prior year's expenditures of the Organization.

The Chairman of the General Council may authorize the payment of unforeseen and extraordinary expenses from the accumulated surplus account but these expenditures may not exceed 20% of the annual adopted budget of the current financial year.

c) Publications

Production costs for publications are charged to expense as incurred.

d) Fixed assets

Office furniture and equipment are expensed when purchased.

e) Personal income taxes

i) 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 by the United Nations. The Order in Council does not however, Section 3.(3), 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, NAFO deducts and credits to revenue an amount equal to the Canadian federal income tax that would be assessed on staff remuneration.

ii) Provincial

NAFO deducts provincial income taxes from the salaries of its employees and remits amounts deducted on a regular basis to government authorities. At the end of each calendar year NAFO applies to the Province of Nova Scotia for an *ex gratia* grant equal to the amount of provincial personal income taxes paid by its employees. Such grants are recorded as revenue when received.

3. Contributions Assessed Contracting Parties

	1980	1979
Bulgaria	\$ 11,149	\$ —
Canada	163,812	—
Cuba	12,071	—
European Economic Community	42,343	74,254
Faroe Islands	13,648	3,237
German Democratic Republic	12,119	—
Iceland	9,839	—
Japan	13,113	—
Norway	14,181	—
Poland	16,558	—
Portugal	14,035	—
Romania	10,154	—
Union of Soviet Socialist Republics	71,257	—
	<u>\$ 404,279</u>	<u>\$ 77,491</u>

4. Services Provided Without Charge

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

5. Comparative Figures for 1979

During 1979, which was the first year of the Organization's existence, its affairs were administered by the Secretariat of its predecessor organization, the International Commission for the Northwest Atlantic

Fisheries (ICNAF). NAFO was assessed an administrative fee by ICNAF during this period. The operations of ICNAF terminated on 31 December 1979, and pursuant to a resolution adopted by the contracting parties to NAFO and the contracting governments of ICNAF, ICNAF's assets were transferred and its liabilities were assumed by NAFO on 1 January 1980.

6. Assumption of Assets and Liabilities of Predecessor Organization

Effective 1 January 1980, the assets of ICNAF were transferred to NAFO and the liabilities were assumed.

The assets transferred to and liabilities assumed by NAFO were:

Assets

Current assets

Cash	\$ 97,786
Certificates of deposit	20,000
Contributions receivable from member governments	77,779
Miscellaneous accounts receivable	3,610
Prepaid expenses	8,455

Total assets		\$ 207,630
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Liabilities

Current liabilities

Accounts payable and accrued liabilities	22,585
Contribution overpayments by member governments	1,474
Current portion-employee termination benefits	16,200
Current portion-accrued vacation pay	6,400
	<u>46,659</u>

Long-term liabilities

Provision for employee termination benefits	31,300
Accrued vacation pay	9,100
	<u>40,400</u>

Total liabilities		<u>87,059</u>
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Net assets transferred		<u>\$ 120,571</u>
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PART 2

Report of the Special Meeting of the NAFO Scientific Council, Lisbon, Portugal, 5-13 February 1980

1. Introduction

The Council met in Lisbon, Portugal, during 5-13 February 1980, under the chairmanship of Mr R. H. Letaconnoux (EEC), to provide advice for 1980 on the conservation of certain stocks for which management measures had been deferred from the 1979 Annual Meeting (*NAFO Meet. Proc.* 1979, p. 114-115), namely, the cod stocks in Div. 3M and 3NO, the silver hake stock in Divisions 4VWX, the capelin stocks in Subareas 2 and 3, and the squid-*Illex* stock in Subareas 3 and 4. The participants, (see Appendix II) were welcomed to Lisbon by the Director of the National Fisheries Research Institute.

The stock assessments were undertaken by STAC-FIS. In considering the agenda for the meeting (see Appendix I), it was agreed that Item 3 be deferred to the June 1980 Meeting of the Council.

2. Stock Assessments

a) General Fishery Trends

For the stocks considered at the meeting of the Council, the nominal catches and total allowable catches (TACs) since 1972 were as follows:

b) Cod in Div. 3M

The provisional nominal catch in 1979 was 29,000 tons from a TAC of 40,000 tons. Except in 1977 when the TAC was reduced, the catches had been substantially less than the TACs since their introduction in 1974. Commercial catch rates in 1979 continued at the low level of recent years. An analysis of available length and age composition data indicated that the proportion of larger and older cod during the 1970's was much lower than in the 1960's, with 1979 catches composed almost entirely of ages 4 to 6.

A cohort analysis, with $F = 0.64$ for fully-recruited age-groups in 1979, yielded biomass estimates which were reasonably well correlated with research survey abundance indices for the 1972-76 period, resulting in 69,000 tons as the best estimate of the stock size in 1979. Projections of stock size and catch at $F_{0.1} = 0.20$ implied a catch of about 8,000 tons in 1980 from a stock size (age 3+) of 75,000 tons and a spawning stock (age 6+) of 40,000 tons at the beginning of the year. Since extensive exploitation of cod less than age 6 implied a loss in yield-per-recruit, the Council was concerned that recent catches consisted almost entirely of ages 4-6 cod.

Species	Stock area		TACs and Catches (000 tons)							
			1972	1973	1974	1975	1976	1977	1978	1979 ^a
Cod	3M	TAC	—	—	40	40	40	25	40	40
		Catch	58	23	25	22	22	27	33	29
	3NO	TAC	—	103	101	88	43	30	15	25
		Catch	103	80	73	44	24	18	15	27
Silver hake	4VWX	TAC	—	—	100	120	100	70	81	70
		Catch	114	300	96	116	97	37	48	52
Capelin	2+3K	TAC	—	—	110 ^b	160 ^b	160 ^b	212 ^b	212	75
		Catch	46	136	127	199	216	152	55	11
	3LNOPs	TAC	—	—	148 ^c	180 ^c	180 ^c	200 ^c	200	10
		Catch	25	132	161	167	144	75	30	12
Squid- <i>Illex</i>	3+4	TAC	—	—	—	25 ^d	25 ^d	25 ^d	100	120
		Catch	2	10	+	18	42	83	93	153

^a Provisional catch data.

^b Countries without specific allocations could each take up to 10,000 tons.

^c Countries without specific allocations could each take up to 5,000 tons.

^d Countries without specific allocations could each take up to 3,000 tons.

c) Cod in Div. 3N and 3O

The provisional nominal catch in 1979 was 27,000 tons against a TAC of 25,000 tons. Catches from the stock had declined from a high of 227,000 tons in 1967 to a low of 15,000 tons in 1978. Commercial catch rates had declined drastically from the mid-1960's to 1978, with some slight improvement indicated by preliminary data for 1979.

A review of two general production model analyses, utilizing catch and effort data for all of the major fleets fishing in the area up to 1979, indicated a yield at $2/3 F_{MSY}$ of about 100,000 tons for the 1960's and 1970's in one case, and yields at $2/3 F_{MSY}$ of 100,000 and 65,000 tons for the 1960's and 1970's respectively in the other case, under the assumption that an ecological change had occurred which might explain the lower level of recruitment in the 1970's. Both models were considered inadequate to represent the current status of the stock which was obviously not in equilibrium.

Two cohort analyses were examined, one based on $F = 0.60$ and the other based on $F = 0.25$ for fully-recruited age-groups in 1979. After discussion on the significance of various correlations between population numbers (and biomasses) from cohort analysis on the one hand and abundance indices from research surveys and commercial catch rates on the other, for the two different values of F assumed for 1979, the cohort analysis with $F = 0.25$ in 1979 was considered to best represent the current status of the stock. The assessment indicated that fishing at $F_{0.1} = 0.20$ in 1980 would yield a catch of 26,000 tons. Projections of stock size to the beginning of 1982 under average recruitment levels implied an increase in stock size (age 3+) from a low of 95,000 tons in 1976 to 223,000 tons in 1980 and an increase in spawning stock (age 6+) from 34,000 tons in 1976 to 197,000 tons in 1982.

The Council emphasized that caution should be exercised in interpreting the results of the assessment because of uncertainty about the assumed level of fishing mortality in 1979. The stock was capable of yielding 70,000-80,000 tons or more at optimal biomass levels of 500,000-600,000 tons, but the projected catch for 1980 and biomass in 1982 were well below these levels. Furthermore, it was important to note that two year-classes (1974 and 1975) would constitute 70% of the spawning biomass in 1982, and that the next two year-classes (1976 and 1977) were estimated to be very weak. For those reasons, the Council **advised** that a cautious approach to the exploitation of the cod stock in Div. 3NO should be maintained until clear evidence of rebuilding the stock to the optimal level was indicated.

d) Silver Hake in Div. 4V, 4W and 4X

The provisional nominal catch in 1979 was 52,000 tons from a TAC of 70,000 tons. The TAC was not fully utilized mainly due to Canadian and Cuban catches being substantially less than their allocations. Commercial catch rates were higher in 1979 than in 1978. The age composition of catches had confirmed a shift to older age-groups following the introduction of additional management measures in 1977, the fishery currently being supported by age-groups 2 to 4.

The assessment indicated that fishing at $F_{0.1}$ in 1980 would yield a catch of 100,000 tons. If recruitment continued at presently estimated levels, a preliminary estimate of the catch at $F_{0.1}$ in 1981 would be 85,000 tons, with a projected rapid return to the recent TAC level of 70,000 tons. The accuracy of that assessment was adversely affected by discontinuity in the estimates of catch rates and fishing effort, introduced as a result of recent changes in regulatory measures, thus creating uncertainty about the level of fishing mortality in 1979.

e) Capelin in Subareas 2 and 3

i) Overall fishery trends

Nominal catches had declined rapidly from 366,000 tons in 1975 to 85,000 tons in 1978, and to 23,000 tons in 1979 due partly to closure of the offshore fishery in the southern part of the area (Div. 3NO) during 1979. Commercial catch and effort statistics for Subarea 2 and Div. 3K indicated declines from 6.47 tons per hour in 1975 to 1.34 tons per hour in 1979 for USSR trawlers and from 5.01 tons per hour in 1977 to 1.00 tons per hour in 1979 for Romanian trawlers.

ii) Subarea 2 and Div. 3K

Biomass estimates from both Canadian and USSR acoustic surveys indicated a decline in capelin abundance in recent years. Estimates of the sizes of the 1975, 1976 and 1977 year-classes from sequential capelin abundance models indicated that those year-classes were very weak relative to the strong 1973 year-class which had virtually disappeared from the population. Using the best estimates available for the sizes of the 1973 to 1977 year-classes and assuming average recruitment of the 1978 year-class at age 2, projections to 1980 indicated a low stock size relative to earlier levels. Since the stock size in 1980 and 1981 should be largely dependent on the sizes of the 1977 and 1978 year-classes and because of uncertainty about the strength of the 1978 year-class, the Council **advised** a closure of the

autumn capelin fishery in the area or a small nominal TAC. A small fishery of 10,000-15,000 tons in 1980 would allow scientists to better assess the status of the stock in 1980 and to quantify the advice for 1981.

iii) Div. 3L, 3N and 3O

Biomass estimates from Canadian and USSR acoustic surveys in 1979 indicated that the stock was still substantially below historical levels of abundance. Projections for 1980 could not be made due to unresolved differences in age compositions of catches from Canadian and USSR surveys in 1979. However, the bulk of the spawning stock in 1980 should consist of the 1976 and 1977 year-classes which were known to be weak. Consequently, in order to allow for an increase in the spawning stock in Div. 3N and to protect the stock on its migration through Div. 3N and 3O, the Council **advised** that Div. 3N and 3O should be closed to a capelin fishery in 1980. Furthermore, the Council noted that, although capelin abundance in Div. 3L was still low, a small demonstrative fishery in 1980 would unlikely have a deleterious effect on the spawning stock but would provide quantitative data for use in providing better advice on the status of the stock in 1981.

f) Squid-*Illex* in Subareas 3 and 4

i) Fishery trends

The overall nominal catch in both subareas had increased rapidly from 14,000 tons in 1975 to about 153,000 tons in 1979 against a TAC of 120,000 tons. The excess of catch over TAC in 1979 was due largely to the high abundance of squid in inshore waters of Subarea 3 and the rapid expansion of inshore fishing effort. Preliminary statistics indicated that about 82,000 tons had been taken in Subarea 3 mostly by the inshore fishery, and about 71,000 tons in Subarea 4 mostly by the offshore fishery.

ii) Biological studies

New data on the life cycle of *Illex* included observations on larval and juvenile stages from a spring survey seaward of the continental shelf in Gulf Stream waters, together with continuous observations during the fishing season on the progression of maturation from late juvenile to pre-spawning adult stages. Length frequency distributions were typically unimodal and showed the progression of a single modal class throughout the season.

Mean sizes for both sexes in Subareas 3 and 4 during the 1979 fishery were consistent with those reported for previous years. Research on age determination using statoliths showed that the number of "rings" and the statolith length both increased with mantle length. Seasonal fluctuations in food and feeding related to availability of prey species were noted in studies on *Illex* from the Scotian Shelf. The major components of *Illex* food were crustaceans, fish and squid, and the frequency of occurrence of those food types in relation to size of predator showed increased cannibalism in larger squid.

iii) Environmental effects

Several sources of information indicated that environmental factors, especially temperature, might influence the migration and biomass of squid on the offshore and inshore fishing grounds. Squid were found to be abundant at temperatures greater than 6°C on the Scotian Shelf and were concentrated at temperatures between 6° and 8°C on the offshore grounds in Subarea 3. It had been noted that the abundance of squid offshore in Subarea 3 in the spring was not a reliable index for forecasting the magnitude of the subsequent inshore migration, mainly due to fluctuations in the frontal zone between the cold Labrador Current and the North Atlantic Current.

iv) Abundance estimates

Various biomass estimates and abundance indices for *Illex* in Subareas 3 and 4 in 1979 were considered and compared with the results of earlier studies. Biomass estimates from sequential population analyses were considered unreliable, while those based on data from stratified random bottom trawl surveys were considered to be underestimates due to systematic overestimation of catchability coefficients. Also, the estimates by the areal expansion method, based on untested assumptions which might lead to substantial bias, showed a wide range of values. However, it was concluded that *Illex* abundance was very high in Subareas 3 and 4 in 1979, the overall biomass probably being in the range of 500,000 to 3,000,000 tons in August.

v) Management regime

Since the inshore fishery is geographically restricted to a narrow band along the coast, fishing mortality was considered to affect a limited proportion of the stock. In years of high

abundance, the inshore fishery could probably exceed its allowance without leading to excessive exploitation of the stock. The offshore fishery, on the other hand, takes place in areas where squid might be concentrated in years of low abundance, and it was considered that the most satisfactory means of preventing over-exploitation would be by controlled offshore catch allocations in conjunction with effort restraints, as currently practised.

The Council consequently agreed that the catch associated with a target exploitation rate of 0.4 would, under approximately average conditions of abundance, result in an overall catch of 150,000 tons, a level which would not be associated with a serious risk of excessive exploitation. Under such conditions, one would expect an inshore catch of about 50,000 tons. If the biomass of squid in 1980 were very high, as in 1979, the inshore allowance could be exceeded without causing excessive exploitation of the stock. If the biomass in 1980 were low, the offshore fishery would probably not be able to maintain a high catch-per-unit-effort. Limitation of offshore fishing effort by applying the 1978 catch rate to the 1980 TAC would ensure that fishing mortality would not increase greatly despite reduced abundance.

g) Future Research Requirements

The Council endorsed the requirements, listed in the Report of STACFIS (*NAFO Sci. Coun. Rept. 1979/80*, p. 59) for intensified research on cod, capelin and squid, and, in addition, emphasized the need for intensified studies on the feeding of squid in inshore areas to elucidate the predator-prey relationships between squid and various fish species, especially juvenile cod.

3. Other Matters

a) Flemish Cap Project

The Convener of the *ad hoc* Working Group on the Flemish Cap Project (Mr R. Wells) reported that a meeting of Canadian, Polish and USSR scientists involved in the project was held at St. John's, Canada, during 18-22 January 1980, and that a report would be available in advance of the June 1980 Meeting of the Council.

b) Georges Bank-Gulf of Maine Larval Herring Program

The Council noted that the Task Force on the Larval Herring Program had been reactivated, as recommended at the 1979 Annual Meeting, and was scheduled to meet at Woods Hole, USA, during 28 April-2 May 1980.

c) Cooperative Research on Squid

The Council agreed that much had been accomplished from cooperative research projects in the past, and that arrangements for cooperative research on squid in 1980 be considered at the June 1980 Meeting of the Council.

4. Adjournment

The Chairman thanked the National Fisheries Research Institute for the excellent meeting facilities and the hospitality, the Chairman of STACFIS, Dr G. H. Winters, with the aid of Dr F. Nagasaki for ably dealing with the assessment matters, the participants for their interest and cooperation during the course of the meeting, and the Secretariat staff for their usual efficient work. The meeting was adjourned at 1100 hrs on 13 February 1980.

Appendix I

Agenda for the Special Meeting of the Scientific Council — February 1980

1. Opening (Chairman: Mr R. H. Letaconnoux)
 - a) Appointment of rapporteur
 - b) Adoption of agenda
 - c) Plan of work

2. Consideration of Reports of STACFIS (Chairman: Dr G. H. Winters)
 - a) Stock assessments:
 - i) Cod
 - ii) Capelin (2+3K, 3LNO)
 - iii) Silver hake (4VWX)
 - iv) Squid-*Illex* (3+4)
 - b) Future research requirements
 - c) Other matters

3. *Ad hoc* Working Group on Scientific Observer Scheme (Convener: Mr J. S. Beckett)

4. Future Meetings
Agenda and timetable for June 1980 Meeting of the Council

5. Other Matters

6. Adjournment

Appendix II

List of Participants for the Special Meeting of the Scientific Council — February 1980

BULGARIA

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CANADA

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M. Lima Dias Instituto de Investigacao das Pescas, Algas Praia, 1400 Lisbon
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OBSERVERS

M. Larraneta Instituto Investigaciones Pesqueras, Muelle de Bouzas, Vigo, Spain
A. Vazquez Instituto Investigaciones Pesqueras, Muelle de Bouzas, Vigo, Spain

PART 3

Report of the First Special Meeting of the NAFO General Council, Toronto, Canada, 4-7 March 1980

1. Opening Session

The Opening Session of the First Special Meeting of the General Council was convened in the Wellesley Room of the Sutton Place Hotel, Toronto, Canada, at 1015 hrs on 4 March 1980. The meeting was called to order by Dr A. W. May (Canada), the President of NAFO and Chairman of the General Council, who welcomed the delegates and advisers of all Contracting Parties present and observers from Spain and USA on behalf of NAFO and the Government of Canada. The meeting participants (see Appendix II) stood for a minute in silence in recognition of the death of Mr David H. Wallace, a former US Commissioner and Vice-Chairman of ICNAF, who had won the respect and admiration of his colleagues with his wisdom, good humour, and quiet, effective negotiations.

2. Adoption of Agenda

The provisional agenda was adopted as circulated (see Appendix I).

3. Review of Membership of the General Council and Fisheries Commission

The Chairman asked the Executive Secretary to review *NAFO GC Doc. 80/III/2* "Contracting Parties to the NAFO Convention". The Executive Secretary noted that there were now 13 Contracting Parties to the NAFO Convention: Bulgaria, Canada, Cuba, the European Economic Community (EEC), Denmark (in respect of the Faroe Islands), German Democratic Republic (GDR), Iceland, Japan, Norway, Poland, Portugal, Romania, and USSR. Since the June 1979 Meeting of NAFO, Poland and Japan had ratified the Convention on 6 November 1979 and 4 January 1980, respectively. Both Japan and Poland were received into the membership of the Fisheries Commission.

4. Appointment of a New Executive Secretary

Dr A. W. May, in his capacity as Chairman of the Nominating Committee, reviewed the Committee's

report (*NAFO GC Doc. 80/III/5*) and drew particular attention to its recommendations:

- a) that Capt. J. C. E. Cardoso be offered the position of Executive Secretary of NAFO with effect from 1 June 1980 to overlap with the present Executive Secretary for the month of June;
- b) that the offer be subject to salary negotiation to be conducted by the Chairman of the General Council who would report to the General Council; and
- c) that the Standing Committee on Finance and Administration (STACFAD) be requested to recommend annual progressions and other technical aspects of salary to the General Council.

The Chairman reported that a letter had been presented to Capt. J. C. E. Cardoso confirming an offer to him of the position of Executive Secretary of NAFO at an annual salary of \$ 40,000 (Canadian) including income tax, effective 1 June 1980. A reply dated 6 March had been received from Capt. Cardoso confirming his acceptance of the offer pending approval of arrangements with his Government.

5. Interim Report on Administration and Finance

At the request of the Chairman, the Executive Secretary reviewed the report which highlighted the completion of the transition from ICNAF to NAFO and reported on the unaudited balance of \$ 50,000 received into the NAFO Accumulated Surplus Account, with well over \$ 70,000 having been applied against the billing to Contracting Parties for the 1980 fiscal year. He advised that the 1980 billings had been mailed 27 February. He drew attention to contributions outstanding and receivable from Bulgaria of \$ 9,470, Cuba of \$ 12,431, Romania of \$ 28,056, and Spain \$ 15,391.

6. Report of the Standing Committee on Finance and Administration (STACFAD)

The Standing Committee on Finance and Administration (STACFAD) consisting of representatives from Canada, German Democratic Republic, Japan, Norway, Portugal and the USSR, met on 5 and 6 March under the chairmanship of Miss Pethick (Canada).

The General Council, following the advice of STACFAD, recommended:

- a) that the salary of the Executive Secretary, in any month, be equal to the mid-point of the Canadian Government salary scale SX1 valid in that month, **plus** one tenth of the difference between the top and the bottom of that salary scale, **multiplied** by the number of completed years of service, until at the end of 5 years the top of the salary would be reached from which time the salary would remain at that level.
- b) that the new Executive Secretary be reimbursed for two trips from Lisbon to Dartmouth for house-hunting and for removal of family and household effects and that the costs be met from the NAFO operating budget in contingencies; however, if that sum would be insufficient, that funds be provided from the Accumulated Surplus Account.
- c) that the new Executive Secretary might wish to draw on the advice and counsel of the former Executive Secretary, Mr L. R. Day, during July and August. Reasonable out of pocket expenses for Mr Day and travel, if required, would be reimbursed from contingencies.
- d) that Mr and Mrs Day be invited to attend the Second Annual Meeting at the expense of the Organization.

7. ICES Dialogue Meeting

The Chairman presented a letter received from ICES announcing a "Dialogue Meeting" of fisheries scientists and management to be held at Copenhagen, 20-21 May 1980. The Council **agreed** that the Chairman of the Scientific Council, Mr R. Letaconnoux (EEC) should represent NAFO in an observer capacity, with Mr A. Pinhorn (Canada) as back-up, and would report to the September 1980 meeting.

8. Adjournment

The Chairman thanked the chairmen and participants for their successful efforts. He noted particularly that Capt. Cardoso had been an effective chairman at many of the ICNAF and NAFO meetings and would now be directing his many talents to running the NAFO Secretariat. The Chairman offered the Council's thanks to Mr Day, the retiring Executive Secretary, for his contributions to ICNAF and NAFO.

The First Special Meeting of the General Council of NAFO adjourned at 1430 hrs, 7 March 1980.

Appendix I

Agenda for the First Special Meeting of the General Council — March 1980

1. Opening by the Chairman, Dr A. W. May (Canada)
2. Adoption of Agenda
3. Appointment of Rapporteur
4. Review of Membership
 - a) General Council
 - b) Fisheries Commission
5. Appointment of an Executive Secretary for NAFO
(Report of the General Council of NAFO, June 1979, *NAFO Annu. Rept.*, 1: 44-45)
(Report of Nominating Committee, *NAFO GC Doc.* 80/III/5)
6. Interim Report on NAFO Administrative and Financial Matters (*NAFO GC Doc.* 80/III/3).
7. Other Matters
8. Adjournment

Appendix II

List of Participants for the Special Meeting of the General Council — March 1980

Chairman of the General Council: Dr A. W. May, Assistant Deputy Minister, Atlantic Fisheries Service,
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CANADA

Head of Delegation: Dr A. W. May, Assistant Deputy Minister, Atlantic
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Representative

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CUBA

Head of Delegation: Mr R. Cabrera, Ministerio de la Industria Pesquera,
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PART 4

Report of the First Special Meeting of the NAFO Fisheries Commission, Toronto, Canada, 4-7 March 1980

1. Opening Session

The First Special Meeting of the Fisheries Commission of NAFO was declared open by the Chairman, Capt. J. C. E. Cardoso (Portugal). Delegations from all members of the Commission were present, together with observers from Spain and the USA (see Appendix VI).

2. Adoption of Agenda

The provisional agenda, as circulated, was adopted without change (see Appendix I).

3. Conservation Measures

After a detailed and prolonged discussion, under the understanding that their allocation would not be used as a basis for allocation in future years, the Commission agreed on the TACs and allocations in Subarea 3 shown in the Proposal for International Regulation of the Fisheries in Subarea 3 (see Appendix II, Proposal 7).

The problem of the squid allocation took also some time to solve. After no delegations would support Canada on the contention that economic factors should justify reducing TACs, the Commission agreed on the TAC and some allocations for squid in Subareas 3 and 4 (see Appendix II, Proposal 8).

4. Adaptation of ICNAF Conservation and Enforcement Measures to NAFO

The Chairman of the Working Group on Conservation and Enforcement Measures for NAFO, Capt. J. C. E. Cardoso (Portugal), introduced the report of the Working Group (NAFO FC Doc. 80/III/6) and explained elements of the proposed regulations that required consideration of the Commission, perhaps through referral to the Standing Committee on International Control (STACTIC). The Commission agreed to defer consideration of the report in order to provide time for it to be read. The Commission would then review the proposed regulations and make decisions where appropriate while, if necessary, referring any problems

to a meeting of STACTIC prior to the Annual Meeting of the Commission.

Referring to the report of the Working Group (NAFO FC Doc. 80/III/6) on the topic, the delegate of the EEC noted a need for consistency in the treatment of the chartered and contracted vessels flying different flags in provisions requiring Contracting Parties to control fisheries against their individual quotas. The Commission agreed to refer the report of the Working Group to STACTIC for consideration at the time of the 1980 Annual Meeting of NAFO, while delegates should, in preparation for the meeting of STACTIC, send any comments on the draft to the Executive Secretary.

5. Reporting of National Catches to NAFO separately by EEC

The delegate of the EEC stated that the EEC would report catches to NAFO broken down by flag state since it would be of benefit to the Scientific Council. He requested, however, that tables showing nominal catches and allocations should show only the total EEC catches and allocations, by stock. The Commission agreed to the request.

6. Transferability of Catch Quotas between Contracting Parties

Referring to a letter of 16 August 1979 to Heads of Delegations to ICNAF and NAFO from Dr A. W. May, Head of the Canadian Delegation, which was published in the Proceedings of the June 1979 Meeting of the Fisheries Commission (p. 109-110), the Commission agreed that Canada should prepare draft regulations covering quota transfers for consideration by STACTIC.

7. Other Matters

a) Canadian request for action by Members to improve enforcement operations in Div. 3M

The delegate of Canada introduced a Canadian request for action by Members to improve enforcement operations in Div. 3M (Appendix III) in order

to improve enforcement of the Commission's regulations in the area. He noted that instances indicating a disregard of regulations had been documented in the past and observed that the best regulations were only as effective as their implementation. Stating that Canada would continue its commitment to the Scheme of Joint International Enforcement, the delegate called for participation by enforcement vessels of other countries. He stated that Contracting Parties should consider the expenditure on surveillance as an investment in the future. Following a proposal by Canada, the Commission agreed that a Working Group consisting of representatives from Canada, Faroe Islands, EEC, Portugal, Norway and USSR be established and that a meeting be convened by the representative of Canada to plan a program of mutual participation in the Scheme of Joint International Enforcement as one step towards restoration of the stocks in Div. 3M.

b) Canadian proposal regarding the separate reporting of catches by flag vessels and by vessels under charter or contract.

The delegate of Canada made the following statement on behalf of his Government:

"The Canadian delegation has noted the recommendation of the Scientific Council that commercial catch and effort statistics of national fleets, classified by tonnage class, gear type and NAFO division (and subdivision, where applicable), be reported in provisional and final form to the NAFO Secretariat, distinguishing statistics relating to catches from national quotas and those sub-allocated from the Canadian quota.

"Canada undertakes to report accordingly, distinguishing statistics relating to catches by foreign flag vessels fishing under charter to Canadian companies or to the Government of Canada. In the case of suballocations from Canadian quotas, the Party to which the suballocation has been made should be responsible for reporting appropriately to the NAFO Secretariat."

The delegate of Canada recommended that catches by vessels flying flags of other countries, when fishing part of the quota of another country,

should be reported to the NAFO Secretariat by the quota country separately from the catches by vessels flying its own flag. That would not apply if the portion of the quota involved was in fact a quota transfer. The Commission agreed that provisions covering these reporting requirements should be incorporated in the Commission's regulations.

c) Report of *ad hoc* Working Group on Enforcement in Div. 3M

The Chairman of the Working Group, Mr S. W. Bartlett (Canada), presented his report (see Appendix IV). Discussions had taken place on coordinating surveillance activities on the Flemish Cap but since the participants in the meeting, other than from Canada, were unable to be definite about resources available to them, pending consultation with their authorities, the Working Group planned to meet again once information had been submitted by Contracting Parties concerning such resources. The Commission accepted, with slight modification, the Report of the *ad hoc* Working Group and adopted its recommendations.

d) Canadian proposal for standard minimum mesh size for groundfish in the Regulatory Area

The delegate of Canada presented a Canadian proposal (Appendix V) which noted that the Canadian authorities would require, as of 1 January 1981, a mesh size of 130 mm, irrespective of the material used, in all towed gear used in the groundfish fishery other than for redfish in Subarea 3 and for silver hake in Div. 4VWX. It proposed that a similar regulation be adopted for the NAFO Regulatory Area. As many delegations presented objections, the delegate of Canada agreed to present the proposal to the Annual Meeting of the Commission and stated that the implementation date in both the NAFO proposal and the Canadian regulations would be changed to 1 July 1981.

8. Adjournment

The Commission adjourned at 1240 hrs, 7 March 1980.

Appendix I

Agenda for the First Special Meeting of the Fisheries Commission — March 1980

1. Opening by the Chairman, Capt. J. C. E. Cardoso (Portugal)
2. Adoption of Agenda
3. Appointment of Rapporteur
4. Review of Commission membership
5. Conservation measures for fish stocks outside national fishing limits in Subarea 3
(Report of the Fisheries Commission of NAFO, June 1979, *NAFO Annu. Rept.*, 1: p. 67.)
(Report of the Special Meeting of the Scientific Council of NAFO, February 1980, *NAFO SCS Doc.* 80/1).
6. Conservation measures for fish stocks partly inside and partly outside national fishing limits in Subareas 3 and 4
(Report of the Fisheries Commission of NAFO, June 1979, *NAFO Annu. Rept.*, 1: 59-60.)
(Report of the Special Meeting of the Scientific Council of NAFO, February 1980, *NAFO SCS Doc.* 80/1.)
 - a) Capelin in Div. 3LNO
 - b) Cod in Div. 3NO
 - c) Squid (*Illex*) in Subareas 3 and 4
7. Adaptation of ICNAF conservation and enforcement measures for NAFO
(Report of the Fisheries Commission of NAFO, June 1979, *NAFO Annu. Rept.*, 1: p. 60.)
(Report of the Working Group on Adaptation of ICNAF Conservation and Enforcement Measures for NAFO, *NAFO FC Doc.* 80/5.)
8. Reporting of national catches separately by EEC to NAFO
(Report of the Fisheries Commission of NAFO, June 1979, *NAFO Annu. Rept.*, 1: p. 59.)
9. Transferability of catch quotas between Contracting Parties
(Report of the Fisheries Commission of NAFO, June 1979, *NAFO Annu. Rept.*, 1: p. 59.)
10. Other Matters
11. Adjournment

Appendix II

Conservation Proposals (7) and (8) from the First Special Meeting of the Fisheries Commission — March 1980

(7) Proposal for International Regulation of the Fisheries in Subarea 3 of the Convention Area, Adopted by the Fisheries Commission of the Northwest Atlantic Fisheries Organization on 7 March 1980

That, in 1980, the Contracting Parties conduct their fisheries in the Regulatory Area in such a manner that catches shall not exceed the total allowable catches and the quotas (metric tons) set out in the following table:

Contracting Party	Cod		Capelin
	Div. 3M	Div. 3NO	Div. 3LNO
Bulgaria	—	—	—
Canada	100	9,800	16,000 ^a
Cuba	480	850	—
European Economic Community	2,405	210	—
Faroe Islands	2,900	—	—
German Democratic Republic	—	—	—
Iceland	—	—	—
Japan	—	—	—
Norway	1,200	—	—
Poland	500	—	—
Portugal	3,500	1,100	—
Romania	—	—	—
Union of Soviet Socialist Republics	1,270	4,340	—
Others	85	700	—
Special Reservation ^b	560	9,000	—
Total	13,000	26,000	16,000

^a Reserved for the Canadian inshore fishery in Div. 3L.

^b Reserved for Spain.

(8) Proposal for International Regulation of the Fisheries for Squid (*Illex*) in Subareas 3 and 4 of the Convention Area, Adopted by the Fisheries Commission of the Northwest Atlantic Fisheries Organization on 7 March 1980

That, in 1980, the Contracting Parties conduct their fisheries in the Convention Area in such a manner that catches shall not exceed the total allowable catch and the quotas (metric tons) set out in the following Table^a.

Contracting Party	Squid (<i>Illex</i>) (Total Allowable Catch	
	3 + 4 ^b	— 150,000 metric tons)
Bulgaria	500	
Cuba	2,250	
Faroe Islands	—	
German Democratic Republic	—	
Iceland	—	
Japan	2,250	
Norway	—	
Poland	1,000	
Portugal	500	
Romania	500	
Union of Soviet Socialist Republics	5,000	
Special Reservation ^c	2,250	

^a Any quota listed above may be increased by a transfer from any other quota listed above, or by a transfer from any "coastal state" as defined in Article I, paragraph 3, of the NAFO Convention, provided that the TAC is not exceeded. Such transfers shall be reported promptly to the Executive Secretary.

^b The opening date for the squid (*Illex*) fishery is 1 July 1980.

^c Reserved for Spain.

Appendix III

Canadian Request for Action by Members to Improve Enforcement Operations in Division 3M from the First Special Meeting of the Fisheries Commission — March 1980

Having noted the recent Scientific Council conclusions (*NAFO SCS Doc. 80/11/1*) relating to the seriously depressed status of the cod stock in Division 3M (Flemish Cap), and having noted the report by the Executive Secretary on fishing activity and enforcement in 1978 as contained in *ICNAF Comm. Doc. 79/VI/17* which highlights the disregard of the Commission's conservation measures in some cases, Canada requests the Commission to take appropriate action to improve the effectiveness of the Scheme of Joint International Enforcement in the area as a step toward restoration of the stock.

Canada has been, and will continue to play a role in carrying out its commitment to the Scheme in Division 3M and requests other Members to participate more fully in implementing patrols and inspections of vessels of all nations operating in that Division.

To give better effect to the Scheme, Canada suggests that the Commission undertake a program toward coordination of surveillance activities to establish more extensive coverage of fishing operations through scheduling of patrols by inspection vessels of all nations. To plan a program of mutual participation, the Commission is requested to establish a working group to consider this proposal and to report back to the Commission by Friday, 7 March 1980.

Appendix IV

Report of *ad hoc* Working Group on Enforcement in Division 3M from the First Special Meeting of the Fisheries Commission — March 1980

1. In accordance with the requirements of the Fisheries Commission, a meeting of representatives from Canada, the European Economic Community (EEC), the Faroe Islands, Norway, Portugal, and the USSR (Appendix I) was convened at 0920 hrs on 6 March 1980 by Canada to prepare a preliminary plan of mutual participation for appropriate action to improve the effectiveness of the Scheme of Joint International Enforcement as a step toward restoration of the stocks in Div. 3M.
2. Mr S. W. Bartlett (Canada) was elected Chairman and the Executive Secretary was appointed Rapporteur.
3. Statements were made by each representative regarding the availability of surveillance resources. All representatives could not make commitments but would have to refer back to their Governments for decision. The **representative of Portugal** agreed to find out if his Government could make a fishing vessel available which might carry a foreign inspector. He pointed out that fishing operations would most likely be a priority. The **representative of USSR** agreed to request of his Ministry if a vessel or vessels and inspectors could be made available. The **representative of the Faroe Islands** indicated that Faroese patrol vessels were very much in demand in the eastern Atlantic but promised to make inquiries. He thought that there might be a possibility of an inspector for three to four months on a fishing vessel during the May-September period. The **representative of Norway** stated that his Government would be unable to provide any resources. The **representative of the EEC** could make no firm commitment for 1980. The transporting of a foreign inspector on a fishing vessel would be explored further, but could cause legal difficulties. For 1981, two Member States of the EEC might be able to send resources to Div. 3M. Possibilities for both years would be explored. The **representative of Canada** reported that Canada had carried and would continue to carry out surveillance in Div. 3M. In 1979, Canada spent 70 days on surveillance in Div. 3M; in 1980, 20 days to the present.
4. The *ad hoc* Working Group
recommended
 - a) that the Executive Secretary circulate a letter to **all** Contracting Parties immediately after the Commission Meeting, requesting them to submit information by mid-April 1980 on availability of surveillance resources during 1980;
 - b) that Contracting Parties be reminded that an inspection vessel should be equipped with a suitable boarding craft (the Canadians have found a "Zodiac" most useful), and
 - c) that a meeting of available members of the Working Group be convened after mid-April to coordinate a program of surveillance activities for 1980 in Div. 3M.
5. The meeting of the *ad hoc* Working Group adjourned at 1000 hrs, Thursday, 6 March.

Appendix V

Canadian Proposal for the Regulation of Minimum Mesh Size for the Fishing of Groundfish in the Regulatory Area from the First Special Meeting of the Fisheries Commission — March 1980

Noting the practical advantages of having a standard minimum mesh size for all gears used in the fishery for groundfish in the Regulatory Area, and noting that the Government of Canada hereby gives notice that effective 1 January 1981 all towed gears used in the fishery for groundfish in Canadian fisheries waters will be subject to a minimum mesh size of 130 mm irrespective of material except when fishing for redfish in Divisions 3NOP and Subarea 4 and for silver hake,

The Commission, therefore, in order to provide consistency of regulation,

recommends

that, effective 1 January 1981, Contracting Parties take appropriate action to prohibit the taking of groundfish other than redfish and silver hake in waters of the Regulatory Area by persons under their jurisdiction with trawl nets (towed gear) having in any part of the net, meshes of dimensions of less than 130 mm or 5-1/8 inches irrespective of material. The mesh size relates to netting when measured wet after use or the equivalent thereof when measured dry before use.

Appendix VI**List of Participants for the First Special Meeting of the
Fisheries Commission — March 1980**

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PART 5

Report of the Regular Meeting of the NAFO Scientific Council

Dartmouth, Nova Scotia, Canada, 3-13 June 1980

1. Introduction

The Scientific Council and its Standing Committees met at NAFO Headquarters in the Bedford Institute of Oceanography, Dartmouth, Canada, during 3-13 June 1980, under the chairmanship of R. H. Letacounoux, to consider and report on the various matters listed in the agenda (see Appendix I). In addition to dealing with matters of general scientific interest, the Council considered requests from the Fisheries Commission and the coastal Contracting Parties (Canada and European Economic Community) for advice on management in 1981 of a number of stocks in Subareas 0 to 4. Representatives attended from Canada, Cuba, EEC (Denmark, Federal Republic of Germany and France), German Democratic Republic, Japan, Poland and USSR, with observers present from Spain and USA (see List of Participants in Appendix III).

2. Fishery Science

a) General Fishery Trends

The total nominal catch of all species (except seaweeds) in Subareas 0 to 6 was about 2.97 million tons in 1979, an increase from 2.84 million tons in 1978. The total catch of "groundfish" species increased from 1.14 million tons in 1978 to 1.24 million tons in 1979 (9%); within that group increases were noted for cod (20%) in Subareas 1, 3 and 4, for redfish (10%) in Subareas 2 and 3, for yellowtail flounder (25%) in Subareas 3 and 5, for Greenland halibut (10%) in Subareas 1 and 4, and decreases occurred for haddock (12%) in Subareas 4 and 5, for silver hake (16%) in Subarea 5, for witch flounder (18%) in Subarea 3, and for roundnose grenadier (42%) in Subarea 3. The total catch of pelagic species declined from 605,000 tons in 1978 to 577,000 tons in 1979 (5%), due largely to a decline for herring (18%) in Subarea 4, although increases were noted for mackerel (18%) in Subarea 4 and for menhaden (8%) in Subareas 5 and 6. For the "other fish" category, the total catch declined from 177,000 tons in 1978 to 128,000 tons in 1979 (28%), due entirely to a major decrease for capelin (65%) in Subarea 3. The total catch of "invertebrate" species increased from 916,000 tons in 1978 to 1,024,000

tons in 1979 (12%), with increases noted for squids (61%) in Subareas 3, 4 and 5, for clams (13%) in Subarea 6, and for shrimp (15%) in Subareas 1, 2 and 4, and a decrease for scallops (9%) in Subareas 5 and 6.

With respect to the nominal catches of all species by subarea, increases from 1978 to 1979 were recorded for Subarea 0 (1,000 to 2,000 tons), Subarea 1 (128,000 to 170,000 tons), Subarea 3 (575,000 to 620,000 tons), Subarea 4 (724,000 to 729,000 tons), Subarea 5 (529,000 to 557,000 tons) and Subarea 6 (801,000 to 816,000 tons), and a decrease for Subarea 2 (77,000 to 72,000 tons).

b) Stock Assessments

i) Summary

STACFIS reviewed the state of, and advised on, catch levels in 1981 for a number of stocks in Subareas 0 to 4, which lie completely or partly within the 200-mile fisheries zones of Canada and the EEC and the three stocks which lie outside national fisheries zones in Div. 3M. Insofar as it was possible, total allowable catch (TAC) levels for 1981 were advised and these are listed in the last column of Table 1.

When it was possible to do so for some stocks, management options at various levels of fishing mortality and the long-term effects on catch and biomass were presented rather than a TAC associated with a particular level of fishing mortality, in accordance with requests from Canada and the European Economic Community. Such management options were provided for the cod stocks in Subarea 1 and Div. 2J+3KL.

Increases in TAC for 1981, compared with 1980, were advised for American plaice in Div. 3LNO, yellowtail in Div. 3LNO, and Greenland halibut in Subarea 2 + Div. 3KL. Decreases in TAC were advised for witch flounder in Div. 2J+3KL and Div. 3NO, roundnose grenadier in Subareas 2+3, and silver hake in Div. 4VWX. In the case of redfish and wolffishes in Subarea 1, the information available was inadequate for assess-

TABLE 1. Summary of recent catches (1974-79) and TACs (1974-80) for stocks reviewed at the June 1980 meeting of STACFIS, together with the advised TACs for 1981.

Species	Stock area	Nominal catches (000 tons)						TACs (000 tons)							
		1974	1975	1976	1977	1978	1979 ^a	1974	1975	1976	1977	1978	1979	1980	1981
Cod	1	48	48	33	38	39	51	107	60	45	31	() ^c
	2J+3KL	373	288	214	173	139	172	657	554	300	160	135	180	180	() ^c
	3M	25	22	22	25	33	30	40	40	40	25	40	40	13	() ^d
	3NO	73	44	24	18	15	28	101	88	43	30	15	25	26	() ^d
Redfish	1	3	9	14	31	8	9	—	—	—	—	13	() ^c
	3M	35	16	17	20	17	20	40	16	16	16	16	20	20	(20)
	3LN	22	18	21	16	12	14	28	20	20	16	16	18	25	(25)
Silver hake	4VWX	96	116	97	37	48	52	100	120	100	70	70	70	90	(70-80)
A. plaice	3M	2	2	1	1	1	1	2	2	2	2	4	2	2	(2)
	3LNO	46	43	52	44	50	49	60	60	47	47	47	47	47	(55)
Witch	2J+3KL	16	12	11	8	7	4	22	17	17	17	17	17	17	(8)
	3NO	8	6	6	6	3	3	10	10	10	10	10	7	7	(5)
Yellowtail	3LNO	24	23	8	12	15	18	40	35	9	12	15	18	18	(21)
G. halibut	0+1	14	25	16	13	12	19	—	—	20	20	20	25	25	(25)
	2+3KL	27	29	25	32	39	34	40	40	30	30	30	30	35	(55)
R. Grenadier	0+1	12	5	9	3	6	7	—	10	14	8	8	8	8	(8)
	2+3	28	27	21	15	21	8	32	32	32	35	35	35	30	(27)
Wolffishes	1	6	6	6	6	6	17	—	—	—	—	—	—	—	() ^c
Argentine	4VWX	17	15	7	2	2	3	25	25	25	20	20	20	20	(20)
Capelin	2+3K	127	199	216	152	55	12	110	160	160	212	212	75	5	() ^d
	3LNO	158	166	144	74	30	12	148	180	180	200	200	10	16	() ^d
Shrimp	0+1	22	38	50	42	34	37	—	—	—	36 ^e	40 ^e	29.5 ^e	29.5 ^e	() ^d
Squid	2-4	1	18	42	83	94	160	—	—	—	—	100	120	150	(150)

^a Provisional statistics.

^b Catches restricted to Greenlanders' fishery and to by-catch.

^c See relevant subsections of STACFIS Report (NAFO Sci. Coun. Rept., 1979/80: 71-89).

^d Deferred to mid-term meeting.

^e TACs pertaining to offshore grounds.

ment, and the Council could only indicate approximate sustainable yield levels based mostly on historical catch data.

In view of the substantial contribution of recruiting year-classes to annual yields, no TACs were advised for the shrimp stocks in Subareas 0+1 and the two capelin stocks in Subareas 2+3, because of the necessity of having available complete information from the commercial fishery and research vessel surveys in 1980. Advice on TAC levels in 1981 for the cod stocks in Div. 3M and Div. 3NO was also deferred to a mid-term meeting, due to the continued uncertainty about the state of those stocks and the need to consider potentially valuable data from the commercial fishery and research vessel surveys in 1980. In view of the unlikely prospect that the abundance of squid in 1981 could be predicted, the Council reiterated the management regime proposed for squid at its Special Meeting in February 1980 (Part 2, this volume).

ii) Additional comments relevant to assessments

Fishery statistics for Subarea 1. In its review of the stock assessments, particularly with reference to cod and redfish and possibly other species in Subarea 1, the Council noted the implications that the data base (i.e. Statistical Bulletin) contained inaccurate catch and effort statistics. Although the magnitude of the discrepancies had not yet been determined, the Council strongly urged that, if the errors were large, updated statistics should be reported to the Secretariat, so that the data base could be amended for future use.

Redfish in Divisions 3L and 3N. The Council noted the great uncertainty associated with the assessment of that stock and agreed that the calculated equilibrium yield at 2/3 F_{MSY} of 32,000 tons was likely to be an overestimate. Not being able to realistically specify a particular catch associated with 2/3 F_{MSY} , the Council

advised that a catch of 25,000 tons in 1981 should control fishing effort at a level less than that associated with F_{MSY} .

Wolffishes in Subarea 1. The Council noted the problems associated with assessing wolffish in Subarea 1 due to the limited biological information available and the absence of information on separate catch statistics for the two commercially-caught species. The scientific necessity of breaking down the catches of wolffish by species was noted, if detailed assessments of the wolffish stocks were required. The matter was referred to STACREC for further consideration.

Squid-Illex in Subareas 3 and 4. The Council agreed that it would be unnecessary to consider the management of squid at a mid-term meeting in 1981 but that a 3-day session should be held immediately before the June 1981 Meeting of the Scientific Council to consider all of the biological information that might be available at that time.

c) Gear and Selectivity

The Council noted the results of mesh selection studies on Greenland halibut in 1979, and approved **recommendation (1)**

that selection studies on Greenland halibut be continued, using a range of mesh sizes including the current minimum mesh size in effect (130 mm).

d) Ageing Techniques and Validation Studies

The Council noted that the guidelines for cod otolith interpretation were not yet available and confirmed

recommendation (2)

that those guidelines be prepared and documented in time for the September 1980 Meeting of the Council.

Regarding the apparent discrepancies in age interpretation of redfish by scales and otoliths, the Council ratified

recommendation (3)

that scientists of the various laboratories search their data files for sampling data which validate redfish ageing by otoliths or scales and document such data;

that validation of ageing redfish by scales be presented, and

that comparative ageing studies on the same red-

fish specimens be initiated by the exchange of material between Canadian and Federal Republic of Germany scientists.

The Council also noted the apparent discrepancies in age interpretation of roundnose grenadier, and therefore agreed on

recommendation (4)

that an exchange of ageing material for grenadier be initiated between Federal Republic of Germany and German Democratic Republic scientists in an attempt to resolve the differences.

3. Research Coordination

a) Statistics and Sampling

i) CWP activities relevant to NAFO statistics

The Council noted the work of the Coordinating Working Party on Atlantic Fishery Statistics (CWP) particularly with regard to the operation of the STATLANT system, the development of a standard world list of 3-alpha species identifiers, the improvements to standards for fishing vessels, gear and effort, and the updating of conversion factors. It was also noted that the 10th Session of the CWP would be held at Madrid, Spain, during 22-29 July 1980, with NAFO being represented by the Assistant Executive Secretary and two Canadian nominees, Dr W. G. Doubleday and Mr D. A. Tilley. Concerning the recent use of "off-bottom" trawls in some areas for some directed fisheries, the Council endorsed the STACREC

recommendation (5)

that the Assistant Executive Secretary obtain from Canadian scientists an account of the recent use of the "off-bottom" trawl, including a description of the trawl, for consideration at the 10th Session of the CWP, with a view to its possible incorporation in the standard gear list.

ii) Fishery statistics

The Council expressed grave concern about the difficulties being encountered by the Secretariat, after the implementation of 200-mile fisheries management zones, in obtaining and compiling fishery statistics for stock assessments and for publication in the Statistical Bulletin. The problems were attributed in part to the late submission of STATLANT 21 reports by member states and in part to complications arising from the reporting of statistics from cooperative arrangements between Canada and other countries. The notes for the completion of

STATLANT forms have been modified to avoid confusion about reporting procedures, and the Council urged that particular attention be given to the preparation of future STATLANT submissions.

In considering the content and format of the NAFO Statistical Bulletin, the Council endorsed the STACREC

recommendations (6) (7) (8)

that the NAFO list of species be amended to include the two commercially-caught species of wolffish (*Anarhichas lupus* and *A. minor*), the two species of redfish (*Sebastes marinus* and *S. mentella*), blue ling (*Molva byrkelange*), and roughhead grenadier (*Macrourus berglax*), with their 3-alpha identifiers;

that the Secretariat circulate to Scientific Council members for comment sample listings of the proposed new format for Statistical Bulletin Table 5, and present the findings for decision at the September 1980 Meeting of the Scientific Council; and

that countries reporting large quantities of unspecified finfish in their national statistics should conduct studies during fishing operations with a view to providing an estimated breakdown of such quantities by species in future reports.

iii) Sampling program

The Council noted that the sampling data base for 1977 and 1978 was still incomplete, thus delaying the publication of the lists in Sampling Yearbook, and strongly urged scientists to check their national files to ensure that all available commercial length compositions and age-length keys be submitted to the Secretariat as soon as possible. The Council emphasized that the new CFS-1 and CFS-2 forms should be used in reporting data for 1979 and subsequent years, and urged that all national data, as well as sampling data collected by international observers, be forwarded to the Secretariat for incorporation into its data base.

The Council noted the results of studies related to an appropriate partial length measurement for grenadiers and endorsed the STACREC

recommendation (9)

that length measurements of the roundnose (*Macrourus rupestris*) and roughhead (*M. berglax*) grenadiers separated by sex be made and

reported as partial lengths, measured from the tip of the snout to the base of the first anal fin-ray (anal-fin length) in half-cm intervals.

iv) Scientific observer program

The Council endorsed the procedures adopted by STACREC for the collection and reporting of data by international observers, noting that the Secretariat should coordinate the development of a suitable form for the reporting of set details, and reiterated the STACREC

recommendation (10)

that the bilateral parties involved in the International Observer Scheme should identify the appropriate fisheries to be covered.

v) List of fishing vessels

The Council agreed that publication of the triennial list of vessels should be continued without change, but indicated that the Fisheries Commission might wish to comment on the adequacy of the vessel characteristics listed in the tables.

b) Biological Surveys

i) Survey activity

The Council noted that STACREC had reviewed research vessel survey activities in the Northwest Atlantic in 1979 and survey plans for 1980, details of which are listed in *NAFO Sci. Coun. Rept. 1979/80*, p. 96-97.

ii) Manual on groundfish surveys

The editor (Dr W. G. Doubleday) informed the Council that a revised draft of the manual, planned for review immediately would be provided at the September 1980 Meeting. Meanwhile, the Council urged its members to provide the editor with information on survey methodology as noted in *NAFO Sci. Coun. Rept. 1979/80*, p. 95-96. No amendments to survey stratification schemes were reported, but Danish scientists indicated that the scheme for Subarea 1 was under revision.

iii) Special survey needs

The Council observed that there was an increasing tendency to use data from research vessel surveys for estimating the minimum trawlable biomass of certain stocks, especially those for which analytical assessments were difficult or impossible. In particular, the

increase in survey activity on the Grand Bank and Flemish Cap since 1978 was noted, and the Council endorsed the STACREC

recommendation (11)

that the effectiveness of the existing survey activity for cod in Div. 3M, 3N and 3O be evaluated in order to determine future needs in these divisions.

c) Environmental Studies

i) Environmental conditions in 1979

The Council noted that the review of environmental conditions in 1979 must be considered preliminary as it lacked input from the Marine Environmental Data Service (MEDS), whose progress report for 1979 was not completed in time for the meeting and would now be considered at the September 1980 Meeting.

ii) Flemish Cap project

The Council observed that preliminary discussion of data being accumulated for the Flemish Cap area took place at a meeting of the Working Group in January 1980, and that further analyses would be considered at the September 1980 Meeting. Meanwhile, concern was expressed about the excessive loss of a number of moored current meters and their guard buoys, presumably through fishing activity, and the Council strongly supported

recommendation (12)

that the Fisheries Commission consider how the fishing fleets might best be made aware of the location of moored scientific equipment in the NAFO Area.

iii) Gulf of Maine-Georges Bank project

The Council noted that the Task Force on the Larval Herring Program had preliminary discussions in a meeting at Woods Hole, USA, during 28 April-1 May 1980, and that a more comprehensive review of the data was planned for September 1980. The Council agreed to endorse the STACREC

recommendation (13)

that the Task Force on the Larval Herring Program should meet on 3-4 September 1980, in conjunction with the Scientific Council Meeting at St. John's, Newfoundland, to review further the analysis of the time series of data and to evaluate the data base with emphasis on factors affecting the recruitment process in herring.

iv) Other cooperative research projects

Noting the need for expansion of survey activity to cover the likely times and areas of larval and juvenile squid (*Illex*) distribution, the Council endorsed the action of STACREC in establishing a working group to examine the status of cooperative studies on squid and to coordinate survey activity, and ratified

recommendation (14)

that the *ad hoc* Working Group on Coordination of Squid Research, with Mr T. Rowell (Canada) as Convener, meet immediately before the September 1980 Meeting of the Council to consider final vessel availability and program planning relative to surveys for larval and juvenile *Illex* in early 1981.

4. Publications

a) Consideration of Publication Requirements

The Council endorsed the proposals of STACPUB relating to the format and numbering of the Statistical Bulletin, Sampling Yearbook, List of Fishing Vessels, and Scientific Council Reports, and noted that final decisions on other scientific publications and editorial policy relating to them were deferred to the September 1980 Meeting. Meanwhile, the Secretariat was requested to proceed with the preparation of material for the first NAFO Research Bulletin.

b) Status of Working Papers

The Council endorsed the views of STACPUB that working papers have no official status outside of the meetings to which they are presented, and strongly emphasized that scientists intending to present substantial data and analyses should suitably prepare the material for distribution as research documents.

c) Papers for Possible Publication

The Council noted that the STACPUB members had reviewed all research documents presented to the November 1979, February 1980 and June 1980 Meetings, and have nominated 17 of them for possible publication in one of the NAFO publication series, subject to revision by the authors and acceptance by the editors.

5. Collaboration with Other Organizations

a) NAFO Participation in 10th Session of CWP

The Council noted that the 10th Session of the Coordinating Working Party on Atlantic Fishery

Statistics would be hosted by ICCAT and ICSEAF at Madrid, Spain, during 22-29 July 1980, to discuss a variety of statistical matters, and that NAFO would be represented by the Assistant Executive Secretary and two Canadian nominees, Dr W. G. Doubleday and Mr D. A. Tilley.

b) Proposed NAFO/ICES Study on Redfish

The Council noted that the spawning areas of redfish inhabiting Subarea 1 were actually outside the NAFO area in the adjacent ICES region, and agreed that studies of the stock and fisheries in the area should be considered in cooperation with ICES. The main objective of the proposed joint study was to investigate whether the redfish resource of West Greenland could be assessed and managed separately from redfish in the adjacent ICES region. The second objective should be to identify deficiencies in the data base and, if necessary, to develop research programs to collect the relevant information. The third objective should be to assess the status of the stock and to advise on the management of redfish in Greenland waters.

The study could be initiated by evaluating all available information on (i) distribution and drift of larvae and 0-group redfish at East and West Greenland and in the Irminger Sea, (ii) distribution and emigration of juvenile and adult redfish along the Greenland coast and to the spawning areas in the Irminger Sea on the basis of tagging results and changes in modal length, with a view to establishing immigration and emigration coefficients to be used in assessments, and (iii) the establishment of a catch-at-age series (including estimates of by-catches and discards in the fisheries for cod and shrimp) and a catch-per-unit-effort series for assessments.

Noting the need for immediate action on the above proposal, the Council decreed the

recommendation

that the Executive Secretary should communicate with the General Secretary of ICES with a view to initiating the establishment of a Joint NAFO/ICES Working Group on Redfish Research in the Greenland Area.

6. Rules of Procedure

a) Revision to Rules of Procedure

At the Inaugural Meeting of NAFO in March 1979, the Scientific Council adopted its Rules of Procedure as listed in *NAFO Sci. Coun. Rept. 1979/80*, p. 9-11. Meanwhile, the General Council appointed an *ad hoc* Working Group to examine the proposed Rules of Procedure for the General Council and the

Fisheries Commission, which were subsequently adopted at the June 1979 Annual Meeting. The Working Group also analyzed the Rules of Procedure for the Scientific Council and proposed certain amendments which were referred to the Executive Committee for consideration (*NAFO SCS Doc. 80/VI/2*). The revised Rules of Procedure were presented to the Scientific Council and were unanimously adopted on 13 June 1980 (see Appendix II).

b) Guidelines for the Application of Rule 1.2 in the Event of a Request for an Invitation to Attend a Meeting of the Scientific Council as an Observer

The Executive Committee recommended and the Scientific Council unanimously agreed that a request for an invitation to attend a meeting of the Scientific Council should be dealt with by the Executive Secretary in the following manner:

- i) If the request came from an international public organization having related objectives, the reply should be positive, as required by the Convention. If the international public organization did not appear to have related objectives, it should be replied that admission was subject to the approval of the Scientific Council by vote at the beginning of the meeting in question.
- ii) If the request came from a non-Member Government, it should be replied that admission was subject to the approval of the Scientific Council by vote at the beginning of the meeting in question.
- iii) If the request came from a national public organization or any private organization, it should be replied that admission was subject to:

the acceptance of a paper or papers presented by the requesting organizations, of significant scope relevant to any item or items of the agenda of the meeting in question, with the presence of the requesting organization only allowed in the sessions dealing with the paper(s) and item(s) in question; such paper(s) must be submitted to the Secretariat at least 30 days before the commencement of the Scientific Council meeting during which the paper would be expected to be considered;

approval by the Contracting Party within whose jurisdiction the requesting headquarters or branch of the organization was located; and

approval of the Scientific Council by vote at the beginning of the meeting in question.

The presented paper(s) should be sent to the Chairman of the Scientific Council and to the representatives of the Contracting Party referred to above. Without the assent of every one of those representatives, the request should be immediately rejected. Once the assent of all those representatives would be in hand, the request and the paper(s) should be sent to their Contracting Party without whose approval the request should also be rejected.

7. Future Scientific Meetings

a) Annual Meeting of NAFO, September 1980

The Scientific Council and its Standing Committees would meet during 3-8 September 1980 to consider the following items, some of which were deferred from the present meeting.

- i) Larval herring studies in the Gulf of Maine-Georges Bank area, 1970-79.
- ii) Evaluation of the Flemish Cap research program.
- iii) Review of proposed manual on groundfish surveys.
- iv) Review of MEDS progress report for 1979/80.
- v) Guidelines for cod otolith interpretation.
- vi) Coordination of research surveys for *Mallot* in 1981.
- vii) Plans for joint NAFO/ICES research on redfish in the Greenland area.
- viii) Proposed new Table 5 for Statistical Bulletin.
- ix) Editorial policy relating to publications.

b) Mid-term Meeting for Assessment of Deferred Stocks

The Council noted that STACFIS had not been able to provide advice for management in 1981 of shrimp in Subareas 0 and 1, capelin in Subareas 2 and 3, and cod stocks in Div. 3M and 3NO, and agreed that an appropriate time to consider the status of those stocks would be a meeting early in 1981, when data from the commercial fisheries and research surveys would be fully available. Arrangements for that mid-term meeting would be considered at the September 1980 Meeting.

c) Special Topics for Review at 1981 Meetings of the Scientific Council

- i) A special session on "Squid biology and distri-

bution" would be held immediately before the June 1981 Meeting of the Council to review all information that might be available at that time.

- ii) The topic "Evaluation of scientific advice provided for management of the Northwest Atlantic fish stocks, with particular reference to cod" to be considered by STACFIS at the June 1981 Meeting, when one or more papers on the subject would be expected to be available.
- iii) A special session with invited lectures on "Remote sensing methods and their possible application to fisheries science" to be held during the September 1981 Meeting of the Council, with Dr R. W. Trites (Canada) as convener.
- iv) A special session on "Review of environmental conditions in the Northwest Atlantic during the 1970-79 decade" to be held during the September 1981 Meeting of the Council, the convener to be appointed at the September 1980 Meeting.

8. Other Business

a) Provisional Report of February 1980 Meeting

The Council reviewed and formally approved the report of its meeting at Lisbon, Portugal, during 5-13 February 1980.

b) Tribute to L. R. Day, retiring Executive Secretary

The Chairman, noting that Mr L. R. Day had been the Executive Secretary of ICNAF (now NAFO) since 1963, and would be retiring at the end of June 1980, expressed sincere thanks to Mr Day on behalf of the Scientific Council and wished him good health, good friends and good days in St. Andrews.

9. Adjournment

The Chairman expressed his appreciation to the Director and staff of the Bedford Institute for the excellent meeting facilities, to the Secretariat for their usual efficient work in servicing the meeting, to the chairmen and rapporteurs of committees and working groups and to all participants for their cooperation and contributions. The meeting adjourned at 1300 hours on 13 June 1980.

Appendix I

Agenda for the Regular Meeting of the Scientific Council — June 1980

- I. Opening (Chairman: Mr R. H. Letaconnoux)
 1. Appointment of rapporteur
 2. Adoption of agenda
 3. Plan of work
 4. Election of Vice-chairman, following the resignation of Dr A. S. Seliverstov

- II. Fishery Science (Chairman: Dr G. H. Winters)
 1. General review of catches and fishing activity in 1979
 2. Stock Assessments
 - a) Stocks lying completely outside the Canadian 200-mile fishery zone in Subarea 3, as required by the Fisheries Commission:
 - i) Cod (3M)
 - ii) Redfish (3M)
 - iii) American plaice (3M)
 - b) Stocks lying within or partly within the Canadian 200-mile fishery zone in Subareas 2, 3 and 4 for which advice on the scientific basis for management in 1981 has been requested by Canada:
 - i) Cod (2J+3KL, 3NO)
 - ii) Redfish (3LN)
 - iii) Silver hake (4VWX)
 - iv) American plaice (3LNO)
 - v) Witch flounder (2J+3KL, 3NO)
 - vi) Yellowtail flounder (3LNO)
 - vii) Greenland halibut (2+3KL)
 - viii) Roundnose grenadier (2+3)
 - ix) Argentine (4VWX)
 - x) Capelin (2+3K, 3LNO)
 - xi) Squid-*Illex* (3+4)
 - c) Stocks within the EEC fishery zone in Subarea 1 for which advice on the scientific basis for management in 1981 has been requested by the EEC:
 - i) Cod (1)
 - ii) Redfish (1)
 - iii) Wolffish (1)
 - d) Stocks overlapping the Canadian and EEC fishery zones in Subareas 0 and 1 for which advice on the scientific basis for management in 1981 has been requested by Canada and the EEC:
 - i) Greenland halibut (0+1)
 - ii) Roundnose grenadier (0+1)
 - iii) Shrimp (0+1)
 - e) Other matters relevant to assessments:
 - i) Uniform mesh size for silver hake and squid fisheries in Subarea 4 (*ICNAF Redbook* 1979, p. 51 and 83)
 - ii) Commencement date for squid fishery in Subareas 3 and 4 (*ICNAF Redbook* 1979, p. 59)
 3. Gear and Selectivity
 - a) Selection studies on silver hake and squid-*Illex* (*ICNAF Redbook* 1979, p. 51)
 - b) Selection studies on Greenland halibut (*ICNAF Redbook* 1979, p. 57)
 - c) Other selectivity studies
 - d) Gear studies
 4. Ageing Techniques and Validation Studies
 - a) Further progress on ageing silver hake
 - b) Guidelines for cod otolith interpretation
 - c) Further progress on ageing squid from statoliths
 - d) Progress in redfish age validation studies
 - e) Ageing and validation studies on other species
 5. Fishery Science Items for Consideration at future meetings of the Scientific Council
 - a) Larval herring studies in Gulf of Maine-Georges Bank area, 1970-79
 - b) Evaluation of the scientific advice provided for management of the Northwest Atlantic fish stocks, with particular reference to cod
 - c) Review of Flemish Cap research program
 - d) Review of environmental conditions, 1970-79
 6. Other Matters

III. Research Coordination (Chairman: Dr V. A. Rikhter)

1. Statistics and Sampling

- a) CWP activities relevant to NAFO:
 - i) Operation of the STATLANT system
 - ii) Development of standard world list of 3-alpha species identifiers
 - iii) Compendium of statistical standards for fishing vessels, fishing gear and fishing effort
 - iv) Conversion factors
 - v) Agenda for 10th session of CWP
- b) Fishery statistics:
 - i) Problems relating to acquisition of 1977 and 1978 fishery statistics and effect on publication of Statistical Bulletin
 - ii) Adequacy of national reporting
 - advance statistics for mid-term assessments
 - STATLANT 21A and 21B reports
 - iii) Review of statistical requirements
 - iv) Review of data processing procedures
 - v) Consideration of tabular format for NAFO Statistical Bulletin
- c) Sampling program:
 - i) Implementation of sampling data base
 - ii) Status of Sampling Yearbook for 1977
 - iii) Efficiency of sampling in 1978
 - iv) Acquisition of Greenland halibut sampling data for previous years
 - v) Partial length measurement for grenadiers
 - vi) Review of reporting requirements for sampling data (Forms CFS-1 and CFS-2)
 - vii) Acquisition and processing of detailed 1979 data
- d) Reports on national statistical systems
- e) Scientific observer program (Working Group Convener: Mr J. S. Beckett)
- f) List of fishing vessels for 1977 and 1980
- g) Other matters

2. Biological Surveys

- a) Review of survey activity in 1979 and proposed surveys in 1980
- b) Review of proposed manual on groundfish surveys (revised draft to be prepared by the editor)
- c) Review of survey stratification schemes
- d) Progress in improving survey methods
- e) Feasibility of developing common species codes for survey data
- f) Special survey needs:
 - i) Intensification of surveys for cod stocks in Div. 3M, 3N and 3O
 - ii) Status of shrimp surveys in Subareas 0 and 1
- g) Other matters

3. Environmental Studies

- a) Review of environmental conditions in 1979
- b) Review of MEDS progress report for 1979/80:
 - i) Inventory of 1979 oceanographic data
 - ii) Data received and processed for 1979
 - iii) Progress in acquiring USSR historical data for 1975
 - iv) Involvement with Flemish Cap Project
 - v) National representatives for reporting oceanographic data to MEDS
- c) Report of Flemish Cap Working Group regarding detailed plans for a well coordinated research program for 1980, and progress to date in implementing the 1980 program
- d) Preliminary review of report of Task Force on Larval Herring Program relating to recommendations and plans for future research in Gulf of Maine-Georges Bank area
- e) Status of other cooperative research projects (e.g. off-shelf distribution of larval and juvenile *Hex*)
- f) Other matters

4. Review of Tagging Activities

- a) Report on tagging activities in 1979
- b) Other studies

5. Other Matters

IV. Publications (Chairman: Dr R. G. Halliday)

1. Consideration of Publication Requirements

- a) Statistical Bulletin (Vol. 29 for 1979)
- b) Sampling Yearbook (Vol. 24 for 1979)
- c) Selected Papers

- d) Research Bulletin
- e) List of Fishing Vessels
- f) Reports of Scientific Council Meetings (Redbook?)

- 2. Editorial Policy Relating to Publications
- 3. Other Matters

V. Collaboration with Other Organizations

- 1. NAFO Participants in 10th Session of CWP (July 1980)
- 2. Proposed ICNAF/ICES study on redfish in West and East Greenland areas (objectives, terms of reference, etc.)

VI. Review of Rules of Procedure (NAFO SCS Doc. 80/VI/2)

VII. Adoption of Committee Reports

- 1. Standing Committee on Fishery Science
- 2. Standing Committee on Research Coordination
- 3. Standing Committee on Publications

VIII. Future Scientific Meetings

IX. Other Business

X. Adjournment

Appendix II

Rules of Procedure for the Scientific Council (Revised on 13 June 1980)

REPRESENTATION

Rule 1

- 1.1 Each Contracting Party shall notify the Executive Secretary as far as possible in advance of any meeting of the names of its representatives, alternates, experts and advisers who will attend.
- 1.2 The Scientific Council may invite any non-Member Government and any international, public or private, organization to be represented at meetings of the Scientific Council or its subsidiary bodies by an observer or observers.

VOTING

Rule 2

- 2.1 Observers, experts and advisers may address plenary or subsidiary body meetings, but shall not be entitled to vote under Article X, paragraph 2.
- 2.2 Votes, in accordance with Article X, paragraph 2, shall be taken by a show of hands, by roll call, in the English alphabetical order of the names of the Contracting Parties, or by ballot, as determined by the Chairman.
- 2.3 In the case of an emergency between meetings, a vote may be taken by mail or other means of communication.

CHAIRMAN AND VICE-CHAIRMAN

Rule 3

- 3.1 The Chairman and Vice-Chairman shall take office at the conclusion of the annual meeting at which they are elected.
- 3.2 The powers and duties of the Chairman shall be:
 - a) to declare the opening and closing of each meeting;
 - b) to preside at meetings;
 - c) to rule on points of order, subject to the right of any representative to request that any ruling of the Chairman shall be submitted to the Scientific Council for decision by vote;
 - d) to call for and announce the results of votes, under Article X, paragraph 2;
 - e) to determine, after consultation with the Executive Secretary, the provisional agenda for the annual and special meetings;
 - f) to arrange for the appointment of the members of subsidiary bodies as required;
 - g) to sign a report of the proceedings of each meeting of the Scientific Council, for transmission to Contracting Parties, their representatives, and others concerned;
 - h) generally, to make such decisions and give such directions to the Executive Secretary as will ensure, especially in the interval between meetings, that the business of the Scientific Council is carried out efficiently and in accordance with the decisions; and
 - i) to act as Chairman of the Executive Committee.
- 3.3 The powers and duties of the Vice-Chairman shall be:
 - a) to exercise the powers and duties prescribed for the Chairman when he is unable to act; and
 - b) to act as Chairman of the Publications Committee.
- 3.4 If the office of the Chairman is vacated, the Vice-Chairman shall become Chairman for the balance of the term.
- 3.5 The Chairman, or Vice-Chairman when acting as Chairman, shall not vote under Article X, paragraph 2, and another representative of his delegation shall exercise this function.
- 3.6 If the offices of the Chairman and Vice-Chairman are vacated, the Chairman of the Standing Committee on Fisheries Science shall exercise the powers and duties prescribed for the Chairman, and the first order of business at the next meeting shall be the election of a Chairman and Vice-Chairman for the balance of the term.

ORDER OF BUSINESS

Rule 4

- 4.1 A provisional agenda for each annual or special meeting of the Council or any of its subsidiary bodies shall be prepared by the Executive Secretary, in accordance with the instructions from the Chairman, or the Chairman of the relevant subsidiary body, and be dispatched by the Executive Secretary to all Contracting Parties, their representatives, and invited observers, not less than 60 days before the date fixed for the opening of the meeting.
- 4.2 Except as provided in paragraph 4.3, the subject matter of a request for scientific advice from a coastal state, in accordance with Article VII, or from the Fisheries Commission, in accordance with Article VIII, shall be included in the provisional agenda for the relevant meeting of the

Scientific Council. A memorandum containing the terms of reference prescribed in Article VII shall be circulated by the Executive Secretary to the representatives of all Contracting Parties, together with the corresponding provisional agenda.

- 4.3 The Scientific Council, by unanimous vote, may waive the necessity of the 60-day advance notice of the subject matter of a request for scientific advice.

COMMITTEES

Rule 5

5.1 There shall be the following standing committees:

- a) The **Standing Committee on Fisheries Science** which shall:
- i) provide a forum for consultation and cooperation among the Contracting Parties with respect to the study, appraisal and exchange of scientific information and views relating to the fisheries of the Convention Area, including environmental and ecological factors affecting these fisheries; and
 - ii) provide scientific advice as required, in accordance with the provisions of Article VI(c) and VI(d) of the Convention.
- b) The **Standing Committee on Research Coordination** which shall:
- i) develop and recommend to the Scientific Council policies and procedures for the collection, compilation, and dissemination of statistical and sampling information on the living resources and fisheries of the Convention Area and environmental information from oceanographic investigations;
 - ii) coordinate the compilation and maintenance of statistics and records and their dissemination, including liaison with coastal states in the Convention Area;
 - iii) coordinate the planning and execution of international cooperative research in cooperation with coastal states in the Convention Area; and
 - iv) encourage and promote cooperation among the Contracting Parties in scientific research designed to fill gaps in knowledge pertaining to matters identified by the Standing Committee on Fisheries Science.
- c) The **Standing Committee on Publications** which shall:
- i) develop, coordinate and keep under review the publication and editorial policy and procedures of the Scientific Council and make recommendations thereto on these matters; and
 - ii) be chaired by the Vice-Chairman, and consist of five other members appointed by the Scientific Council.

5.2 Except as provided in paragraph 5.1, each Standing Committee shall consist of scientists, one from each Contracting Party, who may be assisted by experts and advisers, and have a Chairman who shall be elected by the Scientific Council, in accordance with the provisions of Article X, paragraph 2, to serve for two years. The Executive Secretary shall be an *ex officio* member, without vote.

5.3 There shall be an Executive Committee, composed of the Chairman and Vice-Chairman of the Scientific Council and the Chairmen of the Standing Committees. The Executive Secretary shall be an *ex officio* member of the Executive Committee. This Committee shall keep under general review the planning and execution of the Scientific Council's program and ensure that the Scientific Council's organization effectively and efficiently meets the needs of the scientific program, facilitate coordination with other organizations, and provide advice to the Chairman of the Scientific Council on

- a) the timetable for the work of the Committees and Working Groups, and
- b) input by the Scientific Council to the work of the General Council.

5.4 The Scientific Council may establish such other subsidiary bodies as required.

5.5 Except as provided in these Rules, each subsidiary body shall establish its own Rules of Procedure.

SECRETARIAT

Rule 6

- 6.1 The Scientific Council and its subsidiary bodies shall, in the exercise of their functions and duties, use the services of the Secretariat.
- 6.2 The Executive Secretary shall prepare and transmit the provisional agendas in accordance with Rule 4.1.
- 6.3 The Executive Secretary shall receive the credentials of representatives and observers at annual and special meetings and report thereon to the Scientific Council as required.

LANGUAGE

Rule 7

- 7.1 English shall be the official and working language of the Scientific Council and its subsidiary bodies, but, if desired, any other language may be used, on condition that persons doing so will provide interpreters. All official publications and communications of the Scientific Council shall be in English.

RECORDS AND REPORTS**Rule 8**

- 8.1 Summary records of each plenary and other session shall be drafted and distributed as soon as possible to the participants by the Executive Secretary.
- 8.2 Summary minutes of the proceedings of the meetings of all subsidiary bodies shall be furnished to the Scientific Council by the Executive Secretary.
- 8.3 Summary records, reports, resolutions, recommendations, and other decisions adopted shall be transmitted as soon as possible after each meeting to the Contracting Parties, their representatives, and observers, by the Executive Secretary.
- 8.4 An annual report containing the proceedings of each meeting of the Scientific Council, together with reports of all subsidiary bodies, and such other information as considered desirable, shall be prepared by the Chairman, in consultation with the Executive Secretary, and published.

FINANCIAL**Rule 9**

- 9.1 The Scientific Council shall not incur any expenditure except in accordance with a budget approved by the General Council.

Appendix III

List of Participants for the Regular Meeting of the Scientific Council — June 1980

CANADA

D. B. Atkinson	Research and Resource Services, Dept. of Fisheries and Oceans, P. O. Box 5667, St. John's, Newfoundland	A1C 5X1
C. A. Bishop	Research and Resource Services, Dept. of Fisheries and Oceans, P. O. Box 5667, St. John's, Newfoundland	A1C 5X1
W. R. Bowering	Research and Resource Services, Dept. of Fisheries and Oceans, P. O. Box 5667, St. John's, Newfoundland	A1C 5X1
G. P. Ennis	Research and Resource Services, Dept. of Fisheries and Oceans, P. O. Box 5667, St. John's, Newfoundland	A1C 5X1
D. W. Kulka	Research and Resource Services, Dept. of Fisheries and Oceans, P. O. Box 5667, St. John's, Newfoundland	A1C 5X1
W. D. McKone	Research and Resource Services, Dept. of Fisheries and Oceans, P. O. Box 5667, St. John's, Newfoundland	A1C 5X1
A. T. Pinhorn	Research and Resource Services, Dept. of Fisheries and Oceans, P. O. Box 5667, St. John's, Newfoundland	A1C 5X1
T. K. Pitt	Research and Resource Services, Dept. of Fisheries and Oceans, P. O. Box 5667, St. John's, Newfoundland	A1C 5X1
E. J. Sandeman	Research and Resource Services, Dept. of Fisheries and Oceans, P. O. Box 5667, St. John's, Newfoundland	A1C 5X1
D. A. Tilley	Research and Resource Services, Dept. of Fisheries and Oceans, P. O. Box 5667, St. John's, Newfoundland	A1C 5X1
R. Wells	Research and Resource Services, Dept. of Fisheries and Oceans, P. O. Box 5667, St. John's, Newfoundland	A1C 5X1
G. H. Winters	Research and Resource Services, Dept. of Fisheries and Oceans, P. O. Box 5667, St. John's, Newfoundland	A1C 5X1
H. J. Squires	Newfoundland Dept. of Fisheries, Atlantic Place, St. John's, Newfoundland	A0A 2E0
R. W. Trites	Marine Ecology Laboratory, Dept. of Fisheries and Oceans, P. O. Box 1006, Dartmouth, Nova Scotia	B2Y 4A2
D. C. Clay	Marine Fish Div., Dept. of Fisheries and Oceans, P. O. Box 1006, Dartmouth, Nova Scotia	B2Y 4A2
R. G. Halliday	Marine Fish Div., Dept. of Fisheries and Oceans, P. O. Box 1006, Dartmouth, Nova Scotia	B2Y 4A2
D. Waldron	Marine Fish Div., Dept. of Fisheries and Oceans, P. O. Box 1006, Dartmouth, Nova Scotia	B2Y 4A2
T. Amaratunga	Invertebrates Division, Dept. of Fisheries and Oceans, P. O. Box 550, Halifax, Nova Scotia	B3J 2S7
R. K. Mohn	Invertebrates Division, Dept. of Fisheries and Oceans, P. O. Box 550, Halifax, Nova Scotia	B3J 2S7
T. W. Rowell	Invertebrates Division, Dept. of Fisheries and Oceans, P. O. Box 550, Halifax, Nova Scotia	B3J 2S7
G. L. Brander	Statistics Division, Dept. of Fisheries and Oceans, P. O. Box 550, Halifax, Nova Scotia	B3J 2S7
P. J. G. Carrothers	Biological Station, St. Andrews, New Brunswick	E0G 2X0
R. Cormier	Biological Station, St. Andrews, New Brunswick	E0G 2X0
J. J. Hunt	Biological Station, St. Andrews, New Brunswick	E0G 2X0
P. A. Koeller	Biological Station, St. Andrews, New Brunswick	E0G 2X0
C. Kohler	Biological Station, St. Andrews, New Brunswick	E0G 2X0
R. G. Randall	Biological Station, St. Andrews, New Brunswick	E0G 2X0
J. S. Scott	Biological Station, St. Andrews, New Brunswick	E0G 2X0
J. S. Beckett	Fisheries Research Br., Dept. of Fisheries and Oceans, 240 Sparks Street, Ottawa, Ontario	K1A 0E6
W. G. Doubleday	Fisheries Research Br., Dept. of Fisheries and Oceans, 240 Sparks Street, Ottawa, Ontario	K1A 0E6

CUBA

W. Blanco Centro de Investigaciones Pesqueras, Calle 26 Esq. a Primera, Maramar, Havana

EUROPEAN ECONOMIC COMMUNITY (EEC)

Sv. Aa. Horsted	Grønlands Fiskeriundersøgelse, Jaegersborg Allé 1B, DK-2920 Charlottenlund, Denmark
P. Kannevorff	Grønlands Fiskeriundersøgelse, Jaegersborg Allé 1B, DK-2920 Charlottenlund, Denmark
R. H. Letaconnoux	Institut Scientifique et Technique des Pêches Maritimes, B. P. 1049, F-44037 Nantes-Cedex, France
J. P. Minet	Institut Scientifique et Technique des Pêches Maritimes, B. P. 26, F-97500 St. Pierre et Miquelon
J. Messtorff	Institut für Seefischerei, Fischkai, D-2850 Bremerhaven, Federal Republic of Germany
A. Schumacher	Institut für Seefischerei, Palmalle 9, D-2000 Hamburg 50, Federal Republic of Germany
R. Noe	Commission of the European Communities, 200 Rue de la Loi, 1049 Brussels, Belgium

GERMAN DEMOCRATIC REPUBLIC

W. Mahnke	Institut für Hochseefischerei, 251 Rostock-Marienehe
B. Vaske	Institut für Hochseefischerei, 251 Rostock-Marienehe

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F. Nagasaki Far Seas Fisheries Research Laboratory, 1000 Orido, Shimizu 424, Shizuoka

POLAND

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UNION OF SOVIET SOCIALIST REPUBLICS

S. M. Kovalev Polar Research Institute of Marine Fisheries (PINRO), 6 Knipovich Street, Murmansk
V. A. Rikhter Atlantic Research Institute of Marine Fisheries (AtlantNIRO), 3 Dmitry Donskoy Street, Kaliningrad
O. Pankratova All-Union Research Institute of Marine Fisheries (VNIRO), Ministry of Fisheries, 12 Rozhdestvensky Boul., Moscow
V. Kletnoy Office of USSR Representative in Canada, 2074 Robie St., Apt. 2202, Halifax, Nova Scotia B3K 5L3

OBSERVERS

A. Vasquez Instituto Investigaciones Pesqueras, Muelle de Bouzas, Vigo, Spain
V. C. Anthony Northeast Fisheries Center, Woods Hole, Mass. 02543, USA
T. Azarovitz Northeast Fisheries Center, Woods Hole, Mass. 02543, USA
A. Jearld, Jr. Northeast Fisheries Center, Woods Hole, Mass. 02543, USA
J. Palmer Northeast Fisheries Center, Woods Hole, Mass. 02543, USA

PART 6

Report of the Second Annual Meeting of the Northwest Atlantic Fisheries Organization St. John's, Newfoundland, Canada, 9-12 September 1980

A. Introduction

In accordance with the decision of the General Council, at the invitation of Canada, the Second Annual Meeting of NAFO was convened 9-12 September 1980 at the Hotel Newfoundland, St. John's, Newfoundland, Canada.

Reports of the meetings of the General Council, the Scientific Council, and the Fisheries Commission follow as Sections B, C, and D, respectively. Lists of participants at the different meetings are at Section E. A press release summarizing the highlights of the Second Annual Meeting of NAFO is at Section F.

B. Report of the Second Annual Meeting of the General Council 9-12 September 1980

1. Opening Session

The Opening Session of the Second Annual Meeting of the General Council was called to order by the Chairman, Dr A. W. May (Canada), at 1000 hrs, 9 September 1980, in the Fort William Ballroom of Hotel Newfoundland, St. John's, Canada.

2. Adoption of Agenda

The provisional agenda was adopted with the addition of a Canadian amendment regarding the election of officers, as the officers then served had already presided at two meetings although not served two years. The agenda (see Appendix I) was adopted as amended.

3. Membership of the General Council

The General Council noted no alterations had taken place practically since the beginning of the year, as Poland had deposited its instrument of ratification on 6 November 1979 and Japan on 4 January 1980. Observers were welcomed from Spain, USA and the International Council for the Exploration of the Sea (ICES).

4. Approval of Proceedings

The Proceedings of the First Special Meeting of the General Council were approved.

5. Rules of Procedure

The Rules as previously adopted were approved by the Council as no adversary comments had been received (*NAFO Annu. Rept.*, 1: 51-53).

6. Financial Regulations

The Financial Regulations for the Organization were approved by the Council without amendment, as recommended by STACFAD (*NAFO Annu. Rept.*, 1: 47-50).

7. Election of Chairman and Vice-Chairman

It was agreed to maintain the election for 1980/81 of the Chairman, Dr A. W. May (Canada) and Vice-Chairman, Dr V. K. Zilanov (USSR), as the Convention in its Article IV(2) stipulates that the elected officer shall serve for a term of 2 years.

8. Membership of the Fisheries Commission

In accordance with Article XIII(1) of the Convention, Bulgaria, Canada, Cuba, European Economic Community (EEC), Faroe Islands, German Democratic Republic, Iceland, Japan, Norway, Poland, Portugal, Romania and the USSR were recognized as members of the Fisheries Commission.

9. Report of the Standing Committee on Finance and Administration (STACFAD)

The Standing Committee on Finance and Administration (STACFAD) consisting of representatives from Canada, EEC, German Democratic Republic, Japan, Norway, Portugal and the USSR met on 11 September under the chairmanship of Mr J. S. Beckett (Canada) elected pro tem in the absence of the chairperson, Miss D. E. Pethick (Canada). The report with its recommendations was presented to the General Council and approved on 12 September 1980.

a) Reports by the Secretariat

- i) Administrative Report (NAFO GC Doc. 80/IX/7) with Statement of Assets and Liabilities for the period 1 January 1980 to 31 December 1980
- ii) Budget Estimate for the fiscal year 1981
- iii) Budget Forecast for the fiscal year 1982

b) Recommendations on Finance and Administration

The General Council adopted the following recommendations

- i) that the General Council approve the transfer of Assets and Liabilities from ICNAF to NAFO as audited.
- ii) that, as the new Executive Secretary (Capt. J. C. E. Cardoso) could not qualify for the present pension plan organized by the Pension Society and, since modifying the existing Pension Society Scheme would be inappropriate due to cost and the implications for all other Commissions covered, the General Council approve a procedure whereby Capt. Cardoso would develop a proposal for a pension plan, the plan to be based upon a contribution from the Organization up to the amount that it would have contributed to the Pension Society Pension Scheme had Capt. Cardoso qualified to join it. This amount should be calculated over a period of 5 years with due attention paid to the higher cost to the Organization of averaging such payments over this period, if necessary to the plan to be proposed, since under the Pension Scheme the cost in the later part of the period would be much higher than in the earlier part; and that the Scheme should be reviewed during the fifth year in time for a decision to be taken, applicable to the sixth and subsequent years, as necessary as long as Capt. Cardoso wished to continue serving; and also that since delaying approval of a plan until the next meeting of the Council could result in significant losses in the current taxation year, the Chairman of the General Council be empowered to approve a proposal for a pen-

sion plan that conformed with the above description and, that pending such development and adoption of a pension plan, the *ad hoc* plan already in place should be continued in which the Organization contributed 8.9% of Capt. Cardoso's gross salary.

- iii) that, as recommended by the Pension Society, for the first case that came up for indexing, the Canadian Consumer Index should be used to cover the annual increase of cost of living, as the method to follow in all pension indexing for the Organization.
- iv) that the Administrative Report and Financial Statements for 1980 be approved.
- v) that, the President of the Organization express to the Romanian Government the gravity of the situation created by the existence of outstanding contributions and press for urgent payment.
- vi) that the Accumulated Surplus Account of NAFO be maintained at Can \$ 50,000.
- vii) that the General Council appropriate a sum of \$ 502,000 from the Contracting Parties of NAFO and from the Accumulated Surplus Account to meet ordinary expenses for the fiscal year 1981. The appropriations to be used for the following purposes:

1. Personal Services	
(a) Salaries	\$ 277,000
(b) Superannuation and Annuities	18,000
(c) Additional help	1,000
(d) Group medical and insurance plans	5,000
(e) Contingencies	20,000
2. Travel	4,000
3. Transportation of Things	1,000
4. Communications	25,000
5. Publications	15,000
6. Other Contractual Services	35,000
7. Materials and Supplies	16,000
8. Equipment	5,000
9. Annual and Mid-Year Meetings	25,000
10. Computer Services	40,000
11. Contingencies	15,000
Total Ordinary Expenses	\$ 502,000

- viii) that the Contracting Parties to NAFO be billed in accordance with Article XVI of the NAFO Convention, and that Governments which are Members of NAFO after 31 December 1980 be billed in accordance with Article XVI of the

Convention, on 15 February 1981.

- ix) that the Contracting Parties give consideration to a Preliminary Budget Forecast for 1982 of Can \$ 536,000 for the following purposes:

1. Personal Services	
(a) Salaries	\$ 299,000
(b) Superannuation and Annuities	18,000
(c) Additional help	1,000
(d) Group medical and insurance plans	5,000
(e) Contingencies	20,000
2. Travel	4,000
3. Transportation of Things	1,000
4. Communications	27,000
5. Publications	15,000
6. Other Contractual Services	37,000
7. Materials and Supplies	17,000
8. Equipment	5,000
9. Annual and Mid-Year Meetings	27,000
10. Computer Services	45,000
11. Contingencies	15,000
Total Ordinary Expenses	\$ 536,000

- x) that the Scientific Council Annual Meeting in 1981 commence at the Bedford Institute of Oceanography, Dartmouth, Nova Scotia, Canada, from 9 to 14 September.
- xi) that the Third NAFO Annual Meeting for 1981 take place in the Lord Nelson Hotel, Halifax, Nova Scotia, Canada, from 14 to 17 September 1981.
- xii) that for 1982, if no other invitation would be received within the year for another location, the Fourth NAFO Annual Meeting take place in Dartmouth-Halifax, Nova Scotia, Canada

as follows:

Scientific Council — 7 to 12 September, Dartmouth; 13 to 16 September, Halifax

General Council and Fisheries Commission — 13 to 16 September, Halifax

- xiii) that the Chairman be empowered to sign and approve any formalities necessary for the opening of bank accounts, whenever that would be required.
- xiv) that the Executive Secretary study a system to be proposed in time to the International Fisheries Commissions Pension Society to improve as much as possible the transferability and early retirement conditions under the Pension Scheme of that Society for the employees of the Secretariat.

10. Special Meeting

It was agreed that a Special Meeting of the General Council and Fisheries Commission was required to finalize some questions that were pending, especially in relation to management. It would take place from 31 March to 2 April 1981 at a location to be arranged later.

11. NAFO Representation at ICES Dialogue Meeting

Reviewing the discussion of that subject at the last special meeting, Mr Letaconnoux was appointed to represent NAFO at the Dialogue Meeting of ICES in October 1980.

The terms of agreement with ICES were adopted.

12. Adjournment

The Chairman, after the traditional thanks and compliments, adjourned the meeting at 1630 hrs, 12 September 1980.

Appendix I

Agenda for the General Council — NAFO Second Annual Meeting, September 1980

OPENING PROCEDURES

1. Opening by Chairman, Dr A. W. May (Canada)
2. Adoption of Agenda
3. Appointment of Rapporteur
4. Admission of Observers
5. Publicity

ADMINISTRATION

6. Approval of Proceedings of First Special Meeting, March 1980 (*NAFO GC Doc. 80/IX/6*)
7. Review of Membership
 - a) General Council
 - b) Fisheries Commission
8. Review of Rules of Procedure (*NAFO Annu. Rept.*, 1: 51-53)
9. Review of Financial Regulations (*NAFO Annu. Rept.*, 1: 47-50)
10. Administrative Report (*NAFO GC Doc. 80/IX/7*)
 - a) Election of officers

FINANCE

11. Review of conditions of appointment of the Executive Secretary (*NAFO GC Doc. 80/IX/6*)
12. Review of transfer of Assets and Liabilities from ICNAF to NAFO
(Auditor's Reports for 1 July 1978 to 30 June 1979, and for 1 July 1979 to 31 December 1979)
13. Financial Statement, 1980 (*NAFO GC Doc. 80/IX/7*)
14. Budget Estimate, 1981
15. Budget Forecast, 1982
16. Report of STACFAD

CLOSING PROCEDURES

17. Time and Place of Next Meeting
18. Other Business
19. Press Statement
20. Adjournment

C. Report of the Second Annual Meeting of the Scientific Council, 3-8 September 1980

1. Introduction

The Scientific Council met at St. John's, Newfoundland, Canada, from 3 to 8 September 1980, under the chairmanship of R. H. Letaconnoux, to consider and report on the various matters listed in its agenda (see Appendix I), some of which were deferred from the June 1980 Meeting. Representatives attended from Bulgaria, Canada, Cuba, European Economic Community (EEC), Japan, Poland and USSR. Observers were present from USA, the International Council for the Exploration of the Sea (ICES) and the Intergovernmental Oceanographic Commission (IOC) (see Section E).

2. Fishery Science

a) Georges Bank-Gulf of Maine Larval Herring Program

The Council noted that the Task Force on the Larval Herring Program, with Dr M. D. Grosslein (USA) as Convener, met during 3-4 September 1980, in accordance with a recommendation from the June 1980 Meeting, and reviewed 20 papers covering a wide range of studies related to all stages of herring recruitment in the Georges Bank-Gulf of Maine area, including inventories of the 1971-78 data base and the status of data processing. Some new research results included (i) a growth model for larval herring based on increments in otolith size, (ii) analysis of stomach contents of 7,000 herring larvae relative to the composition of copepod populations on Georges Bank, (iii) an experiment on vertical distribution of herring larvae which showed wide distribution in the entire water column to a depth of 70 m (a significant factor in larval transport), (iv) comparison of two independent estimates of egg-production potential for the Georges Bank spawning stock based on virtual population analysis (VPA) estimates and larval production estimates from the time series of larval survey data, (v) the apparent absence of herring spawning on Georges Bank in 1979 as indicated by the lack of larval production (vi) highly significant correlation between recruitment to the herring stock in Div. 4WX and two environmental variables (sea level and southwest winds), (vii) herring spawning as late as 15 November and migration into an estuary in the Gulf of Maine as late as February, and (viii) condition factors, and estimates of abundance and critical winter mortality for larval herring from 15 years of research in a Gulf of Maine estuary.

The Council noted the significant progress made in evaluating the results of the larval herring program, and endorsed the recommendations of STACFIS related to the work of the Task Force, including the publication of relevant data inventories and papers, future data analyses, and the ongoing research related to herring recruitment.

b) Analyses Related to the Flemish Cap Project

The Council noted that the *ad hoc* Working Group on the Flemish Cap Project, with Mr R. Wells (Canada) as Convener, met on 5 September 1980, and reviewed the results of research presented in 10 papers containing information relevant to the area. A summary of historical biological information and the oceanographic data accumulated by the Marine Environmental Data Service (MEDS) substantially formed the historical data base for the area. Some new research results included (i) confirmation of the discreteness of the cod stock from a study of variation in vertebral averages, (ii) indication of a recent decrease in abundance of juvenile redfish based on their incidence in cod stomachs, (iii) low abundance of cod larvae and much higher abundance of redfish larvae in 1978 and 1979 with an indication of high mortality of redfish larvae between April and July 1979, (iv) coincidence of the zones of high chlorophyll *a* concentration in 1979 with the distribution of early stages of *Calanus finmarchicus*, (v) support for the existence of a weak anticyclonic gyre on Flemish Cap from analysis of data from drifting satellite-tracked buoys and moored current meters, with an apparent 4-day periodicity in the current pattern and a strong semi-diurnal tidal signal.

The Council noted that further analysis of the historical data base of biological and oceanographic information was required and that there was a need for an annual review of ongoing data collections. The Council accordingly endorsed the recommendation of STACFIS that the *ad hoc* Working Group on the Flemish Cap Project should meet during the June 1981 Meeting to review further progress in data analysis and any forthcoming research results.

c) Guidelines for Cod Otolith Interpretation

The Council noted that Mr R. Wells had, in accordance with a recommendation from the June 1980 Meeting, prepared a paper on the interpretation of

ages from cod otoliths (NAFO SCR Doc. 80/IX/156) together with annotated photographs of 95 cod otoliths examined at the Cod Ageing Workshop held at St. John's, Newfoundland in February 1977. The paper was referred to STACPUB for possible publication in the Council's "Studies" series.

3. Research Coordination

a) Fishery Statistics

The Council noted that STACREC had considered a proposed new format for Table 5 of the NAFO Statistical Bulletin and the proposed revisions to country abbreviations for use in future statistical tabulations, and agreed to endorse the two recommendations on those items. It was observed that the second recommendation referred to a proposal by the Coordinating Working Party on Atlantic Fishery Statistics (CWP) that all of its participating organizations in their statistical tabulations when space would be limited.

The Council was informed that a restructuring of the CWP as a truly international body of experts outside the aegis of FAO was proposed and that the new CWP would come into effect upon agreement to the new terms of reference by four of the participating organizations. Noting the recommendation of STACFIS on the matter, the Council agreed to the terms of reference for the Future Structure of the CWP, and requested the Assistant Executive Secretary to inform the Secretary of the CWP (Mr L. P. D. Gertenbach) of that decision.

The Council noted the concern expressed by STACREC regarding deterioration in the national reporting of fishery statistics through the STATLANT system, particularly the STATLANT 21B report which provided the basis for the Statistical Bulletin and much of the assessment work, and agreed to transmit to the Contracting Parties of NAFO, through the General Council, its grave concern about the matter (NAFO GC Doc. 80/IX/11).

b) Proposed Manual on Groundfish Surveys

The Council noted that the editor (Dr W. G. Doubleday) had finally been able to present a revised, but still incomplete, draft of the proposed manual (NAFO SCS Doc. 80/IX/31), and fully endorsed the recommendation of STACREC that the editor solicit from scientists comments for improving the draft and submit a completed draft manual to the Secretariat for distribution well in advance of the June 1981 Meeting.

c) Coordination of Squid Research

The Council noted that the *ad hoc* Working Group on Squid Research, with Mr T. Rowell (Canada) as Convener, met on 2 September 1980 and considered research objectives and vessel availability relating to surveys for larval and juvenile *Illex* in the first half of 1981. The Council strongly endorsed the proposal for coordinated squid research in 1981.

The Council agreed that 1 day would be required, in addition to the 3 days already allocated for the special session on "Squid Biology and Distribution" at the June 1981 Meeting, to review the preliminary results of the 1981 surveys, and agreed that the Working Group should meet for 4 days in the week preceding the Scientific Council Meeting in June 1981, with Mr T. Rowell as Convener.

d) Environmental Studies

The Council noted that the major gap in the STACREC Report of the June 1980 Meeting was filled by the presentation of the MEDS progress report for 1979 (NAFO SCR Doc. 80/IX/149). Some improvement was noted in the national reporting of current oceanographic data to MEDS, but the acquisition of historical data series from various national representatives was much slower than anticipated. The Council further noted that the section on environmental conditions in the NAFO Area during 1979 supplemented a similar summary in the STACREC Report of the June 1980 Meeting.

Because of the planned "review of environmental conditions in the Northwest Atlantic during the 1970-79 decade" at the September 1981 Meeting of the Council, the need to have the historical data base updated as soon as possible was emphasized, including data not only for 1970-79 but also for earlier years. The Council urged that national representatives for oceanographic data exchange should ensure that as much as possible of the outstanding data noted in the relevant tables of ICNAF Res. Doc. 79/VI/118 and NAFO SCR Doc. 80/IX/149 and any other outstanding historical data series be submitted to MEDS (or to the NAFO Secretariat) as soon as possible.

4. Publications

a) Publications and Editorial Policy

The Council noted that STACPUB had completed provisionally its consideration of editorial policy relating to its scientific publications and endorsed the proposal for the establishment of a primary

scientific journal entitled "Journal of Northwest Atlantic Fishery Science", starting with Volume 1 to be issued in 1980. Subsequently, the number of issues per annual volume would depend on the number of suitable quality papers submitted, with two issues being planned for 1981. An editorial board would be established consisting of an editor and four associate editors to ensure that contributed papers are subjected to refereeing and quality editing prior to publication. The Assistant Executive Secretary was designated as Editor, and the four associate editors are to be selected from a list of established scientists in the fields of biological oceanography, vertebrate fisheries biology, invertebrate fisheries biology, and biomathematics.

The Council also endorsed the proposal that a secondary scientific publication, entitled "Scientific Council Studies" (similar to the ICNAF Selected Papers series) would be issued annually or more frequently as needed. The series would contain papers selected from the Council's "research documents" series and contributions covering special topics (e.g. symposia papers, manuals, etc.) initiated by the Scientific Council.

b) Other Matters

The Council endorsed the proposals of STACPUB relating to the development of an ichthyoplankton identification manual for the Northwest Atlantic, the coordination of research information for the NAFO area as a whole, and a new format for NAFO Statistical Bulletin Table 5 to replace Tables 5 and 6 of the ICNAF Statistical Bulletin series. The Council also noted that eight papers, presented as research documents to the meeting, were nominated for possible publication in the Council's "Studies" series.

5. Collaboration with Other Organizations

a) NAFO Participation in the Tenth Session of the CWP

The Council noted that the Tenth Session of the CWP was held at Madrid, Spain, during 22-29 July 1980, with the Assistant Executive Secretary (Mr V. M. Hodder) and two Canadian nominees (Dr W. G. Doubleday and Mr D. A. Tilley) participating on behalf of the Council. Dr Doubleday was unanimously elected Chairman for the Session. Some matters of direct relevance to the Council (NAFO SCS Doc. 80/IX/29) were considered by STACREC, and agreement was reached on those requiring attention at that meeting.

b) Proposed NAFO/ICES Research on Redfish in Sub-area 1 and East Greenland

The Council was informed that the General Secretary of ICES had been contacted regarding the pro-

posed NAFO/ICES study on redfish, initiated at the June 1980 Meeting. A response received in late August 1980 indicated that the matter would be considered at the Statutory Meeting of ICES in October 1980, following which the NAFO Secretariat would be advised of the decision.

6. Future Scientific Meetings

a) Mid-term Meeting for Assessment of Seals and Shrimp

The Council noted the Canadian request for advice on the scientific basis for management in 1981 of the seal stocks within national fishery limits, and the EEC request for a meeting in early October 1980 to assess the status of the shrimp stocks in Sub-areas 0 and 1. Because data for most of 1980 were essential for the assessment of shrimp, it was strongly emphasized that a meeting earlier than mid-November 1980 would not be feasible. Consequently, the Council agreed to meet during 18-22 November 1980 at NAFO Headquarters, Dartmouth, Canada, to assess the status of the seal and shrimp stocks.

b) Mid-term Meeting for Assessment of Capelin and Cod

The Council noted that STACFIS had not been able to provide advice for management in 1981 of the capelin stocks in Subarea 2+ Div. 3K and 3LNO, and the cod stocks in Div. 3M and 3NO, and agreed to meet during 17-21 February 1981 at NAFO Headquarters, Dartmouth, Canada, to review the status of those stocks.

c) Regular Meeting in June 1981

The regular meeting of the Scientific Council and its Standing Committees (STACFIS, STACREC and STACPUB) to be held at NAFO Headquarters, Dartmouth, Canada during 9-20 June 1981. Preceding that meeting, a special session on "Squid Biology and Distribution", with Mr T. Rowell as convener, to be held during 3-6 June 1981 and the *ad hoc* Working Group on the Flemish Cap Project (convener to be appointed) to meet on 8 June 1981. Both of these groups to report to STACFIS.

d) Annual Meeting in September 1981

The following topics were noted for consideration at the Annual Meeting of the Council to be held at NAFO Headquarters during 9-14 September 1981:

- i) Review of environmental conditions in the Northwest Atlantic during the 1970-79 decade, with Mr E. J. Sandeman as Convener.
- ii) Remote sensing methods and their possible

application to fisheries science, with Dr R. W. Trites as Convener.

- iii) Further analysis of the Georges Bank-Gulf of Maine larval herring program, with Dr M. D. Grosslein as the Task Force Convener.

7. Other Matters

a) Provisional Report of the June 1980 Meeting

The Council reviewed the report of its meeting at Dartmouth, Canada during 3-13 June 1980 (NAFO SCS Doc. 80/VI/25 + Revised addendum). The report was formally approved after several amendments, the most significant being the addition of the sentence "such a paper or papers must be submitted to the NAFO Secretariat at least 30 days before the commencement of the Scientific Council meeting during which the paper(s) would be expected to be considered" to paragraph c(i) of the section entitled "Guidelines for the Application of Rule 1.2 in the Event of a Request for an Invitation to Attend a Meeting of the Scientific Observer". All amendments should be incorporated into the Report of the June 1980 Meeting prior to its publication in the Council's "Report" series.

b) Possible Need for Amendment to Rule 5.1 of the Rules of Procedure

Some members of the Council noted that there was

some confusion regarding the Standing Committees to which the existing *ad hoc* Working Groups and the Larval Herring Task Force should report, as they usually discussed matters which overlapped objectives set out in Rule 5.1 for STACFIS and STACREC, namely, reviews of research results and coordination of research activities. The Council agreed that the matter should be considered by the Executive Committee and discussed at the June 1981 Meeting. Meanwhile, it was agreed as a temporary measure that the Task Force on the Larval Herring Program, the *ad hoc* Working Group on the Flemish Cap Project and the *ad hoc* Working Group on Squid Research should operate under the aegis of STACFIS.

8. Adjournment

The Chairman expressed his appreciation to the Canadian Government and to the scientists of the Northwest Atlantic Fisheries Centre for arranging the excellent meeting facilities, to the NAFO Secretariat for their efficiency in preparing for and servicing the meeting, to the chairmen and rapporteurs of the Standing Committees and the conveners of Working Groups including the Larval Herring Task Force, and to all participants for their cooperation and contributions. The meeting adjourned at 1630 hrs on 8 September 1980.

Appendix I

Agenda for the Scientific Council — NAFO Second Annual Meeting, September 1980

- I. Opening (Chairman: Mr R. H. Letaconnoux)
 - a) Adoption of agenda
 - b) Appointment of rapporteurs
 - c) Plan of work
- II. Fishery Science (Chairman: Dr G. H. Winters)
 - a) Task Force on Larval Herring Program (Convener: Dr M. D. Grosslein)
 - b) Analyses related to Flemish Cap Project (Convener: Mr R. Wells)
 - c) Review of guidelines for cod otolith interpretation
 - d) Other matters
- III. Research Coordination (Chairman: Dr V. A. Rikhter)
 - a) Consideration of format of Table 5 in first NAFO Statistical Bulletin
 - b) Review of proposed manual on groundfish surveys (Editor: Dr W. G. Doubleday)
 - c) Report of *ad hoc* Working Group on Squid Research (Convener: Mr T. Rowell)
 - d) Review of MEDS progress report for 1979:
 - i) Summary of environmental conditions during 1979
 - ii) Inventory of 1979 oceanographic data
 - iii) Data received and processed for 1979
 - iv) Progress in acquiring historical data
 - v) Involvement with Flemish Cap Project
 - vi) National representatives for reporting oceanographic data to MEDS
 - e) Other matters
- IV. Publications (Chairman: Dr R. G. Halliday)
 - a) Editorial policy relating to scientific publications
 - b) Format of primary and secondary scientific publications
 - c) Other matters
- V. Collaboration with Other Organizations
 - a) Preliminary report on NAFO participation in the Tenth Session of the CWP
 - b) Collaboration with ICES regarding redfish research in Subarea 1 and East Greenland
- VI. Adoption of Reports
 - a) Provisional report of June 1980 Meeting of Scientific Council
 - b) Reports of STACFIS, STACREC and STACPUB
- VII. Future Scientific Meetings
- VIII. Other Business
- IX. Adjournment

D. Report of the Second Annual Meeting of the Fisheries Commission, 3-8 September 1980

1. Opening Session

The Opening Session of the Second Annual Meeting of the Fisheries Commission was called to order by the Chairman, Mr J. B. P. Farnell (EEC) at 1045 hrs, 9 September, in the Fort William Ballroom of Hotel Newfoundland, St. John's, Canada, with representatives from all Commission Members, except Romania (see List of Participants, Section E).

2. Adoption of Agenda

The provisional agenda was adopted as circulated (see Appendix I).

3. Election of Vice-Chairman

The Chairman suggested that it would be appropriate to revise this item to read "Election of Chairman and Vice-Chairman" and to reconsider it once the General Council had taken a decision concerning the election of officers. The Fisheries Commission agreed with the suggestion. Finally the Commission unanimously elected Mr H. Rasmussen (Norway) as Vice-Chairman.

4. Review of Commission Membership

It was noted that there had been no change in the Commission membership since the First Special Meeting of the Fisheries Commission held in March 1980.

5. Approval of Proceedings

The Proceedings of the First Special Meeting, March 1980, (*NAFO FC Doc. 80/IX/7*) were adopted without change.

6. Rules of Procedure

The review of the Rules of Procedure was deferred until further meetings of the Fisheries Commission had provided its members with greater experience by which to review the appropriateness of the rules.

7. Status of Proposals

It was noted that all the proposals contained in *NAFO Circular Letter 80/49* had come into force.

8. Enforcement in Div. 3M

Mr S. W. Bartlett (Canada), the Chairman of the Working Group on Div. 3M Enforcement, reported to the Commission on the results of that Group's deliberations (see Appendix II). The delegate of Canada commented on the progress that the Working Group had made and reaffirmed the commitment of the Government of Canada to provide training assistance in order to ensure a fuller and more effective working of the program of surveillance and enforcement in Div. 3M. He suggested, and the Commission agreed that a complete report of enforcement activities conducted in 1980 could be presented at the Special Meeting of the Commission now being planned for sometime early in 1981. The delegate of the USSR also confirmed his country's commitment to provide a vessel or vessels for enforcement activities in Div. 3M in 1981. The delegate of the EEC noted that a commitment on the part of the EEC to aid in enforcement in Div. 3M could only be carried out if the EEC was actually conducting a fishery in the Div. 3M area and coastal state waters of the Convention Area in 1981. The Chairman made a proposal that, as it would now appear to be a subject of regular annual review, the coordination of Div. 3M enforcement activities should be taken up under the auspices of STACTIC rather than the existing *ad hoc* group arrangements. The Commission agreed with that proposal and the recommendation of the Working Group that the Secretariat be advised of Contracting Parties' plans with respect to Div. 3M enforcement activities for the remainder of 1980 and 1981.

9. Management Measures

After lengthy discussions and negotiations, the Commission agreed that the Executive Secretary transmit to the Contracting Parties, for joint action by the Contracting Parties, proposal (9) for international regulation of the fisheries for particular stocks in Subareas 3 and 4 of the Convention Area (see Appendix III).

10. Minimum Mesh Size for Groundfish in the Regulatory Area

The Chairman started the consideration of the item by noting that the proposal contained in *NAFO FC Doc. 80/IX/7* (see Appendix IV), had now been revised (see Appendix V). The revision proposed the establishment of a 130-mm mesh to be applied irrespective of the material of which the net was made up. The delegate of Canada went on to explain that the original proposal,

previously considered at the First Special Meeting of the Fisheries Commission in March 1980, had been revised in order to take into account, firstly, the suggestion made by other delegations that more time would be needed before the new measure came into force and, secondly, existing regulations applicable to the fishing of redfish in Div. 3NO. In the light of further comments made by the delegate of Canada, the Chairman agreed that the Commission should first treat the item as a separate subject before making consequent adjustment to the regulations to be discussed under Agenda Item 19 (see Appendix I).

After discussion, the proposal was put forward again. However, the Commission agreed that it would ask the Scientific Council for advice on the mesh size which would maximize yield/recruit at the $F_{0.1}$ level for cod and redfish in Div. 3M and on the implications to changes in long-term yield of adopting such a mesh size, irrespective of net material.

11. Review of the International Scientific Observer Program

The Chairman noted that at its First Annual Meeting the Fisheries Commission had adopted a resolution on the subject and that, since that time, a number of bilateral arrangements had been made taking into account the recommendations contained in the Resolution. The Scientific Council had also considered the subject during its meeting in June 1980 and made certain recommendations on the type of data and methods of collection that it would like to see incorporated into bilateral agreements (see Appendix VI). It was recommended by the Chairman and agreed by the Fisheries Commission that Contracting Parties should take note of the Scientific Council's work in that regard and act upon its recommendations.

The delegate of Canada, drawing upon the comments of the Chairman of STACFIS to the effect that there was often not enough scientific data available to provide adequate management advice for the Commission, underlined the important contribution that could be made in that regard by the Scientific Observer Program. For its part, Canada had been active in arranging scientific observer programs on a bilateral basis in the Regulatory Area and was still carrying on discussions with certain Contracting Parties to establish further programs. While bilateral arrangements entered into by Canada to date had been of a one-year duration only, it was felt that the 1980 year model should be adopted on a longer term basis.

The delegate of the EEC agreed on the importance of the International Scientific Observer Program and suggested that existing bilateral arrangements and an

assessment of their operation be circulated to all Contracting Parties so that they could evaluate the progress made and perhaps use the information thus provided to secure more active participation in the Program.

The Chairman pointed out that the NAFO Secretariat automatically received copies of the information obtained as a result of the International Scientific Observer Scheme. With respect to the suggestion that copies of the bilateral arrangements implementing the Observer Program also be circulated, the Chairman invited comments from those Contracting Parties who had already concluded such agreements.

The delegate of the EEC noted that, while discussions were still ongoing with Canada with respect to bilateral arrangements for the implementation of the Observer Program, for its part, the EEC would be willing to circulate a copy of the arrangements when finalized and statistics subsequently collected.

The delegate of Canada said that Canada could volunteer, with the cooperation of those countries with whom such arrangements had been established, to give a fuller report on the operation of the program before the next annual meeting. With regard to the circulation of the text of bilateral arrangements, that could only be done with the consent of both parties and there might be some reluctance to table such documents. There would be no such reluctance with regard to the distribution of data obtained through the observer program.

The delegate of the USSR asked what would be considered as necessary information and material to be collected by the scientific observers and then circulated to other Contracting Parties. The Chairman pointed out the Scientific Council's recommendations in that regard. A report at the next annual meeting, such as Canada had offered to make, which summarized data collected to date, would enable Contracting Parties to judge how far those Scientific Council proposals were, in fact, being fulfilled.

12. Adaptation of Conservation and Enforcement Measures for NAFO

The Executive Secretary reported on progress made by the Working Group, which he chaired, on Conservation and Enforcement Measures for NAFO. There was considerable discussion generated as a result of the Working Group's suggested use in Part I — Management (A) Quotas, of the term "vessels under its fisheries jurisdiction". The Working Group had considered in connection with that term the question of whether or not charter vessels ought to be included,

and had decided that it would be best to exclude that category as there would be no "jurisdiction" that the Contracting Party who chartered the vessel could exercise. The discussion of the term "vessels under its fisheries jurisdiction" revealed difficulties for certain delegations, which made it impossible to accept the suggested draft of the Working Group on that point. The Commission, therefore, agreed that a group of representatives of the EEC, the USSR, and Canada should attempt to agree on an alternative drafting suggestion. It was also decided that the same group could look at the question of chartered vessels. The Commission agreed with the other recommendations of the Working Group on Conservation and Enforcement Measures contained in its Report. It was agreed that a drafting group should review the implications for the whole of the regulatory text of a proposal to amend the terms "register" or "registration" to "notify" or "notification". It was noted that the delegate of Canada still wished to propose some amendments to the Schedules contained in the Report.

It was also noted that the gear definitions to appear in the measures would be reviewed before the next Commission meeting, in order that they could be finalized at that time.

Following a brief discussion concerning the inspector's document of identity, it was agreed that the Secretariat would study a proposal of the delegate of the EEC that the Secretariat be responsible for the production of inspector's identity cards for distribution to Contracting Parties. It was agreed that STACFAD should consider the cost of such production. The delegate of Canada offered to transmit to the Secretariat a stock of such documents which had already been produced by Canada.

After presentation of the proposals made by the *ad hoc* drafting group (see Appendix VII) it was concluded that the question of treatment of chartered vessels should be held over for the next Special Meeting, and that meanwhile the Secretariat would prepare a new text of the draft measures incorporating all the other

changes already agreed, including the amendment of the reference to fisheries jurisdiction. At the next Special Meeting, the Commission would be asked to approve a complete edition of conservation and enforcement measures.

13. Other Business

The Chairman expressed, on behalf of the Commission, appreciation of the significant contribution made to the Fisheries Commission by the delegate of Japan and former Chairman of ICNAF, Mr S. Ohkuchi, to the discussions in ICNAF and NAFO over a period of 10 years, and wished him every success for the future. The delegate of Japan said that he would convey the Chairman's remarks to Mr Ohkuchi and thanked the Commission on his behalf.

The Fisheries Commission decided to hold a Special Meeting in Halifax, Nova Scotia, Canada, 31 March-2 April 1981.

The delegate of Portugal, referring to the proposal for international quota regulation of the fisheries in Subarea 3 of the Convention Area, raised a concern that, if Portugal had not fished by the end of April its allocation of 367 metric tons from the interim Div. 3NO cod TAC of 8,667 metric tons established for 4 months, then it might not be possible to do so later. As several delegations had already left the meeting, the Chairman said that the matter could not be resolved at the present time. However, it was agreed that it would be dealt with at the beginning of the Special Meeting. The delegate of Canada commented that he would then support a solution whereby Portugal would be able to fish its allocation after the end of April.

14. Adjournment

The Chairman adjourned the meeting at 1630 hrs, Friday, 12 September.

Appendix I

Agenda for the Fisheries Commission — NAFO Second Annual Meeting, September 1980

OPENING PROCEDURES

1. Opening by the Chairman, Mr J. B. P. Farnell (EEC) (in accordance with Rule of Procedure 3.4)
2. Appointment of Rapporteur
3. Adoption of Agenda
4. Admission of Observers
5. Election of Vice-Chairman
6. Publicity

ADMINISTRATION

7. Review of Commission Membership
8. Approval of Proceedings of First Special Meeting, March 1980 (*NAFO FC Doc. 80/IX/7*)
9. Review of Rules of Procedure (*NAFO Annu. Rept., 1: 64-66*)

COMMISSION PROPOSALS

10. Status of proposals (*NAFO Circular Letter 80/49*)

INTERNATIONAL CONTROL

11. Annual Return of Infringements (*NAFO FC Doc. 80/IX/8*)
12. Fishing Vessel Registration (*NAFO FC Doc. 80/IX/9*)
13. Scheme of Joint International Enforcement (*NAFO FC Doc. 80/III/6*)
14. Enforcement in Div. 3M (*NAFO FC Doc. 80/IX/7*)

CONSERVATION (*NAFO SCS Doc. 80/VI/25*)

15. Management measures for fish stocks in the Regulatory Area
 - a) Cod in Div. 3M
 - b) Redfish in Div. 3M
 - c) American plaice in Div. 3M
16. Management measures for fish stocks overlapping national fishing limits
 - a) Cod in Div. 3NO
 - b) Redfish in Div. 3LN
 - c) American plaice in Div. 3LNO
 - d) Yellowtail flounder in Div. 3LNO
 - e) Witch flounder in Div. 3NO
 - f) Capelin in Div. 3LNO
 - g) Squid (*Illex*) in Subareas 3 and 4
17. Minimum mesh size for groundfish in the Regulatory Area (*NAFO FC Doc. 80/IX/7*)

OTHER MATTERS

18. Review of the International Scientific Observer Program (*NAFO Annu. Rept., 1: 61-62*)
19. Adaptation of Conservation and Enforcement Measures for NAFO (*NAFO Annu. Rept., 1: p. 60*)

ADJOURNMENT

20. Time and Place of Next Meeting
21. Other Business
22. Adjournment

Appendix II

Report of the Working Group on Division 3M Enforcement — NAFO Second Annual Meeting, September 1980

The Working Group on Div. 3M Enforcement met, under the chairmanship of Mr S. W. Bartlett (Canada), on 10 September 1980, in the Garrison Room of Hotel Newfoundland, St. John's, Canada. Participants from Canada were Messrs D. G. Barrett, R. J. Prier, and G. R. Traverse; from Cuba, Capt. N. Gomez and Mr O. Muniz; from the European Economic Community (EEC), Drs A. Reich and B. von Wullerstorff; from the Faroe Islands, Mr C. Michelsen; from Norway, Mr S. Engesaeter; from Portugal, Cdr M. Cunha, Capt A. S. Gaspar, Dr M. Lima Dias, and Mr J. Miranda Mendes; from the USSR, Mr A. A. Volkov; and from the NAFO Secretariat, Capt J. C. Esteves Cardoso.

Pursuant to the Report of the *ad hoc* Working Group (NAFO FC Doc. 80/IX/7, Appendix IV), the Executive Secretary circulated a letter dated 13 March 1980 to all Contracting Parties requesting advice by mid-April on resources available for surveillance activities in Div. 3M in 1980. The information was requested so that the Working Group could plan a coordinated surveillance program for 1980. Only one positive response was received to the request when the USSR agreed to send a vessel for 2 to 3 months. Canada had indicated at the Special Meeting in March that she would continue her surveillance program in the area.

A second request for information was sent to Contracting Parties in late July. Only three members responded — all negative to participation in 1980. As a result of participation by the USSR, plus the continued surveillance by Canada, the Working Group could report some improvement to the Scheme to the end of August. The following statistics were provided for the information of the Commission:

1. Total sea days in Div. 3M (1 January to 31 August 1980)
 - a) by Canada — 38 $\frac{3}{4}$ days
 - b) by the USSR — 100 $\frac{3}{4}$ days
 - TOTAL 138 $\frac{3}{4}$ days

2. Total inspections conducted in Div. 3M (1 January to 31 August 1980)
 - a) by Canada — 23 inspections
 - b) by the USSR — 15 inspections
 - TOTAL 38 inspections

3. Infringements reported in Div. 3M
 - a) by Canadian patrols — 5 (3 small mesh, 1 illegal chafer, 1 double codend)
 - b) by USSR patrols — 1 (double codend)

4. Vessel sightings in Div. 3M to date in 1980 by both Canada and the USSR — total 67.

Among the above sightings were vessels of non-member countries, including Mexico, Panama, and Venezuela as follows:

Country	Sightings	Inspections (not recorded above)
Mexico	3	2 (at sea) 1 (in port)
Panama	4	nil
Venezuela	2	1 (in port)

Two Mexican vessels inspected 1 May and 4 May revealed a lack of fishing log records. The captains estimated Div. 3M catches up to the dates of inspection as 50 tons of cod and 42 tons of redfish. The "in port" inspection of another Mexican vessel reported a Div. 3M catch of 30 tons of cod. The one Venezuelan "in port" inspection revealed a catch of 33.8 tons of cod for 9 days fishing in Div. 3M.

Some Contracting Parties might be reluctant to participate because of a possible misunderstanding that a patrol vessel must be sent to the area to conduct inspections. While such a ship was desirable, an acceptable alternative would be to place an inspection officer on board a fishing vessel provided arrangements could be made for the vessel to devote some time to surveillance activities. If such an arrangement was achieved, it would only be necessary to register the names of the vessel and inspector with the Scheme of Joint International Enforcement prior to commencement of surveillance.

The representatives of the following countries declared they would assist in surveillance of Div. 3M in 1981 in the following manner:

Canada — would commit 90 sea days to surveillance in Div. 3M.

- Cuba** — would not commit itself to send any inspection vessels but would definitely send one or two inspectors and, through the assistance of some other Members of NAFO, would be prepared, during 1981, to employ that or those inspectors in the surveillance of vessels of other than Cuban vessels.
- EEC** — would send one vessel, possibly even a second vessel, until the end of 1980 and during 1981. It would not, however, be possible to confirm the period of application of those vessels more than one month in advance of their arrival in the Regulatory Area.
- Portugal** — would send sometime in 1981 one inspector to operate three weeks. Most likely that operation would take place in the summer. The inspector would operate from a fishing vessel and most probably would have to change vessels frequently. Consequently, Portugal would be forced to inform the Secretariat of a great number of fishing vessels as inspection vessels, so that it would facilitate the transfer of the inspector from a fishing vessel to another convenient one in the vicinity.
- USSR** — was prepared to make a commitment for further surveillance in Div. 3M for 1981.

Some delegations expressed the opinion that it would be very useful to obtain from the Canadian authorities facilities to train their inspectors in inspection duties. It would seem that, in most cases, the best training would be to operate, on board a Canadian surveillance vessel, for a limited period, together with a Canadian inspector on duty. The Canadian delegation was certain that both a theoretical training of 1 to 2 days ashore and practical training at sea, together with a Canadian inspector, would not be difficult to provide and could be made available. That, however, would have to be arranged between the Government interested and the Canadian Government.

Finally, the Working Group agreed to put forward to the Fisheries Commission the following recommendations:

1. That the program of Div. 3M joint enforcement be continued and expanded in 1981;
2. That Members be requested to make commitments for participation in the program in 1981;
3. That, if no commitment could be made during the 1980 Annual Meeting, Contracting Parties advise the Executive Secretary by 15 November whether or not they planned to participate in 1981. Participating countries should also advise the period or periods their vessels would be available to conduct Div. 3M surveillance; and
4. That the Executive Secretary send a reminder to Contracting Parties no later than 15 October 1980.

Appendix III

Conservation Proposal (9) Adopted by the Fisheries Commission — NAFO Second Annual Meeting, September 1980

(9) Proposal for International Quota Regulation of the Fisheries for Particular Stocks in Subareas 3 and 4 of the Convention Area, Adopted by the Fisheries Commission of the Northwest Atlantic Fisheries Organization on 12 September 1980

That, in 1981, Contracting Parties conduct their fisheries in the Regulatory Area in such a manner that catches shall not exceed the total allowable catch for each stock and the quotas for each stock set out in the attached Table.

Table — Integral Part of Proposal (9) for the International Quota Regulation of the Fisheries in the Regulatory Area, adopted by the Fisheries Commission of the Northwest Atlantic Fisheries Organization on 12 September 1980. Total allowable catches and quotas (metric tons) for 1981 of particular stocks or species for Contracting Parties conducting fisheries in the Regulatory Area.

Contracting Party	Cod		Redfish		American Plaice		Yellowtail	Witch	Capelin	Squid (<i>Illex</i>) ^{a,b}
	3M	3NO	3M	3LN	3M	3LNO	3LNO	3NO	3LNO	3 + 4
Bulgaria	—	—	300	—	—	—	—	—	DEFERRED	500
Canada	100	3,267	5,500	8,000	250	54,200	20,500	3,000		—
Cuba	295	283	1,550	2,250	—	—	—	—		2,250
European Economic Community	1,470	70	1,200	—	—	700	400	—		—
Faroe Islands (Denmark)	1,775	—	—	—	—	—	—	—		—
German Democratic Republic	—	—	—	850	—	—	—	—		—
Iceland	—	—	—	—	—	—	—	—		—
Japan	—	—	400	—	—	—	—	—		2,250
Norway	735	—	—	—	—	—	—	—		—
Poland	305	—	—	—	—	—	—	—		1,000
Portugal	2,145	367	600	850	250	—	—	—		500
Romania	—	—	—	—	—	—	—	—		500
USSR	780	1,447	10,350	12,900	1,000	—	—	1,950		5,000
Others	50	233	100	150	500	100	100	50		—
Special Reservation	345 ^c	3,000 ^c	—	—	—	—	—	—	—	2,250 ^c
Total	8,000^a	8,667^a	20,000	25,000	2,000	55,000	21,000	5,000		150,000

^a Any quota listed for squid may be increased by a transfer from any other quota listed for squid or by a transfer from any "coastal state" as defined in Article I, 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.

^b The opening date for the squid (*Illex*) fishery is 1 July 1981.

^c Reserved for Spain.

^d Interim for calendar year, subject to review.

^e January to April.

Appendix IV

Canadian Proposal for the Regulation of Minimum Mesh Size for the Fishing of Groundfish in the Regulatory Area — NAFO Second Annual Meeting, September 1980

Noting the practical advantages of having a standard minimum mesh size for all gears used in the fishery for groundfish in the Regulatory Area, and noting that the Government of Canada hereby gives notice that effective 1 January 1981 all towed gears used in the fishery for groundfish in Canadian fisheries waters will be subject to a minimum mesh size of 130 mm irrespective of material except when fishing for redfish in Divisions 3NOP and Subarea 4 and for silver hake,

The Commission, therefore, in order to provide consistency of regulation,

recommends

that, effective 1 January 1981, Contracting Parties take appropriate action to prohibit the taking of groundfish other than redfish and silver hake in waters of the Regulatory Area by persons under their jurisdiction with trawl nets (towed gear) having in any part of the net, meshes of dimensions of less than 130 mm or 5-1/8 inches irrespective of material. The mean size relates to netting when measured wet after use or the equivalent thereof when measured dry before use.

Appendix V

Canadian Proposal for the Regulation of Minimum Mesh Size for the Fishing of Groundfish in the Regulatory Area — NAFO Second Annual Meeting, September 1980

Noting the practical advantages of having a standard minimum mesh size for all gears used in the fishery for groundfish in the Regulatory Area, and noting that the Government of Canada hereby gives notice that effective 1 July 1981 all towed gears used in the fishery for groundfish in Canadian fisheries waters will be subject to a minimum mesh size of 130 mm irrespective of material except when fishing for redfish in Divisions 3NOP and Subarea 4 and for silver hake,

The Commission, therefore, in order to provide consistency of regulation

recommends

that, effective 1 July 1981, Contracting Parties take appropriate action to prohibit the taking of groundfish, other than redfish in 3NO, in waters of the Regulatory Area by persons under their jurisdiction with trawl nets (towed gear) having in any part of the net, meshes of dimensions of less than 130 mm or 5-1/8 inches irrespective of material. The mesh size relates to netting when measured wet after use for the equivalent thereof when measured dry before use.

Appendix VI

Report of the *ad hoc* Working Group on the International Scientific Observer Program — NAFO Second Annual Meeting, September 1980

Convener: J. S. Beckett (Canada)

The Working Group, with participation by representatives of Canada, European Economic Community and Poland, and the Chairman of the Scientific Council, met on 2 June 1980 at NAFO Headquarters, Dartmouth, Nova Scotia, to fulfil its mandate from the 1979 Annual Meeting regarding the development of specific requirements for data collection (*NAFO Meet. Proc.* 1979, p. 115). The Convener noted that the timing of the meeting, originally scheduled to be held during the time of the February 1980 Meeting of the Scientific Council, was deferred at the request of Canada.

The Working Group took notice of its terms of reference and agreed to use them as the basis of its agenda. These were (i) to review recent sampling data collection and identify specific data needs by stock and area; (ii) to recommend what data should be collected, as a minimum, by an observer on board a vessel, and to identify other data that could be collected should the particular situation permit, with due attention to the need to avoid revealing details on the commercial aspects of fishing operations; (iii) to develop the format of data collection; and (iv) to recommend procedures for the transmittal and dissemination of the scientific data.

1. Review of Recent Data and Identification of Specific Needs

The Working Group examined the analyses of sampling efficiency for 1978 data, prepared by the Secretariat (*NAFO SCS Doc.* 80/VI/13), and noted that, whereas the level of sampling on an aggregated basis might appear to have exceeded the minimum level established some years ago by STACRES (*ICNAF Redbook* 1974, p. 71), there were in fact major deficiencies in many stock/vessel class/country/quarter categories. It was apparent that these deficiencies reflected, in many cases, the difficulties of assigning national scientific observers to the fishing fleets on a year-long basis. Taking into account the bilateral nature of the international observer scheme, the Working Group

recommends

that bilateral parties involved in the International Observer Program identify the appropriate fisheries to be covered.

2. Data to be Collected

The data collected are to be used for scientific purposes only. Access to relevant fishing records and the cooperation of the vessel's crew will be necessary for the observer to collect these data.

a) Vessel Identification

There was considerable discussion as to whether vessels should be identified on the data sheets. It appeared that such identification would not cause problems because the data are to be used strictly for scientific purposes. However, it was agreed that, if identification becomes a difficulty in gaining acceptability of the record forms, vessel characteristics (tonnage, length and horsepower) should be substituted.

b) Fishing Gear

The gear used should be identified by type using the NAFO abbreviations, particular attention being given to special modifications. It was suggested that "off-bottom" trawls should be identified by the provision of appropriate coding.

c) Mesh Size

The actual mesh size was recognized as an important element of the data and must be recorded. The use of a codend liner and the type of topside chafing gear should be recorded. For gears other than towed gears, the appropriate measure (e.g. hook size for line gears) will be substituted.

d) Set Data

It was concluded that the observer should maintain a complete set record rather than only the data that might not be recorded in the fishing logs of the vessels, as the scientific analyses could be significantly delayed if the essential material was distributed between two separate data bases. The set record should include: the position, time and water depth at the start and end (when available) of each set; the fishing depth of the gear (different from bottom depth for such gears as midwater trawl and drift nets); the speed of tow; and other measures of fishing effort as applicable to the particular gear used.

e) Catch Composition

Estimates of the catch by weight should be recorded for each species, together with estimates of the quantities reduced by species and discarded by species. The quantity reduced is especially important where vessel catch is calculated from production or where size sampling is only possible after the catch has been sorted into the portions to be processed and reduced and/or discarded.

f) Biological Sampling

This should be carried out for all commercial species at a suggested frequency of one sample per day, irrespective of species. Recognizing that NAFO commercial fishery length and age sampling forms are not suitable for work ("tally") sheets, observers should be free to use the work forms to which they are accustomed prior to transferring the summed data to the NAFO forms. When it is not possible to sample the total catch, sampling of discards and fish destined for reduction, in addition to retained catches, should be sampled for length and age composition by species.

g) Other Observations

The observer should record observations appropriate to a fuller understanding of the scientific data, including such items as gear handling techniques to increase escapement of small fish through the trawl meshes at the surface, comments on fish loss during hauling, observations on the viability of escaping and discarded fish, gear loss or damage if significant to catch rate considerations, and the presence of other fishing vessels. Some of these observations might be made directly on the set data sheets, whereas others of a more general nature might be included in a short summary report, prepared by the observer and copied (as with other data records) to the captain upon request. This report should note the general area of fishing activity, the number of observations made, and difficulties experienced in carrying out the purposes of the program due to vessel configuration, etc., particularly where suggestions can be made for the benefit of observers in similar future situations. The observer should also collect ancillary scientific data, such as weather, water temperatures (if vessel equipped to measure), whale sightings, etc.

3. Format of Data Collection

A suggested data record for set details is shown below. Development of the final format should be coordinated by the Secretariat, and the instructions for completing the form should include the provision of a copy for the vessel's captain.

4. Procedures for Transmittal and Dissemination of the Data

Vessel captains are, under the program, entitled to obtain copies of whatever records they wish. The complete data record should be sent to the designated scientific institution in the country of the vessel. Biological sampling data should be sent to the NAFO Secretariat for incorporation in its data base. Length frequency data should be forwarded to the Secretariat within 60 days after the observer returns to his home base. Age-length keys should be received by the Secretariat as they become available but not later than 30 April of the year following the calendar year of collection. The responsibility for age reading should be included in the bilateral agreement.

NAFO International Scientific Observer Scheme

Set and Catch Data Record 19

Vessel name		Observer	
Country (flag)		Country of Observer	
Trip number		Surface T° C	
Set number		Towing speed	
Side number		Sea state	
Vessel type		Start latitude	
Vessel horsepower		End latitude	
Gear type		Start longitude	
Net material		End longitude	
Chafing gear		Start depth (m)	
Mesh size — codend		End depth (m)	
— chafer		Start time GMT	
Hook size (longlines)		End time GMT	
Directed species		Observed/log.	
Day		Fishing depth (m)	
Month			
Year		NAFO area	

5. **Chaler.** Indicate type in use, if any, and whether a liner fitted.
6. **Date.** Record the month and day for each sample taken by observers at sea. In the case of port sampling on a trip basis, record the month and day of landing.
7. **Time of set.** Use Greenwich Mean time.
8. **NAFO Division.** Record the appropriate division (or subdivision, where applicable).
9. **Fishing depth (m).** Indicate the mean fishing depth.
10. **Species caught.** Record the name of the species samples, supplemented by the NAFO 3-alpha code.
11. **Directed species.** Indicate with check (✓) the species which was intended as directed catch.
12. **L/A sample taken.** Indicate whether a length (L) or age (A) sample was taken, and indicate number of fish sampled.

Appendix VII
**Proposal by the *ad hoc* Drafting Group on Proposed Conservation
and Enforcement Measures — NAFO Second Annual Meeting,
September 1980**

1. Proposed redraft for "vessels under its fisheries jurisdiction" (throughout text)

For "vessels under its fisheries jurisdiction" read "its vessels" or "vessels of a Contracting Party"

2. Treatment of chartered vessels

The following provisions should be added for Part I — Management.

New Section D — Chartered Vessels

1. A Contracting Party shall not be authorized to transfer all or part of its quota for fishing in the Regulatory Area to vessels of a non-Contracting Party.
2. In the event that a vessel of one Contracting Party is chartered to a company or person subject to the jurisdiction of another Contracting Party, and has been authorized to fish under the quota allocated to the second Contracting Party, the vessel shall be included in the report referred to in Part III, paragraph B below made by the second Contracting Party, and shall be regarded as a vessel of the second Contracting Party for the purposes of sections A and C above. However, once the second Contracting Party has prohibited fishing in accordance with Part I, paragraph 2 above, the vessel shall be regarded as a vessel of the first Contracting Party.

E. List of Participants for the NAFO Second Annual Meeting — September 1980 (General Council, Fisheries Commission and Scientific Council)

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F. Press Notice for the NAFO Second Annual Meeting — September 1980

1. The Second Annual Meeting of the Northwest Atlantic Fisheries Organization (NAFO) was held at St. John's, Newfoundland, Canada, during 3-12 September 1980, under the chairmanship of Dr A. W. May, President of NAFO and Head of the Canadian Delegation. The meeting of the Scientific Council during 3-8 September was followed by meetings of the Fisheries Commission and the General Council.
2. Attending the meeting were delegates from the following Contracting Parties: Bulgaria, Canada, Cuba, European Economic Community (EEC), Faroe Islands, German Democratic Republic, Iceland, Japan, Norway, Poland, Portugal, and USSR. Observers were present from Spain, USA, the Intergovernmental Oceanographic Commission (IOC), and the International Council for the Exploration of the Sea (ICES).
3. Decisions reached at this NAFO Meeting included the following:
 - a) The program of International Joint Enforcement of NAFO Regulations outside the 200-mile economic fishing zone will be continued and expanded in 1981, with commitments by Contracting Parties to increase overall surveillance in Div. 3M (Flemish Cap).
 - b) The International Scientific Observer Program will be continued in 1981.
4. On the basis of scientific advice provided by the Scientific Council from its meeting in June 1980, agreement was reached on conservation and management measures in 1981 regarding total allowable catches (TACs) and allocations for certain fish stocks, three of which are entirely outside the Canadian 200-mile fishing zone in Div. 3M and five stocks overlapping the 200-mile fishing zone in Div. 3L, 3N, and 3O (Table 1). Allocations were also made for a part of the 1981 TAC for the short-finned squid (*Illex illecebrosus*) in Subareas 3 and 4. Conservation measures for the capelin stock in Div. 3LNO were deferred until the Scientific Council provides scientific advice at its meeting in February 1981, at which time the cod stocks in Div. 3M and 3NO will also be reassessed.
5. A Special Meeting of NAFO will be held at Halifax, Nova Scotia, Canada, during 31 March-2 April 1981 to consider advice from the February 1981 Meeting of the Scientific Council. The Third Annual Meeting of NAFO will be held at Halifax during 9-18 September 1981.

22 September 1980

Office of the Secretariat of NAFO
Dartmouth, Nova Scotia, Canada

TABLE 1. Total allowable catches and quotas (metric tons) for 1981 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 fisheries zone, where applicable.)

Contracting Party	Cod		Redfish		American Plaice		Yellowtail	Witch	Capelin	Squid (<i>Illex</i>) ^{a,b}
	3M	3NO	3M	3LN	3M	3LNO	3LNO	3NO	3LNO	3 + 4
Bulgaria	—	—	300	—	—	—	—	—		500
Canada	100	3,267	5,500	8,000	250	54,200	20,500	3,000		—
Cuba	295	283	1,550	2,250	—	—	—	—		2,250
European Economic Community	1,470	70	1,200	—	—	700	400	—		—
Faroe Islands (Denmark)	1,775	—	—	—	—	—	—	—		—
German Democratic Republic	—	—	—	850	—	—	—	—		—
Iceland	—	—	—	—	—	—	—	—		—
Japan	—	—	400	—	—	—	—	—		2,250
Norway	735	—	—	—	—	—	—	—		—
Poland	305	—	—	—	—	—	—	—		1,000
Portugal	2,145	367	600	850	250	—	—	—		500
Romania	—	—	—	—	—	—	—	—		500
USSR	780	1,447	10,350	12,900	1,000	—	—	1,950		5,000
Others	50	233	100	150	500	100	100	50		—
Special Reservation	345 ^c	3,000 ^c	—	—	—	—	—	—		2,250 ^c
Total	8,000^d	8,667^e	20,000	25,000	2,000	55,000	21,000	5,000		150,000

^a Any quota listed for squid may be increased by a transfer from any other quota listed for squid or by a transfer from any "coastal state" as defined in Article I, 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.

^b The opening date for the squid (*Illex*) fishery is 1 July 1981.

^c Reserved for Spain.

^d Interim for calendar year, subject to review.

^e January to April.



PART 7

Report of the Special Meeting of the NAFO Scientific Council on Shrimp and Seals, Dartmouth, Nova Scotia Canada, 18-22 November 1980

1. Introduction

The Scientific Council met under the chairmanship of Mr R. H. Letaconnoux at NAFO Headquarters, Dartmouth, Canada, during 18-22 November 1980 to provide advice for 1981 on the conservation of the harp and hooded seal stocks in the Northwest Atlantic as requested by Canada and the shrimp stocks in Sub-areas 0 and 1 as requested by Canada and the European Economic Community (EEC) (see Appendix II). In addition, at the request of the International Council for the Exploration of the Sea (ICES) and agreed by the Executive Committee of the Scientific Council, a review of the status of the shrimp stocks and fishery at East Greenland was included in the agenda for the meeting (see Appendix I). Representatives attended from Canada, EEC, Faroe Islands, Iceland and Norway (see List of Participants in Appendix III).

2. Stock Assessments

a) Assessment of Seal Stocks

i) Harp seals

Provisional statistics indicated that the 1980 catch of harp seals in the "Gulf" and "Front" areas was 171,929 and that the catch at Greenland could amount to more than 10,000 and possibly as many as 12,000-13,000.

An independent review of the status and management of harp seals in the Northwest Atlantic, by J. R. Beddington and H. A. Williams (1980, US Dept. Commerce, Tech. Info. Serv. Doc. No. PB80-206105, 127 p.), was assessed. Those authors used the detailed catch-at-age data derived by P. F. Lett and T. Benjaminsen (1977, *J. Fish. Res. Bd. Canada*, **34**: 1155-1187) and data from a specific population model to form a cumulative X^2 . Parameters of the model were then manipulated until a minimum X^2 value was obtained which corresponded to the best fit. That resulted in a high point estimate for natural mortality ($M = 0.14$) and indicated a substantial decline in the population since 1952 which had only been slowed by recent quotas. In examining their method, it was found that incorrect assumptions about selectivities of landmen

and large vessel hunts, inaccurate age determinations (especially of older animals), and inappropriate weighting of samples biased their results. Their derived vital rates were used to calculate 1952 replacement yields of the order of 10,000 animals, implying that, unless the mortality rate was less, the harp seal population must have been in continuous decline since 1800 from a level of tens of millions of seals. In view of the unlikelihood of such an occurrence and for other reasons, the estimates of Beddington and Williams were considered to be unrealistic.

A value of $M = 0.10$ was adopted for the assessment, although it was recognized that values from 0.08 to 0.12 could not be ruled out by existing analyses. New estimates of pregnancy rates were tabled and adopted for calculation of yields and projections of catch and population size. Mark-recapture experiments in 1978-80 and an aerial survey in 1977 gave a mean estimate of pup production in 1977-80 of 410,000 with a nominal standard error of 46,000. Survival index calculations gave an estimated pup production of 342,000 in 1973 with 95% confidence limits of 267,000-625,000. Those two estimates were considered to be equally reliable and were used to provide a best estimate of 375,000 for pup production in 1980. In the absence of a moulting sample of seals in 1980, the 1979 age composition was used to project catch and stock size to 1985 and to calculate replacement yields.

With $M = 0.10$ and 1980 pup production of 375,000, replacement yield was estimated to be 210,000 animals, with an age 1+ population of 1.57 million animals, and the sustainable yield was estimated to be 234,000 animals. The latter value was lower than would be expected in a population with a stable age distribution, due to the present large proportion of immature animals resulting from the reduced pup catches from 1972 onwards.

The population in 1985, with a continued annual catch of 180,000 (80% pups and 20% age 1+ animals) was projected to consist of 425,000

pups and 1.70 million age 1+ animals, representing an annual growth rate of 1.7%. An annual catch of 210,000 seals, with the same proportions of pups and adults, was projected to result in a stable population for the 5-year period. The projected increase of the harp seal population noted above should not be interpreted as a firm prediction because natural mortality rates from 0.08 to 0.12 and pup productions from 300,000 to 500,000 were possible. Although the available information best corresponded to an expanding population if the annual kill would be 180,000 seals, the rate of expansion could be larger or smaller than the 1.7% given above.

ii) Hooded seals

No new analyses of age and reproductive data were available, the most recent being those presented at the November 1978 Meeting (*ICNAF Redbook* 1979, p. 11-14). Consequently, there was no basis for revising the assessment of hooded seals made at that meeting, and the Council reiterated the previous advice that a kill of 15,000 hooded seals at the Front under the present management regime would be likely to permit the population to increase. The Council also advised that the upper limit of 5% females in the kill be retained as a conservation measure for 1981.

b) Assessment of Shrimp in Subareas 0 and 1

The 1979 offshore shrimp fishery in Subareas 0 and 1 was regulated by an overall total allowable catch (TAC) of 29,500 tons, of which about 26,000 tons were taken. The same TAC was continued in 1980, and preliminary statistics for January-October indicated an offshore catch of about 30,000 tons. The major fishing areas were the northern parts of Store Hellefiske Bank (Div. 0A and 1B) with an extension of the fishery northward to Div. 1A. Available information on shrimp biology included depth relationships, diurnal variation and age interpretation.

All available information on biomass, trends in catch rates and composition of the stock were considered in advising on a TAC for 1981. It was noted that the decline in abundance, evident during 1976-78 from catch-per-unit-effort indices and biomass estimates, had levelled off with some increase indicated in 1980. However, there was uncertainty as to whether the increase indicated by the catch rates and by the photographic biomass estimates represented a real increase in stock abundance or resulted from changing fishing patterns or environmental conditions. The Council therefore **advised** that the overall TAC for the offshore grounds in Subarea 1 and adjacent parts of Subarea 0 in 1981 should remain at the same level as in

1980 (29,500 tons). In order to improve the basis for assessing the shrimp stocks, the Council endorsed the recommendations of STACFIS regarding future research requirements.

c) Assessment of Shrimp off East Greenland

The shrimp fishery off East Greenland began in 1978 and by 1980 vessels from Denmark, Faroe Islands, France, Greenland, Iceland and Norway fished in the area of Strede and Dohrn banks between Iceland and Greenland (around 66°N and 28-30°W). Catch rates were high in the early months of the year and declined sharply in June, indicating a shift in the concentrations due possibly to changes in hydrographic conditions. The available biological data indicated that the fishery in April-May exploited large berried females and that the shrimp were larger than those off West Greenland. Also, there were indications that as many as 25% of the females did not mature. By-catches occasionally consisted of large quantities of capelin, Atlantic cod, and Greenland halibut but generally comprised smaller amounts of redfish, wolffishes and some other species.

A single biomass estimate was presented but it was not considered reliable because of data limitations. Environmental factors and fishing patterns were discussed in relation to the variable catch rates, but no firm conclusions could be reached. Although it was not possible to provide an estimate of potential yield from the stock, a cautious approach to exploitation was suggested. The need for greatly expanded research activity was emphasized.

3. Future Research

a) Harp Seals

In order to improve the basis for assessment of the harp seal stocks, the Council

recommended:

that further samples of moulting harp seals be taken at the Front;

that further samples of migrating harp seals be taken in the Gulf of St. Lawrence in January and February for studies on age, reproduction, feeding and energetics;

that observations on mother-pup interactions and other behavior be carried out in the Strait of Belle Isle;

that Norway carry out a series of blind replicate tests on the sample of teeth discussed in *NAFO SCR Doc. 80/XI/160* and also on a similar-sized or larger sample of teeth from Norwegian collections at the Front; and

that catch statistics be improved, particularly those for the Arctic and the Gulf of St. Lawrence.

b) Hooded Seals

In order to improve the basis for assessment of hooded seal stocks, the Council

recommended:

that all available unworked data on age composition, maturity and fecundity be analyzed and reported as soon as possible; and

that detailed catch and effort data continue to be collected from all large vessels operating in the Front area.

c) Shrimp

In order to improve the basis for assessment of shrimp stocks, the Council

recommended:

that stratified-trawl and photographic surveys should be conducted annually to establish a time series of abundance indices independent of those based on commercial catch rates;

that the observer program should be continued with emphasis on monitoring the quantities and sizes of shrimp caught and discarded;

that the logbooks presently used in the fishery be completed accurately and that appropriate steps be taken to ensure that the data be collected from all participants in the fishery; and

that an ageing workshop on shrimp be held, with Mr J. Frechette as convener (possibly in Quebec, Canada, during early May 1981), to conduct an in-depth analysis of shrimp samples with a view to developing criteria for the ageing of shrimp.

4. Collaboration with Other Organizations

a) ICES Request for Assessment of Shrimp at East Greenland

In a telegram to the Executive Secretary of NAFO on 20 October 1980, the General Secretary of ICES on behalf of its Advisory Committee on Fishery Management (ACFM) expressed the desire that assessment of the shrimp stocks at East Greenland be considered at the November 1980 Meeting of the Scientific Council when the shrimp stocks at West Greenland would be assessed, because most of the scientists involved would be the same. Telephone contact with the majority of the members of the Executive Committee of the Scientific Council indicated general agreement with the proposal, and

that was communicated to Scientific Council members on 23 October 1980 (NAFO Circular Letter 80/75). Consequently, the report of STACFIS contained a section entitled "Shrimp at East Greenland".

5. Future Scientific Meetings

a) Special Meeting for Assessment of Capelin and Cod

The Council confirmed that its next meeting would be held at NAFO Headquarters, Dartmouth, Canada, during 17-21 February 1981 to review the status of and provide advice for management in 1981 of the capelin stocks in Subarea 2 + Div.3K and 3LNO, and the cod stocks in Div. 3M and 3NO.

b) Regular Meeting in June 1981

The Council confirmed that its regular meeting would be held at NAFO Headquarters, Dartmouth, Canada, during 9-20 June 1981, preceded by a special session on "Squid biology and distribution" during 3-6 June and a meeting of the *ad hoc* Working Group on the Flemish Cap Project on 8 June.

6. Other Matters

a) Recommendations for Future Research

The Council noted that the Secretariat had compiled and circulated a list of research requirements recommended at its meeting held in February, June and September 1980, and urged scientists to take particular note of those requirements, since many of them relate to the requirements and/or commitments, on which reports were expected to be presented at forthcoming meetings of the Council.

b) Progress Report on Publication of the New Journal

The Assistant Executive Secretary informed the Council that the Secretariat, in collaboration with members of the Standing Committee on Publications (STACPUB), had completed the new cover design for the Journal of Northwest Atlantic Fishery Science and that Volume 1, containing 10 refereed papers, should be ready for distribution in late December.

7. Approval of Reports

a) Provisional Report of the September 1980 Meeting

The Council reviewed and formally approved without amendment the report of its meeting at St.

John's, Newfoundland, Canada, during 3-8 September 1980.

b) Report of the November 1980 Meeting

The Council noted that its report of the present meeting was scheduled for inclusion in the first issue of "Scientific Council Reports" to be published in December 1980. The Council agreed to formally adopt the report, subject to minor editorial amendment, where necessary, by the rapporteur.

8. Adjournment

The Chairman expressed his thanks to the Bedford Institute Administration for the use of conference rooms, to the NAFO Secretariat for their usual efficiency in preparing for and servicing the meeting, to the Chairman of STACFIS and the conveners and rapporteurs of working groups, and to all participants for their cooperation and contributions. The meeting adjourned at 1300 hrs on 22 November 1980.

Appendix I

Agenda for the Special Meeting of the Scientific Council — November 1980

1. Opening (Chairman: Mr R. H. Letaconnoux)
 - a) Appointment of rapporteur
 - b) Adoption of agenda
 - c) Plan of work

2. Fishery Science (Chairman: Dr G. H. Winters)
 - a) Review of harp and hooded seals (Convener: Dr A. W. Mansfield):
 - i) Review of fishery
 - ii) Research in 1980
 - iii) Stock relationships
 - iv) Population assessment
 - Vital rates
 - Pup production
 - Stock size
 - Sustainable yield
 - v) Future research needs
 - b) Review of shrimp stocks in Subareas 0 and 1, and at East Greenland¹ (Convener: Mr P. Kanneworff):
 - i) Review of fishery trends
 - ii) Distribution and biology
 - iii) Catch and effort
 - iv) By-catches in shrimp fishery
 - v) Biomass estimates
 - vi) Total allowable catches
 - vii) Future research needs
 - c) Other matters

3. Adoption of Reports
 - a) Provisional report of September 1980 Meeting of Scientific Council
 - b) Report of Scientific Council (this meeting), including the report of STACFIS

4. Review of Future Meeting Arrangements
 - a) Special Meeting (17-21 February 1981)
 - b) Regular Meeting (3-20 June 1981)
 - c) Annual Meeting (12-18 September 1981)

5. Other Matters
 - a) Scientific Council recommendations and proposals for 1980 and 1981 (NAFO Circular Letter 80/77)
 - b) Progress report on publication of Vol. 1 of the Journal of Northwest Atlantic Fishery Science

6. Adjournment

¹ Assessment of East Greenland shrimp stock included on the Agenda at the request of ICES and with the concurrence of the Executive Committee of the Scientific Council.

Appendix II

Requests for Scientific Advice from the Scientific Council — November 1980

Canadian Request for Advice on the Scientific Basis for Management of Seal Fisheries Within National Fisheries Limits

At the request of Canada, the Scientific Council at a special meeting in November 1979 provided advice on the scientific basis for management in 1980 of stocks of harp seals and hooded seals within national fishery limits in NAFO Subareas 0, 1, 2, 3 and 4. Subject to the consent of the other contracting party involved, the Canadian Government considers it desirable that the Scientific Council similarly provide advice on the scientific basis for seal management in 1981.

For the stocks of both species, it is requested that the Council comment on the following aspects:

1. Current stock size and pup production and recent trends in these parameters.
2. Current replacement yield and sustainable yield at present stock size and in the long term, under varying options of age compositions in the catch, including that recently occurring.
3. Trends in population size based upon differing levels of total allowable catch which incorporate quota regulation of all removals except that by traditional hunting in the Canadian Arctic and at Greenland.

It is suggested that the Council meet and report during the autumn of 1980 with dates to be established through appropriate consultation.

Dr A. W. May
Assistant Deputy Minister for Atlantic Fisheries
Department of Fisheries and Oceans
Ottawa, Canada

European Economic Community (EEC) Request for Advice on the Scientific Basis for Management of Shrimp in Subareas 0 and 1

On behalf of the EEC, I kindly request the Scientific Council to take measures to make available the advice on shrimps in NAFO Subareas 0 and 1 by early October. I wish to point out that it is of great importance to the Community to dispose of this advice by early October.

If it would facilitate the work of the Scientific Council, the Commission of the European Communities is ready to make meeting room and secretarial assistance available in Brussels for a meeting of the Assessment Committee.

Mr M. Marcussen, Head of Division
Directorate General for Fisheries
Commission for the European Communities
Brussels, Belgium

Appendix III**List of Participants for the Special Meeting of the Scientific Council —
November 1980****CANADA**

W. D. Bowen	Research and Resource Services, Dept. of Fisheries and Oceans, P. O. Box 5667, St. John's, Newfoundland A1C 5X1
D. G. Parsons	Research and Resource Services, Dept. of Fisheries and Oceans, P. O. Box 5667, St. John's, Newfoundland A1C 5X1
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P. F. Brodie	Marine Ecology Laboratory, Dept. of Fisheries and Oceans, P. O. Box 1006, Dartmouth, Nova Scotia B2Y 4A2
R. Cormier	Biological Station, St. Andrews, New Brunswick EDG 2X0
A. W. Mansfield	Arctic Biological Station, 555 St. Pierre Boulevard, Ste. Anne de Bellevue, Quebec H9X 3L6
J. Frechette	Direction Generale des Peches Maritimes du Quebec, 2700 Rue Einstein, Ste. Foy, Quebec G1P 3W8
W. G. Doubleday	Fisheries Research Branch, Dept. of Fisheries and Oceans, 240 Sparks Street, Ottawa, Ontario K1A 0E6
T. I. Hughes	Committee on Seals and Sealing, 8064 Yonge Street, Thornhill, Ontario L4J 1W3

EUROPEAN ECONOMIC COMMUNITY (EEC)

D. M. Carlsson	Grønlands Fiskeriundersøgelser, Jaegersborg Allé 1B, DK-2920 Charlottenlund, Denmark
Sv. Aa. Horsted	Grønlands Fiskeriundersøgelser, Jaegersborg Allé 1B, DK-2920 Charlottenlund, Denmark
P. Kanneworff	Grønlands Fiskeriundersøgelser, Jaegersborg Allé 1B, DK-2920 Charlottenlund, Denmark
F. O. Kapel	Grønlands Fiskeriundersøgelser, Jaegersborg Allé 1B, DK-2920 Charlottenlund, Denmark
R. H. Letaconnoux	Institut Scientifique et Technique des Pêches Maritimes, B. P. 1049, F-44037 Nantes-CEDEX, France
J. P. Minet	Institut Scientifique et Technique des Pêches Maritimes, B. P. 26, F-97500 St. Pierre et Miquelon
R. Noe	Commission of the European Communities, 200 Rue de la Loi, 1049 Brussels, Belgium

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