NORTH ATLANTIC SALMON CONSERVATION ORGANIZATION

ORGANISATION POUR LA CONSERVATION DU SAUMON DE L'ATLANTIQUE NORD



REPORT OF THE FOURTH ANNUAL MEETING OF THE NORTH AMERICAN COMMISSION

26-27 February 1987 Miami, USA

> 8-12 June 1987 Edinburgh, UK

> > NAC (87)20

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ORGANISATION POUR LA CONSERVATION DU SAUMON DE L'ATLANTIQUE NORD



NORTH AMERICAN COMMISSION COMMISSION NORD-AMERICAINE

CHAIRMAN:	DR	FRANK CARLTON (USA)
RAPPORTEUR:	MR	BOB STEINBOCK (CANADA)
SECRETARY:	DR	MALCOLM WINDSOR

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16 OCTOBER 1987 EDINBURGH

NORTH ATLANTIC SALMON CONSERVATION ORGANIZATION

NORTH AMERICAN COMMISSION

NAC (87)20

REPORT OF THE FOURTH ANNUAL MEETING OF THE NORTH AMERICAN COMMISSION

NAC (87)20

REPORT OF THE FOURTH ANNUAL MEETING OF THE NORTH AMERICAN COMMISSION OF THE NORTH ATLANTIC SALMON CONSERVATION ORGANIZATION 26-27 FEBRUARY 1987, SOUTHEAST FISHERIES CENTER, MIAMI, FLORIDA, USA AND 8-12 JUNE 1987, DRAGONARA HOTEL, EDINBURGH, UK

1. OPENING OF THE MEETING

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- 1.1 The meeting was opened on 26 February 1987 by Dr Frank Carlton, Chairman of the North American Commission. Opening statements were made by the representative of Canada, the representative of the USA and the representative of the European Economic Community (EEC), (Annex 1).
- 1.2 The list of participants is given in Annex 2.

2. ADOPTION OF THE AGENDA

2.1 The Commission adopted its agenda, NAC (87)4, (Annex 3) with one change. Item 10 in the draft agenda became item 7 and items 7, 8 and 9 therefore became 8, 9 and 10 respectively.

3. NOMINATION OF A RAPPORTEUR

3.1 The Commission nominated Mr Bob Steinbock (Canada) as rapporteur for the meeting.

4. APPROVAL OF THE REPORT OF THE LAST MEETING

4.1 The Commission approved the report of the Third Annual Meeting held in Quebec City, 5-6 February, 1986 and in Edinburgh, 23-27 June, 1986.

5. **REVIEW OF THE 1986 FISHERY**

5.1 The representative of the USA reviewed the 1986 United States catch statistics which involved only recreational rod and reel fishing. The total catch in Maine was 551 fish a 5% reduction from the 1985 catch. He also advised on the preliminary estimates of total run size for rivers undergoing restoration work in the USA The run size on the Penobscot river had increased by 35% in compared to 1985. A preliminary summary of the 1986 1986 fishery was provided, NAC (87)5, (Annex 4).

- 1 -

5.2 The Canadian representative summarized the 1986 Canadian Atlantic Salmon Management Plan and provided a document detailing the Plan, NAC (87)6, (Annex 5). He also provided a status report on the commercial salmon licence buy-back program in Atlantic Canada. The total cost of the program to the federal and provincial governments had been \$12 million to date. e G

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5.3 The total 1986 Canadian Atlantic Salmon catch was 1506 tonnes 27.6% below the previous 20 year mean of 2079 tonnes and 4.7% below the previous 5 year mean of 1580 tonnes. The Canadian representative provided a document of Canadian catch statistics from 1960-1986, NAC (87)7, (Annex 6) and a document prepared by the Canadian Atlantic Fisheries Scientific Advisory Committee on the status of Atlantic salmon stocks in Canada, NAC (87)8, (Annex 7).

6. ACFM REPORT FROM ICES ON SALMON STOCKS

- 6.1 At the February 1987 meeting, the Chairman of the ACFM, Professor Oyvind Ulltang, presented the scientific advice from ICES, CNL (86)3. This is not annexed to this report as it is already included in the report of the Third Annual Meeting of Council, 23-27 June 1986, Edinburgh, UK.
- 6.2 At the June 1987 meeting the Chairman of the ACFM presented the 1987 scientific advice from ICES, relevant to the North American Commission, CNL (87)3, (Annex 8).

7. <u>PROGRESS REPORT FROM THE BILATERAL SCIENTIFIC WORKING</u> GROUP ON SALMONID INTRODUCTIONS AND TRANSFERS

7.1 At the February 1987 meeting the Co-Chairmen of the Bilateral Scientific Working Group on Salmonid Introductions and Transfers introduced a progress report their activities, NAC (87)10, and discussed its on contents and recommendations. The Bilateral Working Group recommended that the North American Commission of NASCO acknowledge that there is potential for adverse impact on American Atlantic salmon resulting, particularly, North from the transfer of eastern hemisphere (European) Atlantic salmon to the American continent as well as from the introduction of Pacific salmonids to the east coast of North America. It noted that while blanket bans against all salmonid transfers or introductions to the eastern seaboard may not be warranted, action is required to reduce the potential risks until appropriate protocols can be developed. In the interim, the Bilateral Working Group made a number of recommendations (listed in pages Both the Canadian and 18-20 of the progress report). representatives commended the report of the the US Working Group and requested time to consider the report. Suggestions were provided as to how the report could be clarified in some areas.

7.2

8.1

At the June 1987 meeting the Canadian Co-Chairman of the Bilateral Working Scientific Group on Salmonid Introductions and Transfers summarized the contents and recommendations of the Working Group's report of activities, NAC (87)14. He advised that comments received from delegations since the February 1987 meeting of the North American Commission had been incorporated into the report. He also described the highlights of associated documents, NAC (87)11, Inventory of Introduction and Transfer of Salmonids into North American Commission Area and Great Lakes 1975-1986, Proposed Policy Statement on Introductions and Transfers of Salmonids, NAC (87)12, (Annex 9) and Action Plan - Bilateral Scientific Working Group Salmonid on Introductions and Transfers (87)13, Activities and Institutional Arrangements, NAC (Annex 10). Both the Canadian and US representatives endorsed approval of the above noted reports subject to some proposed drafting revisions. The Chairman advised that, after consultation with the Canadian and US representatives, it had been agreed to publish documents NAC (87)14 and NAC (87)11 as Annex 13 separately from the Report of the Fourth Annual Meeting of the North American Commission.

- 8. REVIEW AND DISCUSSION OF THE PROPOSED 1987 CANADIAN AND US SALMON MANAGEMENT MEASURES AS THEY RELATE TO THE MANDATE OF THE COMMISSION AND TO THE FINDINGS OF THE ACFM REPORT FROM ICES
 - At the February 1987 meeting the Canadian representative reviewed the 1986 Canadian management measures and noted that the 1987 measures would probably be a rollover of the 1986 plan. The Canadian representative noted that Canada will likely continue in the same direction of salmon management as established in 1984, 1985 and 1986 despite continuing pressure by Canadian fishermen to have restrictions and closures lifted. The Canadian representative outlined the process of consultation in Canada with the Atlantic Salmon Advisory Board as well as with interested associations and other organizations such as the North American Commission of NASCO prior to management decisions by the Minister for Fisheries and Oceans.
- 8.2 The Canadian representative advised that the proposed 1987 Atlantic Salmon Management Plan contains a clear statement of. guiding principles. The principles outline Government's priorities the as follows: conservation, the native food fishery, the recreation or commercial fisheries depending on region (Maritimes/Newfoundland) and the extent of the licensee's dependence and the potential benefits to be generated.

- 3 -

- 8.3 The Canadian representative advised that Canada had made a considerable investment in terms of regulations, \$12 million licence buy-back program and about \$7 million per year for enhancement and habitat restoration. He stated that Canadian fishermen were increasingly sceptical as to He noted that Canadian rivers the potential benefits. were particularly susceptible to acidification and that a number of rivers in southwestern Nova Scotia had already been lost or were on the critical list. He advised in view of Canada's significant contributions to that salmon conservation to date, Canada would be looking to NASCO members to take positive measures, in other particular with respect to acid rain.
- 8.4 The US representative noted that the United States remained committed to its salmon enhancement efforts. With respect to catch regulations, the US representative noted that the regulations for 1987 will be virtually the same as those of the past two years and will include one fish per season on the Penobscot River and five fish per season on the other Maine rivers. On the St. Croix River large salmon cannot be retained.
- 8.5 and supported the The US representative commended Canadian significant management efforts of the Government, however he expressed concern at the continuing emphasis by Canada on a commercial Atlantic fishery in Newfoundland. He also expressed salmon concern about the increased catches of Atlantic salmon in Newfoundland's commercial salmon fishery in 1986 and fallen short of the concern that consultations had meaning thereof envisaged under the Convention. The US representative provided a document entitled Position Statement of the United States with Regard to Regulatory Measures in the North American Commission, NAC (87)9, (Annex 14). He advised that as an objective, the US would like to achieve parity with other salmon producing countries in terms of fish lost through interception representative advised that the US The US fisheries. the status quo for 1987 but in to accept was prepared increased Canadian catches. view of concern over he requested assurances that Canada would develop a proposal for further reductions in catches of US origin Atlantic salmon for discussion prior to the February 1988 meeting.
- 8.6 The Canadian representative advised that he did not feel he could give such assurance at this time given the fact that the impact of the October 15 closure would not be assessed until about the summer of 1988.
- 8.7 The Chairman noted that while Canada and the US had made reasonable efforts to cooperate on reductions in interceptions of US origin fish, there may be some differences of definition on concepts such as parity, consultations and impact of reduced effort that require further discussion.

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The representative of the EEC stated that overfishing of the agreed NASCO quota in the 1986 West Greenland fishery a matter of great concern to the Community since it was resulted in a further decrease in the level of salmon returns to the Community waters. The representative of the EEC in pointing out that concepts such as "parity" "sharing" which have been evoked in discussions and within this Commission were not terms to be found either in the NASCO Convention or in the UN Law of the Sea in relation to salmon stocks, stated that Community salmon stocks constituted the largest component of the North Atlantic stocks and its losses as a result of the current interceptory fisheries were approximately 1300 tonnes annually.

8.9 The Canadian representative provided a document entitled 'Response by Canada to the US Position Statement with regard to Regulatory Measures in the North American Commission', NAC (87) 16, (Annex 15). In particular he noted that, although the impact of the October 15 closure date will not be assessed until after the 1987 home water returns, ICES has estimated that on average about 29% of the US origin salmon harvested by Newfoundland fishermen were caught in the past after that date. He advised that such a reduction would be even higher than the figure that Canada was quoting as a reduction resulting from this one measure in 1986. He noted that Canada had estimated the full impact of all its measures to reductions of up to 60%, but the new information from ICES indicates the possible impact as high as 70% in some The US representative responded to the Canadian years. statement which is summarised in a document entitled NAC (87)21, (Annex 16).

9. IMPACT OF ACID RAIN ON ATLANTIC SALMON

(a) ACFM REPORT FROM ICES

8.8

- 9.1 At the June 1987 meeting the ICES representative, Chairman of the ACFM Committee recalled that the scientific advice regarding acid rain from ICES, CNL (87)3 and the Report of the Acid Rain Study Group held in Copenhagen, 4-6 March 1987 had been presented during the preceding NASCO Council meeting. The US representative commended the report of the ICES Working Group and the ACFM Committee.
- (b) REVIEW OF MITIGATIVE MEASURES
- 9.2 At the June 1987 meeting the Canadian representative provided a document, Statement on Acid Rain and Atlantic Salmon by Canada, NAC (87)18, (Annex 17) which updated, in light of the ICES advice, his comments recorded at the February 1987 meeting. In particular the Canadian representative stated that Canada was taking a number of measures against acid rain. He noted that acidification had led to the extinction of some salmon stocks in rivers

- 5 -

in south western Nova Scotia and had produced a loss of 23,000 adult salmon, equal to or greater than current salmon production in the United States. He advised that fishermen question the value of initiatives taken by Canada relative to interception while the United States are not taking comparable measures on acid rain. Canada would look to the US Commissioners to support whatever actions are required to reduce acid rain emissions in the eastern United States which are contributing to problems south western Nova Scotian rivers. The US in Representative commented that the report of the ICES Working Group did not corroborate the estimate of 23,000 The United States, however, shared adult salmon. Canadian concerns about the negative effects of acid rain and expressed confidence that the Commission would take concrete steps to deal with the issue. He asserted that the US would play its part against the adverse effects of acid rain on salmon conservation.

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10. <u>RECOMMENDATIONS TO COUNCIL CONCERNING REQUEST TO ICES FOR</u> SCIENTIFIC RESEARCH AND SCIENTIFIC ADVICE

10.1 The Commission reviewed and accepted the relevant section of CNL (87)35, (Annex 18) and agreed to recommend it to Council as part of the annual request for scientific advice from ICES.

11. DATE AND PLACE OF NEXT MEETING

11.1 The Commission agreed to hold its Fifth Annual Meeting during 17-18 February 1988 in Montreal and 13-17 June 1988 in Reykjavik.

12. OTHER BUSINESS

12.1 There was no other business.

13. CONSIDERATION OF DRAFT REPORT OF MEETING

13.1 The Commission decided that a report of the meeting would be agreed by circulation of a draft after the meeting.

14. ADOPTION OF PRESS RELEASE

14.1 The Commission agreed to issue press related information in the Council press release.

NORTH ATLANTIC SALMON CONSERVATION ORGANIZATION

OPENING STATEMENT MADE BY THE REPRESENTATIVE OF THE EUROPEAN ECONOMIC COMMUNITY

The European Community welcomes the opportunity of assisting at this Fourth Annual Meeting of the North American Commission and would wish to congratulate the Chairman on the choice of location for this meeting.

The Community wishes to underline that it maintains the position it has outlined at previous NAC meetings with regard to its rights of participation in the deliberations of the NAC. However, since no decision has yet been reached by the NASCO Council following the establishment of the Working Group in June 1985, the Community does not intend raising the matter at this meeting.

Conservation and management measures relating to stocks that transcend the boundaries of Coastal State jurisdiction, if they are to be effective, require international cooperation between interested Parties. The basis of the Community's approach to that cooperation on the North Atlantic salmon stocks derive from the rights and obligations under the UN Law of the Sea.

From the Community's perspective, NASCO has had mixed results to date with one regional Commission having adopted no regulatory measure since its establishment. The Community looks to this meeting to set a positive tone to NASCO deliberations and decisions in 1987.

Finally, on behalf of the Community, may I wish the incoming Chairman, Frank Carlton, our best wishes as we know he will carry out his functions in an efficient and objective manner.

NORTH ATLANTIC SALMON CONSERVATION ORGANIZATION

FOURTH ANNUAL MEETING OF THE NORTH AMERICAN COMMISSION 26-27 FEBRUARY 1987, SOUTHEAST FISHERIES CENTER, MIAMI, FLORIDA, USA 8-12 JUNE 1987, DRAGONARA HOTEL, EDINBURGH, UK.

LIST OF PARTICIPANTS

* Denotes Head of Delegation

PARTIES - MEMBERS OF THE COMMISSION:

CANADA

*MR W A ROWAT	<u>Representative</u> Atlantic Fisheries Service, Ottawa, Ontario
DR G NADEAU	<u>Representative</u> Universite Laval, Quebec
MR E MCCURDY	Representative Newfoundland Fisherman, Food and Allied Workers Union, St John's, Newfoundalnd
DR W M CARTER	Atlantic Salmon Federation, St. Andrews, New Brunswick
DR D MEERBURG	Department of Fisheries and Oceans, Ottawa, Ontario
MS L COTE	Department of Fisheries and Oceans, Ottawa, Ontario
MR B VEZINA	Department of Fisheries and Oceans, Ottawa, Ontario
MR R ANDREWS	Department of Fisheries, St John's, Newfoundland
MR D A MacLEAN	Department of Fisheries, Halifax, Nova Scotia
MR R STEINBOCK	Department of External Affairs, Ottawa, Ontario
DR R PORTER	Department of Fisheries and Oceans, St John's, Newfoundland
MR J E H LAGARE	Department of Fisheries, Fredericton, New Brunswick

USA *MR A E PETERSON 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 Conservation, Savannah, Georgia DR V C ANTHONY National Marine Fisheries Service, Woods Hole, Mass MR G RADONSKI Sports Fishing Institute, Washington D C MR A NEILL National Marine Fisheries Service, Woods Hole, Mass MR J McCALLUM House of Representatives, US Washington DC MR S TINKHAM US Department of State, Washington D C MR A STOUT Atlantic Salmon Federation, Hanover, New Hampshire DR P RAGO US Fish and Wildlife Service, Kearneysville, WV DR K FRIEDLAND National Marine Fisheries Service, Woods Hole, Mass MR D SWANSON National Marine Fisheries Service, Washington D C DR J E WEAVER US Fish and Wildlife Service, Boston, Mass MR H LYMAN Salt Water Sportsman Inc, Boston, Mass DR D B GOLDTHWAITE US Fish and Wildlife Service, Newton Corner, Mass MR A L MEISTER Atlantic Salmon Commission, Bangor, Maine MR R A JONES Department of Environmental Protetion, Hartford, Connecticut MR D EGAN Connecticut River Atlantic Salmon Commission, Guilford, Connecticut

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OBSERVERS - PARTIES

<u>EEC (+)</u>

MR	J	SPENCER	Representative Fisheries Directorate-General, EEC Commission, Brussels
MS	E	TWOMEY	Department of the Marine, Dublin
MR	MC	DELLER JENSEN	Greenland Fisheries and Environment Research Institute, Copenhagen
MR	0	SAMSING	Ministry of Foreign Affairs, Copenhagen
MR	В	PALLISGAARD	Ministry of Fisheries, Copenhagen
MR	N	L D BROWN	Ministry of Agriculture, Fisheries and Food, London
DR	С	PURDOM	Ministry of Agriculture, Fisheries and Food, Lowestoft

OBSERVERS - NON PARTIES

ICES

DR B B PARRISH	International Council for the of the Sea, Copenhagen	Exploration
PROF O ULLTANG	Institute of Marine Research,	Bergen
DR E ANDERSON	International Council for the of the Sea, Copenhagen	Exploration

SECRETARIAT

SECRETARY, NASCO

ASSISTANT SECRETARY, NASCO

DR M L WINDSOR

DR P HUTCHINSON

(+)NOTE 1: Under Article 11, paragraph 2 of the Convention for the Conservation of Salmon in the North Atlantic Ocean the EEC has the right to submit and vote on proposals for regulatory measures concerning salmon stocks originating in the territories referred to in Article 18 of the same Convention.

NOTE 2: Not all participants were present at both the Miami and Edinburgh Meetings.

9 JUNE 1987 EDINBURGH

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ANNEX 3

NAC (87)4

NORTH ATLANTIC SALMON CONSERVATION ORGANIZATION FOURTH ANNUAL MEETING OF THE NORTH AMERICAN COMMISSION 26-27 FEBRUARY 1987, AT THE SOUTHEAST FISHERIES CENTER MIAMI, FLORIDA, USA AND 8-12 JUNE 1987, DRAGONARA HOTEL, EDINBURGH, UK.

AGENDA

- 1. Opening of the meeting
- 2. Adoption of the agenda
- 3. Nomination of a rapporteur
- 4. Approval of the report of the last meeting
- 5. Review of the 1986 fishery
- 6. ACFM report from ICES on salmon stocks CNL (87)3,-'Salmon in the North American Commission areas'
- 7. Progress report from the Bilateral Scientific Working Group on salmonid introductions and transfers
- 8. Review and discussion of the proposed 1987 Canadian and US salmon management measures as they relate to the mandate of the Commission and to the findings of the ACFM report from ICES
- 9. Impact of acid rain on Atlantic salmon
 (a) ACFM report from ICES
 (b) Review of mitigative measures
- 10. Recommendations to the Council concerning request to ICES for scientific research and scientific advice
- 11. Date and place of the next meeting
- 12. Other business
- 13. Consideration of the draft report of the meeting
- 14. Adoption of a press release

ANNEX 4

NORTH ATLANTIC SALMON CONSERVATION ORGANIZATION

NORTH AMERICAN COMMISSION

NAC (87)5

PRELIMINARY SUMMARY OF 1986 FISHERY FOR THE US

NAC (87)5

NASCO - NORTH AMERICAN COMMISSION MEETING

Preliminary Summary of 1986 Fishery for USA

Key Points

- 1. Overall, 1986 was one of the best years on record for returns to USA rivers.
- 2. Run size has increased 6.2% since 1984.
- Exploitation rates have decreased from an average of 17.2% to less than
 9% during 1984-86 period.
- 4. Smolt stocking had increased by 80% from 1982 to 1984. Therefore, the increase in run size is consistent with increases in stocking two years earlier.

TABLE 1. Preliminary Estimates of Run Size and Total Harvest for all USA Rivers

<u>Year 1</u>	Total Run (year 1)	<u>Total Harvest (year 1)</u>	Smolts Released (year i-z)
1984	3,754	645	696,481
1985	5,737	584	861,982
1986	6,104	551	1,255,025

TABLE 2. Preliminary Estimates of Total Run Size by Rivers Undergoing Significant Restoration Effort in USA

River	1985	1986	X Change
Penobscot	3357	4547	+ 35%
Connecticut	310	308	- 1.%
Merrimack	212	103	- 51%

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Year	Total Run	Number Harvested	Exploitation	Exploitation (%) in Penobscot River
1984	3,754	645	17.2	20.0
1985	5,737	584	10.2	10.0
1986	6,104	551	9.0	8.9

TABLE 3. Exploitation Rates in USA Rivers

- Note 1: All estimates of total run size in 1986 for Maine rivers that do not have traps, are based on an exploitation rate of 20% and the reported angler catch from these rivers. For rivers which have traps, the total run size is estimated as the trap count plus the angler harvest.
- Note 2: Estimates of total run size and harvest for 1984 and 1985 are equal to those reported by Goodyear at the June 1986 NASCO meeting.
- Note 3: Total run sizes for Penobscot, Connecticut and Merrimack Rivers are taken from reports supplied by the Maine Atlantic Sea Run Salmon Commission and the U.S. Fish and Wildlife Service.

JUNE 1987 EDINBURGH

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ANNEX 5

NORTH ATLANTIC SALMON CONSERVATION ORGANIZATION

NORTH AMERICAN COMMISSION

NAC (87)6

CANADIAN ATLANTIC SALMON MANAGEMENT PLAN 1986

1986 ATLANTIC SALMON MANAGEMENT PLAN

Guiding Principles and Major Elements

Atlantic Fisheries Service Department of Fisheries and Oceans May 1986

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1986 ATLANTIC SALMON MANAGEMENT PLAN

The 1986 Atlantic Salmon Management Plan is guided by the principles adopted by the Department of Fisheries and Oceans through consultations with the Atlantic Salmon Advisory Board. It incorporates the three Regional Atlantic Salmon Management Plans which are developed in consultation with Regional Zone Management Advisory Committees. In addition, representations from interested associations and organizations were taken into consideration.

Principles

- 1. Conservation of Atlantic salmon stocks, particularly the large salmon component.
- Access to all Atlantic salmon stocks will be regulated by all or a combination of the following: seasons, quotas, gear and licensing restrictions.
- 3. Allocation of Atlantic salmon stocks will be made by Management Zones and/or river system and according to interests and/or dependence of user groups and that of industries and communities deriving benefit from the harvestable resource.
- 4. Interception of migrating salmon in mixed-stock fisheries will be minimized where practical and feasible, by adjusting seasons, gear and area of fishing.
- Recreational fishing opportunities and benefits will be maximized within the constraints of allowable catch.
- 6. Harvesting of salmon by commercial fishing gear not licensed for salmon will be minimized by adjusting seasons, gear and area of fishing, and the retention of salmon caught under these circumstances will be illegal.
- 7. Atlantic salmon enhancement plans will be developed in concert with Atlantic Salmon Management Plans.
- Atlantic salmon habitat will be protected and improved to allow for maximum stock production.

 The practice of tagging salmon catches will be encouraged and expanded.

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10. The social and cultural importance of fishing to Indian communities will be recognized where they have traditionally harvested the resource.

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1986 ATLANTIC SALMON MANAGEMENT PLAN

Major Elements

 The opening of the 1986 commercial fishing seasons for the province of Newfoundland and Labrador will remain as in 1985. However the fall fishery will be closed earlier on October 15. The fishing seasons will be:

> Zones 1-2 (Labrador), 3-10, 11 (east), 14: June 5/October 15

Zone 13 and that portion of Zone 11 lying between Pass Island and Fox Point: June 5/July 10

Zone 12 and that portion of Zone 11 lying between Fox Point to Cinq Cerf Bay: Closed

Only full-time fishermen will be eligible to hold salmon licences. In the future, fishermen who may be down-graded to the part-time categorization will have to regain their full-time categorization within two years in order to retain their eligibility to their salmon licence.

All other existing regulations and weekend closures will apply.

- 2. The commercial salmon fisheries in the Maritime Provinces will remain closed.
- 3. A voluntary Salmon Licence Buyback Program will be offered in the Maritime Provinces in 1986. The payment formula will be developed and worked out through consultations with commercial salmon fishermen representatives and provincial governments.
- 4. There will be no new commercial salmon fishing licences issued on an Atlantic-wide basis.
- 5. Transfers of commercial fishing licences will be allowed in the Maritime Provinces and in Newfoundland and Labrador among immediate family members on the condition that the recipients are full-time fishermen.
- 6. Only the retention of grilse will be permitted in the recreational fisheries for the provinces of New Brunswick, PEI, Nova Scotia and Newfoundland (excluding Labrador). All multi-sea winter salmon (63 cm and greater in length) hooked by anglers will be required to be released immediately with the least

possible harm to the fish. The Province of Quebec will maintain this restriction for the bordering rivers within the Restigouche system as in 1984 and 1985.

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- 7. Recreational fishing seasons in all Atlantic Provinces will remain as in 1985, subject to adjustment due to local conditions.
 - The seasonal bag limits along with the possession and daily limits in Nova Scotia, and New Brunswick will be maintained at 10, 6 and 2 respectively which will be required to be grilse. In P.E.I., the bag limits will remain at 5, 1, 1. A 15-fish seasonal bag limit will be introduced in the Newfoundland and Labrador recreational fishery in 1986. The daily and seasonal salmon bag limits do not include any salmon that are hooked and subsequently released. However, on a daily basis, fishermen must stop fishing for salmon once they have retained the daily limit or have released a maximum number of fish equal to twice the daily limit.
- 9. During 1986, the tagging systems will be maintained in all the Maritime Provinces. A full scale commercial tagging program will be extended to Newfoundland and Labrador in 1986. For 1986, all salmon exported from Newfoundland and Labrador to other eastern provinces will have to be tagged before leaving the province.
- It will be illegal to retain, or be in possession of, 10. salmon captured incidentally in non-salmon commercial gear. The Department of Fisheries and Oceans will review its priorities for inland and coastal enforcement to restrain any increase in poaching activity and to monitor other commercial fisheries which may be susceptible to incidental catches of Atlantic salmon. Innovative low cost and efficient enforcement adtivities will be considered and encouraged. Interest groups will be asked to assist enforcement personnel in this regard.
- 11. Negotiations will continue with native groups to review existing fishing quotas and establish such quotas where none exist, ensure the enforcement of regulations, and encourage the use of trap nets. Indian Bands will be asked to participate in conservation efforts. Where possible, alternatives to salmon fishing will be considered. In New Brunswick, the Indian Bands who participated in a food fishery in 1985 will be offered the opportunity

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to change fishing gear to trapnets where feasible. Indian fisheries development projects will also be considered under the N.B. ERDA where these projects are deemed to be economically viable and directly contribute to conservation of fish stocks.

- 12. Development of programs to expand efforts in the enhancement of the Atlantic salmon resource will be continued and implemented as funding becomes available. Provincial governments and user/interest groups benefiting from enhancement activities will be asked and encouraged to provide additional funds.
- 13. Recreational interests have committed to the implementation of a surcharge to be imposed on licences which will create a fund to carry out Atlantic Salmon rehabilitation and conservation activities.
- 14. The Department of Fisheries and Oceans will maintain its commitment to continue negotiations within NASCO. Specifically, Canada along with the USA will work to achieve a reduction in the catches of North American salmon below present levels and will resist any attempts to increase the catch of North American salmon above the present quota in West Greenland. Canada has advanced the closure date of the Newfounland Labrador fishery to October 15. This initiative is consistent with Canada obligations under the North American Commission of NASCO.

- 5 -

1986 ATLANTIC SALMON MANAGEMENT PLAN

Regional Management Measures

A. <u>LICENSING POLICIES</u>

- a) <u>Scotia-Fundy and Gulf Regions (excluding</u> <u>Western Newfoundland and Labrador) -- Zones</u>15, <u>16, 17, 18, 19, 20, 21, 22, 23.</u>
- Commercial salmon fishermen will not be required to renew their licences in 1986. Commercial salmon fishermen will be offered a voluntary buy-back program that will be established in consultation with fishermen and the provinces.
- 2. Transfer of licences to another individual will not be permitted in 1986, except between immediate family members who are bona-fide or full-time fishermen. For purposes of this policy, immediate family members are husband/father, wife/mother, son/daughter and brother/sister.
- Licences are not available for new entrants in this fishery.
- Licences are only valid for the Management Zone specified.
 - b) <u>Newfoundland Region and Western Newfoundland and</u> Labrador Portion of Gulf Region -- Zones 1-14
- 1. In 1986, licences may be issued to those persons who, in 1985:
 - a) held commercial fishing licences; and
 - b) personally operated their specified commercial salmon fishing gear; and
 - were not employed full-time outside the commercial fishery or other primary industries for more than nine months annually; and
 - d) were and still are full-time residents of the Salmon Management Zone in which they fished unless otherwise specified.

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Note: Participation in the 1986 salmon fishery will not be a prerequisite to be eligible for a salmon licence in 1987. However, all fishermen will be required to renew their salmon fishing licences and meet the criteria outlined in c) and d) above.

- 2. Licences are only valid for the Fishing Area specified.
- 3. Transfer of licences to another individual will not be permitted in 1986, except between immediate family members who are full-time fishermen. For purposes of this policy, immediate family members are husband/father, wife/mother, son/daughter and brother/sister.
- 4. Fishing effort limits for full-time fishermen will remain at 200 fathoms per licence in 1986.
- 5. Licences are not available for new entrants in this fishery in 1986.
- 6. On application, the holder of a set-net licence (fixed gillnet, trap net) may be permitted to move his gear to a new location provided it can be shown that circumstances have arisen which render the current location useless (i.e., wharf construction, dredging) and provided further that the new location will not adversely affect the fishery and/or salmon fishing set-net licences presently located in the area.

B. MEASURES TO PREVENT ATLANTIC SALMON BY-CATCH IN NON-SALMON COMMERCIAL GEAR

In all Atlantic provinces, it will be illegal to retain or be in possession of Atlantic Salmon caught by non-salmon commercial gear.

- a) Provinces of New Brunswick, Nova Scotia and Prince Edward Island
- 1.

Non-salmon commercial fishing gear includes all traps, weirs and gillnets used to fish for all finfish species. 1.

All salmon caught incidentally in the above gear must be released immediately to the water.

3. In areas where the by-catch of salmon is significant, the commercial gear shall be re-located voluntarily and/or as instructed by a fishery officer.

b) Province of Newfoundland and Labrador

- As in 1985, the incidental catch of salmon in traps and nets will be minimized by seasonal and area variations as required.
- 2. In cod traps, the seven inch (178 mm) mesh size for leaders and the prohibition of the use of monofilament will be strictly enforced. The top portion of groundfish gillnets has to be at least 5m underneath the surface of the water.

C. <u>RECREATIONAL FISHERY</u>

1. <u>Size restrictions</u> -- For the recreational fisheries Atlantic-wide (excluding Labrador and most of Quebec), the retention of multi-sea winter salmon will be prohibited (salmon 63 cm or greater in length). However, anglers will be permitted to hook and release multi-sea winter salmon.

> Regions will continue media programs in cooperation with anglers' associations to ensure anglers are aware of proper release methods in order to ensure that the fish are released with the least possible harm. The use of barbless hook is recommended.

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<u>Bag limits</u>	 In 1	986,	the	bag	limits	will	be:	
	Ń.B.	N	I S				Nfld.	and

•	N • D •	· N • 5 •	P.E.I.	Labrador*
Season Possession Daily	10 6 2	10	5 1	15 2-day limit
barry	2	Γ Z	1	2

*In Labrador, anglers are allowed to retain large MSW salmon.

The daily and seasonal salmon bag limits do not include any salmon that are hooked and subsequently released. However, on a daily basis, fishermen must stop fishing for salmon once they have retained the daily limit or have released a maximum number of fish equal to twice the daily limit.

Bag limits which were previously restricted to lower levels because of specific conditions will be maintained as such.

Anglers exhausting these daily or seasonal limits will not be permitted to fish for Atlantic salmon for the remaining portion of the period associated with the limit reached.

- 3. <u>Black salmon fishery</u> -- The grilse only restriction will apply again in 1986. The season will remain April 15 to May 15 in New Brunswick.
- 4. <u>Season</u> -- Recreational fishing seasons in all Atlantic Provinces will remain as in 1985, subject to adjustment due to local conditions.

D. TAGGING PROGRAM

During 1986, the tagging systems will be maintained in all the Maritime Provinces. A full scale commercial tagging program will be extended to Newfoundland and Labrador in 1986. For 1986, all salmon exported from Newfoundland and Labrador to other eastern provinces will have to be tagged before leaving the province.

Where applicable, all salmon caught by licensed salmon fishermen will be tagged by applying a self-locking, tamper-proof plastic tag through the mouth and gill cavity of the fish. Each tag number will be recorded with the licence number issued to the fisherman for immediate identification of all legally harvested salmon.

The tags will be colour coded for each fishery. Blue tags will be used for the licensed recreational salmon fishery; red tags for the licensed commercial salmon fishery; and orange tags (yellow in Quebec) for the licensed Indian food fishery. Brown tags (green in Quebec) must be applied to fish caught for scientific-research purposes and for fish farming operations. A green tag (white in Quebec) will be used for Atlantic salmon imported into New Brunswick, Nova Scotia, and Prince Edward Island from areas outside these provinces. A green export tag will be applied to salmon being exported from the Province of Newfoundland and Labrador and which are not yet tagged. A yellow tag issued by Parks Canada will be used for salmon captured in waters within national parks.

E. ENFORCEMENT ACTIVITIES

Where feasible in 1986, emphasis will be placed on protection and conservation of Atlantic salmon in both the marine and freshwater environment. Particular attention will be directed to the following:

- 1. commercial salmon log record reporting (where applicable);
- salmon by-catch restrictions;

3. poaching activity in inland waters;

4. fish habitat protection;

5. salmon tagging requirements;

strict observance of closed times and closed areas.

In the Western Newfoundland portion of the Gulf Region, the "Dial-a-Poacher" program will be continued in 1986. A toll-free number (ZENITH-07057) has been established, and phones will be manned twenty-four hours a day.

The Newfoundland Region is also continuing its "Report-a-Poacher". Individuals can report suspected illegal fishing activity by dialing the 24-hour manned toll free number (1-800-563-7277).

F. RESOURCE ENHANCEMENT

In 1986, enhancement projects will be maintained with the objective of expanding and increasing efficiency where possible. The Department will continue to investigate enhancement potential and upgrade fish ways.

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There will be no new major enhancement projects undertaken in the Maritime Provinces and in Newfoundland. However, many regional and community enhancement projects will commence in 1986 such as constructions of incubation boxes, stream clearance, investigation of enhancement potential and upgrading of fishway facilities.

G. INTERCEPTION

Measures previously introduced to reduce the interception of mainland salmon will be maintained in 1986.

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H. NATIVE FISHERY

Negotiations will be continued with Native groups to ensure their cooperation on conservation initiatives. Wherever possible, they will be encouraged to modify their fishing methods from gillnets to trapnets from which large salmon could be released. In New Brunswick, Native groups will be offered financial assistance to replace existing salmon gear with trapnets under federal funding from the New Brunswick ERDA. Their fishery will remain a food fishery only. Native Bands will be encouraged to identify alternative development opportunities to replace or reduce the salmon component within their food fishery requirements.

An Atlantic Native Food Fishery Allocation Policy will be drafted for public consultation with all user groups and provincial governments.

I. SURCHARGE ON RECREATIONAL FISHING PRIVILEGES

In 1986 negotiations will resume with all Atlantic Provincial Governments for the purpose of establishing and administering a fund that could be used to finance Atlantic salmon related projects such as enhancement programs, surveys and enforcement activities. This fund could be established by an ongoing surcharge on recreational fishing privileges administered by the provinces.

J. COMMERCIAL SALMON LICENCE BUYBACK PROGRAM

In 1986 the Department of Fisheries and Oceans has introduced a voluntary buy-back program for commercial salmon fishermen in the Maritime provinces. Terms and conditions of this program will be established in consultation with representatives of commercial fishermen and provincial governments.

<u>MANAGEMENT ZONES</u> ZONE 15 - RESTIGOUCHE RIVER SYSTEM

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Commercial Fishery

Gear

Season

- Closed

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Trap nets

- New Brunswick
- Quebec
- 1. Licensing

- No commercial fishery

The Gulf Region Licensing Policy will apply.

2. By-catch

Further to imposing the restriction of no salmon by-catch throughout the Atlantic, regulations to eliminate this by-catch in non-salmon commercial gear will apply in Zone 1:

- a) No person shall set or use any gillnet in those waters of the Chaleur Bay that are closed to gillnetting of any kind between June 8 to December 31 in any year.
- b) Groundfish gillnets bait permits will be issued for 1986 in the waters of Bay of Chaleur, on a controlled basis only.

<u>Recreational Fishery</u> (Grilse Only)

Season bag limit - 10 fish

Possession limit - 6 fish

Daily bag limit - 2 fish

Seasons

River

Opening/Closing Dates

Bright Salmon

Rivers in Zone 1 tributary to the Bay of Chaleurs with the following exceptions:

Benjamin Caraquet Charlo Jacket June 8 - Sept. 30 July 1 - October 15 River

Opening/Closing Dates

Nepisiguit Pokemouche
Restigouche System
Tetagouche
Tracadie
Middle River (Gloucester County)

June	8	-	Uctober	1
July	1	-	October	15
June	1	-	August 3	51
July	1	-	October	15
July	1	-	October	15
July	1	-	October	15

Season

Closed

Closed

Indian Fishery

In Zone 15, the following Indian bands will be authorized to conduct a food fishery under authority of a special licence:

Eel River Bar Indian Band

The terms and conditions of the special licence are subject to negotiation between the Department of Fisheries and Oceans and the Band Chief and Council. Negotiations are underway to redirect the salmon food-fishery from gillnets to trapnets.

ZONE 16 - MIRAMICHI RIVER

Commercial Fishery

Gear

Trap Nets

- Drift Nets
- 1. Licensing

The Gulf Region Licensing Policy will apply.

2. By-catch

General measures to eliminate Atlantic salmon bycatch in non-salmon commercial gear will apply. The following measures will also apply in Zone 16:

> a) An area closure to groundfish gillnetting will apply to Canadian fisheries waters off the coast of New Brunswick west of a line beginning at Pointe à Barreau, Northumberland County, at 47°26'00"N latitude, 64°53'1"W longitude, thence to a point at 47°04'24"N latitude, 64°21'45"W
longitude, thence to a point on the shoreline of Kent County at 47°00'48"N latitude, 64°49'40" longitude.

- b) An area closure to gillnetting of any kind will apply to those waters of the Miramichi Bay lying to the west of a line drawn from the lighthouse on Escuminac Point to a point at Pointe à Barreau at latitude 47°26'00"N. and longitude 64°53'12"W.
- c) Groundfish gillnet bait permits will not be issued in 1986 for a bait fishery in the waters of the Miramichi Bay.

<u>Recreational Fishery</u> (Grilse Only) Season bag limit - 10 fish Possession limit - 6 fish Daily bag limit - 2 fish

Seasons

River

Opening/Closing Dates

April 15 - May 15

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Black Salmon

Miramichi

Bright Salmon

Miramichi System, with the following exceptions:P

Bartholomew Bartibog Buctouche Cains Cocagne Dungarvin (above Underwood Brook) Little Southwest Miramichi (above Catamaran Brook) Main Southwest Miramichi (above McKeil Brook) Northwest Miramichi (above Little river)

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June 8 - Sept. 30 Closed July 1 - October 29 July 1 - October 15 July 1 - October 15 July 1 - October 15 June 8 - Sept. 15 June 8 - August 31

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Renous				
(above North Renous)	June	8	_	Sent 15
Rocky Brook	June	ĭ	_	August 31
Sevogle	oune	*	-	August JI
(above Square Forks)	ممير	ß		Sec. 15
Tabusintac	71	1	-	Sept. 15
Eel River	July	1	-	Uctober 26
Other tributaries of Main Southwest	July	1	-	October 15
Miramichi (above Cains River-	June	8	_	Sent. 15
Except Rocky Brook)		5		00pt. 1)

Indian Fishery

In Zone 16, the following Indian bands will be authorized to conduct a food fishery under authority of a special licence:

- 1) Red Bank Indian Band Big Cove Indian Band
- 2)
- Burnt Church Indian Band 3)
- 4) Eel Ground Indian Band

The terms and conditions of the special licence are subject to negotiations between the Department of Fisheries and Oceans and the Band Chiefs and Councils. Negotiations are underway to redirect the food-fishery from gillnets to trapnets.

ZONE 17 - PRINCE EDWARD ISLAND

Commercial Fishery

Fishery Season St. Peters' Bay Closed Morrell river Stocks (Northeast shore) Closed

1. Licencing

The Gulf Region Licensing Policy will apply.

Recreational Fishery (Grilse only)

Season bag limit - 5 fish

Possession limit - l fish

Daily bag limit - l fish

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Season

Riv	er					Opening/Clo	sing Dates
A11	PEI	Rivers				July 1	- Sept. 30
A11 01	PEI 11y)	Rivers	(Hook	and	Release	Oct. 1	- Oct. 31

ZONE 18 - NORTHUMBERLAND

Commercial Fishery

Waters

All waters within Zone 18, Gulf shore Closed of Nova Scotia

1. Licensing

The Gulf Region Licensing Policy will apply.

Recreational Fishery (Grilse only)

Season bag limit - 10 fish Possession limit - 6 fish Daily bag limit -2 fish Season

River

<u>Opening/Closing</u> Dates

All waters of Salmon Management Zone 18 with the exception of the following: Sept. 1 - Oct. 29

Margaree River (downstream from the Big Interval Bridge) Margaree River (upstrean from the Big Interval Bridge)

June 1 - Oct. 15 Closed all year

ZONE 19 - CAPE BRETON EAST

Commercial Fishery

Waters

All coastal waters

Season

Closed

Season

Licensing

The Scotia-Fundy Region Licensing Policy will apply.

17

Recreational Fishery (Grilse only)

Season bag limit - 10 fish

Possession limit - 6 fish

Daily bag limit - 2 fish

Season

Rivers

Opening/Closing Dates

All the waters of any rivers and tributaries which flow into the Atlantic Ocean bounded by Cape Breton and Richmond Counties and that portion of Victoria County south of cape North, with the exception of the following:

North River

July 1 - Sept. 30

June 1 - Sept. 30

Indian Food Fishery

Wagmatcook Reserve

Food fishery to be conducted as outlined in a licence issued pursuant to Section 6(1) of the Nova Scotia Fishery Regulations under the Fisheries Act. The allocation will not exceed 100 fish.

ZONE 20 - EASTERN SHORE

Commercial Fishery

Waters

Season

Closed

All coastal waters of Guysborough County and that portion of Halifax County east of the City of Halifax.

1. Licensing

The Scotia-Fundy Region Licensing Policy will apply.

1.

Recreational Fishery (Grilse only)

Season	bag	limit	-	10	fish
Posses	sion	Limit	-	6	fish
Daily	bag]	limit	-	2	fish

Season

River

Opening/Closing Dates

June 1 - August 29

June 24 - Sept. 22

June 14 - Sept. 22

- August 29

May 18

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All waters of Salmon Management Zone 20 with the exception of the following:

All rivers and tributaries thereof that flow into that portion of Chedabucto Bay bounded by Guysborough County

Country Harbour River

St. Mary's River, downstream from a point 100 m upstream from Silver's Bridge and downstream from the highway bridge at Glenelg

East River, St. Mary's upstream from May 18 - August 14 a point 100 m upstream of Silver's Bridge

ZONE 21 - SOUTHWEST NOVA SCOTIA

Commercial Fishery

Waters

All coastal waters of Lunenburg, Queens, Shelburne, Yarmouth and Digby Counties and that portion of Halifax County west of the city of Halifax. Season

Closed

Licensing

The Scotia-Fundy Region Licensing Policy will apply.

Recreational Fishery (Grilse only)

Season bag limit - 10 fish

Possession limit - 6 fish

Daily bag limit - 2 fish, with the exception of Lahave River and Petite Rivière, where a daily catch and retention limit of 1 grilse per day will apply.

Season

Rivers

Opening/Closing Dates

All the waters of the rivers and tributaries which flow into that portion of the Atlantic Ocean bounded by Lunenburg, Queens, Shelburne, Yarmouth and Digby Counties and that portion of Halifax County west of the city of Halifax with the following exceptions:

Gold River Ingram River Lahave River, except upstream from Morgan Falls

Lahave River upstream from Morgan Falls Medway River Mushamush River Petite Rivière Salmon River Tusket River

May 10 - August 15 June 1 - August 15 June 1 - August 15 June 1 - August 15

Closed all year May 10 - July 31 June 1 - August 15 July 1 - July 31 July 1 - August 15 July 1 - August 15

ZONE 22 - UPPER BAY OF FUNDY

Commercial Fishery

Waters

Season

Closed

All coastal waters of Annapolis, Kings, Hants, Colchester and Cumberland Counties which border on the Bay of Fundy

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- 20 -

Licensing

The Scotia-Fundy Region Licensing Policy will apply.

Recreational Fishery (Grilse only)

Season bay limit - 10 fish Possession limit - 6 fish Daily bag limit - 2 fish

<u>Season</u>

Rivers

Opening/Closing Dates

All the waters of any rivers and
tributaries which flow into that
portion of the Bay of Fundy bounded
by Annapolis, Kings, Hants, Colchester
and Cumberland Counties with the
following exceptions:
Annapolis RiverAugust 15 - Oct. 31May 1- July 31
May 1Gaspereau RiverMay 1Stewiagke River- Oct. 31

ZONE 23 - SOUTH WESTERN NEW BRUNSWICK

Commercial Fishery

Fishery	Season
Saint John	Closed
Petitcodiac	Closed

1. <u>Licensing</u>

The Scotia-Fundy Region Licensing Policy will apply.

Recreational Fishery (Grilse only)

Season bag limit - 10 fish Possession limit - 6 fish Daily bag limit - 2 fish

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Seasons

River	Opening/Closing Dates
Black Salmon	April 15 - May 15
Bright Salmon	
Waters tributary to the Bay of Fundy with the following exceptions: Big Salmon River - upstream of and	June 15 - Oct. 15
including Walton Dam Pool Big Salmon River - downstream from	June 15 - Sept. 15
Walton Dam Pool Hammond River - below French Village	June 8 - Oct. 22
Bridge Pool Hammond River - upstream from French	June 15 - Oct. 31
Village Bridge Pooľ	June 15 - Oct. 15
Nashwaak River - unstream from the	June 15 – Oct. 31
Bridge at Stanley Nashwaak River - downstream from the	June 15 - Sept. 30
St. John River - unstream from the	June 15 - Oct. 15
Grafton Bridge at Woodstock St. John River - downstream from the	June 15 - Sept. 30
Grafton Bridge at Woodstock Peticodiac River System Point Wolfe River St. Croix River Tobique River	June 1 - Oct. 15 Aug. 15 - Oct. 15 Closed all year June 15 - Sept. 15 June 15 - Sept. 15

Indian Fishery

<u>Kingsclear Reserve</u>

Food fishery to be conducted as outlined in Section 6.2 of the New Brunswick Fishery Regulations under the Fisheries Act.

- 22 -					
NEWFOUNDLAND COMMERCIAL S	ALMON FISHERY				
ZONE 1 - Cape Chidley to Cape Rouge					
1) Season	Jupa 5 Oct 15				
2) Licensing					
The Neufeured) and During					
The Newfoundland Region Licens	ing Policy applies.				
<u>ZUNE 2 - Cape Rouge to Cape Charles</u>					
1) <u>Season</u>	June 5 - Oct. 15				
2) <u>Licensing</u>					
The Newfoundland Region Licens	ing Policy applies.				
ZONE 3 - Cape Charles to Cape Bauld t	o cape John, excluding				
Straits					
1) <u>Season</u>	June 5 - Oct. 15				
2) <u>Licensing</u>					
The Newfoundland Region Licens	ing Policy applies.				
<u> ZONE 4 - Cape John to Cape Freels</u>					
1) <u>Season</u>	June 5 - Oct. 15				
2) Licensing					
The Newfoundland Region Licens	ing Policy epolies				
ZONE 5 - Cane Freels to Cape Bonovict	appries.				
	June 5 - Uct. 15				
2) <u>Licensing</u>					
The Newfoundland Region Licens	ing Policy applies.				
<u>ZUNE 6 - Cape Bonavista to Grates Cove</u>	2				
1) <u>Season</u>	June 5 - Oct. 15				
2) <u>Licensing</u>					
The Newfoundland Region Licensi	ng Policy applies.				

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ZONE	ZONE 7 - Grates Cove to Cape St. Francis								
	1)	Seasor	<u>ı</u>			June	5 -	Oct.	15
	2)	Licens	ing						
	The	Newfour	dland R	egion	Licensi	ng Po	licy	appl	ies.
ZONE	8 - Ca	pe St.	Francis	to Ca	ape Race				
	1)	Season	L			June	5 -	Oct.	15
	2)	Licens	ing						
	The	Newfoun	dland Re	egion	Licensi	ng Po	licy	appl	ies.
ZONE	9 - Ca	pe Race	to, Cape	e St.	Mary's				
	1)	Season				June	5 -	Oct.	15
	2)	Licens	ing						
	The	Newfoun	dland Re	gion	Licensi	ng Po	licy	appl	ies.
ZONE	10 - C	ape St.	Mary's	to Pc	int Cre	we			
	1)	Season				June	5 -	Oct.	15
	2)	Licens	ing						
	The	Newfoun	dland Re	gion	Licensi	ng Po.	licy	appl	ies.
ZONE	<u> 11 - P</u>	<u>oint Cr</u>	ewe to C	inq C	erf Bay				
	1)	Season			•			•	
	Poin	t Crewe	to Pass	Isla	nd	June	5 -	Oct.	15
	Pass	Island	to Cape	Fox		June	5 -	July	10
	Cape	Fox to	Cinq Ce	rf Ba	У	Close	ed		
	2)	Licens	ing						
	The	Newfoun	dland Re	gion	Licensir	ng Pol	icy	appli	.es.
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ZONE 12 - Cinq Cerf Bay	to	Cape	Ray
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- 1) <u>Season</u> Closed
- 2) <u>Licensing</u>

No commercial salmon licenses will be issued.

ZONE 13 - Cape Ray to Cape St. Gregory

- 1) <u>Season</u> June 5 July 10
- 2) <u>Licensing</u>

The Gulf Region Licensing Policy will apply.

ZONE 14 - Cape St. Gregory to Cape Charles, including

- 1) <u>Season</u> June 12 Oct. 15
- 2) <u>Licensing</u>

The Gulf Region Licensing Policy will apply.

NEWFOUNDLAND RECREATIONAL SALMON FISHERY

With the exception of Labrador, anglers in the Province of Newfoundland and Labrador will only be permitted to retain grilse. The larger multi-sea winter salmon (63cm and greater in length) must be released immediately with the least possible harm to the fish.

In 1986, DFO officials will be meeting provincial authorities to discuss licensing regimes geared towards specific river management. Negotiations will be undertaken to lay groundwork for expansion of the tagging program in Newfoundland in 1987.

Season bag limit - 15

Possession limit - 4 (two day limit)

Daily bag limit - 2

Season

River

<u>Opening/Closing</u> Dates

June 14 - Sept. 14

June 7 - Sept. 14

June 7 - Sept. 14

June 7 - Sept. 14

Labrador

All waters of rivers and tributaries in Labrador with the exception of the following:

Pinware River Forteau River Lanse au Loup River

Newfoundland

Three sets of opening/closing dates have been set for <u>most</u> rivers in three respective areas of the island portion of the province:

- (a) Cape Ray, north to and including Bonne Bay
- (b) Cape Bauld to Cape Ray (east and south coasts)
- (c) North of Bonne Bay to Cape Bauld

The following rivers are exceptions within these areas:

Northwest Brook, Grand Bay Bear Cove River Conne River Garnish River June 7 - Sept. 1 June 14 - Sept. 7 June 1 - Sept. 1

June 1 - Sept. 1 June 1 - Sept. 1 June 7 - Sept. 1 June 7 - Sept. 1

St. Genevieve River Ten-Mile Lake and tributary streams Round Lake and tributary streams Lower Humber River Upper Humber River (Deer Lake to Big Falls) Portland Crock River and	June June June June June	1 1 1 7 7		Sept. Sept. Sept. Sept. Sept.	1 1 1 1
Tributary stream	المعر	1		Cont	
Deer Arm River	June	1	-	Sept.	4
Southeast River, Placentia	June	21		Sept.	1
Northeast River, Placentia	June	21	· _	Sept.	1 T
Indian River	June	21	_	Sept.	1
Exploits River	June	21		Sept.	1 1
Terra Nova River	June	21	_	Sept.	1 1
Little Salmonier River	June	21	_	Sept.	1
West River, St. Barbe	June	21	_	Sont	1
Fox Island River	June	$\frac{21}{21}$	_	Sent	J T
Watson's Brook	June	$\frac{1}{21}$	_	Sent	1
Little Codroy River	June	28	_	Sent	ì
Harry's River	June	28	_	Sent	1
Little Barachois River	June	28	_	Sent	1
lorrent River and Tributaries	*		_	Sent.	1

* Opening when 1000 salmon have passed upstream through the fishway.

<u>River</u>

<u>Opening/Closing Dates</u>

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The following rivers will not be open to anglers in 1985:

Colinet River Tides Brook (Mortier Bay) and	Closed all year
tributaries Highlands River Serpentine River and tributaries Hughes Brook Goose Arm River Cook's Brook Parker's River Western Brook and tributaries	Closed all year Closed all year
stock and tributaties	Closed all year

ANNEX 1

MANAGEMENT ZONES

<u>Z0</u>	NE		PROVINCE	REGION	PREVIOUS NUMBER
1	-	Cape Chidley to Cape Rouge	Newfoundland	Newfoundland	1 N
2	-	Cape Rouge to Cape Charles	Newfoundland	Newfoundland	2 N
3	-	Cape Charles to Cape Bauld to Cape John, excluding Straits.	Newfoundland	Newfoundland	3 N
4	-	Cape John to Cape Freels	Newfoundland	Newfoundland	4 N
5	-	Cape Freels to Cape Bonavista	Newfoundland	Newfoundland	5N
6	-	Cape Bonavista to Grates Cove	Newfoundland	Newfoundland	6N
7	-	Grates Cove to Cape St. Francis	Newfoundland	Newfoundland	7 N
8	-	Cape St. Francis to Cape Race	Newfoundland	Newfoundland	8 N
9	-	Cape Race to Cape St. Mary's	Newfoundland	Newfoundland	9N
10	-	Cape St. Mary's to Point Crewe	Newfoundland	Newfoundland	10N
11	-	Point Crewe to Cinq Cerf Bay	Newfoundland	Newfoundland	1 1 N
12	-	Cinq Cerf Bay to Cape Ray	Newfoundland	Gulf	12G
13	-	Cape Ray to Cape St. Gregory	Newfoundland	Gulf	13G
14	-	Cape St. Gregory to Cape Charles, including Straits.	Newfoundland	Gulf	14G

3

ZONE PROVINCE REGION PREVIOUS NUMBER 15 - Restigouche New Brunswick Gulf 1 16 - Miramichi New Brunswick Gulf 2 17 - P.E.I. P.E.I. Gulf 4 18 - Northumberland Nova Scotia Gulf 6 19 - Cape Breton East Nova Scotia Scotia Fundy 5 20 - Eastern Shore Nova Scotia Scotia Fundy 7 21 - Southwest Nova Scotia Nova Scotia Scotia Fundy 9 22 - Upper Bay of Fundy Nova Scotia Scotia Fundy 8 23 - Saint-John New Brunswick Scotia Fundy 3

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



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JUNE 1987 EDINBURGH

ANNEX 6

NORTH ATLANTIC SALMON CONSERVATION ORGANIZATION

NORTH AMERICAN COMMISSION

NAC (87)7

CANADIAN ATLANTIC SALMON CATCHES IN TONNES

TABLE. Canadian Atlantic Salmon Catches in Tonnes since 1960 and Numbers since 1982 (Information provided to the International Council for Exploration of the Sea (ICES))

Year	<u>G</u> 1	rilse	Sa	almon	Ic	tal
	tonnes	numbers	tonnes	numbers	tonnes	numbers
1960	-					
1961			-		1,636	
1962	_		-		1,583	
1963	_		-		1,719	,
1964	_		-		1,851	
1965	-		. -		2,069	
1966	-		-		2,116	
1967	-		-		2,359	
1968	-		-		2,863	
1969	-		-		2,111	
1970	-		-		2,202	
1971	/01	<i>r</i> ,	1,562		2,323	
1972	210		1,482		1,992	
1272	228		1,201		1,759	
197/	782		1,651		2,484	
1075	75U 010		1,589		2,539	
1972	912		1,573		2,485	
1077	785		1,721		2,506	
1070	66Z		1,883		2,545	
1070	520		1,225		1,545	
12/2	282		705		1,287	
1700	917		1,763		2,680	
1201	818		1,619		2,437	
1702*	./16	358,000	1,082	240,000	1,798	598.000
1702*	513	265,000	911	201,000	1,424	466,000
1704 *	467	234,000	645	143,000	1,112	377.000
1707	595	333,084	540	122,621	1,133	455.705
700	/56	408,521	750	158,773	1,506	567.294

The 1986 total catch of salmon (1,506 tonnes) is:

- 4.7% below the previous 5 year mean (1,580.8)

- 18.2% below the previous 10 year mean (1,841.7)

- 23.9% below the previous 15 year mean (1,978.5) - 27.6% below the previous 20 year mean (2,079.4)

For the MSW (multi-sea-winter) salmon only, the catch in 1986 of 750 tonnes is:

- 21.8% below the previous 5 year mean (959.4) - 37.9% below the previous 10 year mean (1,208.4)

- 42.5% below the previous 15 year mean (1,305.4)

For the Grilse only, the catch in 1986 of 756 tonnes is:

- 21.7% above the previous 5 year mean (621.4) - 18.6% above the previous 10 year mean (637.3)

- 14.1% above the previous 15 year mean (662.3)

NOTE: ALL CATCH FIGURES FOR 1986 ARE PRELIMINARY

Numbers for 1982-84 are estimated

TOTAL	755,708	100.0	750,472	100.0	1,506,180	100.0
NATIVE FOOD FISHERY (ALL AREAS)	5,702	0.8	24,911	3.3	30,613	2.0
MARITIMES R C Total	88,042 0 88,042	11.7 <u>0.0</u> 11.7	0 0 0	0.0 0.0 0.0	88,042 0 88,042	5.8 0.0 5.8
NFLD. R C Total	62,570 582,483 645,053	8.3 77.1 85.4	1,941 598,411 600,352	0.3 79.7 80.0	64,511 <u>1,180,894</u> 1,245,405	4.3 78.4 82.7
QUEBEC R C Total	9,521 <u>7,390</u> 16,911	1.3 <u>1.0</u> 2.3	56,740 <u>68,469</u> 125,209	7.6 9.1 16.7	66,261 75,859 142,120	4.4 5.0 9.4
	GRILSE	% OF TOTAL	SALMON	% OF TOTAL	TOTAL	% OF TOTAL

NOMINAL CATCHES (PROVISIONAL) OF ATLANTIC SALMON IN CANADA FOR 1986 (IN KG ROUND FRESH WEIGHT)

R = Recreational (TOTAL = 218,814 kg or 14.5%) C = Commercial (TOTAL = 1,256,753 kg or 83.4%)

NOTE: ALL CATCH FIGURES FOR 1986 ARE PRELIMINARY

-2-

(February 18, 1987)

TABLE: A COMPARISON OF THE OVERALL 1983, 1984, 1985 AND 1986 ATLANTIC SALMON FISHERIES* (IN TONNES)

	1986	8 66.3 8 75.9 <u>8 75.9</u>	9 64.5 9 1,180.9 8 1,245.4	9 88.0 <u>9</u> 88.0	9 30.6	3 1,506.2
· .	1985	54. 69. 124.	62 . 925.	52. <u>52</u> .	28.	1132.
TOTAL	1984	41.8 62.1 103.9	66.4 821.4 887.8	36.8 55.9 92.7	27.1	1111.5
	1983	50.8 94.5 145.3	63.8 1016.5 1080.3	67.0 131.4 198.4	6	1424.0
	1986	56.7 68.5 125.2	1.9 598.4 600.4		24.9	750.5
N	1985	47.7 65.5 113.2	1.2 398.8 400.1		26.3	539.7
SALM	1984	37.8 60.6 <u>98.4</u>	3.4 475.1 478.5	2.0 41.0 43.0	25.0	644.9
	1983	46.6 88.1 134.7	8.0 615.0 623.0	37.5 115.8 153.3	¢	911.0
i	1986	9.5 7.4 16.9	62.6 582.5 645.1	88.0 0 88.0	5.7	755.7
	1985	7.1 4.2 11.3	61.7 464.0 <u>525.7</u>	52.9 0 <u>52.9</u>	2.5	592.6
เราเย	1984	4.0 <u>5.5</u>	63.0 346.3 409.3	34.8 14.9 49.7	2.1	466.6
	1983	4.2 6.4 10.6	55.8 401.5 457.3	29.5 15.6 45.1	¢	513.0
AREA		QUEBEC R C TOTAL	NEWFOUNDLAND R C TOTAL	MARITIMES R C Total	NATIVE	TOTAL

-3-

Numbers may not add directly due to rounding process. *

R = Recreational C = Commercial

NOTE: ALL CATCH FIGURES FOR 1986 ARE PRELIMINARY

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Harvest by Zone in the Newfoundland Commercial Salmon Fisheries, 1978–82 Average and Yearly Since 1983 TABLE.

Zone	1978–82 Average Catch (Tonnes)	1983 Catch (Tonnes)	1984 Catch (Tonnes)	1985 Catch (Tonnes)	1986 Catch (Tonnes)	1986 Compared to 1978-82 Average %
4	40/					
1	124	81	51	72	89	-28
	485	286	211	139	294	-39
5	257	191	134	123	190	-26
4	166	125	128	111	186	+12
5	70	58	60	72	59	-16
6	57	30	35	65	49	-14
7	45	23	20	25	19	-58
8	40	24	32	31	24	-67
9	17	9	12	11	9	-47
10	36	22	28	51	48	+33
11	54	44	34	101	67	+24
12	79	53	0	0	D	-100
13	40	33	43	32	73	+83
14	36	37	33	30	73	+103
TOTAL	1,504	1,016	821	862	1,181	-21
INSULAR NFLD. ON	895 LY	649	559	651	798	-11

JUNE 1987 EDINBURGH

ANNEX 7

NORTH ATLANTIC SALMON CONSERVATION ORGANIZTION

NORTH AMERICAN COMMISSION

NAC (87)8

STATUS OF ATLANTIC SALMON STOCKS IN ATLANTIC CANADA AND ADVICE FOR THEIR MANAGEMENT IN 1987

Canadian Atlantic Fisheries Scientific Advisory Committee

CAFSAC Advisory Document 86/26 (Revised) 6 0

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The Status of Atlantic Salmon Stocks in Atlantic Canada and Advice for their Management in 1987

At its meeting of December 4-5, 1986, CAFSAC considered available data and analyses concerning the general status of Atlantic salmon stocks throughout Atlantic Canada and, in particular, the status of Atlantic salmon stocks in Miramichi, Restigouche, Saint John, Margaree and Conne rivers.

STATUS OF SPECIFIC STOCKS

Miramichi River

As in the previous two years, the harvest of multi-sea-winter (MSW) salmon in the Miramichi River in 1986 was restricted: there was no drift net or trap net fishery; anglers were allowed to retain one-sea-winter (1SW) salmon only; and, as in previous years, native fisheries were not restricted by quota. Total catches in the period 1951-1970 were at about an annual level of 77,000 fish but with much increased catches in 1964-67, the highest catch being about 162,000 fish in 1967. Catches in the period 1971-83 were at about the 37,000 level. Catches in 1985 and 1986 are given below (number of fish):

	1985		1986	
Fishery	MSY	15W	MSW	15W
Native	327	546	640	1,988
Angling*		18,439	-	27,051
Total	327	18,985	640	29,039

*Estimates

Returns of MSW salmon in 1986 were about 7% greater than was predicted in 1985 while returns of 1SW salmon were three times greater than the recent average. The high return of 1SW fish appears to be the result of unusually high survival of salmon to maturity. Total estimated returns are shown in Figure 1.

Spawning escapements in 1986 were estimated by two methods: the first, assumes that the Millbank Trap catches a constant proportion of the salmon passing up the river; and the second relates the catches of returning adults in Millbank Trap to the subsequent parr density. The first method indicated that spawning was 160% of the requirement, the second indicated that it was 123%. Both methods depend upon the efficiency of Millbank Trap. An experiment in 1986 gave similar results to one in 1985, that indicated that the efficiency of Millbank was less than half of a previous estimate made in 1973. It is not clear which estimate of efficiency is more appropriate for intervening years. The new estimates of efficiency were used to calculate 1985 and 1986 returns only, but it is not known if the efficiency of Millbank Trap was different in other years, especially since the advent of dredging in 1981.

The forecast of HSW salmon returns in 1987 was based on an historical relationship between returns of 1SW salmon to the Miramichi River and returns of HSW salmon in the following year. The predicted return in 1987 is 54,200 MSW salmon, with 95% confidence limits of 31,019-77,320.

There is no method available to predict the numbers of returning 15W salmon, but based on a correlation between the rate of cooling of water in the southern Gulf of St. Lawrence in September and October, and the return of 15W salmon the following year, the return in 1987 may be less than the average (38,000) in recent years.

-1-

The surplus to spawning requirements in 1987 is estimated to be 30,600 salmon and 15,000 grilse. There are wide confidence limits around the MSW salmon forecast and there is uncertainty about the efficiency of Millbank Trap, so that caution is recommended in increasing the exploitation of MSW salmon in 1987, particularly as the increase in the numbers of returning MSW salmon are forecast for 1987 only.

Restigouche River

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Restrictions on the harvest of Atlantic salmon from the Restigouche River in 1986 were similar to those in 1985: no commercial fishery on either the New Brunswick or Quebec side of Chaleur Bay; anglers in New Brunswick were allowed to land only 15W salmon, with bag limits of 2 grilse per day and 10 grilse per season; anglers on Restigouche tributaries in Quebec could land both 15W and MSW salmon with bag limits of 1 salmon per day and 7 salmon per season but in New Brunswick/Quebec boundary waters were required to release all MSW fish; and native fishermen at Cross Point, Quebec, were restricted by quota (6,995 kg). Native fishermen at Eel River Bar, N.B. were not restricted by quota. Catches in the period 1951-70 varied from about 18,000 to 46,000 fish with an average of about 32,000 fish. In the period 1971-83 the average catch was about 10,000 fish. Reported catches in 1985 and 1986 were (numbers of fish):

	1985		1986	
Fishery	MSW	MSW 1SW		ISW
Native				
Cross Point	976	35	1 145	
Eel River Bar	241	0	233	14
Angling				
New Brunswick		3,258		4,915
Quebec	752	259	1,247	428
TOTAL	1,969	3,552	2,625	5,361

Homewater returns in 1986 were estimated from two methods. The first method, based on an angling exploitation rate of 20%, was considered optimistic. According to this method, the target spawning escapement was exceeded threefold. The second method which related angling target was exceeded by 20%. Total estimated returns 1970-86 are shown in Figure 2, on the basis of the second method, which may be more reliable. The figures indicate that returns of MSW salmon (19,900) in 1986 were 34% greater than predicted, while the returns of ISW salmon (11,000) were 25% greater than the 1981-85 average.

The forecast returns of MSW salmon in 1987 was based on a relationship between sport catch of 1SW salmon at Kedgwick Lodge and total returns of large salmon to Restigouche River in the following year. The predicted returns in 1987 are 21,900 MSW salmon (95% confidence limits of 14,145-29,622).

Returns of 15W salmon in 1987, assuming they will be the average of returns from 1982 to 1986, could be about 9,100 fish.

The surplus to spawning requirements in 1987 would be about 9,700 MSW salmon and 6,500 1SW salmon. It is noted that the large numbers of MSW salmon that are forecast to return are only foreseen for 1987, and that there is no reason to expect similar returns subsequently.

Saint John River

In 1986, there were only minor changes to the fishing plan that was introduced in 1984: there were no closed periods within the June 1 and October 15 open season for the Kingsclear food fishery (quota remained at 900 fish), and a licence was granted to the Oromocto Band for the capture of 150 salmon. Catches in the period 1949-83 fluctuated widely with an average catch of about 10,000 fish. Catches in 1985 and preliminary estimates for 1986 are given below (numbers of fish):

	1985		1986	
Fishery	MSW	15W	MSW	15W
By-catch*	2,294	531	1,307	491
Sport**	367	3,402	2,400	600 2,836+
TOTAL	5,178	4,416	3,836+	3,927+

*Estimate

**Estimate includes allowance for catch and release mortality and poaching

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Estimates of total returns in 1986 were 11,839 MSW salmon and 16,027 1SW salmon, which were respectively 15% below and 70% above the forecasts made in 1985. Estimates for the period 1975-86 are shown in Figure 3. The calculation of the returns to the river below the Mactaquac Dam was based on the estimated return above the dam and the historical (1970-1983) ratio of estimated returns above and below since sport catch statistics were not available in 1986. It was estimated that spawning was 20% under the target requirement above Mactaquac Dam and at least 30% under target for the river below the dam.

Returns in 1987 of wild MSW salmon originating above Mactaquac Dam were forecast from an historical (1970-1985) relationship between wild grilse returns and wild large salmon returns in the following year. Grilse returns in 1987, from production above Mactaquac, were forecast from an historical (1968-80) relationship between egg densities in the Tobique River and the subsequent production of wild grilse above Mactaquac Dam. Wild grilse and MSW returns produced below Mactaquac were forecast using the estimates for returns above Mactaquac and the historical (1970-85) relationship between returns above Mactaquac Dam and returns below. Returns of hatchery - reared grilse and salmon were forecast on a different basis than was used in 1985 due to the release of one-year old amolts rather than of twp-year old amolts. Return rates from trial release of one-year amolts in 1976, 1978 and 1979 were used to estimate the returns.

The forecasts suggest that in total there will be a surplus of 5,500 1SW and 7,400 MSW salmon beyond spawning requirements, including a surplus of 1,300 MSW salmon below Mactaquac. These figures rely on less rigorous projections than those provided in recent years, since total removals in 1986 are uncertain, some relationships used in previous years have broken down possibly because of incomplete information, and the impact of delays in salmon entering the Mactaquac fish trap may have increased fishing mortality down stream. These delays were due to apparent avoidance of the trap by salmon because of large quantities of gaspereau that were not harvested in 1986 but were in previous years.

Margaree River

Anglers have been required to release MSW salmon during the early part of the run (before September 1) since 1979, and since 1985, all MSW salmon were to be released regardless of date caught. There was no commercial fishery in 1986. Margaree River salmon stocks are composed of two runs: the summer run enters the river up to the end of August; and the fall run, during September and October. Since 1979, there have been attempts to rebuild the summer run.

Catches in the recreational fishery were variable but averaged about 300 fish, about two-thirds of which were MSW salmon. The 1985 and 1986 recreational catches (all MSW salmon released) are compared below:

	1985	1986
1SW salmon	222	294
MSW salmon	314	749

Escapement is calculated on the exploitation rate of MSW salmon in the recreational fishery. A rate of 12.9% was used in previous years but this value is no longer considered valid, and values (20.6% and 37.9%) based on earlier work were used instead. Under either assumption, spawning requirements were met (estimates of egg deposition for 1947-86, under either assumption, are shown in Figure 4).

The only indicator that can be used to forecast MSW returns in 1987 is a weak relationship between the sport catch in one year and the sport catch from the progeny of that run when returning as MSW salmon. This suggests that that the return in 1987 will at least be comparable to that in 1985 and 1986.

Conne River

A native food fishery using a modified herring trap located in the estuary was authorized in 1986, with a quota of 1,200 salmon (less than 63 cm in length). Anglers were also prohibited from retaining salmon over 63 cm in length. The total catches were 2,060 salmon to anglers and 519 salmon in the food fishery. The angling catch was some 22% lower than the average for the previous five years, and may have been influenced by the placement of a counting fence which delayed upstream migration of salmon and also resulted in closure of a formerly significant angling area immediately below the fence. In addition to these catches, part of the 17.6 tons of salmon taken in the commercial fisheries in statistical section 36, will have been of Conne River origin.

Estimates of the total return of salmon to the Conne estuary, based on tagging, indicate 8,100 salmon less than 63 cm and 400 longer than this length. It is thus estimated that 5,050 small and 375 large salmon escaped to spawn. The current estimate of the spawning requirement is about 3,000 small salmon.

Given the indications from sports catches in 1980-1986 that the population is fairly stable, it is likely that about 5,500 salmon may be surplus to spawning requirements in 1987.

General Status of Atlantic Salmon Stocks in 1986

Fishery at West Greenland

The positive correlation between catches of MSW salmon in Canadian waters and catches at West Greenland in the previous year suggests that returns to Canadian waters of MSW salmon are related to the abundance of ISW salmon off Greenland in the previous year. This correlation included only years when there was no quota, or when the quota at West Greenland was not achieved. The catch at West Greenland in 1986 was restrained by the quota. While this catch is thus not appropriate for use in the correlation because of this bias, the rapidity with which the quota (909 t) was caught indicated that it is likely that abundance of MSW salmon in Canadian waters in 1987 will be above the 1984-85 levels.

Sea Environment

In 1985 it was suggested that catches in the commercial fisheries of Newfoundland were delayed because of low sea temperatures. A comparison of the timing of catches in the Newfoundland commercial fisheries in years of light, moderate and severe ice conditions (1974-85) suggests that in years of severe ice conditions, catches in Salmon Fishery Areas (SFA) 3 to 5 were delayed and reduced by about one-third relative to light ice years (177 t vs 110 t); however, catches in salmon fishery areas 6 to 11 increased by about two-thirds (42 t vs 70 t). This pattern indicates a more northerly distribution of salmon in years with moderate or light ice conditions, such as was the case in 1986.

Previous assessments have also shown that abundance of salmon in the West Greenland area is positively related to environmental conditions in the Northwest Atlantic in the same year. Warm conditions in 1986 led to the high abundance of salmon and consequent high daily catch rates at West Greenland in 1986.

Newfoundland Region

Catches in the commercial and recreational fisheries and counts at fishways and counting fences in insular Newfoundland suggest that the abundance of both 15W and MSW salmon in 1986 was similar to 1985. Commercial catches of 15W and MSW salmon in Labrador in 1986 showed a marked improvement over 1985, suggestive of increased abundance. Commercial landings of MSW salmon however, still remain below historic levels in both insular Newfoundland and Labrador, although this in part, will reflect recent regulations.

Based on assumptions as to egg depositions in 1982, it is expected that the abundance of 1SW salmon in both insular Newfoundland and Labrador in 1987 will be comparable to 1986.

As a result of the poor prediction of the 1986 catch of MSW salmon for insular Newfoundland (337 t forecast, 235 t caught) and the possibility that the current management regime has resulted in a change in the proportionate exploitation of large and small salmon, it is no longer considered appropriate to use the relationship between the commercial catch of 1SW salmon in one year and of MSW salmon in the next year, as has been used in the past, to predict the commercial catch of MSW salmon. Labrador on the other hand, is relatively unaffected by the management plan and the estimate was accurate using the relationship for 1986. The forecast catch of MSW salmon for Labrador in 1987 is 342 t.

Gulf Region

In all areas, returns of 15W and MSW salmon were above average in 1986. One-sea-winter and MSW salmon returns to counting facilities exceeded 1985 values and all except Millbank, Miramichi, and Western Arm Brook were above 1974-85 means. One-sea-winter returns to Western Arm Brook, may have been influenced by lower than average water levels as in 1985.

Sport catches of 15W and MSW salmon on the Restigouche (SFA 15), Miramichi (SFA 16) and Margaree rivers and all other rivers in SFA 18 were above 1985 figures and 1974-85 means. One-sea-winter and MSW salmon sport catches in west Newfoundland exceeded 1985 values, but were equivalent to 1974-85 means. Commercial catches in west Newfoundland also exceeded 1985 values with those of 15W fish being above, and those of MSW salmon being equivalent to, 1974-85 means.

Actual 1SW returns to the Miramichi and Restigouche rivers in 1986 exceeded predictions, while MSW returns to these rivers and those in west Newfoundland were close to forecasts. Forecasts of MSW salmon returns for the Restigouche and Miramichi rivers in 1987 suggest that 1974-85 means will again be exceeded. Forecasts for Area K (S.W. Newfoundland) indicate slightly above average returns in 1987. The 1986 management plan and favourable marine environment are the two most important factors accounting for increased returns in 1986. Difference between sea surface temperatures in September and October account for 61% of the variation in 1SW salmon returns to Miramichi River from 1972 to 1986. One-sea-winter salmon returning to Millbank in 1986 were significantly larger than previous years suggesting favourable growth conditions prevailed in 1985.

Scotia-Fundy Region

The absence of a commercial fishery, the absence of DFO angling statistics for New Brunswick, and the incomplete returns of Nova Scotia angling licence stubs provided only a limited base for assessing the status of stocks. The federal-Nova Scotia cooperative program using the licence stubs from angling licences will provide more information on river escapements when further returns are analysed.

Counts at fish passage facilities have provided some information for the Atlantic coast of Nova Scotia. At the Liscomb River, the ISW count was the highest for the eight years on record, while the MSW count was 98% above forecast. At the LaHave River, counts at Morgan Falls showed wild ISW fish were 18% above forecast while hatchery ISW fish were 91% over forecast. The count of wild MSW fish was merely 7% higher than was expected in the presence of a commercial fishery. Environmental variables of rainfall and sea temperature have been shown to be related to salmon returns in the inner Fundy parts of N.S. and N.B. Preliminary 1986 angling catch estimates for inner Fundy are 60-65% below the 1980-85 mean catches. Limited information suggest river escapements in Nova Scotia of ISW and MSW fish increased at least partly as a result of the 1986 management plan, except for the inner Fundy parts of SFA's 22 and 23 where ISW runs were very low. The indications are that returns to the inner Fundy in 1987 will be below the 1986 level. Other parts of Nova Scotia should see some improved MSW runs, based on 1986 ISW returns, although the Liscomb River run is expected to be similar to that in 1986 and the returns to the LaHave River are expected to be somewhat lower.

In New Brunswick on the Saint John River, 15W returns were 70% above forecast while MSW returns were 13% below forecast. The forecast for returns to the Saint John River in 1987 is for MSW salmon returns about 50% higher than in 1986 while the return of 15W fish is likely to be 18% below the 1986 level.

Quebec (Gaspé)

Management measures in 1986 included the continuation of the ban instituted on commercial fishing in 1984 and the daily retention of one fish (15W or MSW) in the sport fishery. Gaspé stocks may also have been affected by the ban on commercial fishing introduced in Chaleur Bay, N.B., in 1985.

Sport landings of 6,725 salmon (28.5% 15W) were up 42.0% over 1985 and 24.3% over the 1981-85 mean. Effort was also up by 22.0% over 1985. Landings increased over the 14 year mean.

The relationship between the number of sport caught 1SW salmon in one year and MSW salmon in the next year, suggests that the 1987 sport catches of MSW salmon would be 6,200 fish.

General

CAFSAC notes that provision of advice for salmon stocks by the end of November is becoming increasingly difficult due to declining availability of catch data, and doubts as to accuracy of the information. In addition a number of factors are complicating the assessment process, and particularly the unknown impact on fishing success due to the release of MSW salmon. Some captures of MSW salmon may, in fact, represent recaptures of fish that have already been taken at least once before. This means that the angling statistics may not be comparable with historical series for MSW salmon.



Fig. 1. Miramichi, total returns.

Fig. 2. Restigouche, total returns.



Fig. 3. Saint John, total hatchery and wild returns.



Fig. 4. Margaree, % of required egg deposition at angler exploitation rates of either 20.6% or 37.9% of returns.

JUNE 1987 EDINBURGH

ANNEX 8

NORTH ATLANTIC SALMON CONSERVATION ORGANIZATION

COUNCIL

CNL (87)3

SCIENTIFIC ADVICE FROM ICES

THE REPORT OF THE ADVISORY COMMITTEE ON FISHERIES MANAGEMENT (ACFM)

(SECTIONS 1-5.2 AND 6-6.7)

This paper makes reference to the report of the meeting of the ICES Working Group on North Atlantic Salmon (Copenhagen 9-20 March 1987). That report is not annexed here but is available on request to the Secretariat.

NORTH ATLANTIC SALMON

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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 Organization (NASCO). ICES requested consideration of how to set catches within safe biological limits. NASCO posed questions with respect to its three Commission areas as presented in items 5-7 in Appendix 1 of the Working Group report. Every question posed is addressed below. Because the same or closely related questions were posed for more than one NASCO Commission area and because reordering the presentation allowed related questions to be answered together without repetition of background material, responses have been ordered by topic and not in the sequence of questions asked. The heading to each section lists the NASCO questions responded to in the section. All tables and numbered figures referred to are found in the Working Group report.

In recent years, demands for advice from ACFM have increased. ACFM has been able to provide advice by drawing on the extensive data bases of participating member countries. Although these data bases continue to expand, it has proved difficult to provide complete answers to increasingly complex questions posed by NASCO and ICES. Although ACFM is able to provide much descriptive information pertaining to the fisheries and salmon harvest, it has not been able to provide accurate estimates of non-reported catches and fishing effort, nor to designate origins beyond continent of origin in the sea fisheries. Advice has been provided in the form of ranges of estimated impacts of the mixed stock fisheries. Narrowing these ranges is dependent on new information regarding natural mortality, noncatch fishing mortality, and tag reporting rate, which seems attainable only through further extensive and costly research efforts.

In general, ACFM is able to answer questions pertaining to catches and the biology of the different stocks and provide general estimates of yield consequences relative to the mixed stock fisheries. It is not able, however, to advise on appropriate catch levels, nor is it likely to be able to do so without new and detailed information on salmon abundance in the fishing areas and major advances in stock forecasting capabilities. Both the development of appropriate methodologies and their required application will be costly.

2. FRAMEWORK FOR SCIENTIFIC ADVICE ON MANAGEMENT OF SALMON

ICES requested consideration of the concept of safe biological limits for the exploitation of Atlantic salmon in the North Atlantic in 1986 and again in 1987. The issue was explored on a preliminary way in ACFM's 1986 advice to NASCO. Further consideration of this issue confirmed that there exist formidable practical obstacles to conserving salmon stocks by controlling exploitation in relevant fisheries so as to achieve an adequate spawning biomass.

Despite the complicating factors of hundreds of stocks, many or most of which are vulnerable to multiple fisheries which exploit many stocks in unknown and varying proportions, the need for a systematic approach to conservation is evident. Given the complex nature of the problem, a special effort is required to address the framework for scientific advice on the management of North Atlantic salmon. Consequently, ACFM recommends that three days to one week be set aside in 1988 for examination of an appropriate framework for such advice, with thoroughly researched background papers and participation of Working Group members together with other experts. This could be carried out as part of the Working Group meeting or as a special meeting sponsored by ICES. The ability of the Working Group to consider this issue would be improved if a Study Group were established to prepare data relevant to the North American Commission of NASCO and if its workload were reduced in 1988.

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3. NOMINAL CATCHES OF SALMON IN HOME WATERS

Nominal catches of salmon in home waters (in tonnes round fresh weight) for 1960-1985 are given in Table 1. Figures for 1986 are incomplete. The 1986 catches in home waters, apart from that reported by Finland, are higher than the corresponding 1985 values. ACFM is aware of unreported catches throughout the North Atlantic. Due to the lack of data from some countries, no precise estimates were obtained. However, ACFM considers the unreported catch to be of the order of 3,500 t for all countries.

4. CATCH IN NUMBERS BY SEA AGE FOR RECENT YEARS (NE a)

Reported national salmon catches in numbers and weight for eleven countries are given in Table 2. As in Table 1, catches include both wild and reared salmon.

5. NATURAL MORTALITY IN THE SEA (NR e)

5.1 The Effects of Predation on Natural Mortality (WG, H, NE i)

Predators of salmon from the smolt stage onwards include terrestrial and marine mammals, birds, and fishes. Results of studies presented to the Working Group suggest that birds such as cormorants and fishes such as cod can exert high levels of mortality, particularly during the smolt and post-smolt stages.

5.2 Estimated Natural Mortality Rates (WG k, Ne e)

Published estimates of the marine natural mortality of Atlantic and Pacific salmon were considered, together with some data relevant to the natural mortality of Icelandic ranched salmon. Since the natural mortality in the marine phase has not been precisely estimated, the importance of this factor in assessing the impacts of the West Greenland and Faroese fisheries on home-water stocks was illustrated by using monthly natural mortality rates of 0.01 and 0.02 subsequent to these fisheries.

Assuming a monthly natural mortality rate of 0.01 subsequent to the Faroese fishery, analysis of data for salmon from the Burrishoole River (Ireland) and River Imsa (Norway) gave estimates of 50-80% mortality from leaving fresh water until the mid-point of the Faroese fishery.

6. QUESTIONS OF INTEREST TO THE NORTH AMERICAN COMMISSION OF NASCO

6.1 Acid Rain

6.1.1 Freshwater habitats of Atlantic salmon and their vulnerability to acidification

ACFM adopted the Acid Rain Study Group's estimate that there is approximately 1,000 km² of riverine Atlantic salmon habitat accessible to anadromous Atlantic salmon in North America. A minimum estimate of areas vulnerable to acidification was provided by those areas where mean volume-weighted alkalinity is known to be less than 50 μ eq/l. A habitat was determined to be lost to salmon productivity when it had a mean annual volume-weighted pH of less than 5.0 and no longer had juvenile salmon present, as detected by electrofishing. Approximately 50 km² of this habitat is classed as vulnerable, and about 10 km² does not produce wild Atlantic salmon, mainly as a result of acidification. This area is in the Canadian Province of Nova Scotia.

6.1.2 Trends in acidification of freshwater habitat of Atlantic salmon

Very little historical data were available upon which to base estimates of trends in acidification or salmon production. Water chemistry data for two Maine rivers since 1969

showed no apparent change in acidity since that time; no historical data were available for the smaller tributary streams which were classed as vulnerable to acidification. No historical data were available for vulnerable areas in Newfoundland and Quebec. Historical water chemistry data were available for 1953-1955 for five Nova Scotia rivers. Four of these rivers (Roseway, Medway, Mersey, and La Have) show a significant decline in pH over a 26-year period to 1980-1981. For the Medway River, the pH declined linearly from about 5.8 in 1955 to about 5.2 in 1978.

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Angling catch records for ten Nova Scotia rivers where the current mean annual pH is less than 5.1 were used as an index of Atlantic salmon production since 1936. Atlantic salmon harvests declined in those rivers that have been acidified and, in several rivers, have disappeared. The decline seems to have begun about 1955, but earlier declines are possible.

Watt (1987) estimated that Atlantic salmon production loss attributable to the acidification of Nova Scotian rivers is in the vicinity of 23,000 adult fish per year. ACFM noted that this estimate involved two main assumptions: that all habitat in the Southern Upland Zone of Nova Scotia was equally productive per unit rearing area prior to acidification, and that the rearing area in rivers below pH 4.7 had been underestimated. ACFM recommended examination of an alternative method of calculation involving comparison of the historical catch rates of angling harvest per unit area of the rivers classed as "vulnerable" to those not considered vulnerable. This comparison would address the question of equivalence of rearing habitat. It would be necessary to assume that anglers harvested the same proportion of the total stock from each river in the years of earliest catch record. Data were not available to ACFM to complete this calculation.

ACFM noted that, while information was presented on trends in acidification over years between rivers, no information was available in the Study Group report on trends in pH within a year for any river.

6.1.4 Influence of acidification of freshwater habitat on growth and survival of Atlantic salmon

ACFM concluded that low pH can lead to mortality in several stages of the salmon life cycle; particularly vulnerable are hatching and transition to first feeding in alevins, while the water-hardened egg is relatively resistant to low pH. Mortality can also occur in parr and smolt, particularly if the pH is rapidly reduced as occurs during snow-melt in some areas.

In assessing the effect on smolt production, ACFM noted that low pH seems not to adversely affect growth rates of surviving fish, however, due to mortalities from pH stress, parr densities, parr production, and smolt densities have all been shown to be significantly depressed.

6.1.5 Effectiveness of mitigation measures

Liming is in the experimental stage in North America (Nova Scotia) but is in large scale current practice in Scandinavia where it has been shown to be cost effective in terms of the added value of salmon landed. Experimental-scale liming in Nova Scotia is used to create de-acidified refuges in small tributary streams which currently have remnant salmon populations.

The main mitigative measure related to acidification used in North America is stocking of hatchery-reared salmon smolts and parr which is currently taking place only in Nova Scotia. ACFM noted that both liming and stocking are palliative measures and agreed with the Study Group's conclusion that a definitive solution to the problem of acidification of Atlantic salmon rivers can be achieved only by reduction of acid-precursor emissions at their sources. The Working Group was not able to complete its work on the estimate of loss of Atlantic salmon due to acid rain. If the Study Group does not reconvene, the Working Group should be prepared to consider this question at its next meeting.

6.2 Description of Fisheries

6.2.1 Fisheries catching salmon originating in another country (NA b)

Canadian fisheries harvesting USA-origin salmon have been described in ACFM advice in 1984 and 1985. In 1986, the commercial salmon fishing season was 5 June to 15 October for Statistical Areas A to I and M to 0; 5 June to 10 July for Statistical Areas J1, K, and L; and there was no open season in Statistical Area J2. The commercial salmon fishery was closed in Nova Scotia, New Brunswick, Gaspé, and parts of the north shore of the Gulf of St. Lawrence. In Newfoundland and Labrador, there were about 3,400 fishermen licensed to fish 13,000 50-fathom gear units. Canadian commercial catches for 1985 and 1986 are given in Table 3 and Newfoundland and Labrador catches and fishing effort for 1971-1986 are given in Table 4. Catches increased by 36% from 1985 to 1986 and licensed effort declined by 6%. The higher catches were at least partly due to increased abundance of Canadian salmon stocks.

6.2.2 Sport fisheries for Atlantic salmon in Maine (NA h)

Maine rivers with sport salmon fisheries are shown in Figure 1. Seven small rivers have self-sustaining salmon populations and sport fisheries based primarily on wild salmon. The Penobscot and St. Croix Rivers have restoration programmes underway and have sport fisheries based on stocked salmon. Remaining rivers shown have minimal sport fisheries and are scheduled for restoration.

Peak angling effort occurs in May and June although the angling season extends from May to 15 September (15 October for the lower reaches of some rivers). The total Maine catch of salmon varied from 350 to 1,350 (1.3-6.4 t) annually in recent years. The Penobscot River frequently contributes more than half of the total catch.

Catch reporting is voluntary and is considered 80% complete. About 2,500 to 3,000 anglers fish for salmon in Maine and 80% of these are Maine residents. Estimated exploitation rates for the Machias River varied from 14% to 25% from 1960-1972 and for the Narraguagus, from 10% to 37% from 1962-1974. The average exploitation rate for these rivers was about 20%. From 1977-1984 the exploitation rate for the Penobscot varied from 15% to 29%. In 1985, new regulations reduced the latter rate to 10%.

More than 95% of the catch consists of maiden, 2SW salmon.

6.3 <u>Historical Catches of Salmon Originating in Rivers or Artificial Production facilities</u> of Another Country (NA a)

ACFM considered that revised estimates of returns to home waters and of model parameters, together with the availability of a computerized tag data base for the first time, justified a complete re-analysis of data presented last year. The basis for calculation is explained in the Working Group report.

Tag recoveries and harvest estimates for Newfoundland and Labrador fisheries are summarized by standard week in Tables 7 and 8 and harvest estimates by standard month are given in Table 9 and by year in Table 10. The revised analysis led to a 6% overall increase in estimated catches. Previous and revised estimated annual catches are compared in Table 11.

Estimated Newfoundland-Labrador catches of Maine-origin salmon varied from 117 in 1972 to 4,956 in 1980 and were less than 1,000 before 1974. From 1981 to 1985, harvest estimates averaged about 1,700 fish and corresponding run sizes averaged about 3,800 fish.

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Using a similar calculation, an estimate of 649 Connecticut River origin salmon harvested in Newfoundland-Labrador in 1985 was obtained. ••••

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6.4 <u>Impact of Management Measures Taken by Canada in 1984 and 1985 and Expected Impact for</u> <u>1986 in Reducing the Harvest of USA-Origin Salmon</u> (NA e)

Further restrictive management measures were enacted in the Canadian salmon fishery in 1986. Measures which could reduce the harvest of USA-origin salmon included closure of the commercial salmon fishery in Newfoundland on 15 October, mandatory tagging of legally commercially caught salmon, and a further reduction in licensed fishing effort.

As no new analysis was presented relating licensed fishing effort to fishing mortality, ACFM reiterated its previous advice that the reduction in total catch and in the harvest of USA-origin salmon attributed to reduced licensed effort (1984 and 1985 reductions) was expected to be less than 31% and could not be quantified. It was also not possible to quantify the impact of mandatory tagging of legally harvested salmon in the commercial fishery.

To assess the combined effect of all measures taken by Canada for 1984 and 1985, the estimated harvest of 1SW Maine-origin salmon in Newfoundland-Labrador was compared to the Maine run size of 2SW salmon the following year. For the years 1967-1983, the ratio of estimated Newfoundland-Labrador harvest to home-water returns averaged 0.53 and the values for 1984 and 1985 were 0.32 and 0.48, respectively. Both harvest levels in 1985 and corresponding run size increased from 1984. The increase in the harvest between 1984 and 1985 (923 fish) was associated with an increased harvest of 1,113 fish after 15 October. The Newfoundland autumn fishery took 16 t in 1985 compared to a long-term average of about 4 t.

The declines in proportions from 1983 to 1984 and 1985 were consistent with management measures adopted by Canada. ACFM, however, could not confirm that the changes observed were caused by these management measures as there have been wide fluctuations in the proportions in previous years.

ACFM noted last year that area closures and season reductions for 1984 and 1985 should have resulted in an 11% reduction in harvest of Maine-origin salmon. The closure of the autumn fishery on 15 October would account for a further 29% of 15W Maine-origin salmon caught in Newfoundland-Labrador fisheries. The rates are not additive, however.

6.5 Tagging of Salmon

6.5.1 Salmon tags captured but not reported (NA c)

ACFM suggested three experimental methods to assess the proportion of external salmon tags captured but not reported:

- comparison of recapture rates from two methods of tagging;
- comparison of recapture rates for vessels with and without observers;
- community surveys.

6.5.2 Tag recovery reward system

Tag rewards varied by a factor of 5 between countries. ACFM considered that uniformity of tag rewards within a country and between adjacent countries was more important than uniformity across the entire NASCO area. There was scepticism about the validity of assuming that there would be substantial increases in return rates from modest increases in rewards. Substantial increases in rewards, however, carry the danger that spurious returns could result. Tags taken from smolts or from bird colonies, for example, could be

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held over and returned later to obtain rewards. ACFM considered that one of the most important factors in setting reward payments was the attitude of the local fishermen with respect to tag returns in general.

National clearing houses were working well and tag returns by countries where they were recovered were satisfactory. Programmes involving more than one country in detection of microtags were all operating and reporting satisfactorily.

6.6 <u>Stock Identification Methods</u> (NA g)

ACFM considered stock discrimination methods based on image analysis of salmon scales and otoliths. Scale shape, texture, and circuli spacing were considered to have potential as high resolution discriminators for separation of salmon stocks to continent, country, and possibly fish farm or hatchery of origin. Shape analysis of salmon otoliths was also considered as a possible inter-annual calibration technique for scale-based stock discrimination in the West Greenland fishery. ACFM was optimistic about the practical potential of these techniques, since needed material can be routinely collected in sampling catches. The methods require additional study, however.

6.7 Non-Catch Fishing Mortalities (NA i)

Non-catch fishing mortality is mortality generated directly or indirectly by fishing but which is not included in the reported catch. Six types were identified: predation mortality, drop-out mortality, haul-back mortality, escapement mortality, discard mortality, and other mortality such as direct consumption by fishermen or unreported local sales. These terms are explained in the Working Group report.

ACFM noted that it is usually not possible to make separate estimates of predation, dropout, and haul-back mortalities, but their sum can be estimated by direct observation. Nets can be patrolled and the locations of observed fish can be marked. This has been done in the United Kingdom and Norway. Frequent boat patrols along salmon nets might bias the observations by causing salmon to mesh more firmly.

Escapement mortality is difficult to estimate accurately. Gillnet selectivity curves can be used to determine the proportion of salmon encountering the gear but escaping. The mortality rate of escapees is difficult to determine. Estimates have been obtained in Norway by experimentation in controlled enclosures and fish with net marks have been held in water of differing salinity to determine mortality rates. ACFM concluded that, although precise estimates were difficult to obtain, some of the available methods can provide rough estimates.

Numbers of fish dead when discarded can be estimated by direct observation. Salmon may also be released alive and die subsequently. This portion of discard mortality must be inferred by methods similar to estimation of escapement mortality.

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ANNEX 9

JUNE 1987 EDINBURGH

NORTH ATLANTIC SALMON CONSERVATION ORGANIZATION

NORTH AMERICAN COMMISSION

NAC (87)12

PROPOSED POLICY STATEMENT ON INTRODUCTIONS AND TRANSFERS OF SALMONIDS

NORTH AMERICAN COMMISSION NORTH ATLANTIC SALMON CONSERVATION ORGANIZATION

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PROPOSED POLICY STATEMENT ON INTRODUCTIONS AND TRANSFERS OF SALMONIDS

One of the functions of the North American Commission (NAC) of the North Atlantic Salmon Conservation Organization (NASCO), as outlined in Article 7.1 (a) (ii) of the convention, is "to provide a forum for consultation and cooperation between members in cases where activities undertaken or proposed by one member affect salmon originating in the rivers of the other member because, for example, of biological interactions." Scientific evidence presented by the Bilateral Scientific Working Group on Salmonid Introductions and Transfers indicates that there is potential for adverse effects on Atlantic salmon resulting from the introduction and transfers of salmonids to the rivers and coastal waters of eastern North America. These adverse effects may be related to: the introduction of new diseases agents or new strains of disease agents; loss of genetic fitness or change in desirable biological characteristics or; loss of productivity due to ecological interactions of wild stocks and introduced or transferred species or stocks.

Action is required by member countries and affiliated agencies of NAC to reduce the potential risks of adverse effects. Therefore the NAC of NASCO adopts the following policy:

Encourage that introduction and transfers of salmonids to the rivers and coastal waters of eastern North America occur only if the risk of adverse effects on fish health, genetic integrity and/or productivity of wild Atlantic salmon stocks is minimal and in accordance with standards established within NAC).

Affiliated members (federal, provincial and state agencies) are encouraged to adhere to the following elements in the policy which are:

- to submit, in a timely fashion, proposed introductions and transfers of non-indigenous stocks of salmonids in the convention area to the NAC for review of their potential for adversely affecting Atlantic salmon populations;
- -* to discourage the rearing of diseased fish;
- to prevent the release of diseased fish having the potential for adversely affecting the health of Atlantic salmon stocks either in the wild or in captivity;
- to eradicate fish diseases wherever practicable;
- to prevent the introduction and/or transfer, into areas populated by wild Atlantic salmon, of fish i) infected with disease agents of concern, ii) which may have adverse genetic or ecological impact;

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- to use local origin salmonid stocks in aquaculture and restoration and other enhancement projects wherever possible;
- to protect selected wild stocks from hybridization with hatchery-cultured fish or foreign stock and from over-fishing; thus ensuring fullest possible protection of the genetic integrity of such stocks;
- where necessary, to develop legislative authority and regulations: 1) to allow the control and possible eradication of fish diseases; 2) to control the introduction and transfer of fish which may adversely affect the genetic integrity and/or productivity of Atlantic salmon stocks;

ANNEX 10

8 JUNE 1987 EDINBURGH

NORTH ATLANTIC SALMON CONSERVATION ORGANIZATION

NORTH AMERICAN COMMISSION

NAC (87)13

ACTION PLAN

BILATERAL SCIENTIFIC WORKING GROUP ON SALMONID INTRODUCTIONS AND TRANSFERS

ACTIVITIES AND INSTITUTIONAL ARRANGEMENTS

NAC (87)13

ACTION PLAN

BILATERAL SCIENTIFIC WORKING GROUP ON SALMONID INTRODUCTIONS AND TRANSFERS

ACTIVITIES AND INSTITUTIONAL ARRANGEMENTS

The Bilateral Scientific Working Group on Salmonid Introductions and Transfers (hereafter referred to as the Group) has identified a potential for adverse effects on North American Atlantic salmon resulting from introductions and/or transfers of non-indigenous stocks of salmonids. This Group has been charged by the NAC with development and maintenance of a system of inventory of past and potential non-indigenous salmonid introductions with the intent of review of future introductions and transfers in relation to fish health, genetic and ecologic considerations as they relate to the wild Atlantic salmon resource.

To that end the Group has deemed it necessary to develop a cadre of scientific experts from the affiliated agencies to deal separately (as subgroups) with the issues of fish health and genetics. (Ecological - species interaction considerations will be handled by the Group itself with adhoc advice solicited as required.) The Group will be responsible to integrate disease, genetical and ecological information through scientific consensus into recommendations for NAC's consideration. The chairmen of the two subgroups will represent their membership as technical advisors to the Group during its deliberations.

These two subgroups are intended to be reactive in dealing with the Bilateral Scientific Working Group, providing the Bilateral Scientific Working Group with sufficient information to be integrated into overall recommendations on potential introductions encompassing fish health, genetics and ecological considerations. Additionally, it is expected that various model programs, guidelines for procedures and protocols, etc. will be developed by these subgroups as requested. It is intended that this information will then be available to all involved parties for their information. These subgroups will also be requested to identify appropriate research needs that relate to the activities within their purview.

The two subgroups will be charged with providing scientific answers to questions posed by the Group on behalf of NAC. Subgroup chairmen will have the latitude to call upon various experts as necessary. Memberships within the subgroups will be comprised of individuals nominated to NAC by the Group. The subgroups will operate through consensus in development of recommendations.

A critical factor in the operation of the Group/subgroup network is the timely receipt of proposals relating to non-indigenous introduction from all entities within the purview of NAC and its affiliated agencies. Without such an agreement, the Bilateral Group and its subgroups will be unable to provide proper information and recommendations to NAC. The real crux of the issue of management of introductions and transfers is that of the management agencies being in a position of proaction to proposals rather than reaction, particularly in the aquaculture area. The latter simply being a rather clerical inventory process - not a function leading to management of such fish movements.

As a point of departure, it is recommended that a network of participation as follows be considered in envisioning how these subgroups would interact with the Bilateral Scientific Working Group and ultimately the NAC and related agencies:

I. NAC/NASCO

(Standing Committee)

I.A Bilateral Scientific Working Group on Salmonid Introductions and Transfers (2 or 3 U.S. and 3 Canadian members)

I.A.1.

Fish Health Subgroup (rotating chairmanship) (Minimum of 3 U.S., 3 Canadian + Advisors) Genetics Subgroup (rotating chairmanship) (2 or 3 each, U.S., Canadian + Advisors)

I.A.2.

(Representatives to be nominated by Bilateral Scientific Working Group through the NAC by request to parent agency, university, etc.).

This suggested network should only be considered as a starting point, as an interim proposal. Organizational evolution should be encouraged especially in this case since various basic entities have yet to be established. The final form may deviate from that envisioned above depending upon what materializes within the subgroup framework. Each country would be required to set up or use existing committee structures to provide a liaison and review process for provinces and states.

As far as potential expenditures and workloads are involved, the structure we propose will certainly involve some staff effort on the part of all participants. This may well be able to be absorbed within current activities dependent upon agency commitment. An issue of greater concern appears to be expenditures elated to travel associated with actual meetings of the Bilateral Scientific Working Group and the subgroups.

It is estimated that the Bilateral Scientific Working Group will meet twice per year initially. Five members plus two advisors, meeting for two days each time, should result in \$4-5,000 total annual expenditures, dependent upon location of meetings. Initially subgroup meetings will occur simultaneously with a Bilateral Group meeting. After the first year the subgroups should not need to meet more than once annually (much could be accomplished by telephone) at a travel and lodging cost of about \$6-8,000. It may be necessary to invite non-agency expertise (i.e. university and industry) to actively participate in the subgroups - in such cases some minimal additional funding may be necessary to pay for their time. Overall, it appears that in relation to 1987 U.S. dollars, initial total annual expenditures should not exceed \$15,000 for activities related to this initiative. These costs would be absorbed by the sponsoring agencies.

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As a final note, the Bilateral Group recommends that NAC be prepared to develop appropriate mechanism(s) to publish material formulated by the group and subgroups and to make such material available upon request. It should be noted that this situation already has been necessitated in relation to the progress report presented at Miami in February.

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JUNE 1987 EDINBURGH ANNEX 14

NORTH ATLANTIC SALMON CONSERVATION ORGANIZATION

NORTH AMERICAN COMMISSION

NAC (87)9

POSITION STATEMENT OF THE US WITH REGARD TO REGULATORY MEASURES IN THE NORTH AMERICAN COMMISSION

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POSITION STATEMENT OF THE UNITED STATES WITH REGARD TO REGULATORY MEASURES IN THE NORTH AMERICAN COMMISSION

In 1984, the United States first expressed concern to the Government of Canada that the harvests of North American salmon in the Canadian and West Greenland high seas fisheries were excessive; and that the unilateral actions taken by Canada in its 1984 Atlantic Salmon Management Plan had not taken into consideration the exploitation of salmon of U.S. origin. The United States noted that a decline in Canadian salmon stocks, coupled with the increase in U.S. salmon production, would likely lead to an increase in mortality in distant water fisheries of U.S. origin salmon. The United States proposed that Canada institute commercial fishing closures based on time and area to minimize the take of U.S. origin salmon in the interception fishery of Newfoundland. The United States specifically proposed that reductions in interceptions be achieved by delaying the season opening off Labrador and East Newfoundland to the end of July (1984).

The Government of Canada noted that an extensive review of the data used by the United States to develop its proposal would be required and that it could not agree to the proposed conservation measure pending receipt of ICES scientific advice.

The following year (1985), after review of the ICES advice, Canada rejected the specific 1984 United States proposal. However, Canada indicated a willingness to consider other time and area closures. The United States

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acknowledged the concerns of Canada but stated that Canada was obligated under the Convention to address the interception issue.

Considering Canada's views, the United States revised its proposal calling for a closure of the Newfoundland and Labrador fishery from September 1 to December 31 instead of July. This would have the least affect on Newfoundland/Labrador fishermen since a very small percentage of the total salmon harvest is taken during this period, yet, from those that are, a high proportion are of U.S. origin. Canada noted that the conservation measures already taken by Canada in 1984 would reduce to some extent the interception of U.S. origin salmon and that this impact should be assessed. In acknowledging the new United States proposal, Canada noted that it would again need to examine all existing data, including U.S. tag return data from 1970-1984 broken down by month, year, and statistical area.

Despite Canada's willingness to consider time and area closures, and after accepting the scientific evidence in support of the United States proposal, Canada again rejected the United States proposal, this time, because of the failure of the West Greenland Commission to come to any agreement on reducing the quota on the West Greenland Fishery. The United States vehemently objected to Canada linking the actions of one Commission to that of another.

In 1986, the United States resubmitted the 1985 proposal including the request for a closure of the fall fishery in all of Newfoundland and Labrador as of August 31. Canada reiterated the significant regulatory measures it had

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previously adopted to address the conservation of Atlantic salmon which have affected both Canada and the United States. In response to the United States proposal, Canada noted that the socio-economic impact on the affected communities would be severe. But recognizing its international obligation to reduce the interception of U.S. origin salmon, Canada revealed that, as part of its domestic regulations, it would close the Newfoundland and Labrador fishery on October 15 and submitted this action as a counter-proposal to the NAC. However, connected with this counter-proposal, Canada requested formal recognition by the United States that the actions to be taken or adopted by Canada would reduce the level of interception by as much as 58 percent (figure is based on 20 percent predicted level for closing the Newfoundland/Labrador fishery on October 15, 11 percent for the Canadian conservation measures currently in effect, and 28 percent estimated to be the maximum impact due to effort reductions). ***********

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While the United States expressed disappointment that Canada did not impose the requested seasonal closure, it noted that the counter-proposal would have a definite impact on reducing the interception of U.S. origin salmon. The United States also recognized that the season closure complemented with the other area closures and delayed seasons would result in approximately a 30 percent reduction in the interception of U.S. origin salmon. The United States indicated that it could not support the quantification of the effects of the reduction of the fishing effort resulting from the license buy-backs.

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The United States noted that the counter-proposal was the first substantive regulatory measure that was fully discussed in the NAC and was the first formal expression of Canada's recognition of its obligation to reduce interception of U.S. origin salmon. The NAC adopted the counter-proposal.

In retrospect, since the first meeting of NASCO, the official proceedings of the North American Commission clearly shows that the United States has been the initiator of proposals to reduce exploitation of U.S. origin salmon in the interception fisheries within the Commission's area of jurisdiction. This is by no means meant to demean the significance of the actions taken by Canada since 1984. However, outside of the counter-proposal put forth by Canada in 1986, all other regulatory measures imposed unilaterally by Canada were directed towards the protection of Canadian salmon stocks with minimal and only secondary consideration of the interception of U.S. origin salmon. The United States reminds the Government of Canada of its obligation under Article 7, Section 1(b) of the Convention for the Conservation of Salmon in the North Atlantic Ocean which states "to propose regulatory measures for salmon fisheries under the jurisdiction of a member which harvests amounts of salmon significant to the other member in whose rivers that salmon originates."

Also under Article 7 of the Convention, the NAC is to provide the forum for "consultation and cooperation" between members on matters related to salmon conservation and management. Despite having agreed to hold such consultations, Canada has yet to extend the opportunity to the United States to provide input

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into the formulation of Canada's Atlantic Salmon Management Plan as it would relate to the interception of U.S. origin Atlantic salmon.

International cooperation on fisheries matters is never easy since different conservation, social and economic considerations are at stake. It is not the United States's intention to tell Canada how to manage its salmon fisheries. But the United States does desire to have the opportunity to discuss with Canada, within the NAC, various management options to reduce to a minimum the interceptions of salmon of U.S. origin in the Canadian fisheries.

The United States fully intends to press forward with its salmon restoration and enhancement efforts. Yet, our efforts are being thwarted by the inordinant number of U.S. origin salmon that continue to be harvested in foreign fisheries; further relief is needed. The United States recognizes that Atlantic salmon is a shared resource, but it should not be expected to assume an unfair burden - a rate of interception significantly greater than that of any other states of origin. The United States is only seeking parity between the proportion of U.S. and Canadian origin salmon caught in interception fisheries.

For 1987, the United States is willing to maintain in place the conservation measures previously adopted by the North American Commission, asuming the other Canadian regulatory measures remain the same during 1987. However, the United States asks assurances from Canada at this meeting that they will develop

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a proposal to be presented at the February 1988 NAC meeting designed to reduce substantially the catch of U.S. origin Atlantic salmon in the Canadian interception fishery.

The United States extends to the Government of Canada any assistance it may desire in the development of such a proposal.

10 JUNE 1987 EDINBURGH ANNEX 15

NORTH ATLANTIC SALMON CONSERVATION ORGANIZATION

NORTH AMERICAN COMMISSION

NAC (87)16

RESPONSE BY CANADA TO THE US POSITION STATEMENT WITH REGARD TO REGULATORY MEASURES IN THE NORTH AMERICAN COMMISSION

NAC (87)16

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RESPONSE BY CANADA TO THE UNITED STATES POSITION STATEMENT WITH REGARD TO REGULATORY MEASURES IN THE NORTH AMERICAN COMMISSION

Canada thoroughly reviewed the position statement tabled by the United States at this meeting of the North American Commission, and wishes to make the following comments.

Canada has implemented strong and very expensive conservation measures since 1984 in order to arrest the decline of Canadian salmon stocks and insure their recovery. These measures were not directly taken to reduce Canadian catches of U.S.-origin salmon and in 1984, it would have been difficult to do so as the scientific evidence to justify such reduction were then only being provided and required in-depth evaluation. As a result of these domestic measures and others implemented through the NASCO forum, Canadian salmon stocks now show strong evidence of recovery. This should alleviate the fear expressed by the U.S. in 1984 that a decline in Canadian salmon stocks, coupled with the increase in U.S. salmon production would likely lead to an increase in exploitation on U.S.-origin salmon in distant water fisheries.

In implementing its 1984 plan, Canada was aware of its potential positive impact on U.S.-origin salmon, although no part of the plan was proposed as a regulatory measure under NASCO. Hence, Canada in implementing the numerous measures had a significant indirect impact on reducing interception of U.S.-origin fish. It appears irrelevant to question Canada's motives for implementing these conservation measures when in fact they achieved the very results the United States has demanded under the Convention.

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Furthermore, the October 15 closure was implemented in 1986 as a direct response to the United States' request for a reduction in catches of U.S.-origin salmon by Canada in agreement with its commitment under the Convention and in spite of the opposition from its own fishermen. This opposition still exists and there is no quarantee at this time that it can be maintained indefinitely. Although the impact of this earlier closure date will not be assessed until after the 1987 home water returns, ICES has estimated that on the average about 29% of the U.S.-origin salmon harvested by Newfoundland fishermen were caught in the past after that date. Such a reduction would even be higher than the figure of 19% that Canada was quoting as a reduction resulting from this one measure in 1986. While disputed by the United States, Canada had estimated the full impact of all its measures to be reductions of up to 60%. This new information from ICES indicates possible impact has high as 70% in some years.

Canada is concerned and disappointed by the statement by the U.S. that "Canada has yet to extend the opportunity to the United States to provide input into the formulation of Canada's Atlantic Salmon Management Plan as it would relate to the interception of U.S.-origin Atlantic salmon".

The North American Commission is to provide the forum for such consultation and cooperation and it is in this perspective that Canada agreed to meet with the United States in February of each year prior to the final promulgation of the annual Canadian domestic plan. The October 15 closure has been implemented as a result of the consultations in NAC and is clear evidence that the process is working. We also invited the Head of Delegation to sit in a domestic meeting so he could better understand the Canadian process for arriving at decisions on domestic plans.

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Positions tabled at any NAC meeting by the United States are taken into consideration during the development and domestic consultations on annual salmon plans. Similarly it is hoped that Canadian concerns are fully considered by the United States.

The United States view about a lack of consultation may stem from their misunderstandings of fisheries jurisdiction in Canada which is highly concentrated at the federal level in contrast to the U.S. system. The United States should not expect more from these consultations than what domestic user groups expect through the same process. All interested parties/groups/ governments are consulted and any proposal can be discussed; however, the Minister of Fisheries and Oceans has the final authority in approving any measure and he is under no obligation to accept the full position of any particular group.

The seeking of parity by the United States between the proportion of U.S. and Canadian origin salmon caught in interception fisheries may be considered a legitimate objective for the United States. This principle is recognized by neither the Law of the Sea nor the NASCO Convention, and Canada does not consider itself bound by such an objective. Interestingly enough, the United States has never defined, using this concept, what exactly is an acceptable level of interception or harvest of U.S.-origin salmon by Canada. U.S.-origin salmon migrate into foreign countries waters almost as soon as they leave their home rivers and they return after gaining most of their weight in those foreign waters. If one were to entertain the United States line of reasoning, one could argue that the level of interception on these fish by foreign countries could be expected to be much higher than the level of interception experienced on Canadian-origin salmon which migrate into foreign countries waters for a short period of time and gain only a small portion of their weight in those foreign waters.

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There appears to be a flaw in the logic of the United States position. Canada should not be expected to completely cease legitimate commercial operations directed at its own resources because a minor portion of the available fish is of foreign origin. Such a reduction could represent a loss of economic benefits for which fishermen could seek compensation. In summary, principles which the United States may consider to apply to a "pure" directed interceptory fishery should not necessarily apply to an incidental, non-directed interceptory fishery.

The United States has further requested that Canada be prepared to table proposals at the February 1988 NAC meeting for further reductions in interception of U.S.-origin fish. The impact of the October 15 closure has yet to be assessed by ICES and is awaiting information on the 1987 run size and tag recoveries in United States waters. The United States also have yet to specify a target level of interception by Canada which could be used as a standard against which to measure the effects of current and proposed measures. Finally the impact of the 1984 plan will only be felt in Canada starting in 1989 and may then provide an appropriate domestic context within which to address the U.S. request for reduced interception. In these circumstances, Canada cannot consider making any commitment at this time that a proposal would be developed for the February 1988 NAC meeting.

However Canada remains willing to consider any proposal that the United States may wish to table on how the Canadian catches of U.S.-origin salmon could be minimized. The United States can also be assured that their request for reducing Canadian interception of U.S.-origin salmon will continue to be taken into consideration when Canadian Atlantic salmon management plans are developed in the future.

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Canada takes this opportunity to inform the United States that a draft long term Atlantic Salmon Management Plan is now being developed in conjunction with an integrated Atlantic Salmon Enhancement Program based on a recent report from a Special Federal-Provincial Atlantic Salmon Working Group. The concerns raised over the years by the United States over interception of U.S.-origin salmon will be taken into consideration during these planning exercises. Moreover, the United States will have the opportunity to comment on these plans at future meetings of the North American Commission prior to the implementation of any new measures.

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JUNE 1987 EDINBURGH

ANNEX 16

NORTH ATLANTIC SALMON CONSERVATION ORGANIZATION

NORTH AMERICAN COMMISSION

NAC (87)21

RESPONSE BY THE US TO PAPER NAC (87)16 CONCERNING REGULATORY MEASURES IN THE NORTH AMERICAN COMMISSION

NAC (87)21

RESPONSE BY THE US TO PAPER NAC (87)16 CONCERNING REGULATORY MEASURES IN THE NAC

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Thank you Mr. Chairman. Having reviewed the response by Canada to the United States position statement with regard to regulatory measures in the North American Commission, I offer the following comments, which follow the order of the Canadian text (Paper NAC (87)16).

Before turning to that document, however, let me note that the measures taken by Canada (and outlined by the representative of Canada at Monday's Council meeting) most likely have reduced Canada's interceptions of United States origin fish. The U. S. gives Canada and its fishermen full credit for these measures and we acknowledge that they are being achieved through considerable domestic sacrifice and large investments on Canada's part. We know these actions result from both domestic decisions taken by Canada and through international deliberations, such as those in NASCO. But I must also point out that the U. S. enhancement and restoration efforts have occurred at similar sacrifice and investment on our part. Just as Canada seeks a pay-off for her efforts, so do we expect one for ours.

Turning to Canada's response to the U.S. proposal made in Miami in February there are many issues to which I must take exception to or seek further elaboration or clarification. It is noted that there is evidence of recovery shown by Canada's stocks, following the implementation of management measures. Unfortunately the U.S. cannot yet say the same about its stocks. We do not have evidence of an increased return rate to home waters. While some of the Canadian measures have benefited the U.S., Canada's estimates of the benefits may be overly optimistic. ICES estimates fall short of Canada's expectations of these benefits, as well.

With regard to consultation between our two countries, the U.S. notes that consulations have improved, but we believe further improvement in consultations and coordination are required.

The United States are particularly concerned with Canada's position that the U.S. should not expect greater consideration in consultations than that extended to Canadian user groups. The United States are a sovereign nation. We are party to a treaty which should override domestic processes. We hope that Canada recognizes and understands that consultation is required by the treaty and that it is not merely an element of domestic policy determination. The U.S. trusts that Canada did not intend to consider them as just another user group.

Canada notes that the United States seek to achieve parity with the levels of interceptions of other producing States but have never defined parity. Further Canada states that parity is not recognized by the Law of the Sea, or by the NASCO Convention. In clarification, the United States in seeking parity, recognize that interceptions will continue, that total elimination of interceptions is not possible but believe that no producer State should lose a greater percentage of its fish to interception than other producing States. While we have not been able to precisely determine the level of losses to interceptions, we maintained the principal of 'parity' as a legitimate objective. The United States recognize this does not have any legal standing and that like most producing States would define an acceptable level of interception as 'zero' if possible. No State wants to give away its fish. By advancing the parity concept, the United States hope to establish a principle on which to base negotiations on interception levels.

The Canadian implication that, because U.S. fish spend most of their marine life in the waters of other nations, they are somehow not entitled to the same treaty provisions of fish spending a greater percentage of time in home waters, is especially disturbing. The NASCO Convention and Law of the Sea clearly give producing States specific rights concerning fish which they produce, regardless of where and how long they may migrate.

Another point raised in Canada's response which I must take issue with is Canada's contention that her fishermen should not cease legitimate commercial operations directed at their resources because a minor portion of the fish is of foreign origin. Canada's response states that,'...principles which the United States may consider to apply to a 'pure' directed interceptory fishery should not necessarily apply to an incidental, non-directed interceptory fishery'. In response, I quote Article 7, paragraph C of the Convention, which defines one of the functions of the North American Commission as 'to propose regulatory measures for salmon fisheries under the jurisdiction of a member which harvests amounts of salmon <u>significant to another member in whose</u> <u>rivers that salmon originates</u>'. If our salmon are intercepted by Canada, these provisions obligate Canada to take positive steps to reduce those interceptions. Canada's reasoning, if applied in other fisheries, in other Commissions, would negate the provisions of the treaty.

Finally, let me say that the United States are generally pleased with the progress we have made in this Commission. We note Canada's careful choice of words in concluding its response. We trust that the door remains open for joint U.S./Canada cooperative development of further management measures to minimize interceptions.

The United States are especially pleased that Canada is drafting a long range salmon plan and that this plan will address with Canada's interception of U.S. salmon. The consultations offered by Canada in the development of this plan are in the spirit of the NASCO Convention and we look forward to be able to cooperate fully. 11 JUNE 1987 EDINBURGH ANNEX 17

NORTH ATLANTIC SALMON CONSERVATION ORGANIZATION

NORTH AMERICAN COMMISSION

NAC (87)18

STATEMENT ON ACID RAIN AND ATLANTIC SALMON BY CANADA

NAC (87)18

NORTH AMERICAN COMMISSION OF NASCO

FEBRUARY 26-27 AND JUNE 8-12, 1987

STATEMENT ON ACID RAIN AND ATLANTIC SALMON

BY CANADA

At the first meeting of the North American Commission, in May 1984, Canada noted the severe impact in areas of Western Nova Scotia that acid rain was having on Atlantic salmon stocks. This has led to the extinction of some stocks in areas of Western Nova Scotia. Since then, Canada has repeated its call for measures to save salmon stocks and rivers from further degradation.

In June 1986, this Commission agreed to place four (4) questions before the International Council for Exploration of the Sea (ICES) on this issue. ICES has considered these questions during March 1987 and has reported back to NASCO. In essence, the report describes the current situation regarding acidification and Atlantic salmon, trends in acidification, descriptions of affected habitat, influence on salmon survival, and the extent and effectiveness of mitigation measures. Describing the problem is undoubtedly the appropriate first step. However, we must look to the future and address the next question: what can we do about it? What can NASCO do about it?

From its own experience with the impact of acid rain on Atlantic salmon, Canada is already committed to seek solutions to this problem. At this time, Canada wishes to draw to the attention of the United States two major observations from the ICES report. First, Nova Scotia has been most severely affected by acid rain and the area in the province most vulnerable to acidification is as large as the entire Atlantic

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salmon rearing habitat in the United States. This is some 20 km² half of which has been lost to acidification. This area includes 13 rivers whose native stocks are now extinct and a further 18 rivers with only remnant populations.

Second, the salmon production lost as a result of acidified rivers is estimated to be in the range of 23,000 fish per year. The United States representatives will readily understand the importance of this loss in terms of quantities and economic opportunities when compared to their annual Atlantic salmon production.

ICES has confirmed that the only satisfactory solution to the problem of acidification of Atlantic salmon rivers is the reduction of acid-precursor emissions at their source. Short term mitigation measures such as stocking and liming are simply too expensive. In Canada, the federal and provincial governments are taking a number of measures aimed at reducing the overall level of production of acid rain by reducing sulphur dioxide (SO₂) emssions by 50% by 1994 compared to the 1980 baseline This will also significantly reduce the amount of acid level. rain in the North Eastern United States. Related measures include the establishment of a federal/provincial network to monitor changes in air and water chemistry and the on-going liming experiments in Nova Scotia to restore production or preserve genetic specificities.

Federal/provincial agreements have been concluded ratifying 90% of the reductions required. Discussions continue with the United States on the bilateral aspects of the problem where transboundary flow of air pollution causing acid rain is emphasized. As you know, acid rain was again on the agenda for the April meeting between President Reagan and Prime Minister Mulroney. At that meeting, the President agreed to consider a bilateral accord to deal with the problem.

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Under its Convention, the objective of NASCO is "to contribute through consultation and co-operation to the conservation, restoration, enhancement... of salmon stocks..." On the basis of the ICES advice on acid rain, Canada will now be looking for initiatives by the United States conservation interests in Atlantic salmon to support whatever actions are required to solve the problem. My Department and my Co-commissioners have already made their views known on the Canadian front. The Joint Report Of The Special Envoys On Acid Rain, which has been accepted by both President Reagan and Prime Minister Mulroney, recognized that acid rain is a serious transboundary problem in both the United States and Canada. Economic opportunities are being lost in Canada and possibly in the United States because of reduced salmon production, although the impact is more pronounced in Canada where our rivers are more vulnerable to acidification. As you know, more than 50% of the acid rain in Canada and about two-thirds in South Western Nova Scotia primarily originates in the United States. I realize this is a broader problem to be dealt with at the most senior levels between our two governments. However, many Canadian fishermen on the Atlantic Coast question the initiatives we have taken to reduce interception of U.S.-origin salmon when the United States is not seen to take appropriate measures to reduce its impact from acid rain on Canadian salmon stocks.

Both our countries are spending millions of dollars on conservation, restoration, and enhancement of Atlantic salmon stocks because we deeply believe that this resource is worth sustaining and investing in. It is our responsibility in NASCO to ensure that governments are aware of the harmful impacts of such pollution as acid rain on the productive capacity of rivers of other member parties as well as their own. I trust that the American Commissioners who are, I understand, appointed by the President and recognized as being quite influential with the Administration, will continue to do everything within their power to support whatever actions are required to solve this problem.

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The Canadian delegation would appreciate being informed and consulted at future North American Commission meetings on the kinds of initiatives the U.S. delegation is undertaking in this regard.

12 JUNE 1987 EDINBURGH

NORTH ATLANTIC SALMON CONSERVATION ORGANIZATION

NORTH AMERICAN COMMISSION

CNL (87)35

DRAFT DECISION OF COUNCIL TO REQUEST SCIENTIFIC ADVICE FROM ICES (SECTION RELATING TO THE NORTH AMERICAN COMMISSION ONLY)

The Council decides to request the following scientific advice from ICES:

With respect to Atlantic Salmon in the North American Commission area:

- 1. Describe events of the 1987 fisheries with respect to gear, effort, exploitation rate, composition and origin of the catch and assess the status of the stocks.
- 2. Evaluate the effectiveness of new, existing or proposed management measures for home waters and interception fisheries on stocks occurring in the Commission areas.
- 3. Discuss scientifically based approaches for managing salmon in the context of existing fisheries.
- 4. Specify data deficiencies and research needs.

In addition in the North American Commission, the following advice is requested:

- 1. Provide a table indicating the average percentage by number (and its variability) of US fish in the total harvest of the Newfoundland-Labrador commercial fishery. Estimates should be broken down by standardized week and fishing area and include only standardized weeks from week 23 to week 41 inclusive.
- 2. With respect to the issue of acidification:
 - a) if new information is available, provide estimates of amount of salmon habitat available, areas vulnerable to acidification and areas lost to production.
 - b) provide estimates of the number of salmon lost due to acidification.

NORTH ATLANTIC SALMON CONSERVATION ORGANIZATION

FOURTH ANNUAL MEETING OF THE NORTH AMERICAN COMMISSION 26-27 FEBRUARY 1987, SOUTHEAST FISHERIES CENTER, MIAMI, FLORIDA, USA 8-12 JUNE 1987, DRAGONARA HOTEL, EDINBURGH, UK

LIST OF NORTH AMERICAN COMMISSION PAPERS

- PAPER NO. TITLE
- NAC (87)1 Provisional agenda
- NAC (87)2 Draft agenda
- NAC (87)3 Draft report of the North American Commission
- NAC (87)4 Agenda
- NAC (87)5 Preliminary summary of 1986 fishery for the US
- NAC (87)6 Canadian Atlantic salmon management plan 1986
- NAC (87)7 Canadian Atlantic salmon catches in tonnes
- NAC (87)8 Status of Atlantic salmon stocks in Atlantic Canada and advice for their management in 1987
- NAC (87)9 Position statement of the US with regard to regulatory measures in the North American Commission
- NAC (87)10 Progress report of the activities of the Bilateral Working Group on salmonid introductions and transfers
- NAC (87)11 Inventory of introduction and transfers of salmonids into the North American Commission area and the Great Lakes
- NAC (87)12 Proposed policy statement on the introductions and transfers of salmonids
- NAC (87)13 Action Plan Bilateral Scientific Working Group on salmonid introductions and transfers activities and institutional arrangements
- NAC (87)14 Report of activities of the Bilateral Scientific Working Group on salmonid introductions and transfers

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NAC (87)15 Not issued

NAC (87)16 Response by Canada to US position statement with regard to regulatory measures in the North American Commission

NAC (87)17 Policy statement on introduction and transfers of salmonids

NAC (87)18 Canadian position statement on acid rain

NAC (87)19 Questions for ICES

NAC (87)20 Report of the North American Commission

NAC (87)21 Response by the US to NAC (87)16 concerning regulatory measures in the North American Commission

CNL (86)3 Scientific advice from ICES

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. 0000000

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