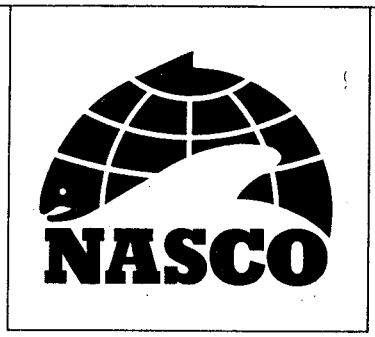
NORTH ATLANTIC SALMON CONSERVATION ORGANIZATION

ORGANISATION POUR LA CONSERVATION DU SAUMON DE L'ATLANTIQUE NORD



REPORT OF THE THIRD ANNUAL MEETING OF THE WEST GREENLAND COMMISSION

23-27 June 1986
Edinburgh UK

NORTH ATLANTIC SALMON CONSERVATION ORGANIZATION

ORGANISATION POUR LA CONSERVATION DU SAUMON DE L'ATLANTIQUE NORD

NASCO

WEST GREENLAND COMMISSION

COMMISSION DU GROENLAND OCCIDENTAL

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RAPPORTEUR	MR GILBERT RADONSKI (USA)
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REPORT OF THE THIRD ANNUAL MEETING OF THE WEST GREENLAND COMMISSION OF THE NORTH ATLANTIC SALMON CONSERVATION ORGANIZATION 23-27 JUNE 1986, SHERATON HOTEL, EDINBURGH, UK.

1. OPENING OF THE MEETING

1.1 The Third Annual Meeting of the West Greenland Commission was opened by the Chairman, Mr J Spencer (EEC) on 24 June 1986. The list of participants is given in Annex 1.

2. ADOPTION OF THE AGENDA

2.1 The Commission in adopting the agenda (Annex 2) agreed that items 5 and 6 would be discussed jointly.

3. NOMINATION OF A RAPPORTEUR

3.1 The Commission nominated Mr G Radonski (USA) as rapporteur for the meeting.

4. ELECTION OF OFFICERS

4.1 On the proposal of the USA representative, seconded by the representative from Denmark (in respect of the Faroe Islands and Greenland), Mr E McCurdy (Canada) was elected Chairman of the Commission. Mr E Lemche (Denmark in respect of the Faroe Islands and Greenland) was elected Vice Chairman of the Commission on the proposal of the European Economic Community (EEC) representative, seconded by the Canadian representative.

4.2 The USA representative, on behalf of all the delegates to the Commission, extended their appreciation and thanks to the outgoing Chairman, Mr J Spencer (EEC).

5. REVIEW OF THE 1985 FISHERY AND THE ACFM REPORT FROM ICES ON SALMON STOCKS

5.1 The Chairman of the ACFM presented the scientific advice from ICES (Annex 3) and Section 3 of the ICES Report on the Meeting of the Working Group on North Atlantic Salmon (Copenhagen, 17-26 March 1986). These reports had been prepared in response to a request from the Commission, the terms of which were drawn up at the Second Annual Meeting. He clarified certain aspects of these reports in response to queries from the Commission.

5.2 The Danish representative corrected the reported catch for the 1985 fishery of 851 tonnes at West Greenland to 864 tonnes.

5.3 The EEC representative sought clarification as to whether data existed which would allow the estimation of the unreported catch in the West Greenland fishery. The ICES representative replied that this information was not available.

5.4 The USA representative submitted a summary of the 1985 USA salmon fishery which indicated a harvest of 584 fish compared to 645 fish in 1984 (Annex 4). The harvest of 8000 fish of USA origin off West Greenland was unacceptable to USA interests. He suggested that it was in the interest of Greenland to increase escapement in order to augment the spawning population of salmon.

5.5 The Canadian representative submitted a report on Canadian Atlantic salmon catches in 1985 (Annex 5) which shows a reduction of more than 50% of the previous five year mean harvest and of 60% of the previous 10 year mean harvest. He noted that Canada had minimised its unreported catch through a mandatory labelling system of all fish moving through its system, a required reporting of sales and a river-by-river estimate of the recreational harvest on a weekly basis.

5.6 The Danish representative asked the ICES representative if it was possible with respect to either season, gear or area, to avoid the capture of USA salmon. The ICES representative suggested that discrete groups of salmon may occur, but that more investigation was needed.

6. REGULATORY MEASURES

6.1 The EEC representative submitted a statement (Annex 6) by the European Economic Community pursuant to Article 15 of the Convention. He stated that this document outlined the current conservation measures in force within the Member States of the Community in whose rivers salmon originate. These conservation measures had been developed over a very long period of time and were subject to constant review to ensure their effectiveness. In addition, expenditure in the Community on enforcement of salmon conservation measures in 1986 would amount to £20 million, which represents an expenditure of £7 per kilogramme of salmon caught in the waters of the Community.

6.2 The Community's continuing harvest of salmon was proof that it had followed, and was continuing to follow, a sound conservation policy. The EEC representative added that the drastic measures taken by other members of the Commission may reflect a poorer stock situation in their waters than that existing within the Community. Notwithstanding these considerations it was clear that the interceptory fisheries created a new burden on the home water stocks.

6.3 The USA representative noted that the USA is the smallest contributor to world salmon stocks but pro-rata spends most on the restoration of the spawning habitat. He

also indicated that the USA could not exist as a producer of salmon without the cooperation of other countries. The USA had focused upon the Canadian interceptions of USA fish and now felt that it should achieve a reduction in the harvest in the West Greenland fishery.

6.4 The Danish representative indicated that the Working Group Report showed that escapement levels in two of three Canadian rivers had been met or exceeded and that there should be higher returns to European and North American Rivers in 1986. On that basis he felt that the West Greenland quota for 1986 should be increased in relation to 1985.

6.5 The Canadian representative suggested that the small surplus of 1985 in relation to 1984 was the result of restrictive measures placed on Canadian fishermen. He therefore indicated that Canada was willing to come to long term agreement on the disposition of any gains. However, Canada could not accept that Greenland would benefit first from Canadian restrictive conservation measures.

6.6 The USA representative indicated that they could not accept the linkage of quotas to the implementation of restrictions and that the Commission should first address stock size improvement and then turn to allocation.

6.7 The EEC representative proposed a draft regulatory measure (Annex 7) fixing the level of fisheries in the West Greenland fishery for each of the 1986 and 1987 seasons at 750 tonnes. This proposal sought to take account of the interests of all the Members of the Commission. Firstly, there was continuing concern about the decrease in returns to home rivers of multi-sea-winter salmon. Secondly, the Community had applied conservation measures restricting its fisheries over a long period of time and therefore considered it logical that new fisheries, such as the interceptory fisheries, should also be subject to restrictions. The EEC representative stressed that the Community did not seek to eliminate progressively the fishery at West Greenland. The proposal, by fixing the level of fishing for two years in succession, would provide for a certain stability in the fishery.

6.8 The EEC representative introduced a paper (Annex 8) which outlined new proposed legislation relating to the fisheries in one of the Member States of the Community. He indicated that this proposed legislation exemplified the constant review process to which salmon legislation within the Community is subjected in order to ensure the conservation and rational management of the stocks.

6.9 The USA representative submitted a Working Paper on the USA proposal for a catch quota at West Greenland in 1986 (Annex 9). The Chairman asked the ICES representative to comment on this paper. The ICES representative stated more time would be needed to comment in detail whilst noting that the figure of 43% contained in paragraph 1 should be 41%.

6.10 Upon the vote of the Commission, the EEC proposal contained in Annex 7 was supported by Canada, the EEC and the USA and opposed by Denmark. In accordance with the Rules of Procedure of the Commission, the Chairman declared the proposal defeated.

6.11 The Danish representative proposed a draft regulatory measure (Annex 10) which set the 1986 quota at 800 tonnes with an opening date of 1 August and a 1987 quota of 900 tonnes with an opening date of 8 August.

6.12 Upon the vote of the Commission, the USA and Denmark supported the Danish proposal, Canada voted against and the EEC abstained. In accordance with the Rules of Procedure of the Commission, the Chairman declared the proposal defeated.

6.13 The USA representative introduced a paper on the impact of opening date and quota on the harvest of salmon at West Greenland (Annex 11) and a Working Paper on additional reductions to the harvest of USA origin salmon (Annex 12).

6.14 The Canadian representative then proposed a draft regulatory measure (Annex 13) for a TAC of 800 tonnes based on an opening date of 1 August as well as a request to ICES to present an analysis for the 1987 meeting on the effects of various opening dates on the fishery.

6.15 Upon a vote of the Commission, the USA, Canada and the EEC voted for the Canadian proposal with Denmark voting against. In accordance with the Rules of Procedure of the Commission, the Chairman declared the proposal defeated.

6.16 The EEC representative proposed a draft regulatory measure of 850 tonnes in the 1986 and 1987 seasons. The Chairman explained that since the time between adoption and implementation of the measure would be less than the 60 days prescribed in Article 13, paragraph 5 of the NASCO Convention, the proposal would have to be an emergency measure. The EEC delegate accepted this modification of the proposal.

6.17 The Canadian representative stated that Canada could not support the EEC proposal. Canada does not believe the measures are commensurate with the restrictive measures taken by Canada both in its home water fisheries and in fisheries within the jurisdiction of another NASCO Commission; nor does Canada believe the resource is in a condition which would warrant the level of fishing at West Greenland as proposed in Annex 14. However, as a reflection of Canada's commitment to NASCO and in recognition of the importance of international co-operation in fisheries management, Canada would not block the implementation of this measure but would abstain in the voting.

6.18 Upon a vote of the Commission on the latest EEC proposal, Denmark and the EEC voted for the proposal with Canada and the USA abstaining. The emergency regulatory measure proposed by the EEC was therefore adopted by the Commission (Annex 14).

7. REQUEST FOR SCIENTIFIC ADVICE FROM ICES

7.1 The Chairman noted that the scientists of the various delegations had met and submitted a draft document on scientific advice from ICES. Following consideration of this document, the Commission adopted a Request for Scientific Advice from ICES (Annex 15).

8. OTHER BUSINESS

8.1 There was no other business.

9. DATE AND PLACE OF NEXT MEETING

9.1 The Commission agreed that its next meeting would coincide with the Fourth Annual Meeting of the Council.

10. CONSIDERATION OF THE DRAFT REPORT OF THE MEETING

10.1 The Commission agreed that the draft report would be circulated to the heads of delegation by mail.

10.2 The Chairman closed the meeting and thanked all the delegates to the WGC for their support and cooperation during his time as Chairman.

10.3 The Danish Representative, on behalf of the Commission, expressed thanks to the Chairman.

ANNEX 1

24 JUNE 1986
EDINBURGH

NORTH ATLANTIC SALMON CONSERVATION ORGANIZATION
THIRD ANNUAL MEETING OF THE
WEST GREENLAND COMMISSION
23-27 JUNE 1986, SHERATON HOTEL, EDINBURGH, UK

LIST OF PARTICIPANTS

* Denotes Head of Delegation

CANADA

*MR W ROWAT	Representative Atlantic Fisheries Service, Government of Canada, Ottawa, Ontario
Dr G NADEAU	Representative Faculte des Sciences de l'Education, Universite Laval, Quebec
MR E McCURDY	Representative Newfoundland Fishermen, Food and Allied Workers Union, St John's, Newfoundland
DR W M CARTER	Atlantic Salmon Federation, St Andrews, New Brunswick
DR D MEERBURG	Department of Fisheries and Oceans, Ottawa, Ontario
MISS E MUNDELL	International Directorate, Department of Fisheries and Oceans, Ottawa, Ontario
MR H GOUDIE	Department of Fisheries, Mount Pearl, Newfoundland
MR D A McLEAN	Department of Fisheries, Halifax, Nova Scotia
MR B VEZINA	Department of Fisheries and Oceans, Ottawa, Ontario
MR B JONES	Department of Fisheries, Fredericton, New Brunswick

DENMARK (IN RESPECT OF THE FAROE ISLANDS AND GREENLAND)

*MR E LEMCHE	Representative Erhverusdirektoratet, Nuuk, Greenland
MR K HOYDAL	Representative Foroya Landsstyri, Torshavn, Faroe Islands
MR A OLAFSSON	Ministry of Foreign Affairs, Copenhagen
MR O SAMSING	Ministry of Foreign Affairs, Copenhagen
MR H KASS	Foroya Logting, Torshavn, Faroe Islands
MR H JAKUPSSTOVU	Foroya Landsstyri, Torshavn, Faroe Islands
MR H MOELLER-JENSEN	Greenland Fisheries & Environment Research Institute, Copenhagen
MR J PAULSEN	Ministry of Fisheries & Industries, Greenland Home Rule, Nuuk, Greenland

EEC

*MR J PEARSON	Representative Fisheries Directorate-General, EEC Commission, Brussels
MR J SPENCER	Representative Fisheries Directorate-General, EEC Commission, Brussels
MR A BORDES	Direction des Peches Maritimes, Secretariat d'Etat de la Mer, Paris
MISS E TWOMEY	Department of Tourism, Fisheries and Forestry, Dublin
MR P LYNG	Department of Tourism, Fisheries and Forestry, Dublin
MS M VAES	Directorate of Fisheries, Ministry of Agriculture and Fisheries, The Hague
MR M CHRISTIANSEN	Ministry of Fisheries, Copenhagen
DR R G SHELTON	Department of Agriculture and Fisheries for Scotland, Pitlochry
MR R B WILLIAMSON	Department of Agriculture and Fisheries for Scotland, Edinburgh
DR R M HAY	Department of Agriculture and Fisheries for Scotland, Edinburgh
MR R GREGG	Ministry of Agriculture, Fisheries and Food, London
MR A BETTE	Council of the European Communities, Brussels

USA

*MR A E PETERSON JR	Representative National Marine Fisheries Service, Woods Hole, Mass
MR R A BUCK	Representative Restoration of Atlantic Salmon in America Inc, Dublin, New Hampshire
DR F E CARLTON	Representative National Coalition for Marine Resource Conservation. Savannah, Georgia
DR V C ANTHONY	National Marine Fisheries Service, Department of Commerce, Woods Hole, Mass
MR B J KEFAUVER	Bureau of Oceans and International Environmental and Scientific Affairs, Department of State, Washington D C
DR P GOODYEAR	US Fish and Wildlife Service, Department of the Interior, Kearneysville, West Virginia
MR J H KUTKUHN	US Fish and Wildlife Service, Department of the Interior, Washington, D C
MR T I LILLESTOLEN	National Marine Fisheries, NOAA, Washington, D C
MR D A REIFSNYDER	Office of Fisheries Affairs Bureau of Oceans and International Environmental and Scientific Affairs, Department of State, Washington D C
MR A W NEILL	National Marine Fisheries Service, NOAA, Woods Hole, Mass
MR R A JONES	Connecticut Bureau of Fisheries, Hartford, Connecticut
MR J DENTLER	US House of Representatives Committee on Merchant Marine Fisheries, Washington, DC
MR E W SPURR	New England Fishery Management Council, Concord, New Hampshire
MR G RADONSKI	Sports Fishing Institute, Washington DC
MR H LYMAN	Salt Water Sportsman Inc, Boston, Massachusetts

OBSERVERS

ICELAND

MR A ISAKSSON	Representative Institute of Freshwater Fisheries, Reykjavik

NORWAY

MR T W KARLSTROEM	Representative Ministry of the Environment, Oslo

SWEDEN

*MR S DE MARE	Representative Ministry of Agriculture, Stockholm
MR I OLSSON	Representative National Board of Fisheries, Goteborg

ICES

MR B B PARRISH	International Council for the Exploration of the Sea, Copenhagen, Denmark
MR O ULLTANG	Institute of Marine Research, Bergen, Norway

SECRETARIAT

DR M WINDSOR	Secretary, NASCO
DR P HUTCHINSON	Assistant Secretary, NASCO

ANNEX 2

24 JUNE 1986
EDINBURGH

WGC (86)20
NORTH ATLANTIC SALMON CONSERVATION ORGANIZATION
THIRD ANNUAL MEETING OF THE WEST GREENLAND COMMISSION
23-27 JUNE 1986, SHERATON HOTEL, EDINBURGH, UK.

AGENDA

1.	Opening of the meeting	
2.	Adoption of the agenda	
3.	Nomination of a rapporteur	
4.	Election of officers	WGC (86)3
5.	Review of the 1985 fishery and the ACFM report from ICES on salmon stocks	CNL (86)3
6.	Regulatory measures	
7.	Request for scientific advice from ICES	
8.	Other business	
9.	Date and place of next meeting	
10.	Consideration of the draft report of the meeting	

ANNEX 3

JUNE 1986
EDINBURGH

NORTH ATLANTIC SALMON CONSERVATION ORGANIZATION

WEST GREENLAND COMMISSION

CNL (86)3

SCIENTIFIC ADVICE FROM ICES

THE REPORT OF
THE ADVISORY COMMITTEE ON FISHERIES MANAGEMENT (ACFM)
(SECTIONS 1-3 AND 5-5.5)

This paper makes reference to the report of the ICES Working Group on North Atlantic Salmon (Copenhagen, 17-26 March, 1986). That report is not annexed here but is available on request to the Secretariat.

ACFM REPORT
NORTH ATLANTIC SALMON

1. REQUEST FOR SCIENTIFIC ADVICE

The advice below and the appended report of the Working Group on North Atlantic Salmon respond to questions posed by ICES and the Council of the North Atlantic Salmon Conservation Organisation (NASCO). ICES requested: a) estimates of nominal catches (tonnes) of salmon in home waters; b) estimates of the catch of salmon in numbers by sea age for recent years; c) an assessment of the impact of non-tagged, adipose fin-clipped salmon on the detection of coded wire tags; and d) an evaluation of the concept of "Safe Biologial Limits" in terms relevant to Atlantic salmon. NASCO posed questions in relation to the areas of its Commissions; these questions are listed for each of the Commission areas in Appendix I of the Working Group report. Every question posed is addressed below together with a summary of scientific advice. The Working Group report should be consulted for detailed reponses to the ICES and NASCO requests. In this text, all tables and numbered figures referred to are found in the Working Group report.

2. NOMINAL CATCHES OF SALMON IN HOME WATERS

Nominal catches of salmon in home waters (in tonnes round fresh weight) for 1960-85 are presented, by country, in Table 1. The total provisional reported catch in 1985 was 5,864 tonnes, similar to the 1984 total catch of 5,624 tonnes but lower than annual catches in the early 1980's (6,200-8,000 tonnes). In 1985, for the first time, an estimate of unreported catch was provided (3,070 tonnes). No attempt was made to estimate unreported catches for earlier years.

3. CATCH IN NUMBER BY SEA AGE AND WEIGHT FOR RECENT YEARS

Estimates of national salmon catches, in terms of numbers and weight by sea age, are given in Table 2 for the 1980-85 period. Data were provided from nine countries for one or more years in the recent time period. Sea age was generally assigned as either 1 sea-winter (1SW) or multi sea-winter (MSW). For each country, age and catch estimation procedures were described.

5. QUESTIONS OF INTEREST TO THE WEST GREENLAND COMMISSION OF NASCO

5.1 Description of the Events in the West Greenland Fishery in 1985

Nominal catches of salmon in NAFO Subarea 1 for 1960-85 are shown in Table 9. The 1985 catch was 851 tonnes and the TAC was 852.3 tonnes. The fishery opened officially on 1 August and ended on 2 November. Most of the 1985 catch was taken in Divisions 1C and 1D whereas it was previously taken mainly from Divisions 1B and 1C (Table 10). No effort data were available. Increased landings during the first week and first two weeks of 1985 compared to 1983 and 1984 may indicate improved availability of salmon in West Greenland in 1985.

The estimated composition of the 1985 catch was 50% North American origin and 50% European origin, by number (Table 11). This corresponds to a catch of 409 tonnes or 150,000 fish from North America and 442 tonnes or 150,000 fish from Europe. An estimate of the number of USA-origin salmon caught at West Greenland was obtained, based on the fraction of North American 1-year-old smolts in catch samples. The catch of USA-origin fish was estimated to be 2,600 in 1984 and 8,090 in 1985. The validity of assumptions and accuracy of parameter values used to produce the latter estimates should be further examined.

The sea-age composition of catches from 1969-85 is given in Table 12. In 1985, 2SW fish represented 5.9% of the catch, down from 8.1% in 1983 and 11.6% in 1984, and closer to proportions observed previously.

To illustrate the climatic changes in the West Greenland area in the 1980's, Figure 2 shows the monthly mean air temperature annually at Godthåb from January 1980 to January 1986. In 1980 and 1981, the air temperature fluctuated around the 30-year monthly mean. From February 1982 to November 1984, there were negative air temperature anomalies for each month and the winter months in 1983 and 1984 were extremely cold. The lower availability of salmon at West Greenland in 1983 and 1984 followed by

increased availability in 1985 could be partly explained by the cold winters of 1982/83 and 1983/84 followed by the warmer winter of 1984/85.

Atlantic salmon occur in the Irminger Sea and have been caught by research vessels in 1966, 1973-75 and 1985. The proportions of salmon of North American and European origin were estimated to be 21% and 79%, respectively, for the 1973-75 cruises. Salmon tagged as smolts in North American and European rivers have been recovered in East Greenland. Salmon fishing at East Greenland is restricted, and, in some years, prevented by drifting polar ice. Tags were reported in 1965, 1966, 1971, 1974, 1977, and 1985 while catches above 1 tonne were reported in 1971, 1977 and 1978. No catch statistics for 1985 were available.

5.2 Effects of Varying Levels of Harvest at Greenland on Subsequent Returns of Large Salmon to Home Waters

Assessment results presented previously (1980) indicated that for each tonne of North American-origin salmon taken in the West Greenland fishery, 1.47 to 2.00 tonnes would be lost on average to North American home-water stocks; similarly, for each tonne of European-origin salmon in the reported West Greenland catch from 1.29 to 1.75 tonnes would be lost to European home-water stocks (the ranges provided reflect differential survival and growth rates of North American and European salmon between West Greenland and home waters). In recent years (1980-84), the mean North American and European proportions, by number, in the West Greenland catch have each been 0.50. Based on the 1985 West Greenland catch of 851 tonnes (150,000 North American-origin salmon corresponding to 409 tonnes; 150,000 European-origin salmon or 442 tonnes), the loss to home water returns in 1986 was estimated to be 600 to 817 tonnes for North American stocks and 571 to 774 tonnes for European stocks.

5.3 Impact of Management Measures Taken and Proposed by States of Origin on Home Water Catches and Spawning Escapements of Salmon

Changes in management measures of home-water salmon fisheries were reported for Canada, USA, Ireland, Northern Ireland, and Norway. There have been only minor changes in salmon management measures in other countries in recent years. Closures of commercial fisheries in selected areas and mandatory releases of MSW (multi-sea-winter) salmon in the recreational fishery were estimated to have reduced the Canadian harvest of MSW salmon by 22%. The increase in spawning escapement due to delayed season opening and reduced licensed fishing effort could not be quantified. ACFM concluded that management measures taken by Canada in 1984 and 1985 reduced the harvest of salmon in Canadian fisheries, particularly the MSW salmon. On the Penobscot River in the USA, the recreational fishery exploitation rate decreased from 22-27% in prior years to about 10% in 1985, presumably due to changes in regulations. The impact of changes in other

countries could not be quantified and the impact of existing management measures could not be evaluated when no changes had taken place.

5.4 Evaluation of Tag Recovery and Return Procedures and Assessment of Accuracy and Completeness of Tag Return Information

A trial scanning program for fin clips and microtags was implemented at West Greenland in 1985. About 5% of the catch was screened (14,319 fish) and no serious technical problems were encountered. A number of microtags have been recovered indicating the potential usefulness of the program. It was felt that the same manpower could scan 10% of the catch in the future. Reporting rates of external tags taken in the Greenland fishery were considered. There was a consensus that tag reporting rates had likely declined from the value of 0.84 reported from the 1972 tagging experiment. An information program will be implemented in 1986 to increase awareness of fishermen to tag return procedures. Discrepancies were noted between the number of USA-origin tags reported sent in recent years by Danish authorities and those received by the USA authorities.

5.5 Spawning Escapements and Target Spawning Biomass for Salmon Stocks in the West Greenland Commission Area

Spawning stocks and target spawning biomass were examined for salmon stocks occurring in the West Greenland Commission area. For Canadian salmon stocks, there is a target minimum egg deposition of 2.4 eggs/m^2 area of parr rearing habitat. Numbers of salmon spawning and target escapements were presented for three major Canadian rivers in 1985. Escapements were somewhat below target levels. The same target egg density was assumed for USA rivers contributing to the West Greenland fishery. Target escapements and 1985 spawning escapements were estimated for three rivers in the USA. The 1985 escapement was well below the target in all cases. There is no target spawning biomass for any Norwegian river contributing to the West Greenland fishery; similarly, target spawning biomass levels were unavailable for any rivers in Iceland, Ireland, Northern Ireland, France, England, Wales and Scotland. Estimates of spawning escapements in 1985 were presented for several European rivers.

ANNEX 4

24 JUNE 1986
EDINBURGH

NORTH ATLANTIC SALMON CONSERVATION ORGANIZATION

WEST GREENLAND COMMISSION

WGC (86)6

SUMMARY OF THE USA 1985 FISHERY

Conservation Measures in Place in 1985

There was no legal fishery for salmon in home waters outside of the State of Maine in 1985. Beginning in 1985, recreational fishermen were allowed to retain only one multi-sea-winter salmon from the Penobscot River and a combined total of five salmon from all Maine rivers annually. In addition the season opening date was changed from 1 April to 1 May in 1982.

1985 Harvest

The total run in 1985 was estimated to be 5737 fish which was an increase from 3754 in 1984. The increase in the size of the run was partly the result of higher stocking rates in 1983 and partly the result of slightly higher return rates of smolts stocked in 1983 as compared to those stocked in 1982. However the return rates of smolts stocked in both years were below the long term average.

The total harvest of salmon was estimated to be 584 fish in 1985, down from the 645 harvested in 1984. The reduced harvest, in spite of increased run size, reflects the impact of conservation measures imposed in 1985. For example, the exploitation rate exerted by the recreational fishery on the Penobscot River decreased from 22-27% in prior years to about 10% in 1985 as the result of the conservation measures.

1985 Stocking

A combined total of slightly more than 2.5 million fry, parr and smolts were stocked in USA waters in 1985. These were distributed among river systems as follows:

	Number in thousands			
River	Smolt	Parr	Fry	Total
Penobscot	580	18	197	795
Union	46	-	8	54
St Croix	60	13	178	251
Other Maine	36	31	89	156
Connecticut	323	170	433	926
Merrimack	153	-	164	317
Pawcatuck	-	47	-	47
Total	1,198	279	1,069	2,546

ANNEX 5

JUNE 1986
EDINBURGH

NORTH ATLANTIC SALMON CONSERVATION ORGANIZATION

WEST GREENLAND COMMISSION

WGC (86)7

CANADIAN ATLANTIC SALMON CATCHES (TONNES)

(January 31, 1986)

TABLE. Canadian Atlantic Salmon Catches (Tonnes)

(Information provided to the International Council for Exploration of the Sea (ICES)).

Year	Grilse	Salmon	Total
1960	-	-	1,636
1961	-	-	1,583
1962	-	-	1,719
1963	-	-	1,851
1964	-	-	2,069
1965	-	-	2,116
1966	-	-	2,359
1967	-	-	2,863
1968	-	-	2.111
1969	-	-	2,202
1970	761	1,562	2,323
1971	510	1,482	1,992
1972	558	1,201	1,759
1973	783	1,651	2,484
1974	950	1,589	2,539
1975	912	1,573	2,485
1976	785	1,712	2,506
1977	662	1,883	2,545
1978	320	1,225	1,545
1979	582	705	1,287
1980	917	1,763	2,680
1981	818	1,619	2,437
1982	716	1,082	1,798
1983	513	911	1.424
1984	467	645	1,112
1985	574	526	1,100

The 1985 total catch of salmon (1,100 tonnes) is:

- 41.8% below the previous 5 year mean (1,890.2)
- 44.4% below the previous 10 year mean (1,976.9)
- 46.5% below the previous 15 year mean (2,057.9)
- 48.3% below the previous 20 year mean (2,128.5)

For the MSW (multi-sea-winter) salmon only, the catch in 1985 of 526 tonnes is:

- 56.3% below the previous 5 year mean (1,205.0)
- 59.9% below the previous 10 year mean (1,311.7)
- 61.7% below the previous 15 year mean (1,373.5)

NOTE: ALL CATCH FIGURES FOR 1985 ARE PRELIMINARY

(January 31, 1986)

TABLE: A COMPARISON OF THE OVERALL 1983, 1984 AND 1985 ATLANTIC SALMON FISHERIES* (IN TONNES)

AREA	GRILSE			SALMON			TOTAL		
	83	84	85	83	84	85	83	84	85
QUEBEC									
R	4.2	4.0	7.0	46.6	37.8	46.7	50.8	41.8	53.7
C	6.4	1.5	4.2	88.1	60.6	65.6	94.5	62.1	69.8
TOTAL	10.6	5.5	11.2	134.7	98.4	112.3	145.3	103.9	123.5
NEWFOUNDLAND									
R	55.8	63.0	62.8	8.0	3.4	1.3	63.8	66.4	64.0
C	401.5	346.3	445.8	615.0	475.1	386.7	1016.5	821.4	832.4
TOTAL	457.3	409.3	508.6	623.0	478.5	388.0	1080.3	887.8	896.5
MARITIMES									
R	29.5	34.8	51.5	37.5	2.0	0	67.0	36.8	51.5
C	15.6	14.9	0	115.8	41.0	0	131.4	55.9	0
TOTAL	45.1	49.7	51.5	153.3	43.0	0	198.4	92.7	51.5
NATIVE	?	2.1	2.9	?	25.0	26.0	?	27.1	28.9
TOTAL	513.0	466.6	574.2	911.0	644.9	526.3	1424.0	1111.5	1100.5

* Numbers may not add directly due to rounding process.

R = Recreational
C = Commercial

NOTE: ALL CATCH FIGURES FOR 1985 ARE PRELIMINARY

(January 31, 1986)

NOMINAL CATCHES (PROVISIONAL) OF ATLANTIC SALMON IN CANADA
FOR 1985 (IN KG ROUND FRESH WEIGHT)

	GRILSE	% OF TOTAL	SALMON	% OF TOTAL	TOTAL	% OF TOTAL
QUEBEC						
R	7,046	1.2	46,670	8.9	53,716	4.9
C	4,232	0.7	65,584	12.5	69,816	6.3
Total	11,278	1.9	112,254	21.4	123,532	11.2
NFLD.						
R	62,759	10.9	1,273	0.2	64,032	5.8
C	445,789	77.6	386,746	73.5	832,435	75.6
Total	508,548	88.5	388,019	73.7	896,467	81.4
MARITIMES						
R	51,457	9.0	0	0	51,457	4.7
C	0	0	0	0	0	0
Total	51,457	9.0	0	0	51,457	4.7
NATIVE FOOD FISHERY (ALL AREAS)	2,910	0.5	25,987	5.0	28,897	2.6
TOTAL	574,193	100.0	526,260	100.0	1,100,533	100.0

R = Recreational (TOTAL = 169,205 KG OR 15.4%)
C = Commercial (TOTAL = 902,251 KG OR 82.0%)

NOTE: ALL CATCH FIGURES FOR 1985 ARE PRELIMINARY

(January 31, 1986)

IMPACT OF 1984 AND 1985 SALMON MANAGEMENT PLANS ON MSW SALMON

Fishery	Average Canadian Catch of MSW Salmon for the year 1970-83 (tonnes)	PREDICTED: Average Canadian Reduction of MSW Salmon catches, if 1984 Plan had been in effect for 1970-83 (tonnes)	PREDICTED: Reduction (%)	ACTUAL 1984: 1984 Catch (tonnes)	ACTUAL 1984: Reduction From Average (tonnes)	ACTUAL 1984: Reduction %	ACTUAL 1985: 1985 Catch (tonnes)	ACTUAL 1985: Reduction From Average (tonnes)	ACTUAL 1985: Reduction %
Recreational	130.6	91.9	70.4	43.2	87.4	66.9	47.9	82.7	63.3
Mainland Commercial	206.1	104.0	50.5	101.6	104.5	50.7	65.6	140.5	68.2
Newfoundland Commercial	880.7	117.5	13.3	475.1	405.6	46.1	306.7	494.0	56.1
TOTAL	1,217.4	313.4	25.7	619.9	597.5	49.1	500.2	717.2	58.9

NOTE: ALL CATCH FIGURES FOR 1985 ARE PRELIMINARY

(Revised January 31, 1986)

IMPACT OF 1984 AND 1985 MANAGEMENT PLAN ON NEWFOUNDLAND COMMERCIAL SALMON FISHERIES

ONE	1978-82 Avg. Catch (Tonnes)	1983 Catch (Tonnes)	1984 Catch (Tonnes)	1985 Catch (Tonnes)	Reduction Expected Seasonal Changes %	Actual Reduction %
	124	81	51	72	0.0	41.9
	485	286	211	139	0.0	71.3
	257	191	134	95	1.4-2.8	63.0
	166	125	128	109	4.4-9.0	34.3
	70	58	60	71	15.2-24.6	(1.4)
	57	30	35	65	15.7-28.3	(14.0)
	45	23	20	24	32.8-50.4	46.7
	40	24	32	31	21.4-35.5	22.5
	17	9	12	10	2.3-4.5	41.2
0	36	22	28	51	9.1-14.0	(41.6)
1	54	44	34	102	11.9-17.7	(88.8)
2	79	53	0	0	100.0	100.0
3	40	33	43	32	0.0-5.2	20.0
4	36	37	33	30	0.0-2.5	16.6
TOTAL	1,504	1,016	821	832	9.8-12.9	44.7
INSULAR FLD. ONLY	895	649	559	621	16.4-21.6	30.6

Brackets indicate an increase from average rather than a reduction.

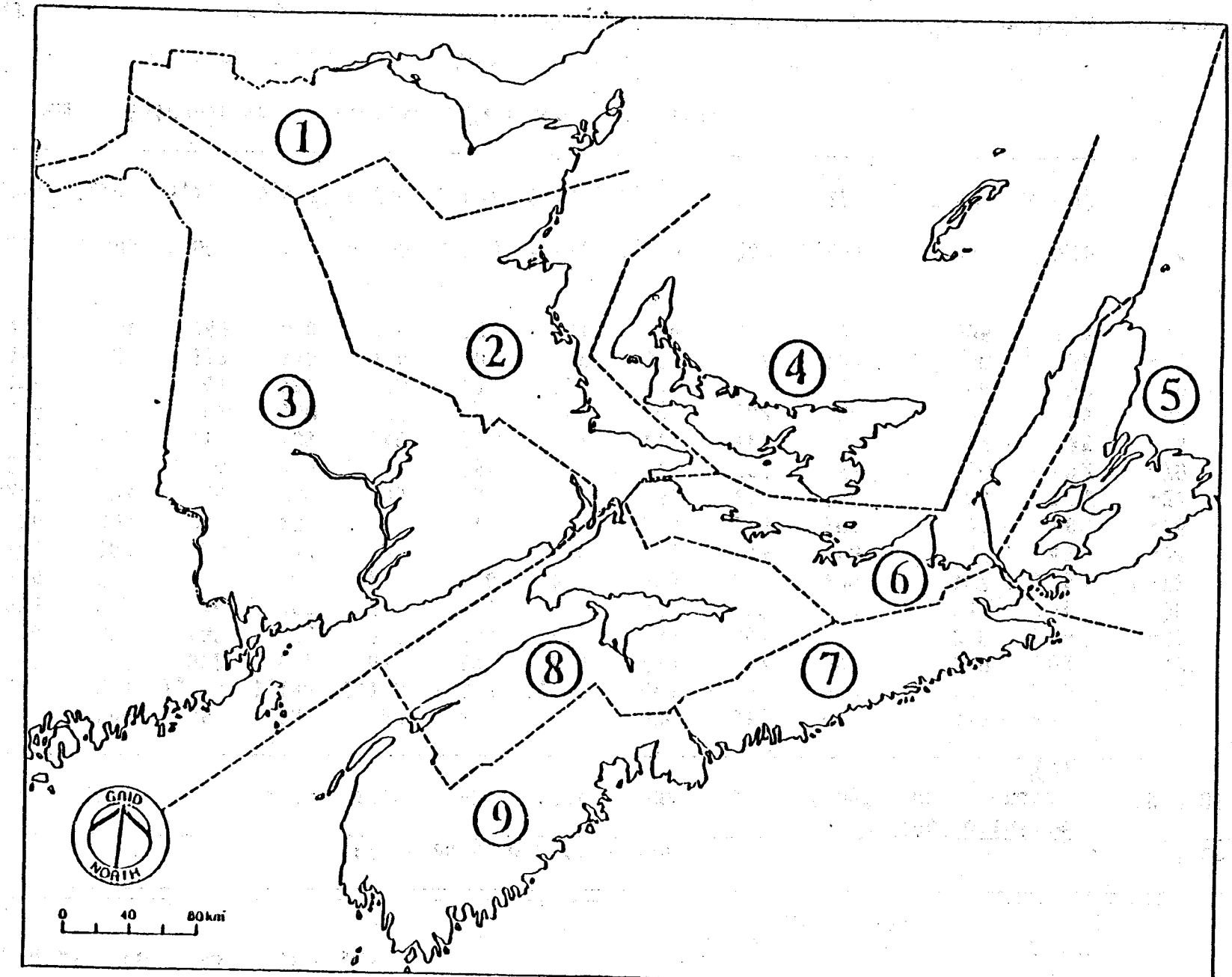
Table . Number of licensed commercial salmon fishermen by Statistical Area, 1975-85. Percent change 1975-85 and 1983-85 in number licensed is also shown.

Area	Licensed salmon fishermen										1985 eligible for licenses (c)		% Change	
	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984[a]			1983-85	1975-85
A	769	696	655	664	663	651	636	605	614	541	464	479	-24	-40
B	1,399	1,234	1,154	1,148	1,148	1,163	1,126	1,047	1,033	892	692	730	-33	-51
C	765	605	622	621	617	591	550	493	479	395	279	301	-42	-64
D	596	525	469	473	457	446	412	394	383	317	266	276	-31	-55
E	635	518	446	459	445	449	429	375	356	277	231	240	-35	-64
F	314	308	264	261	266	246	246	239	239	200	107	189	-22	-40
G	103	103	86	87	85	81	75	71	68	58	45	47	-34	-56
H	388	335	303	284	296	279	269	255	250	201	161	169	-36	-59
I	226	194	188	186	186	182	179	159	149	128	109	111	-27	-52
J	393	353	324	316	308	294	288	279	267	92	80	82	-70	-80
K	181	157	142	139	140	130	124	117	113	87	72	75	-36	-60
L	140	111	97	100	93	95	94	86	82	66	35	41	-57	-75
M	185	157	144	141	138	137	134	128	122	95	86	88	-30	-54
N	158	130	112	118	116	109	109	105	107	100	90	92	-16	-43
O[b]	729	781	750	818	810	739	731	716	801	727	698	704	-13	-4
Total Nfld.	6,252	5,506	5,006	4,997	4,958	4,853	4,671	4,353	4,262	3,449	2,797	2,922	-34	-55
Prov.	6,981	6,287	5,756	5,815'	5,768	5,592	5,402	5,069	5,063	4,176	3,495	3,626	-31	-50

[a]Excludes individuals who participated in license buy back.

[b]Includes salmon/charr licenses in Section 53.

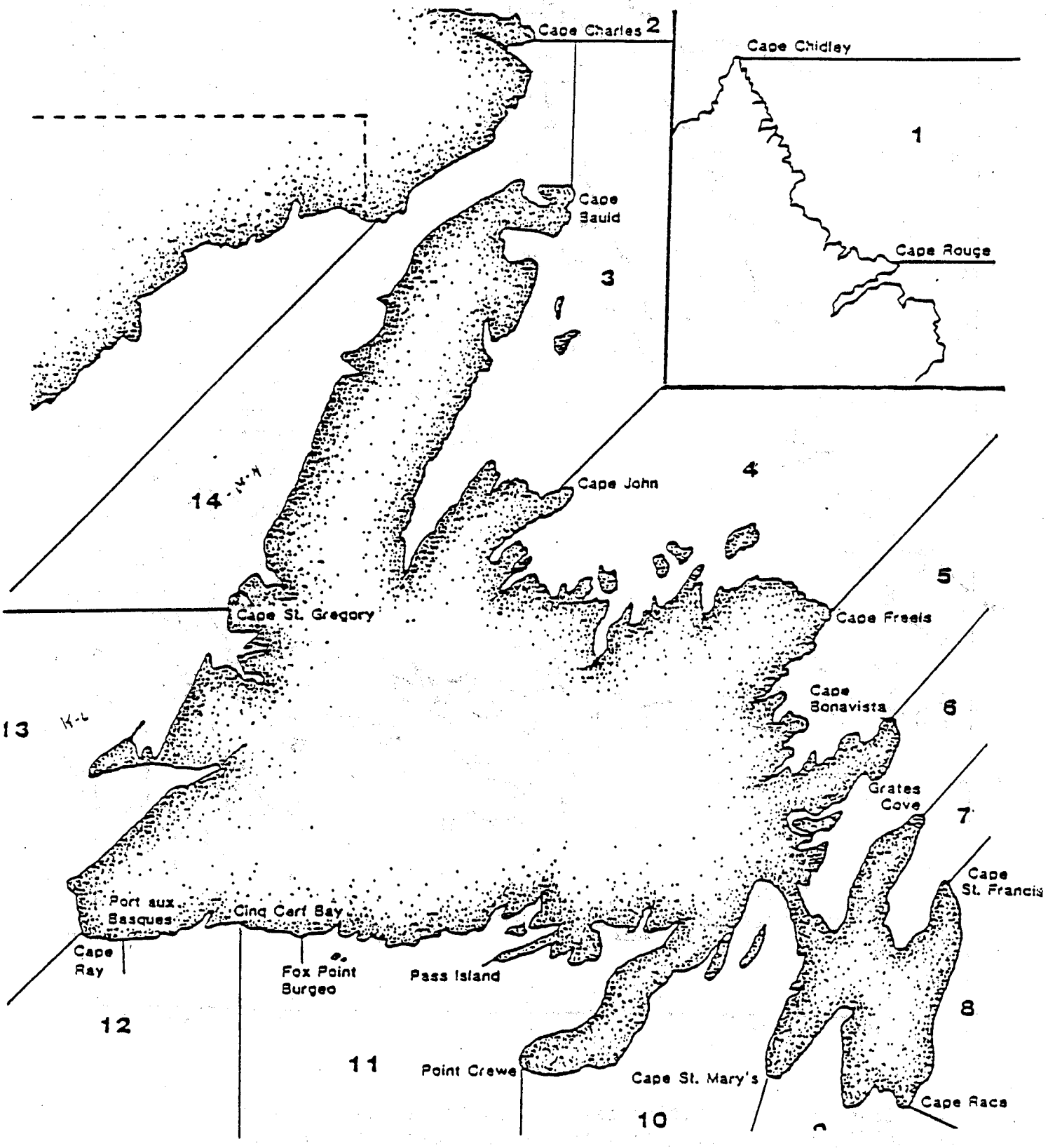
[c]Only 81 percent of part-time fishermen participated in the 1985 buy-back program The number of licences issued in 1985 was amended proportionately.



MANAGEMENT ZONES FOR THE MARITIME PROVINCES
ZONES DE GESTION POUR LES PROVINCES MARITIMES

ZONES DE GESTION POUR
TERRE-NEUVE ET LE LABRADOR

MANAGEMENT ZONES FOR
NEWFOUNDLAND AND LABRADOR



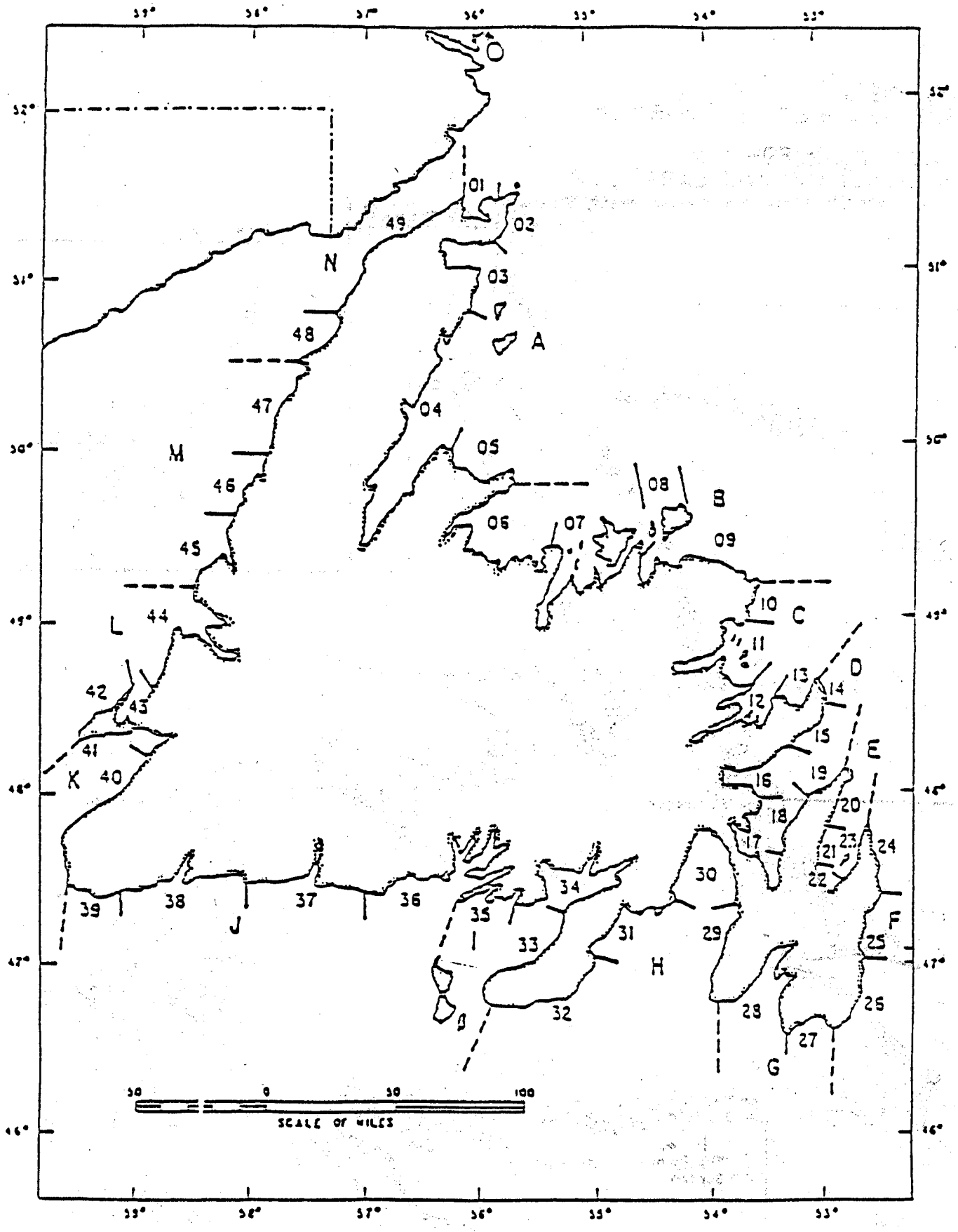


Fig. 4: Boundaries of Statistical Section (numerically indicated) and Statistical Areas (alphabetical) in insular Newfoundland.

ANNEX 6

24 JUNE 1986
EDINBURGH

NORTH ATLANTIC SALMON CONSERVATION ORGANIZATION

WEST GREENLAND COMMISSION

CNL (86)25

STATEMENT BY THE EUROPEAN ECONOMIC COMMUNITY PURSUANT TO ARTICLE 15 OF THE CONVENTION

STATEMENT TO THE NASCO COUNCIL BY THE EUROPEAN ECONOMIC COMMUNITY

In accordance with Article 15 of the Convention, the Community has already furnished to NASCO copies of the laws, regulations and programmes in force in its Member States relating to the conservation, restoration, enhancement and rational management of the salmon stocks in its rivers and areas of fishery jurisdiction. The Community, mindful of the scientific advice on salmon management in the home fisheries, has not sought to harmonize the different national and local legislation in force in the Member States, considering rather that effective management of individual salmon stocks is best left to the local level of rivers or river systems where the stocks may be constantly monitored and appropriate measures adopted locally, always within the framework of Community and national legislation in force. As information to the Council, the Community attaches a summary of the wealth of legislation in force in its Member States relating to salmon.

States of origin of salmon stocks within the Community with a long history of salmon fishing have developed, over centuries, legislation for the conservation and management of their salmon resources. That legislation regrettably often tends to be given too little weight in the debate on salmon conservation. The commitment to maintain in force effective existing measures is, in the view of the Community, as important as the commitment to introduce further measures. Further measures introduced by the States of Origin must be put into the context of the existing framework of restrictions on salmon fishing, the state of the stocks at the local level and the catch effort being deployed.

The ever-increasing expenditures on new and existing measures and the continual reappraisal of their effectiveness by Member States of the Community bear testimony to the latter's commitment to conservation and the objectives of NASCO and reflect the provisions of Article 66 of the UN Convention on the Law of the Sea which stipulate that states in whose rivers salmon stocks originate shall have the primary interest in and responsibility for such stocks.

Salmon conservation has been a successfully realised objective of the Community's Member States over a very long period. By contrast, the interceptory fisheries off West Greenland and the Faroes are a relatively recent phenomenon and constitute a new burden on the stocks. It is therefore these fisheries which require new conservation measures.

The Community will contribute in a positive manner to fulfil the aims and objectives of the NASCO Convention and in particular to promoting the conservation, restoration, enhancement and rational management of its salmon stocks during the course of 1986 through actions taken in its Member States. The Community has already referred to the wealth of its salmon legislation and to the fact that the measures in force are subject to a process of constant review. (For instance in 1985 the Northeast England fishery was reviewed and new measures were introduced involving a restriction of fishing effort (by extending the closed periods) and a change in the nature of the fishing (by a reduction in the number of drift net licences and a corresponding increase in the number of fixed net licences)).

In the context of the salmon programmes in force in the Member States of the Community, the Community will undertake in 1986:

i) Stocking: Stocking programmes to ensure the renewal and increase in the level of the salmon stocks will involve a financial cost in 1986 of £2,500,000.

ii) Research: Continuous programmes of research on the state of the salmon stocks are conducted in the Member States of the Community on the basis of which management measures are adopted. In 1986 the financial cost of this research is estimated at £3,000,000.

iii) Development: Improvements in the river systems (e.g. fish passes, environmental control) to facilitate salmon returning to spawn will cost £2,000,000 in 1986.

iv) Control: In the context of protecting the salmon stocks, the Community devotes considerable financial resources to its campaign to reduce and eradicate illegal salmon fishing and to ensure the respect of the provisions of the NASCO Convention. In 1986, the financial cost of the control and enforcement in relation to salmon is estimated at £5,000,000. In several areas of the Community, the firmness with which the rules are enforced has provoked considerable comment and controversy.

v) Management: In the overall management of the salmon resources, including the constant review of the state of the stocks to assess the effectiveness of the measures in force, the Community will incur an expenditure of £6,500,000 in 1986.

The above measures, costing a minimum of some £20,000,000, reflect the obligations of the Community as a Contracting Party to the NASCO Convention and its responsibility under Article 66 of the Law of the Sea Convention. By undertaking these actions in 1986 the Community will continue to contribute in a positive and constructive manner to the well being of the salmon stocks. It therefore expects the adoption of meaningful limits on the interceptory fisheries at West Greenland and Faroes for 1986 and 1986/87.

SUMMARY OF CURRENT LEGISLATION IN FORCE IN MEMBER STATES OF THE COMMUNITY

SALMON CONSERVATION MEASURES IN SCOTLAND

The salmon fisheries of Scotland are administered by the Department of Agriculture and Fisheries and local District Salmon Fishery Boards. The fisheries are regulated under the Sea Fish (Conservation) Act 1967 (and Orders made under it) and the various Salmon and Freshwater Fisheries Acts. There are also special Acts for the River Tweed and the Solway Firth, both on the border with England, where some special regulations of local significance still apply.

In inland water and along the coast the rights of salmon fishing are private property. These rights of salmon fishing may be bought, sold or leased in the same way as, but independently of, land. Seawards from the coastal private rights there is theoretically a public right of fishing for salmon but all practicable methods of exploiting it are prohibited. As a result each salmon fisherman's right to fish is limited to a specific area where he has an exclusive right.

Fishing in inland waters and estuaries (as defined in salmon fishery law) is limited by statute to rod-and-line and net-and-coble (an unrestricted form of beach seining). Along the coast and in the sea, within the 12 mile limit, fishing is by net-and-coble, stake-nets and bag-nets, set close to the shore. The use of drift nets or other gill nets, trawl nets, seine nets (other than net-and-coble) trolling and long lines is prohibited. Outside the 12 mile limit fishing for salmon by any method is prohibited. The landing of salmon caught by prohibited methods is also illegal. Any salmon inadvertently caught in other fisheries must be returned to the sea; there is no permitted by-catch.

There is an annual close-time of 168 days and a weekly close-time (over the week-end) of 42 hours. These apply in both the sea and inland waters but for rod-fishing the annual close-time is shorter (it varies from district to district) and the weekly close-time only 24 hours (Sunday). There are provisions in the statutes prohibiting the use of poisons, explosives and electricity in fishing; regulating mesh sizes and the operation of nets; protecting juvenile fish and for ensuring the unobstructed passage of upstream migrants.

The owners of the fishing rights in each river system may manage and police the fishery through District Salmon Fishery Boards set up under statute for the purpose but Boards have not been convened for many of the small river systems.

SALMON CONSERVATION MEASURES IN ENGLAND AND WALES

1. In England and Wales fishing for salmon both in inland waters and out to sea to six miles from baselines is regulated under the provisions of the Salmon and Freshwater Fisheries Act 1975. The Salmon and Migratory Trout (Prohibition of Fishing) Order 1972 as extended by the Salmon and Migratory Trout (Prohibition of Fishing) (Variation) Order 1983, prohibits fishing for salmon and migratory trout by all fishing boats, including foreign vessels in the six to twelve mile belt around England and Wales (except for a small area in the region of the River Tweed on the England-Scotland border).

2. Under the Salmon and Freshwater Fisheries Act 1975 fishing for salmon and freshwater fish is managed and regulated by the appropriate Regional Water Authority. All instruments used for taking salmon i.e. both nets, rods and line must be licensed by the Water Authority in the area for which a fee is payable. Licences for a rod and line must be issued on demand but in most areas Water Authorities have imposed a limit on the number of salmon net licences which may be issued in order to prevent overfishing and thus conserve the salmon stocks.

3. The 1975 Act contains general provisions that apply to salmon and others that apply to commercial fishing only or to rod and line fishing only.

General measures include a prohibition on the use of instruments such as firearms, wires or snares, spears, a snatch or a gaff, other than a gaff consisting of a plain metal hook without a barb used as auxiliary to a rod and line, for taking salmon. There is also a prohibition on the use of fish roe, explosives, poisons or electrical devices for taking salmon, and on the buying and selling of immature salmon, i.e. under 12 inches in length, unless it is for artificial propagation and the sale of salmon during the annual close season unless it has been specifically preserved.

The Act contains provisions in respect of weirs and other obstructions which prevent the passage of migratory fish and requires the construction of fish passes where such obstructions exist, which must be approved by the Ministry of Agriculture, Fisheries and Food in England or Welsh Office if Wales, if the water is frequented by salmon and trout. The Act also prohibits the use of an unauthorised fixed engine (i.e. anchored nets or other fixed instrument) unless it was in use for taking salmon in 1861 in pursuance of an ancient right by virtue of any grant or charter or immemorial usage or was certified as privileged under the Salmon Fishery Act 1865.

4. The Act also provides powers for Water Authorities to require returns of the number of salmon caught by net or rod.

5. The Act specifies minimum close seasons for taking fish. The exact dates are determined by Water Authority bye-laws so that they may take into account the spawning time in individual rivers. In the case of rod and line fishing for salmon the minimum close season is 92 days. Water Authorities may make byelaws which prohibit fishing with rod and line in a particular area (above or below an obstruction) or at night or regulate the use of particular lures and baits.

6. In the case of nets the Act imposes a minimum mesh size of 2 inches (or 50 mm) from knot to knot. The size of net, its design, construction, manner and area of use may be determined locally by byelaw. The Act also prohibits the placing of two or more nets the one behind the other in order to diminish the mesh of the nets used. Local byelaws may require that a salmon net bears a label which shows the licence number, prohibit during the close season the carrying of nets capable of taking salmon unless it is commonly used for sea fishing in the area. In addition to the close season for nets, which must be a minimum of 153 days, there is also a weekly close time when salmon fishing is prohibited, which must be a minimum of 42 hours.

7. The local byelaws referred to must be confirmed on behalf of Ministers before they can have affect. Byelaws are constantly reviewed by Water Authorities to see whether modifications are necessary to meet changing local circumstances.

8. All these provisions are backed up by the Salmon and Migratory Trout (Restrictions on Landing) Order 1972 as extended by the Salmon and Migratory Trout (Restrictions on Landing) (Variation) Order 1983 which prohibits landings in Great Britain of salmon caught in certain specified waters, i.e. in Northern Ireland and North England Atlantic waters, Scottish waters, by prohibited methods and waters around England and Wales except with a licence from the Water Authority.

SALMON CONSERVATION MEASURES IN NORTHERN IRELAND

1. The conservation of salmon and inland fisheries in Northern Ireland is the responsibility of two statutory bodies: the Fisheries Conservancy Board for Northern Ireland and the Foyle Fisheries Commission (FFC). The FFC is responsible for the Foyle area which is situated partly in Northern Ireland and partly in the Republic of Ireland. The Commission is jointly administered by the Fisheries Departments in Dublin and Belfast. The FCB carries out a similar role in the rest of Northern Ireland apart from the Foyle area.

2. The following is a summary of the restrictions on salmon fishing in the two areas concerned:

Fishing is permitted only under licence with netting for salmon in freshwater restricted. The use of salmon nets is banned within half-a-mile in any direction from the mouth of any river. Restrictions on salmon drift net fishing include a ban on certain types of netting materials and limits on the length of nets and size of boat which may be used.

The annual close season extends from 15 September each year to 17 March in the following year for commercial salmon fishing and from 1 November each year to the last day of February of the following year for angling. In the Foyle, the annual close season extends from 1 September to 19 June for commercial salmon fishing and (in most rivers) from 21 October each year to 31 March the following year for angling. The weekly close period is of 48 hours and 78 hours in the Foyle during the commercial fishing season.

SALMON CONSERVATION MEASURES IN IRELAND

1. Seasonal And Area Restrictions:

Annual close seasons for commercial and rod salmon fishing are prescribed and enforced; in 1979, for salmon conservation purposes, the annual close seasons were arbitrarily lengthened significantly by law. The commencing dates prescribed for the annual close season for salmon fishing throughout the country occur when salmon are running well so as to facilitate further a good escapement of the fish to the spawning grounds during the prescribed annual close seasons.

A 48 hour ban on all forms of commercial salmon fishing operates at week-ends during the open fishing season and fishing for salmon is prohibited within one-half mile seawards or landwards of the defined mouth of any river.

Net Restrictions:

The use of nets for commercial fishing in freshwater is prohibited.

The use and possession of monofilament netting for salmon fishing is prohibited.

The maximum length and depth of salmon drift nets which may be used in the specified areas around the coast is prescribed.

The use of boats over 40 feet long for salmon fishing is prohibited.

2. Licensing

Salmon fishing is conducted only under annual licence issued by Government authorities. Since 1972 the maximum number of licences for each kind of commercial salmon fishing engine (drift net, draft net, snap net, etc.) is prescribed by law. The criteria required for each applicant to qualify for the limited number of net licences so prescribed are kept under review and are reduced by further amending orders where circumstances so warrant.

Salmon dealers are required to hold annual salmon dealers licences and to keep registers of every salmon transaction in the prescribed form.

3. Regional Fisheries Boards

In 1980 the Fisheries Act, 1980 was enacted. Amongst other things to benefit the conservation of Ireland's inland fisheries the Act increased significantly the penalties for all salmon fishery offences. As well, the Act updated and strengthened our inland fisheries administrative arrangements by dissolving the seventeen boards of conservators and the Inland Fisheries Trust Inc. and replacing them with the Central Fisheries Board and seven Regional Fisheries Boards.

These Boards have statutory responsability for the conservation, protection and development of every aspect of inland fisheries - salmon, trout, coarse fish, eels and including sea angling.

Local statutory bye-laws are made by the Minister under the Fisheries Acts 1959-1983 to meet local salmon conservation requirements in various rivers and localities.

SALMON CONSERVATION MEASURES IN FRANCE

1. The "Secretariat d'Etat aupres du Premier Ministre, charge de la Protection de la Nature et de l'Environnement" has most of the information and carries out most of the conservation and rehabilitation actions in respect of the fresh-water phase of the salmon's life. Its action is situated within a 1982 - 1986 five-year programme on the restoration of the aquatic environment (4 MF), item "migratory fish" (of which approximately 1 MF for Atlantic salmon).

   Other sources of finance are involved in this programme:

   - EDF (approximately 9 MF) for fish passes
   - CSP (approximately 5 MF) for nurseries and technical assistance
   - Fishing Federation (amount unknown)

   The research programme is essentially that of the INRA, based at

   - Rennes: general ecology
     physiology
     genetics
   - St-Pee sur Nivelle (Pyrenees Atlantiques):
     population dynamics
     nutrition

   Impossible to exactly determine the financing since the studies relate to all salmonidae (between 40 and 80 researcher and technician months/year).

2. As regards the "Secretariat d'Etat charge de la Mer", four programmes have been identified

   - ISTPM/ARDA programme - ST PIERRE ET MIQUELON laboratory. Raising of Atlantic salmon in cages. 0.33 MF plus 11 researcher-months and 10 VAT-months.
   - CNEXO/COB programme - Conquet station. See ranching of Atlantic salmon and sea trout, replacing the Pacific salmon sea ranching programme which was not approved (0.2 MF and 10 researcher-months).
   - the COP/APPELORN contract relates to the study of migrations in the ELORN (0.1 MF and 10 researcher-months).
   - CNEXO/COB programme - Aulne basin - monitoring of the fishery and modelisation of catches (1 researcher-month).

   The study of the Atlantic salmon stocks in the North Atlantic is not distinguished in the general study of the sea fish stocks appearing in the IFREMER medium-term plan, pages 76 et seq.

I IN ESTUARIES, RIVERS AND CANALS UP TO THE LIMIT OF SALINITY

Salmon fishing is regulated by

- decree no 52-1348 of 15.12.1952 regulating fishing in estuaries as regards species moving between fresh water and sea water
- decree no 59-1272 of 2.11.1959 which completes the above mentioned decree as regards the closure period for descending salmon
- the regulation of 17.2.1965 completing the preceding texts and laying down a 50cm minimum marketing size for salmon.

In accordance with the decree of 15.12.1952 as modified:

Article 2 "Fishing for salmon is prohibited for a period of one hundred consecutive days in the period between 1 September and 10 January (both dates inclusive); the closure period is laid down by regulation by the Directors of Maritime Affairs.

However, as regards descending salmon, the period of prohibition laid down in accordance with the preceding sub-paragraph must be extended each year until 31 May".

Article 3 In order to ensure a uniform regulation of the limit of salinity, the Directors of Maritime Affairs may issue regulations lengthening the periods of prohibition "subject to the periods so modified including those resulting from the application" of Article 2.

Article 4 The Directors of Maritime Affairs may lay down, by regulation, weekly bans, the length of which may not exceed 36 hours. However, if the fishery should be opened at a date prior to 10 January, "the regulations issued by the Directors of Maritime Affairs must provide for the institution of a weekly ban of 36 consecutive hours, from Saturday 6 pm to Monday 6 am, for the whole open period for that fishery".

Article 5 — During the weekly bans which must be instituted, as a consequence of the fishery being opened before 10 January, the regulations issued by the Directors of Maritime Affairs may by way of derogation, allow the use of fixed nets whose weekly removal would be difficult.

Article 6 — Prescribes the returning to the sea of salmon of less than 50 cm length. .

Article 7 et seq. — These articles regulate the general characteristics of the use of nets and devices of all kinds and contain various provisions applicable in estuaries.

Ministerial regulations

By way of derogation to the general regulation deriving from the application of the decree of 15.12.1952 as modified, ministerial regulations prohibit, in certain limited sectors and on a temporary basis, all forms of fishing for salmon (eg, regulation of 30.3.1982 prohibiting fishing for salmon in the mouth of the Brasle in 1982, and regulation of 27.4.1982 prohibiting fishing for salmonidae in the mouth of the Valmont).

ANNEX 7

25 JUNE 1986
EDINBURGH

NORTH ATLANTIC SALMON CONSERVATION ORGANIZATION

WEST GREENLAND COMMISSION

WGC (86)9

DRAFT REGULATORY MEASURE PROPOSED BY THE EUROPEAN ECONOMIC COMMUNITY

The TAC for the West Greenland salmon fishery shall be fixed at 750 tonnes for each of the 1986 and 1987 seasons.

ANNEX 8

26 JUNE 1986
EDINBURGH

NORTH ATLANTIC SALMON CONSERVATION ORGANIZATION

WEST GREENLAND COMMISSION

CNL (86)32

STATEMENT OF THE EUROPEAN COMMUNITY TO COUNCIL AND THE REGIONAL COMMISSIONS: NEW SALMON REGULATIONS

CNL (86)32

STATEMENT OF THE EUROPEAN COMMUNITY TO COUNCIL AND THE REGIONAL COMMISSIONS: NEW SALMON REGULATIONS

The European Community referred in its statement to Council, (CNL (86)25), to its commitment to maintain in force certain existing conservation measures in 1986, as well as to adapt them where necessary as a result of the constant review process to which the Community salmon conservation measures are subjected.

The Community therefore wishes to inform the Council and regional commissions of current proposals to modify existing measures applicable to the fisheries in one of the member states of the Community, the United Kingdom.

MEASURES TO IMPROVE SALMON CONSERVATION IN GREAT BRITAIN: SALMON BILL

The Salmon Bill currently before Parliament contains a number of important measures to combat the illegal taking of salmon in Great Britain. It also improves and updates the administration and regulation of salmon fisheries in Scotland. The main elements are as follows:

1. Trade in illegally taken salmon will become an illegal activity. It will be an offence for anyone to handle or possess salmon anywhere in great Britain when that person believes, or it would be reasonable for him to suspect, that the fish had been taken illegally. The prosecution will not have to prove that a fishing offence had been committed, only that the circumstances in which the accused handled the fish should have caused him to suspect that an offence had taken place. A statutory defence will, however, be provided if the accused can show that no fishing offence had in fact been committed.

2. Salmon dealer licensing schemes will be introduced under powers contained in the Bill, in England and Wales and in Scotland. Dealer licensing will complement the new handling offence by regulating trade in salmon and by attacking the outlets for illegally taken fish.

3. In Scotland, the management and regulation of salmon fisheries will be updated; new salmon fishery boards will be created whose membership will include representatives of salmon anglers and tenant netsmen as well as proprietorial interests. There is provision for the coming together of salmon fishery districts where local interests consider it necessary or desirable to amalgamate.

4. With conservation in mind, there will be powers enabling the Secretary of State for Scotland to increase, but not reduce, weekly and annual close times for salmon fishing and to regulate such matters as the meshes, materials and dimensions of salmon nets and the removal of obstructions in rivers or estuaries to the passage of salmon.

5. In England and Wales, additional measures will allow local Sea Fisheries Committees to regulate sea fishing for the express purpose of protecting salmon stocks. This will allow the committees to stop the illegal netting of salmon in the guise of sea fishing.

6. Penalties for more serious illegal salmon fishing offences are increased in England and Wales.

7. The use of licensed salmon nets in England and Wales will be restricted by preventing any servant or agent of the licence holder from fishing the net independently of the licensee in all areas where the number of net licences is limited on conservation grounds.

8. The Bill also provides for a review of salmon net fishing in North East England and Eastern Scotland three years after it is enacted. This will examine the effects of measures announced last November for tightening the rules under which the English North East coast salmon fishery operates.

Taken together, the changes made by the Bill will provide a substantial improvement in the arrangements for salmon conservation in Great Britain.

26 JUNE 1986
EDINBURGH

NORTH ATLANTIC SALMON CONSERVATION ORGANIZATION

WEST GREENLAND COMMISSION

WGC (86)8

WORKING PAPER ON THE USA PROPOSAL FOR A CATCH QUOTA AT WEST GREENLAND IN 1986

This proposal is based on an extension of a USA proposal presented to the North American Commission in May 1984. At that time the USA proposed a quota option to be applied to the commercial fisheries of Canada and West Greenland (Report of the First Annual Meeting of the NAC of NASCO, 1984; Annex 5 (3)), which was based on the following considerations:

1. On average (1969-78), 43% of the catch at West Greenland are of North American origin (Table 1).

2. For every pound of North American salmon taken at West Greenland, 2.0 times that weight could have been added to the stocks had those fish returned to homewaters, due to growth, adjusted for natural and fishing mortalities (North American homewater units, NA HWU).

3. All catches of North American origin Atlantic salmon occur off the USA, Canada and West Greenland. West Greenland catches are converted to North American Homewater Units, as implied in 1. and 2. above, by multiplying by 0.43 and again by 2.0 (Table 1, Figure 1).

4. Previous harvest levels (1920's & 1930's) lead to steep declines and suggest that a level of 2,500 MT would be reasonable to maintain spawning escapement (Figure 1). Catch should be reduced at least to that level.

5. Since West Greenland and Canada took, on the average during 1970-82, 1,439 MT (NA HWU) and 1,466 MT of large salmon respectively, (Table 2), the reduction to achieve the proposed quota should be shared equally.

The proposed reductions in Canadian and West Greenland catches were based on the 1964-82 average catches in each fishery. The following Table (A) provides the values used in the calculations which lead to the proposal for quotas of 1,706 MT at Canada and 922 MT at West Greenland. The 1964-82 average catch of NA salmon was 3,669 MT. A reduction of 1,169 tons would be needed to achieve the recommended quota of 2,500 MT. Shared equally, each fishery would be reduced by 585 MT (NA HWU), leaving 1,706 MT for a Canadian allocation and 793 MT (NA HWU) at West Greenland. The West Greenland quota would then be 922 MT (793/(0.43 x 2)), as illustrated below.

Table A. Summary of calculations which lead to the May 1984 quota proposals at Canada and West Greenland.

	NORTH AMERICAN HOMEWATER UNITS			
	TOTAL	CANADA	WEST GRNLND	ACTUAL CATCH AT WEST GRNLND
1964-82 AVERAGE				
CATCH	3,669	2,291	1,378	1,603
REDUCTION	1,169	585	585	681
QUOTA	2,500	1,706	793	922

B. ALTERNATIVE QUOTA PROPOSAL, RECENT YEARS (1976-82)

An alternative quota proposal, based on a more recent series of years, and accounting for the reduced harvest at West Greenland due to quotas imposed beginning in 1976, was also considered. This would have resulted in an allocation to Canada of 1,782 MT and in a quota at West Greenland of 830 MT (713 MT NA HWU). Table B, below, summarizes these calculations.

Table B. Summary calculations which resulted in an alternative quota proposal at Canada and West Greenland, based on the 1976-82 average catches in each fishery.

	NORTH AMERICAN HOMEWATER UNITS			
	TOTAL	CANADA	WEST GRNLND	ACTUAL CATCH AT WEST GRNLND
1976-82 AVERAGE				
CATCH	3,163	2,114	1,045	1,216
REDUCTION	663	332	332	386
QUOTA	2,500	1,782	713	830

Figure 2 provides a graphical means of calculating West Greenland TAC's in comparison with a range of Canadian catch levels.

We recommend that a TAC for West Greenland in 1986 should be comparable with North American catches (basically Canada) one year later. In 1984 and 1985 Canada caught about 1100 fish (586 large salmon and 521 grilse, on the average) but it is expected that in 1986 and 1987 that this number will increase. The salmon catch may increase to 900 tons and the grilse catch should increase to about 686 tons (1976-1982 average) for an estimated total of 1586 tons in 1986 and 1987. Figure 2 provides an estimate, therefore, of a 1986 TAC for West Greenland of 739 tons which is comparable with a 1586 ton catch for Canada one year later.

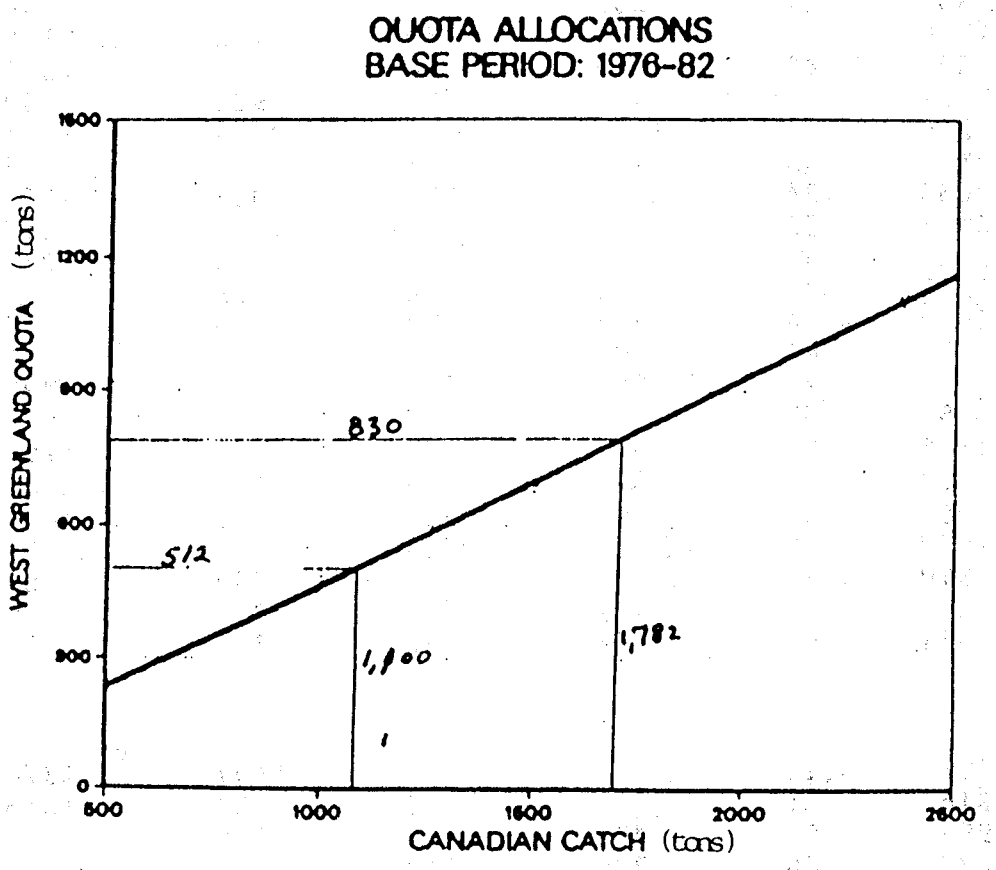


Figure 2: Quota allocation for West Greenland for a range of catches at Canada using a 1976-1982 base period.

Table 1: Catches of Atlantic salmon at West Greenland including estimates of catch of North American origin salmon at West Greenland and in homewater units (metric tons), using two methods.

Year	Total Catch	North American Origin Salmon: Annual Percent (1)	Annual Catch	Average Catch (2)	Catch at West Grnlnd (3) in NA Homewater Units: Annual	Average
1964	1539	41	631	662	1262	1324
1965	861	41	353	370	706	740
1966	1370	41	562	589	1123	1178
1967	1601	41	656	688	1313	1377
1968	1127	41	462	485	924	969
1969	2210	51	1127	950	2254	1901
1970	2146	35	751	923	1502	1846
1971	2689	34	914	1156	1829	2313
1972	2113	36	761	909	1521	1817
1973	2341	49	1147	1007	2294	2013
1974	1917	43	824	824	1649	1649
1975	2030	44	893	873	1786	1746
1976	1175	43	505	505	1011	1011
1977	1420	41	582	611	1164	1221
1978	984	52	512	423	1023	846
1979	1395	50	698	600	1395	1200
1980	1194	48	573	513	1146	1027
1981	1264	59	746	544	1492	1087
1982	1077	62	668	463	1335	926
1983	310	40	124	133	248	267
1984	297	50	149	128	297	255
1985	851	50	426	366	851	732
Average:						
1964-82	1603	45	703	689	1407	1378
1976-82	1216	51	612	523	1224	1045
1976-85	997	50	498	429	996	857
1970-82	1673	46	736	719	1473	1439

(1.) Percents from Table 11, ICES CMI986/Assess:17: 1969-76 = research, 1978-85 = commercial: 1964-68, and 1977 = average 1970-76 reserach.

(2.) Based on average (1969-78) 43% proportion catch at West Greenland which was of NA origin.

(3.) Assuming that two times the weight at Greenland could have been realized had the catch occurred in homewaters.

Table 2: Total catch of North American origin Atlantic salmon in homewater units, including total catches by USA, Canada and at West Greenland, and catches of large salmon by Canada. (Assumes 43% average NA origin at West Greenland).

Year	Total North American HWU	USA	Canada			West (1) Greenland
			Total	Large	Grilse	
1964	3660	2.0	2334			1324
1965	3125	2.0	2382			741
1966	3849	2.0	2669			1178
1967	4521	2.0	3142			1377
1968	3251	2.0	2280			969
1969	4087	2.0	2184			1901
1970	4377	2.0	2529	1562	761	1846
1971	4307	2.0	1992	1482	510	2313
1972	3578	2.0	1759	1201	558	1817
1973	4450	2.7	2434	1651	783	2013
1974	4189	0.9	2539	1589	950	1649
1975	4233	1.7	2485	1573	912	1746
1976	3517	0.8	2506	1721	785	1011
1977	3769	2.4	2545	1883	662	1221
1978	2395	4.1	1545	1225	320	846
1979	2489	2.5	1287	705	582	1200
1980	3712	5.5	2680	1763	917	1027
1981	3530	6.0	2437	1619	818	1087
1982	2731	6.4	1798	1082	716	926
1983	1702	1.3	1434	903	530	267
1984	1369	2.0	1112	645	467	256
1985	1834	2.1	1100	526	574	732
Average:						
1964-82	3672	2.7	2291			1379
1970-82	3637	3.0	2195	1466	713	1439
1976-82	3163	4.0	2114	1428	686	1045

(1.) Assumes 43% of West Greenland harvest is of North American origin, and if taken in homewaters would have been double the weight.

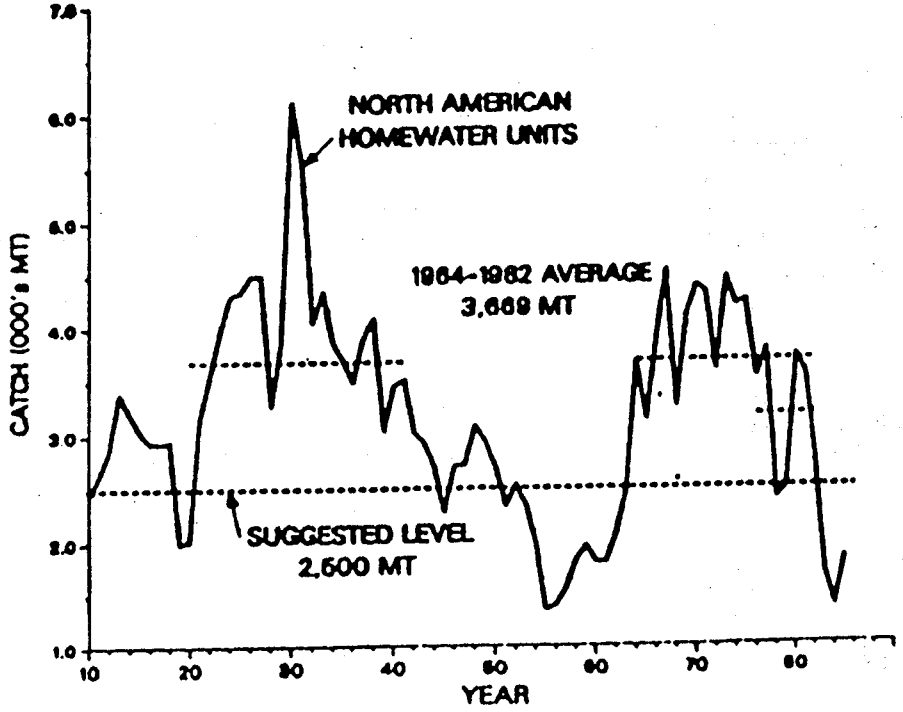


Figure 1: Total catch of North American origin Atlantic salmon in homewater units, including suggested quota level for the Northwest Atlantic.

ANNEX 10

27 JUNE 1986
EDINBURGH

NORTH ATLANTIC SALMON CONSERVATION ORGANIZATION

WEST GREENLAND COMMISSION

WGC (86)16

DRAFT REGULATORY MEASURE PROPOSED BY
DENMARK (IN RESPECT OF THE FAROE ISLANDS AND GREENLAND)

The TAC for the West Greenland salmon fishery shall not exceed:

1. 800 tonnes in 1986 based upon an opening date of 1 August. The Greenland authorities shall be free to change the opening date with a corresponding adjustment in the TAC.

2. 900 tonnes in 1987 based upon an opening date of 8 August. The Greenland authorities shall be free to change the opening date with a corresponding adjustment in the TAC.

Explanatory remarks (not an integral part of the proposal):

a.	1985	Catch of 864 tonnes, opening date of 1 August, number of fish: 286,000
b.	1986 + 1987	Total as for 1985: 572,000 fish
c.	Proposed TAC for 1986	265,000 fish
d.	Proposed TAC for 1987	287,000 fish
e.	Proposed TAC for 1986 and 1987	552,000 fish
f.	Difference between b. and e.	-20,000 fish

ANNEX 11

26 JUNE 1986
EDINBURGH

NORTH ATLANTIC SALMON CONSERVATION ORGANIZATION

WEST GREENLAND COMMISSION

WGC (86)12

IMPACT OF OPENING DATE AND QUOTA ON THE HARVEST OF SALMON AT WEST GREENLAND

IMPACT OF OPENING DATE AND QUOTA ON THE HARVEST OF SALMON AT WEST GREENLAND

C. Phillip Goodyear
National Fisheries Center
Kearneysville, WV 25442 USA

25 June 1986

The number of salmon that must be harvested to achieve any given quota is obviously a function of the weight of the salmon harvested. According to the data presented in Table 14 of Anon (1986) the weight of salmon changes rapidly during the time they are available at West Greenland. Mean weight by month was calculated by assuming the average weight of fish in category 1 (1.1-3.3 kg) to be 2.2 kg, category 2 (3.3-5.5 kg) to be 4.4 kg, and category 3 (5.5 kg +) to be 6.0 kg as shown in Table 1.

Table 1. Estimated mean weight of salmon by month in the West Greenland fishery (Data from Table 14 of Anon. 1986).

		August		September		October		November	
Category	Weight	Prop	Prod	Prop	Prod	Prop	Prod	Prop	Prod
1	2.2	0.62	1.36	0.46	1.01	0.25	0.55	0.11	0.24
2	4.4	0.33	1.45	0.47	2.07	0.59	2.60	0.67	2.95
3	6.0	0.05	0.30	0.07	0.42	0.16	0.96	0.22	1.32
Mean weight			3.11		3.50		4.11		4.51

The data in the text table on page 7 of Anon (1986) indicates that the fishery has often been initiated later than the first of August. Consequently, the August mean weight was assigned to the third week of the month. Weights for subsequent months were assigned in four week intervals. This convention caused the mean weights for September and October to be assigned to the week which included the 15th of the month, and the mean weight for November to be assigned to the second week of the month. Since the fishery ends during the month of November the mean weight for this month is likely biased toward individuals captured early in the month, hence the assignment of the mean weight to the second week of the month. The weights were then regressed as a functon of the number of weeks following the first of August. The resulting regression (Table 2) was highly significant and indicated a linear growth pattern during the duration of the salmon fishery in Greenland (Figure 1).

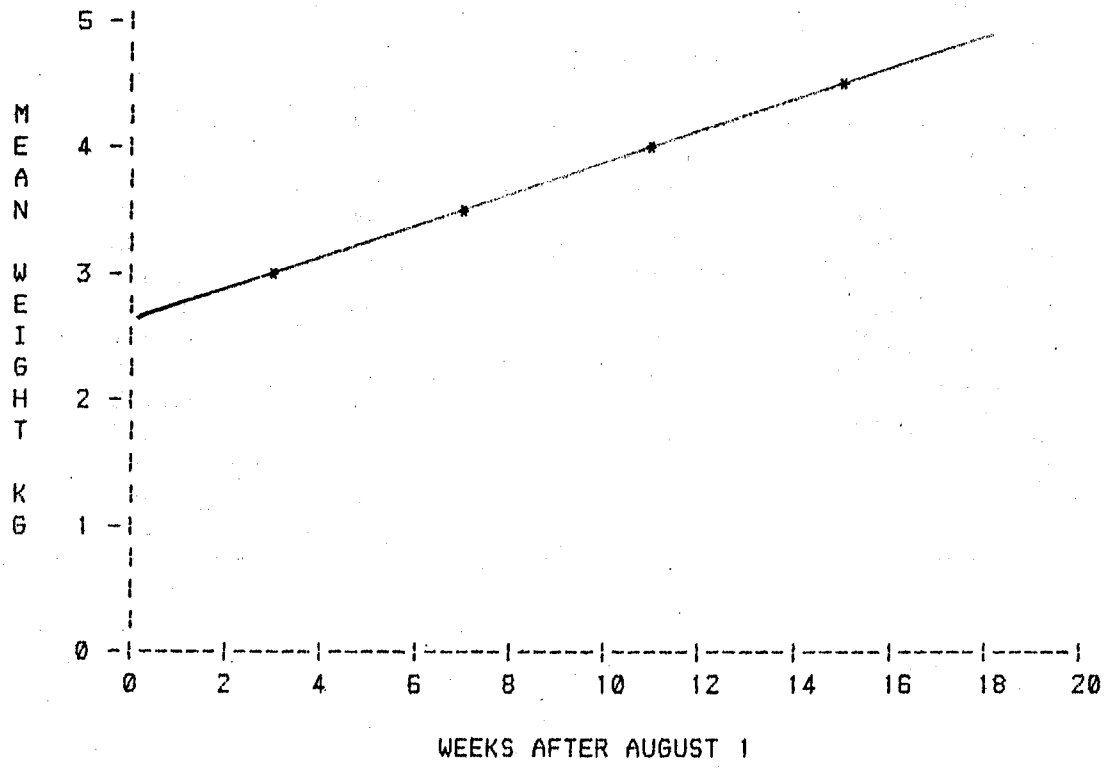
Table 2. Regression of mean weight of salmon in the Greenland fishery as a function of weeks following the first of August.

INTERCEPT = 2.72525
SLOPE = .12025
R SQUARE = .9920503
R = .9960172

Analysis of Variance

SOURCE	df	SS	MS	F
X	1	1.157E+00	1.157E+00	249.58
Residual	2	9.270E-03	4.635E-03	
Total	3	1.166E+00		

Figure 1. Scatterplot of mean weight of salmon in the Greenland fishery as a function of weeks after August 1.



Because not all of the salmon are caught during a single week of the open season, it is necessary to estimate the duration of the fishing season. The fraction of the total harvest at Greenland which occurs during the first two weeks of the season is estimated from the total harvest from table 9 of Anon (1986) and the harvest during the first two weeks as presented in the text table on page 7 of Anon (1986). An average of 46% of the landings have been taken during the first two weeks of the season, although wide variations in the proportion have been observed during the period for which data are available (Table 3). Based on these results, it is assumed for the purpose of this analysis, that the bulk of the landings are evenly distributed by weight over the first four weeks of the fishing season (ie. for the purpose of estimating the number of fish harvested, 25% of the landings by weight are captured during each of the first four weeks of the open season). The amount of error introduced by this assumption should receive further evaluation: however, it is likely to be small so long as the estimated numbers of salmon harvested are considered in a relative sense (ie. the ratios of numbers for alternatives are likely to be fairly robust as compared to the estimated numbers of fish harvested).

Table 3. Estimation of the proportion of salmon landings by weight that are harvested during the first two weeks of the open season in the Greenland fishery.

	Landing (tonnes)		
Year	First two weeks	Total	Ratio
1976	360	1175	0.306
1977	500	1420	0.352
1979	509	1395	0.365
1980	711	1194	0.595
1981	735	1264	0.581
1982	766	1077	0.711
1983	192	310	0.619
1984	58	297	0.195
1985	361	864	0.417
		Mean	0.460

The number of fish harvested for any given quota can be estimated from the sum of the products of the weekly average kilograms per fish (reciprocal of mean weight) and the projected number of kilograms harvested for that week. For the assumptions outlined above the estimate is provided as:

$$N_j = \sum_{4}^{i=1} W_{(j+i)} P_i Q$$

Where: N_j = Number of fish harvested with season beginning in week j.

j = week in which the season opens.

$W_{(j+i)}$ = mean weight of salmon in week (j+i). These values were estimated from the regression equation in Table 2.

$P_{(i)}$ = Proportion of landings in week (i) following the opening of the season. This value is assumed to be 0.25 for each of the 4 weeks included in the calculation. And,

Q = Quota.

This equation was employed in two computer programs (written in Basic). The first (QCOMP, Appendix 1) is designed to contrast the fractional differences between a "base" quota with an August 1 opening date, and an alternative quota. The program calculates the percentage savings in numbers of salmon associated with delay in opening of the fishing season and the alternative quota. An example is provided as Table 4.

Table 4. Estimated savings associated with a delay in the opening of the Greenland fishery assuming a baseline quota of 864 tonnes and an August 1 season opening (the 1985 situation), and an alternative quota of 739 tonnes.

			QUOTA = 864 TONNES		QUOTA = 739 TONNES	
OPENING DATE	NUMBER PER Kg	MEAN WEIGHT	NUMBER CAUGHT	PERCENT REDUCTION	NUMBER CAUGHT	PERCENT REDUCTION
1 AUG	0.331	3.02	286	0.0	245	14.5
8 AUG	0.319	3.14	275	3.8	235	17.7
15 AUG	0.307	3.26	265	7.4	227	20.8
22 AUG	0.296	3.38	256	10.7	219	23.6
29 AUG	0.286	3.50	247	13.7	211	26.2
5 SEPT	0.276	3.62	239	16.6	204	28.7
12 SEPT	0.267	3.74	231	19.3	198	31.0
19 SEPT	0.259	3.86	224	21.8	191	33.1
26 SEPT	0.251	3.98	217	24.2	186	35.1
4 OCT	0.244	4.10	211	26.4	180	37.0

The second program (QNUMB, Appendix 2) is designed to produce estimates of the numbers of salmon required to fulfill a quota as a function of quota alternatives and the week in which the season is opened. As mentioned in previous discussion, the estimates of actual numbers harvested are likely to be less robust than are estimates of the relative changes in harvest numbers (the proportional changes among alternatives). An example product of program execution is presented in Table 5.

Table 5. Estimated harvest in numbers associated with alternative quotas and opening dates for the Greenland fishery.

			NUMBER OF FISH LANDED (THOUSANDS)					
OPENING DATE	NUMBER PER Kg	MEAN WEIGHT	QUOTA 739	QUOTA 750	QUOTA 833	QUOTA 850	QUOTA 864	QUOTA 890
1 AUG	0.331	3.019	245	248	276	282	286	295
8 AUG	0.319	3.139	235	239	265	271	275	284
15 AUG	0.307	3.259	227	230	256	261	265	273
22 AUG	0.296	3.380	219	222	246	252	256	263
29 AUG	0.286	3.500	211	214	238	243	247	254
5 SEPT	0.276	3.620	204	207	230	235	239	246
12 SEPT	0.267	3.740	198	201	223	227	231	238
19 SEPT	0.259	3.860	191	194	216	220	224	231
26 SEPT	0.251	3.980	186	188	209	214	217	224
4 OCT	0.244	4.101	180	183	203	207	211	217

Reference

Anon. 1986. Report of Meeting of the Working Group on North Atlantic salmon, Copenhagen, 17-26 March 1986. ICES, Doc. C.M. 1986/aSSESS:17.

APPENDIX 1

```
10 'PROGRAM QCOMP  CPG  25 JUNE 1986  EDINBURGH  NASCO
20 '
30 DIM MW(17),WN$(10)
40 INPUT "BASE ",BASE:INPUT "QUOTA"; Q
50 INPUT "FILE FOR SAVE ";N$
60 OPEN "O",2,N$
70 DATA " 1 AUG "," 8 AUG ","15 AUG ","22 AUG ","29 AUG "," 5
   SEPT","12 SEPT","19 SEPT","26 SEPT"," 4 OCT "
80 FOR I=1 TO 10:READ WN$(I):NEXT I
90 FOR I=1 TO 17
100 MW(I)=2.725+.12*I
110 NEXT I
120 A$="                                QUOTA ="+STR$(BASE)+" TONNES
    QUOTA ="+STR$(Q)+" TONNES"
130 B$="                                ------------------
    ------------------"
140 C$="OPENING   NUMBER    MEAN     NUMBER    PERCENT    NUMBER
    PERCENT"
150 D$=" DATE     PER Kg   WEIGHT    CAUGHT   REDUCTION   CAUGHT
    REDUCTION"
160 E$="--------  ------   ------    ------   ---------   ------
    ---------"
170 PRINT A$:PRINT #2,A$:PRINT B$:PRINT #2,B$:PRINT C$:PRINT
    #2,C$
180 PRINT D$:PRINT #2,D$:PRINT E$:PRINT #2,E$
190 FOR J=1 TO 10
200 N=0
210 N=.25/MW(J)
220 N=N+.25/MW(J+1)
230 N=N+.25/MW(J+2)
240 N=N+.25/MW(J+3)
250 IF J=1 THEN N1=N:H0=BASE*N
260 H1=BASE*N:H2=Q*N
270 PRINT WN$(J);:PRINT #2,WN$(J);
280 PRINT USING"   #.###    #.###       ###      ##.#        ###
    ##.#"; N,1/N,H1,100*(N1-N)/N1,H2,100*(H0-H2)/H0
290 PRINT #2, USING"   #.###    #.###       ###      ##.#
    ###     ##.#";N,1/N,H1,100*(N1-N)/N1,H2,100*(H0-H2)/H0
300 NEXT J
310 CLOSE
```

APPENDIX 2

```
10  'PROGRAM QNUMB  CPG 25 JUNE 1986 EDINBURGH  NASCO
20
30 DIM MW(17),WN$(10),Q(10)
40 DATA 6,739,750,833,850,864,890
50 READ NQ:FOR I=1 TO NQ:READ Q(I): NEXT I
60 INPUT "FILE FOR SAVE ";N$
70 OPEN "O",2,N$
80 DATA " 1 AUG "," 8 AUG ","15 AUG ","22 AUG ","29 AUG "," 5
   SEPT","12 SEPT","19 SEPT","26 SEPT"," 4 OCT "
90 FOR I=1 TO 10:READ WN$(I):NEXT I
100 FOR I=1 TO 17
110 MW(I)=2.725+.12*I
120 NEXT I
130 A$="                                          NUMBER OF FISH LANDED
    (THOUSANDS)"
140 B$="
    ------------------------------------------"
150 C$="OPENING    NUMBER     MEAN      QUOTA    QUOTA    QUOTA
    QUOTA    QUOTA    QUOTA"
160 D$=" DATE      PER Kg    WEIGHT      739      750      833      850
    864      890"
170 E$="--------  ------    ------    ------  ------  ------
    ------  ------  ------"
180 PRINT A$:PRINT #2,A$:PRINT B$:PRINT #2,B$:PRINT C$:PRINT #2,C$
190 PRINT D$:PRINT #2,D$:PRINT E$:PRINT #2,E$
200 FOR J=1 TO 10
210 N=0
220 N=.25/MW(J)
230 N=N+.25/MW(J+1)
240 N=N+.25/MW(J+2)
250 N=N+.25/MW(J+3)
280 PRINT WN$(J);:PRINT #2,WN$(J);
290 PRINT USING"   #.###     #.###       "; N,1/N;
300 PRINT #2, USING"   #.###     #.###       ";N,1/N;
310 FOR I=1 TO NQ
320 PRINT USING "###       ";N*Q(I);
330 PRINT #2,USING "###       ";N*Q(I);
340 NEXT I:PRINT:PRINT #2,""
350 NEXT J
360 CLOSE
```

26 JUNE 1986
EDINBURGH

NORTH ATLANTIC SALMON CONSERVATION ORGANIZATION

WEST GREENLAND COMMISSION

WGC (86)15

US WORKING PAPER FOR ADDITIONAL REDUCTIONS TO THE HARVEST OF US ORIGIN SALMON

A. Increases in mesh size would:

1. Reduce the number of salmon required to fill any given quota by increasing the average size of the fish that are caught.

2. Reduce the proportion of North American salmon in the landings. This would occur because the North American salmon are shorter and lighter than the European salmon in the Greenland catch. As a result any factor that would favor catching the larger fish available at any given point in time would tend to spare North American salmon in this fishery.

The reductions in numbers of salmon could be calculated from knowledge of the actual mesh sizes in use and the catchability of salmon of different lengths by mesh size. Sufficient data are not available at present (within our delegation) to undertake such an analysis. However, they may be available from other delegations.

It is not immediately apparent how an estimate of the additional protection of increased mesh size restrictions could be derived. The task should perhaps be deferred to the Working Group.

B. The possible advantages of requiring a greater proportion of the quota to come from a given statistical region were evaluated by calculating the number of US tag returns per thousand tons of salmon landed. The results were as follows:

Area	Tons 76-85	Tags	Tags/ Thousand tonnes
1A	907	79	8.7
1B	2487	336	13.5
1C	2586	290	11.2
1D & 1E	2976	318	10.7
1F	448	116	25.9

It appears from this analysis that we could gain by selectively reducing the harvest in area 1F. Alternatively forcing a large part of the quota to come from area 1A would reduce the harvest of US origin salmon. However, in view of the low number of salmon harvested in 1A, it is unlikely that a significant portion of any realistic quota could come from this area.

ANNEX 13

27 JUNE 1986
EDINBURGH

NORTH ATLANTIC SALMON CONSERVATION ORGANIZATION

WEST GREENLAND COMMISSION

WGC (86)18

DRAFT REGULATORY MEASURE PROPOSED BY CANADA

1. The TAC for the West Greenland salmon fishery in 1986 shall not exceed 800 tonnes based upon opening date August 1.

2. ICES is asked to present an analysis at the 1987 meeting of the West Greenland Commission demonstrating the effect of various opening dates in the West Greenland fishery expressed in numbers of fish for various levels of TAC.

ANNEX 14

27 JUNE 1986
EDINBURGH

NORTH ATLANTIC SALMON CONSERVATION ORGANIZATION

WEST GREENLAND COMMISSION

WGC (86)21

EMERGENCY REGULATORY MEASURE PROPOSED BY THE EUROPEAN ECONOMIC COMMUNITY

The West Greenland Commission,

taking into account the conservation efforts of states of origin and in particular the commitments made by those states under Article 15 of the Convention,

proposes the following regulatory measure:

The catches of salmon at West Greenland shall be limited to 850 tonnes in each of the 1986 and 1987 seasons.

Note: If the fishing season began other than on 1 August, the above catch limit would be adjusted accordingly.

27 JUNE 1986
EDINBURGH

NORTH ATLANTIC SALMON CONSERVATION ORGANIZATION

WEST GREENLAND COMMISSION

WGC (86)22

REQUEST FOR SCIENTIFIC ADVICE FROM ICES

(a) describe the events in the West Greenland fishery in 1986, including regulations in effect, gears and vessels in use, temporal and geographical distribution of the fishery, and the quantity and composition of catches by continent and, if possible, country of origin,

(b) provide best estimates of salmon stock abundance in the West Greenland fishery,

(c) advise on the effects of varying levels of harvest at Greenland on subsequent returns of large salmon to home waters,

(d) estimate the impact of management measures existing, newly taken and proposed by States of origin of salmon occurring in the Commission area on home water stocks and, where possible, on spawning escapements,

(e) evaluate the tag recovery and return procedure at West Greenland, including an assessment of the accuracy and completeness of information accompanying tag returns, and indicate methods for improving the tag recovery and return procedure,

(f) consider estimates of spawning escapements and target spawning biomass for salmon stocks occurring in the Commission area,

(g) assess the accuracy of the classification of salmon at West Greenland as either North American or European and examine the estimates of the age composition of catches of hatchery-origin salmon at Greenland including needed sample sizes,

(h) assess the effects of predation on marine mortality of salmon,

(i) describe the tagging programmes and compile all available information of such programmes carried out by member countries,

(j) provide estimates of exploitation rates in home waters for salmon stocks occurring in the Commission area,

(k) assess the natural mortality of salmon in the marine phase especially between Greenland and home waters,

(l) review the historical catch levels and provide advice on possible levels of sustainable yields of the North American component of salmon caught at West Greenland and at home waters,

(m) assess the effects of opening date and quota on the number of salmon caught at West Greenland.

ANNEX 16

NORTH ATLANTIC SALMON CONSERVATION ORGANIZATION
THIRD ANNUAL MEETING OF THE WEST GREENLAND COMMISSION
23-27 JUNE 1986, SHERATON HOTEL, EDINBURGH, U.K.

LIST OF WEST GREENLAND COMMISSION PAPERS

PAPER NO	TITLE
WGC (86)1	Provisional Agenda
WGC (86)2	Draft Agenda
WGC (86)3	Election of officers
WGC (86)4	Draft report of the third annual meeting of the West Greenland Commission
WGC (86)5	Briefing note on the status of Canadian Atlantic salmon stocks
WGC (86)6	Summary of USA 1985 fishery
WGC (86)7	Canadian Atlantic salmon catches (Tonnes)
WGC (86)8	Working Paper on the USA proposal for catch quota at West Greenland in 1986
WGC (86)9	Draft regulatory measure proposed by the EEC
WGC (86)10	USA draft proposal
WGC (86)11	Statement made by the EEC
WGC (86)12	Impact of opening date and quota on the harvest of salmon at West Greenland
WGC (86)13	Draft request for scientific advice from ICES
WGC (86)14	Draft regulatory measure proposed by Canada
WGC (86)15	USA working paper for additional reductions to the harvest of USA origin salmon
WGC (86)16	Draft regulatory measure proposed by Denmark (in respect of the Faroe Islands and Greenland)
WGC (86)17	Draft emergency regulatory measure proposed by the EEC
WGC (86)18	Draft regulatory measure proposed by Canada

WGC (86)19	Report of the third annual meeting of the West Greenland Commission
WGC (86)20	Agenda
WGC (86)21	Emergency regulatory measure proposed by the EEC
WGC (86)22	Request for scientific advice from ICES
CNL (86)3	Scientific advice from ICES - ACFM report on salmon stocks
CNL (86)25	Statement by the EEC pursuant to Article 15 of the Convention
CNL (86)32	Statement of the EEC to Council and the regional commissions: new salmon regulations

NOTE: This list contains all papers submitted to the Commission prior to and at the meetings. Some, but not all, of these papers are included in this report as annexes.